MAD

FEBRUARY 2020

PROJECT ID: 1066-06-72

WITH: 1067-02-76 AND 1067-04-71

COUNTY: JEFFERSON

ORDER OF SHEETS

Section No.	1	Title
Section No.	2	Typical Sections and Details
Section No.	3	Estimate of Quantities
Section No.	3	Miscellaneous Quantities
Section No.	4	Right of Way Plat
Section No.	5	Plan and Profile
Section No.	6	Standard Detail Drawings
Section No.	7	Sign Plates
Section No.	8	Structure Plans
Section No.	9	Computer Earthwork Data
Section No.	9	Cross Sections

TOTAL SHEETS = 284



01

N

DESIGN DESIGNATION 1066-06-72

		CTH Q	IH 94
A.A.D.T.	(2018) =	840	35,800
A.A.D.T.	(2038) =	930	44,300
D.H.V.	(2038) =		4,652
D.D.	=		58/42
T.	=		24.9%
DESIGN SPEED	=	40MPH	70MPH
ESALS	=	120,000	41,000,000

CONVENTIONAL SYMBOLS

PLAN

- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE

- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (95.36)
- CULVERT (Profile View)

UTILITIES

- ELECTRIC (E)
- FIBER OPTIC (FO)
- GAS (G)
- SANITARY SEWER (SAN)
- STORM SEWER (SS)
- TELEPHONE (T)
- WATER (W)
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

LAKE MILLS - OCONOMOWOC

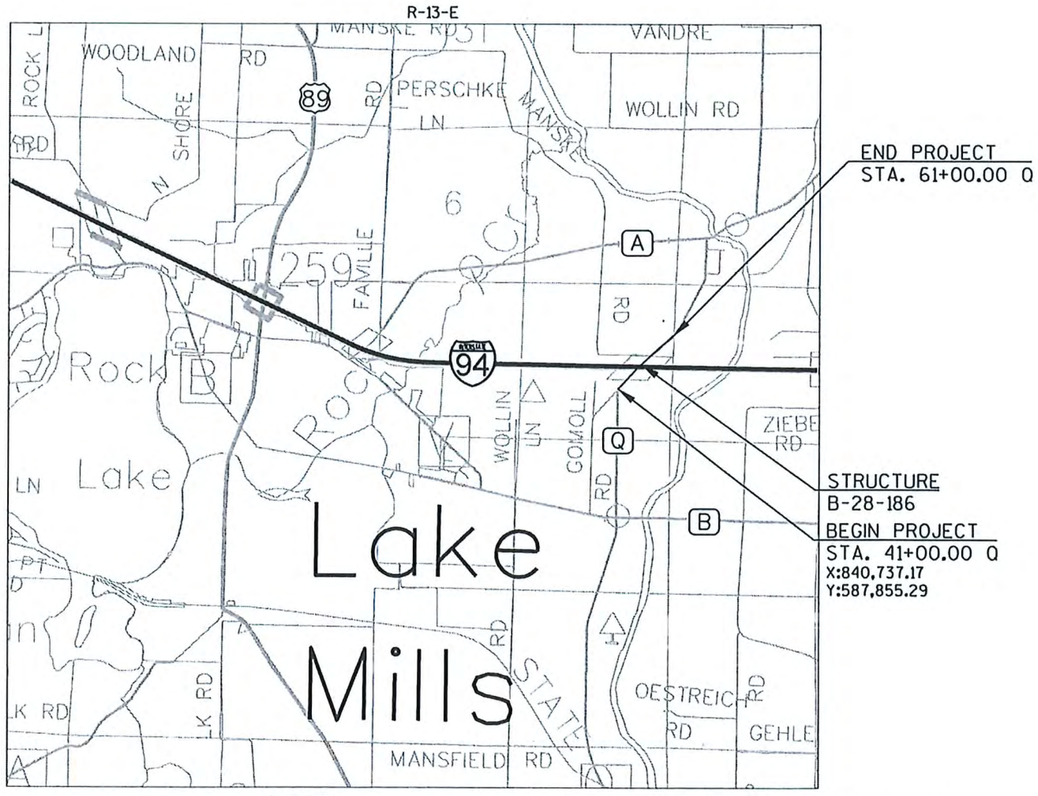
CTH Q BRIDGE B-28-0186

IH 94

JEFFERSON COUNTY

STATE PROJECT NUMBER
1066-06-72

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1066-06-72	WISC 2020031	1



LAYOUT

SCALE 0 1 MILE

TOTAL NET LENGTH OF CENTERLINE = 0.000 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, JEFFERSON COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM (NGVD29)

ORIGINAL PLANS PREPARED BY:

STRAND ASSOCIATES

WISCONSIN
DAVID J. WALKER
E-23400
VERONA
WI
PROFESSIONAL ENGINEER

9/24/19

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	KL ENGINEERING
Designer	STRAND ASSOCIATES, INC.
Project Manager	JOHN JENKINS
Regional Examiner	SW REGION
Regional Supervisor	JAMES OETTINGER

APPROVED FOR THE DEPARTMENT

DATE: 10/01/19 (Signature)

E

FILE NAME : S:\MAD\1000--1099\1089\397\ACAD\CIVIL3D\SHEETSPLAN\010101_TI.DWG
LAYOUT NAME - 010101_TI - TITLE SHEET 1 IN EQ 1 MI

PLOT DATE : 9/24/2019 11:55 AM PLOT BY : GRIMME, SARA PLOT NAME :

WISDOT/CADDS SHEET 10

GENERAL NOTES

EROSION CONTROL FEATURES AS SHOWN IN THE PLANS ARE AT SUGGESTED LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE CONTRACTOR'S EROSION CONTROL IMPLEMENTATION PLAN (ECIP) AND APPROVED BY THE ENGINEER IN CONSULTATION WITH THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES. MAINTAIN ALL EROSION CONTROL MEASURES UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.

ALL SIGN LOCATIONS SHALL BE REVIEWED BY THE ENGINEER PRIOR TO INSTALLATION.

ALL EXISTING SIGNS SHALL REMAIN IN PLACE UNTIL CONSTRUCTION OPERATIONS REQUIRE THEIR REMOVAL OR UNLESS THE ENGINEER APPROVES THEIR REMOVAL.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY SHALL BE RESTORED AS DIRECTED BY THE ENGINEER.

REMOVAL ITEMS SHALL BE REMOVED TO AN EXISTING JOINT, SAWCUT WHERE SHOWN ON PLANS, OR AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR'S PAVING OPERATIONS SHALL BE CONSISTENT WITH THE PLAN TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT HMA LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN THE DRIVING, TURNING, OR BIKE LANE.

NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.

THE LOCATION OF DRIVEWAYS WILL BE DETERMINED BY THE ENGINEER.

EXCAVATION BELOW SUBGRADE (EBS) IS NOT USED TO BALANCE YARDAGES BUT IS MEASURED AND PAID FOR AS EXCAVATION COMMON.

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

ABBREVIATIONS

AEW	APRON END WALL
AFG	ABOVE FINISHED GROUND
B.	BARN
B.P.	BREAK POINT
COR.	CORNER
C.S.C.P.	CORRUGATED STEEL CULVERT PIPE
S.S.P.A.	CORRUGATED STEEL PIPE ARCH
DIM.	DIMENSION
e.	EXTERNAL DISTANCE
E.O.P.	EDGE OF PAVEMENT
H.P.	HIGH POINT
D.	LANE DISTRIBUTION
L.P.	LOW POINT
MAX.	MAXIMUM
M.D.	MEDIAN DRAIN
MIN.	MINIMUM
NOR.	NORMAL
T.	PERCENT OF TRUCKS
R.C.C.P.	REINFORCED CONCRETE CULVERT PIPE
S.	SHED
S.P.B.G.	STEEL PLATE BEAM GUARD
SL. ST.	SLOPED STEEL
T.O.C.	TOP OF CURB

UTILITY/MUNICIPALITY	CONTACT/ADDRESS	UTILITY TYPE
AT&T LEGACY	KENNETH M. NINE 110 N. MAIN ST. CULVER, IN 46511 574-842-8830 (OFFICE) 574-904-6336 (MOBILE) KENNETHNINE@ATT.NET	COMMUNICATION
WE ENERGIES	BRYAN STOEHR 500 S. 116TH ST. WEST ALLIS, WI 53214 414-944-5516 (OFFICE) 414-416-6059 (MOBILE)	ELECTRICITY

DESIGN CONTACT

BRETT OFTEDAHL P.E.
STRAND ASSOCIATES, INC.
910 W WINGRA DR
MADISON, WI 53715
PH: (608) 251-4843
BRETT.OFTEDAHL@STRAND.COM

WISDOT CONTACT

JOHN JENKINS, P.E.
WISDOT SW REGION-MADISON OFFICE
2101 WRIGHT ST.
MADISON, WI 53704
PH: (608) 246-3866
JOHN.JENKINS@DOT.WI.GOV

WISDOT FTMS CONTACT

JEFF MADSON
433 W. ST. PAUL AVE.
STE. 300
MILWAUKEE, WI 53203-3007
414-225-3723
JEFFREY.MADSON@DOT.WI.GOV

DNR LIASON

LAURA BUB
SOUTH CENTRAL REGION
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711
PH: (608) 275-3485
LAURA.BUB@WISCONSIN.GOV

SECTION 2 ORDER OF SHEETS

GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
PLAN DETAILS
EROSION CONTROL
PERMANENT SIGNING/PAVEMENT MARKING
CONSTRUCTION STAGING
DETOUR PLAN
ALIGNMENT DATA SHEET
CONTROL POINT DATA SHEET

DIGGERS HOTLINE
Dial 811 or (800)242-8511
www.DiggersHotline.com

2

N

TOWN OF MILFORD

BEGIN CONSTRUCTION
STA. 8+30.00K

END PROJECT
STA. 61+00.00Q

KARBERG LN

5+00K 6+00K 7+00K 8+00K 9+00K 55+000 60+000

CTH Q

BEGIN CONSTRUCTION
PROJECT ID 1067-04-71

END CONSTRUCTION
PROJECT ID 1067-04-71

STRUCTURE R-28-51

1325WB IH 94 WB 1330WB 1335WB 1340WB 1345WB 1350WB

1325EB 1330EB 1335EB 50+000 1340EB 1345EB 1350EB IH 94 EB

STRUCTURE B-28-186

STRUCTURE R-28-50

45+000

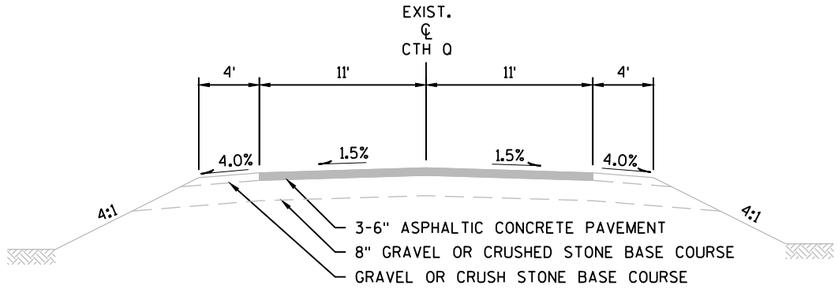
TOWN OF AZTALAN

BEGIN PROJECT
STA. 41+00.00Q

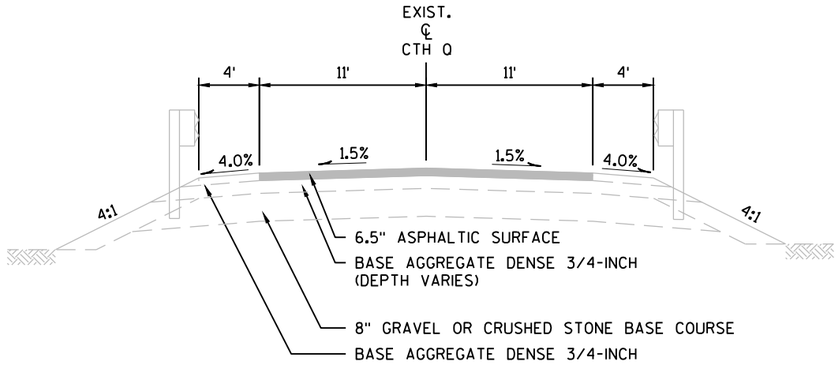
WETLAND LIMITS

40+000

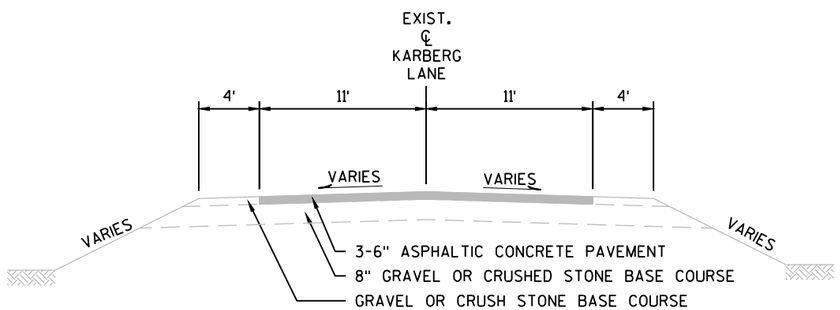
PROJECT NO:1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	PROJECT OVERVIEW	SHEET 3	E



EXISTING TYPICAL SECTION
STA. 41+00.000 - STA. 46+50.000
STA. 52+75.000 - STA. 61+00.000



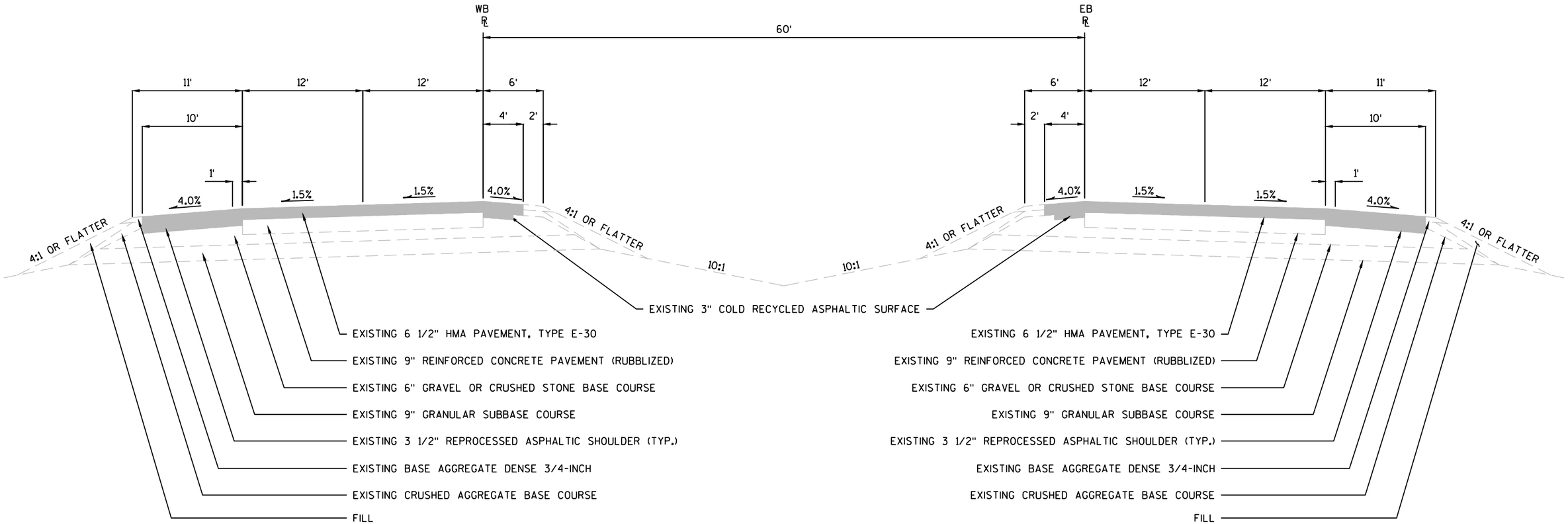
EXISTING TYPICAL SECTION
STA. 46+50.000 - STA. 48+89.000
STA. 51+88.000 - STA. 52+75.000



EXISTING TYPICAL SECTION
KARBERG LANE

PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	EXISTING TYPICAL SECTIONS	SHEET 4	E

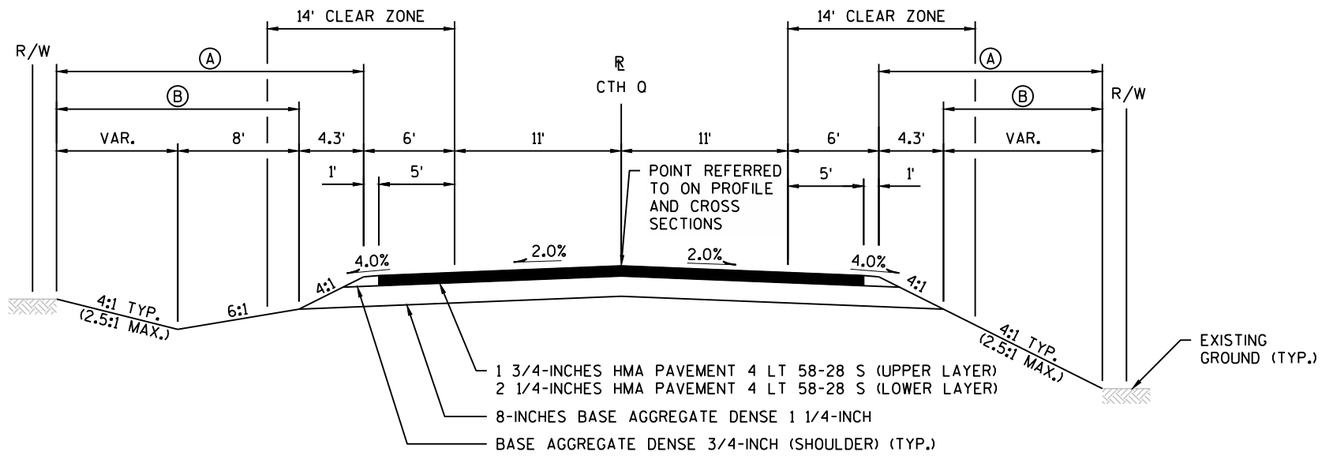
2



EXISTING TYPICAL SECTION

INTERSTATE 94

PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	EXISTING TYPICAL SECTIONS	SHEET 5	E

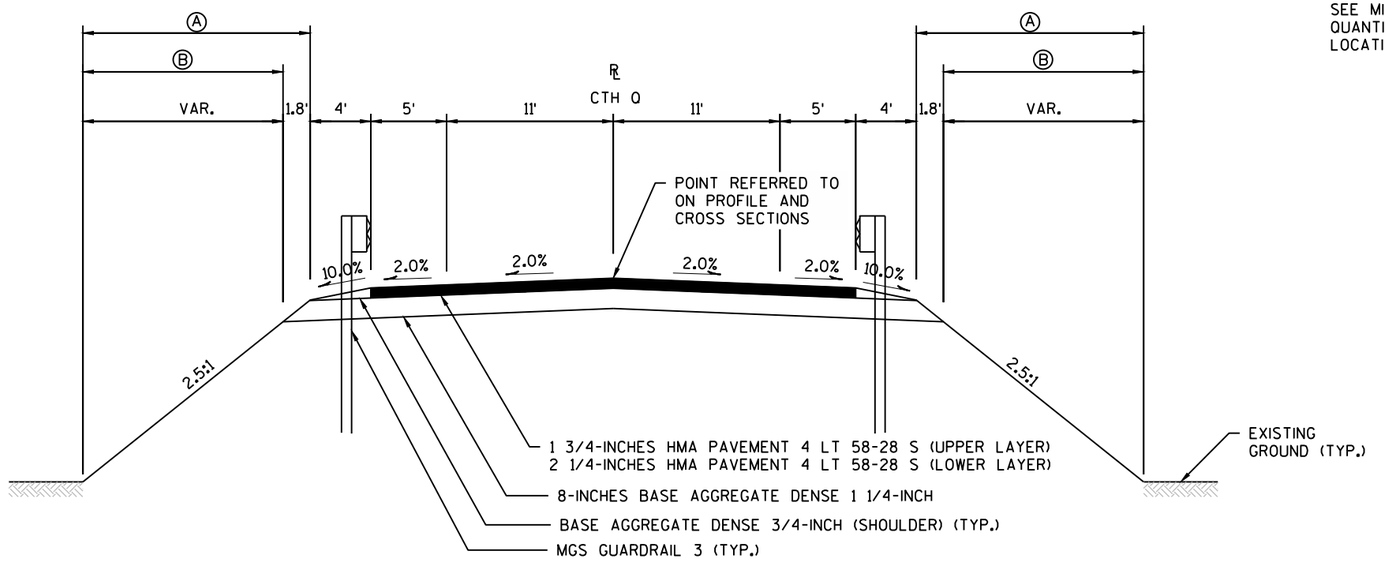


PROPOSED TYPICAL SECTION - CTH Q

STA. 41+00.00Q - STA. 44+91.05Q LT
STA. 41+00.00Q - STA. 44+98.57Q RT
STA. 52+39.32Q - STA. 61+00.00Q LT
STA. 54+62.38Q - STA. 61+00.00Q RT

Ⓐ FERTILIZER TYPE B;
SEEDING MIXTURE NO. 20

Ⓑ SALVAGED TOPSOIL AND MULCHING OR EROSION MAT CLASS I TYPE A. SEE MISCELLANEOUS QUANTITY TABLES FOR LOCATIONS.

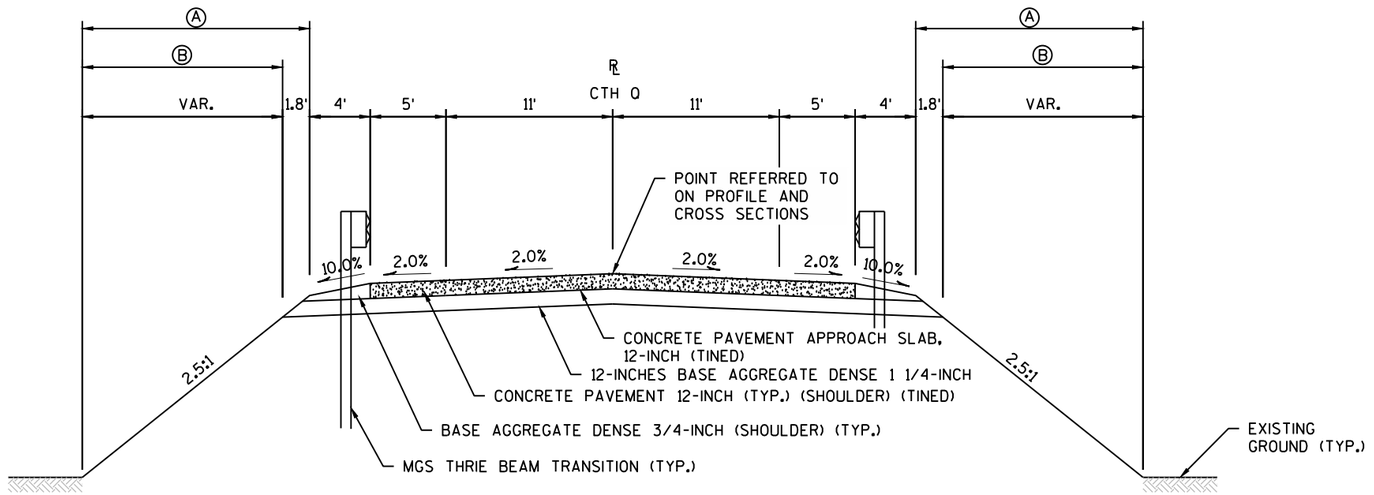


PROPOSED TYPICAL SECTION - CTH Q

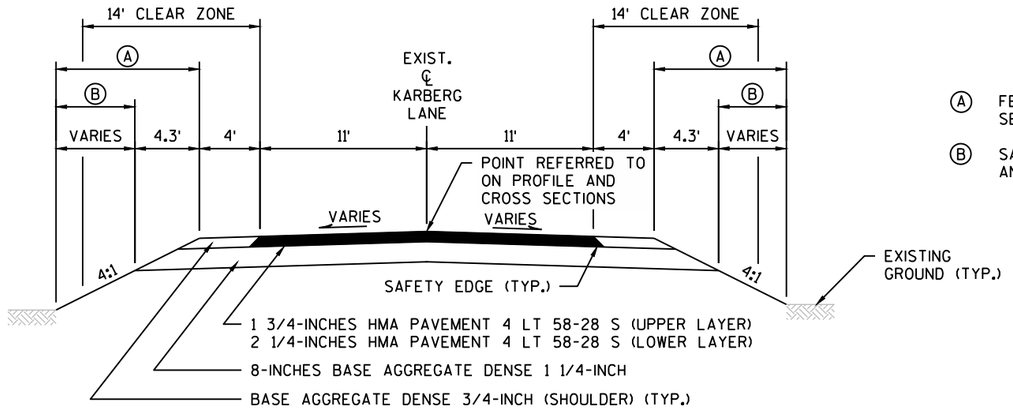
STA. 44+91.05Q - STA. 48+93.66Q LT
STA. 44+98.57Q - STA. 48+93.66Q RT
STA. 51+84.13Q - STA. 52+39.32Q LT
STA. 51+84.13Q - STA. 54+62.38Q RT
STA. 49+17.80Q - STA. 51+59.07Q (B-28-186)

PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	PROPOSED TYPICAL SECTIONS	SHEET 6	E

2



PROPOSED TYPICAL SECTION
STA. 48+93.660 - STA. 49+17.800
STA. 51+59.070 - STA. 51+84.130

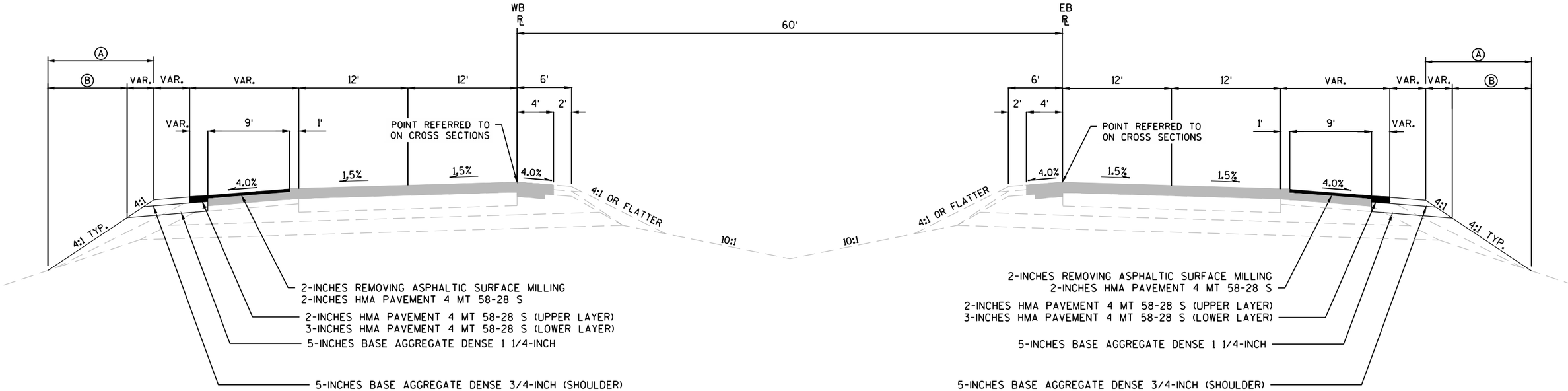


PROPOSED TYPICAL SECTION - KARBERG LANE
STA. 8+30.00K - STA. 9+82.28K

Ⓐ FERTILIZER TYPE B; SEEDING MIXTURE NO. 20

Ⓑ SALVAGED TOPSOIL AND MULCHING

PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	PROPOSED TYPICAL SECTIONS	SHEET 7	E

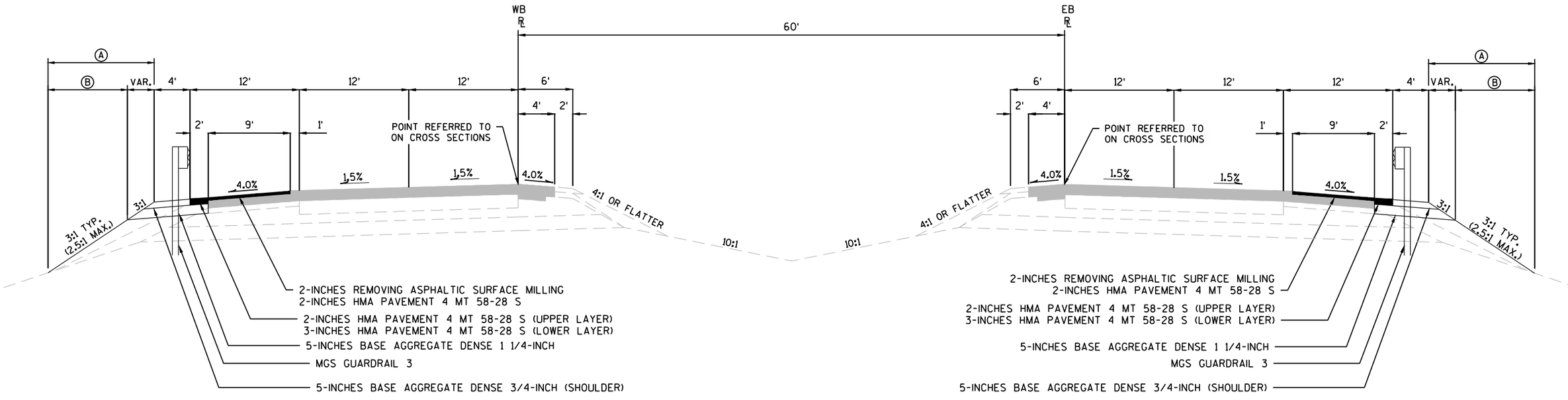


PROPOSED TYPICAL SECTION - IH 94

STA. 1330+35.00 EB - STA. 1331+66.98 EB RT
STA. 1335+90.00 WB - STA. 1336+39.00 WB LT
STA. 1336+06.00 EB - STA. 1336+55.00 EB RT
STA. 1341+02.03 WB - STA. 1342+35.00 WB LT

Ⓐ FERTILIZER TYPE B:
SEEDING MIXTURE NO. 20

Ⓑ SALVAGED TOPSOIL
AND MULCHING

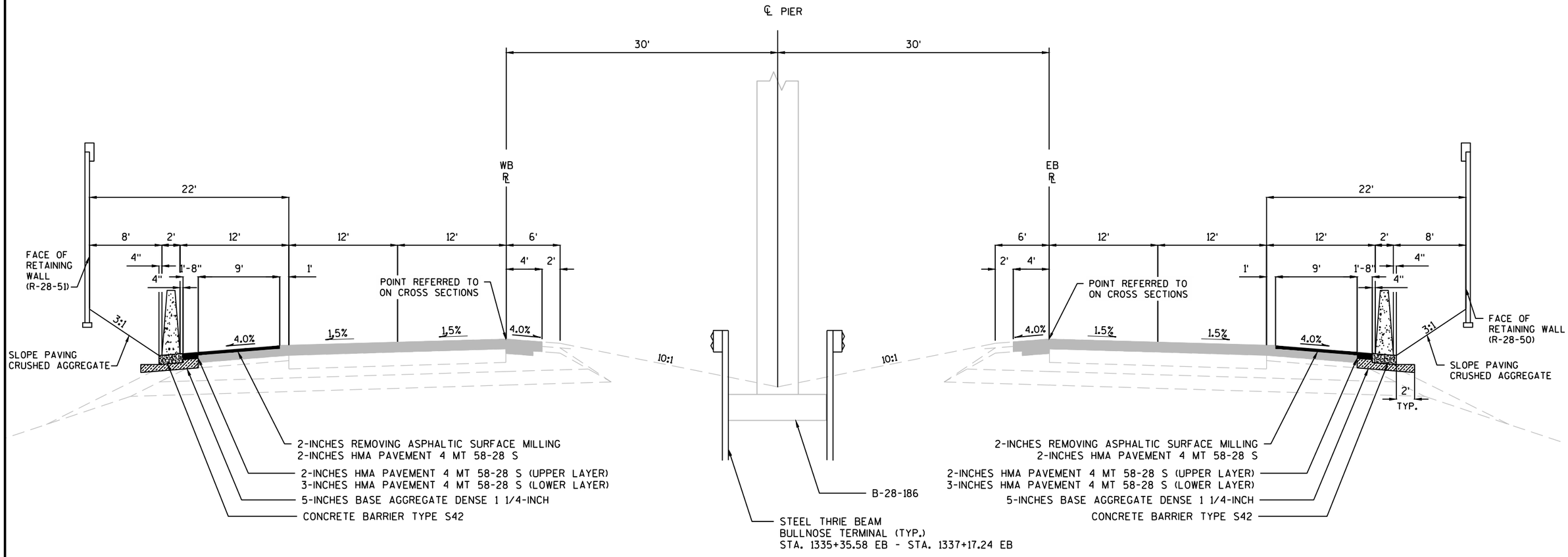


PROPOSED TYPICAL SECTION - IH 94

STA. 1331+66.98 EB - STA. 1334+57.00 EB RT
STA. 1338+12.00 WB - STA. 1341+02.03 WB LT

PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	PROPOSED TYPICAL SECTIONS	SHEET 8	E

2



PROPOSED TYPICAL SECTION - IH 94

STA. 1334+57.00 EB - STA. 1336+06.00 EB RT
STA. 1336+39.00 WB - STA. 1338+12.00 WB LT

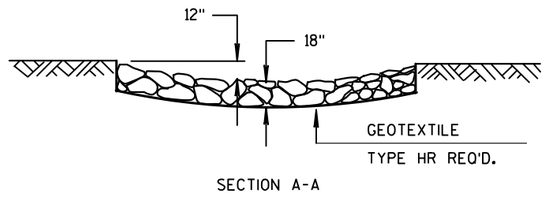
PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	PROPOSED TYPICAL SECTIONS	SHEET 9	E

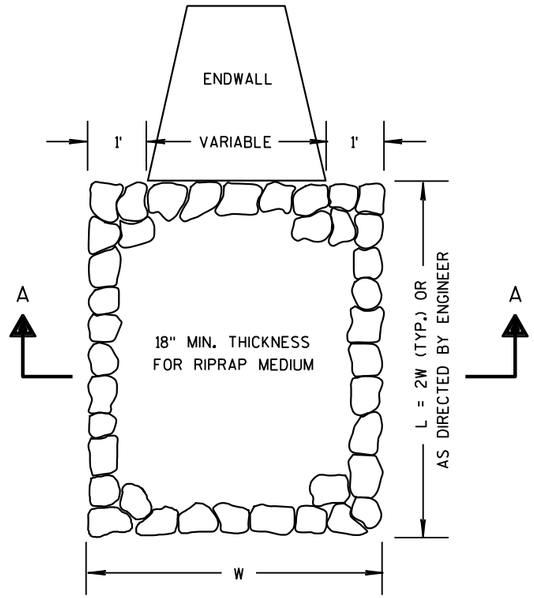
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RUNOFF COEFFICIENT TABLE

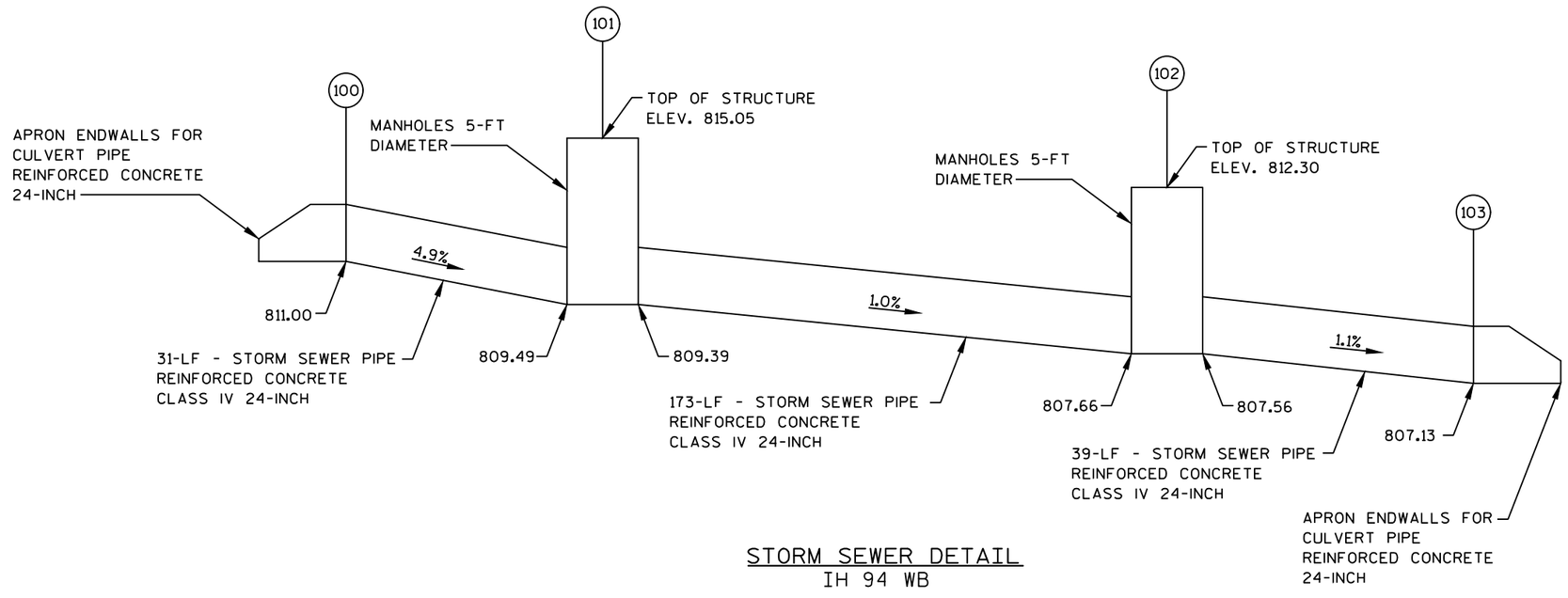
	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .50	.19 .34	.28 .41	.38 .56
MEDIAN STRIP-TURF	.19 .24	.20 .26	.24 .30	.19 .25	.22 .28	.26 .33	.20 .26	.23 .30	.30 .37	.20 .27	.25 .32	.30 .40
SIDE SLOPE-TURF			.25 .32			.27 .34			.28 .36			.30 .38
PAVEMENT:												
ASPHALT	.70 - .95											
CONCRETE	.80 - .95											
BRICK	.70 - .80											
DRIVES, WALKS	.75 - .85											
ROOFS	.75 - .95											
GRAVEL ROADS, SHOULDERS	.40 - .60											

TOTAL PROJECT AREA = 12.1 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 6.0 ACRES

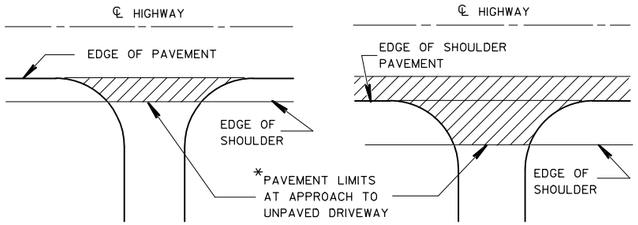




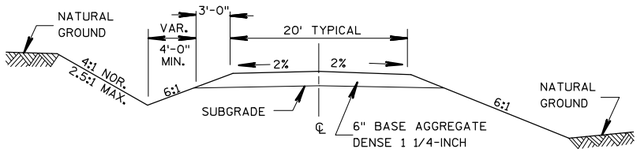
RIPRAP MEDIUM TREATMENT AT CULVERTS



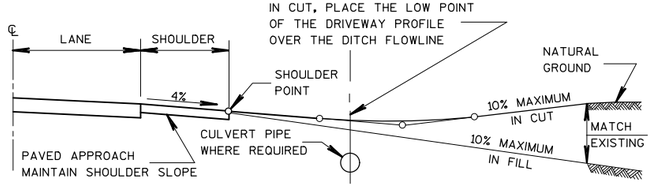
STORM SEWER DETAIL
IH 94 WB



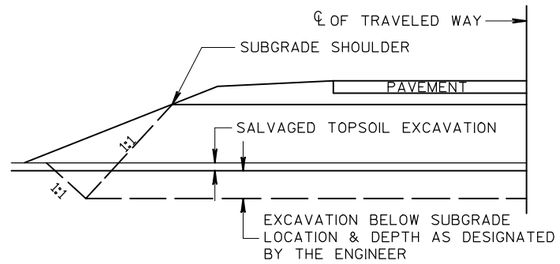
RURAL DRIVEWAY INTERSECTION DETAIL



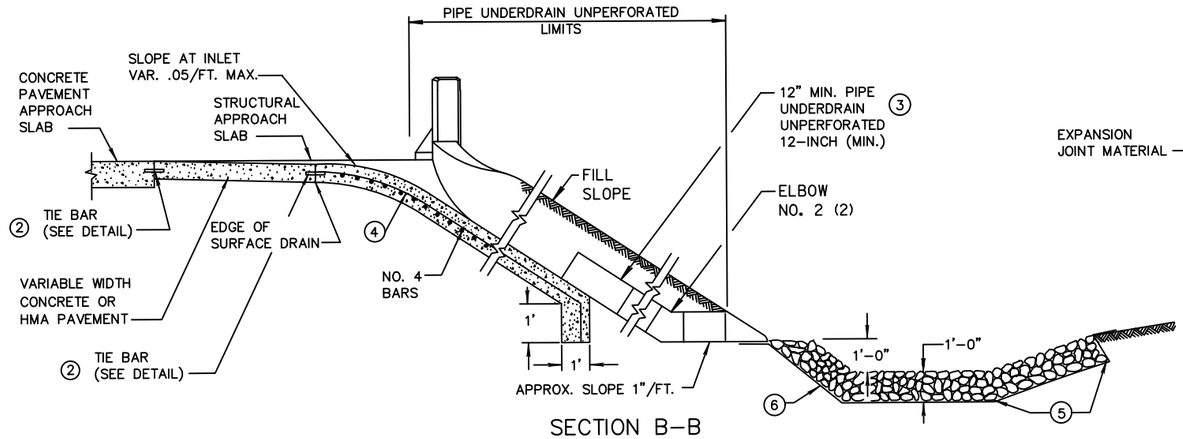
TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE



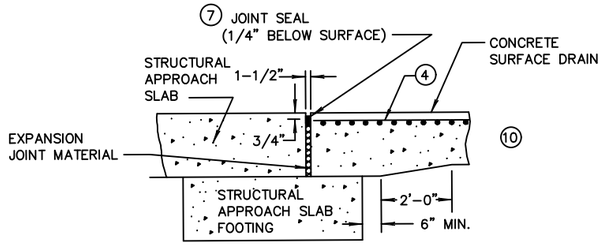
TYPICAL DRIVEWAY PROFILES



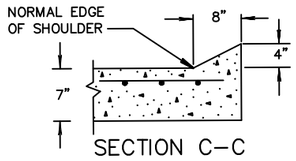
DETAIL FOR EXCAVATION BELOW SUBGRADE



SECTION B–B



SECTION D–D



SECTION C–C

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

① NO. 4 X 2'–0" TIE BARS SPACED AT 3'–0" CENTERS TO BE USED ONLY WHEN ADJACENT TO P.C. CONCRETE.

② STANDARD LONGITUDINAL JOINT WITH TIE BARS TO BE USED ONLY WHEN ADJACENT TO P.C. CONCRETE. SEE SDD 'CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES'.

③ THE PIPE UNDERDRAIN MAY BE ANY ONE OF THE FIVE MATERIALS LISTED IN THE SUBSECTION 612.2 OF STANDARD SPECIFICATIONS.

④ MINIMUM REINFORCEMENT SHALL BE 6" X 6" – W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C–C.

⑤ LIMITS OF ADDITIONAL RIPRAP MEDIUM WHEN SPECIAL DITCH IS REQUIRED.

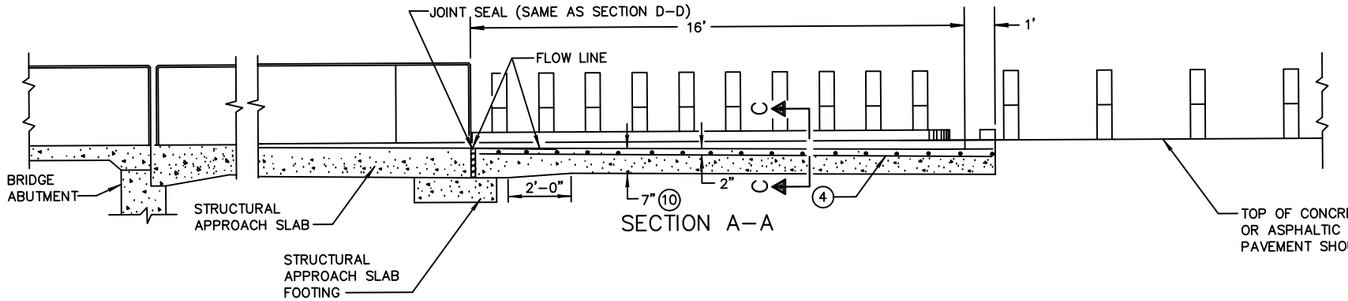
⑥ GEOTEXTILE TYPE HR

⑦ HOT POURED SEALANT UNLESS OTHERWISE SPECIFIED.

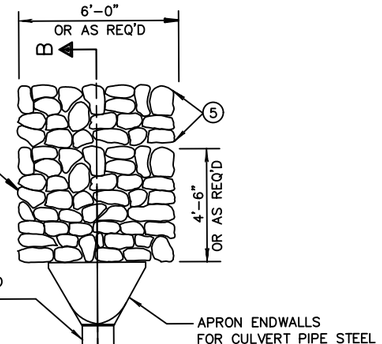
⑧ THIS DIMENSION MAY VARY DEPENDING ON THE SPACING OF POSTS FOR THE MGS THRIE BEAM TRANSITION. THE TYPICAL LOCATION FOR THE SURFACE DRAIN IS WHERE THE POST SPACING IS 3'–1 1/2".

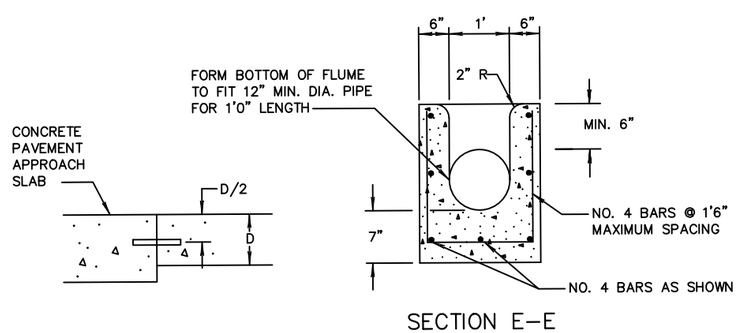
⑨ SEE SDD 'MGS THRIE BEAM TRANSITION' FOR MGS POST SPACING DETAILS.

⑩ WHEN CONCRETE SHOULDERS ARE PROPOSED, THICKNESS OF CONCRETE SURFACE DRAIN SHALL MATCH THICKNESS OF CONCRETE SHOULDER.



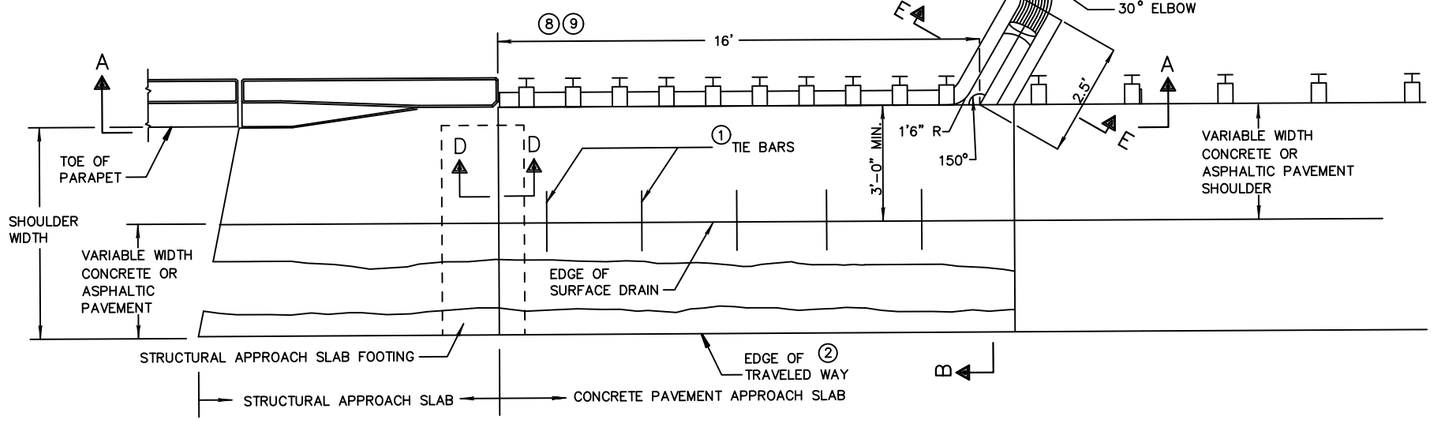
SECTION A–A





SECTION E–E

TIE BAR DETAIL

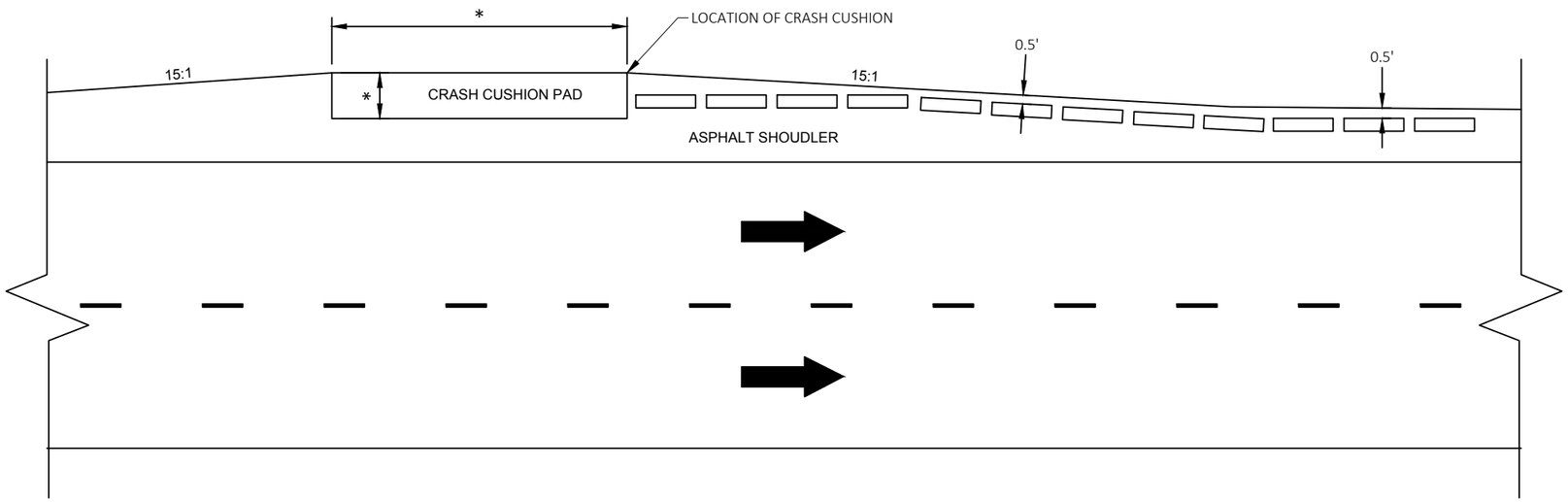


PLAN VIEW

PROJECT NO: 1066-06-72	HWY: CTH Q	COUNTY: JEFFERSON	CONSTRUCTION DETAILS - SURFACE DRAIN	SHEET 12	E

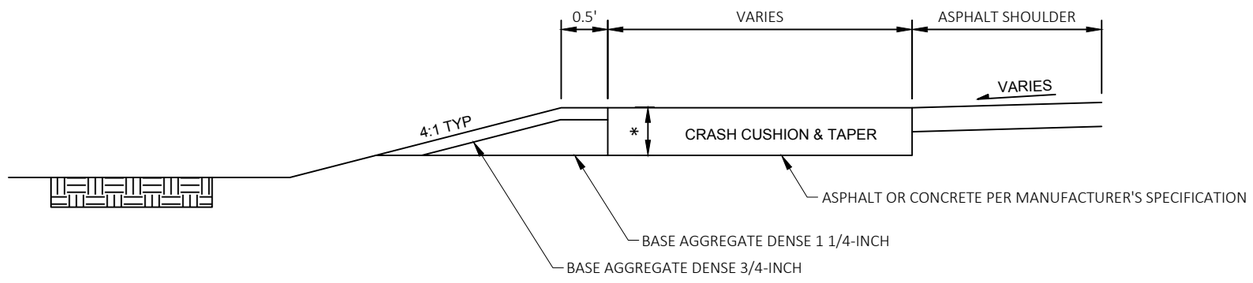
FILE NAME : S:\MAD\1000--1099\1089\397\ACAD\CIVIL3D\SHEETSPLAN\021003_CD.DWG
LAYOUT NAME - 021003_CD - 021003_CD
PLOT DATE : 6/28/2018 9:17 AM PLOT BY : GRIMME, SARA PLOT NAME : PLOT SCALE : **********
WISDOT/CADDS SHEET 42

2



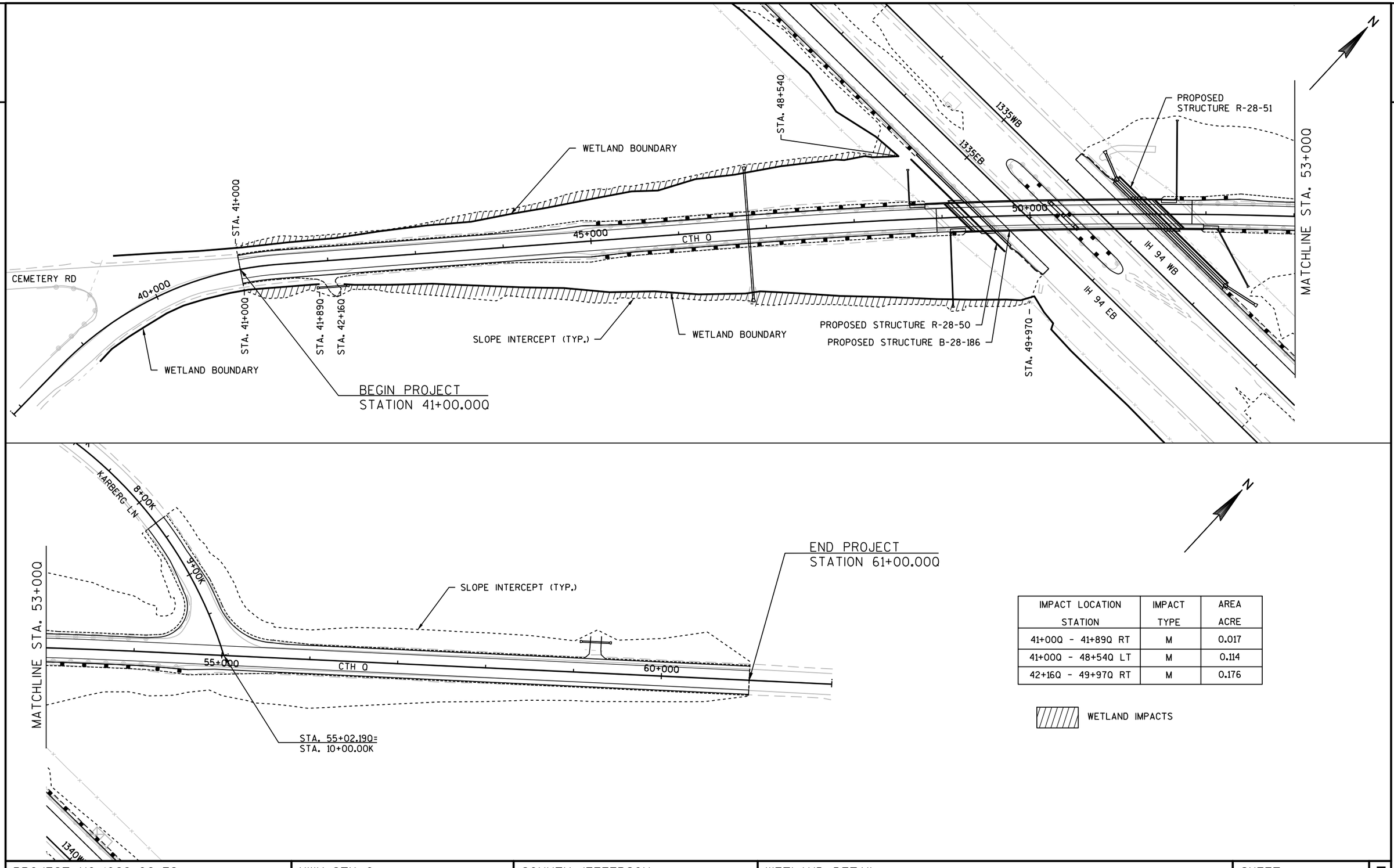
* CRASH CUSHION PAD DIMENSIONS AS SPECIFIED BY THE MANUFACTURER

TEMPORARY CRASH CUSHION LAYOUT



* CRASH CUSHION PAD DIMENSIONS AS SPECIFIED BY THE MANUFACTURER

TEMPORARY CRASH CUSHION PAD DETAIL



IMPACT LOCATION STATION	IMPACT TYPE	AREA ACRE
41+00Q - 41+89Q RT	M	0.017
41+00Q - 48+54Q LT	M	0.114
42+16Q - 49+97Q RT	M	0.176

WETLAND IMPACTS

PROJECT NO: 1066-06-72	HWY: CTH Q	COUNTY: JEFFERSON	WETLAND DETAIL	SHEET 14	E

2

MGS GUARDRAIL TERMINAL EAT REQ'D.
POST #1
STA. 44+91.050 LT

AT&T LEGACY/WISDOT (COMM.)

N

TLE

WE ENERGIES (ELEC.)

R/W

STA. 44+61.050
16.00' LT

STA. 44+91.050
23.90' LT

STA. 44+91.050
18.00' LT
POST #1

STA. 45+41.050
16.00' LT
POST #9

HMA PAVEMENT, 4-INCH

STA. 43+87.550
17.00' LT

15:1 TAPER

1'
5'
11'
2%
11'
5'
1'

42+000
43+000
44+000
CTH Q
45+000
46+000
47+000

4'
5'
11'
11'
5'
4'

MATCHLINE STA. 47+500

15:1 TAPER

STA. 44+68.570
16.00' RT

STA. 44+98.570
18.00' RT
POST #1

STA. 44+98.570
23.90' RT

STA. 45+48.570
16.00' RT
POST #9

STA. 43+95.070
17.00' RT

R/W

MGS GUARDRAIL 3 REQ'D (TYP.)

SLOPE INTERCEPTS (TYP.)

MGS GUARDRAIL TERMINAL EAT REQ'D.
POST #1
STA. 44+98.570 RT

PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	LAYOUT DETAIL - CTH Q	SHEET 15	E

FILE NAME : S:\MAD\1000--1099\1089\397\ACAD\CIVIL3D\SHEETSPLAN\021201_PD.DWG
LAYOUT NAME - 021201_PD

PLOT DATE : 6/28/2018 11:06 AM PLOT BY : GRIMME, SARA PLOT NAME : PLOT SCALE : **********

WISDOT/CADDS SHEET 42

2

2

MGS THRIE BEAM TRANSITION
STA. 48+44.17Q LT - STA. 48+83.57Q LT

MGS THRIE BEAM TRANSITION
STA. 51+46.80Q LT - STA. 51+86.20Q LT

MGS GUARDRAIL TERMINAL EAT REQ'D
POST #1
STA. 52+39.32Q LT

N

1334WB

1334EB

TLE

WE ENERGIES (ELEC.)

OH

FO

GUY

PROPOSED STRUCTURE
B-28-186

CONCRETE PAVEMENT
APPROACH SLAB REQ'D

STA. 51+84.130

STA. 51+89.320
16.00' LT
POST #9

STA. 52+39.320
18.00' LT
POST #1

STA. 52+39.320
23.90' LT

STA. 52+69.320
16.00' LT

STA. 53+12.820
19.00' LT

15:1 TAPER

HMA PAVEMENT,
4-INCH

R-28-50

R-28-51

CONCRETE
SURFACE
DRAINS
REQ'D.

STA. 48+93.660

CONCRETE SURFACE
DRAINS REQ'D.

HMA PAVEMENT, 4-INCH

MATCHLINE STA. 47+50Q

48+000

49+000

50+000

51+000

52+000

53+000

CTH Q

MATCHLINE STA. 53+50Q

1336WB

1336EB

XXXX

CONCRETE PAVEMENT
12-INCH (SHOULDER) (TYP.)

CONCRETE PAVEMENT
APPROACH SLAB REQ'D

CONCRETE SURFACE
DRAINS REQ'D.

CONCRETE SURFACE
DRAINS REQ'D.

CONCRETE PAVEMENT 12-INCH
(SHOULDER) (TYP.)

MGS GUARDRAIL 3 REQ'D (TYP.)

IH 94 WB

IH 94 EB

1338WB

1338EB

R/W

R/W

SLOPE INTERCEPTS (TYP.)

MGS THRIE BEAM TRANSITION
STA. 48+89.19Q RT - STA. 49+28.59Q RT

AT&T LEGACY/WISDOT (COMM.)

MGS THRIE BEAM TRANSITION
STA. 51+94.85Q RT - STA. 52+34.25Q RT

PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	LAYOUT DETAIL - CTH Q	SHEET 16	E

2

TRANSITION CROSS SLOPE
FROM 3.7% TO -4.6% FROM
STA. 8+30K TO STA. 9+76K RT

TRANSITION CROSS SLOPE
FROM -4.0% TO 3.8% FROM
STA. 8+30K TO STA. 9+76K LT

KARBERG LANE

8+00K

9+00K

BEGIN CONSTRUCTION
STA. 8+30.00K
MATCH EXISTING

STA. 8+30.00K
11.00' RT

STA. 8+75.20K
11.00' RT

STA. 8+75.20K
15.00' RT

STA. 9+15.20K
15.00' RT
EL. 823.68

STA. 9+15.20K
18.00' RT

STA. 54+23.370
52.00' LT

STA. 9+50K
15.00' RT
EL. 824.20

STA. 54+23.520
17.00' LT
EL. 826.88

STA. 54+23.520
20.00' LT

STA. 54+13.520
16.00' LT

STA. 8+30.00K
11.00' LT

HMA PAVEMENT,
4-INCH

STA. 8+75.20K
11.00' LT

STA. 8+75.20K
15.00' LT

STA. 9+15.24K
18.00' LT

STA. 9+15.24K
15.00' LT

STA. 9+46.29K
15.00' LT
EL. 823.46

STA. 9+50K
15.00' LT
EL. 823.47

STA. 55+57.570
87.00' LT

WE ENERGIES (ELEC.)

STA. 55+57.530
20.00' LT

STA. 55+57.530
17.00' LT
EL. 820.76

STA. 55+72.340
16.00' LT

STA. 56+02.530
17.00' LT

R/W

R/W

4%
3.7%
11'
4'
0.7%
0.6%
2.5%
2.4%
4.6%
3.8%
R=35'
R=70'
3'
109°42'34.13"

MATCHLINE STA. 53+500

54+000

55+000

56+000

57+000

58+000

CTH Q

15:1 TAPER

2%
2%
1'
5'
11'
11'
5'
1'

STA. 55+65.880
17.00' RT

STA. 55+02.190 =
STA. 10+00.00K
TYPE C MODIFIED
INTERSECTION REQ'D

HMA PAVEMENT, 4-INCH

STA. 54+12.380
16.00' RT
POST #9

STA. 54+92.380
16.00' RT

STA. 54+62.380
18.00' RT
POST #1

STA. 54+62.380
23.90' RT

SLOPE INTERCEPTS (TYP.)

MGS GUARDRAIL TERMINAL EAT REQ'D
POST #1
STA. 54+62.380 RT

PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	LAYOUT DETAIL - KARBERG LANE	SHEET 17	E

2

2

N

STEEL THRIE BEAM BULLNOSE TERMINAL AND STEEL THRIE BEAM
STA. 1335+35.58EB LT - STA. 1337+17.24EB LT
(POST 5 STA. 1335+51. 22.625' LT
TO FACE OF RAIL; 52.3' TO B-28-186 PIER; 4.3' LATERAL
OFFSET FROM BACK OF POST TO FACE OF PIER.)

STA. 1335+98WB
64.2' LT

SLOPE INTERCEPTS (TYP.)

STA. 1336+00.00WB
37.00' LT

STA. 1335+90.00WB
35.00' LT

STA. 1335+90.00WB
34.00' LT

WE ENERGIES (ELEC.)

STA. 1335+90.00WB
25.00' LT

STA. 1336+00.00WB
36.00' LT

IH 94 WB

1332WB

1334WB

1336WB

STEEL THRIE BEAM BULLNOSE TERMINAL REQ'D

EXISTING INLET TO REMAIN

STA. 1335+40EB LT - STA. 1337+09EB LT
REMOVING GUARDRAIL REQ'D.

1332EB

1334EB

1336EB

MATCHLINE STA. 1336+15EB

STA. 1330+35.00EB
25.00' RT

STA. 1331+66.98EB
38.00' RT
POST #1

IH 94 EB

B-28-186

STA. 1334+57.00EB
36.00' RT

STA. 1336+06.00EB
36.00' RT

15:1 TAPER

STA. 1330+35.00EB
34.00' RT

STA. 1332+16.98EB
36.00' RT
POST #9

CONCRETE BARRIER
TYPE S42 REQ'D

R-28-50

STA. 1334+17EB
76.6' RT

STA. 1331+66.98EB
43.90' RT

STA. 1330+35.00EB
35.00' RT

FENCE WOVEN WIRE
4-FT REQ'D. (TYP.)

STA. 1331+06.98EB
34.00' RT

MGS GUARDRAIL 3 REQ'D (TYP.)

TLE

STA. 1335+02EB
70.8' RT

CTH O

STA. 1335+59EB
61.7' RT

STA. 1336+06.00EB
38.33' RT

STA. 1336+07.00EB
39.33' RT

AT&T LEGACY/WISDOT (COMM.)

STA. 1331+35EB RT - STA. 1335+30EB RT
REMOVING GUARDRAIL REQ'D.

MGS GUARDRAIL TERMINAL EAT REQ'D
POST #1
STA. 1331+66.98EB RT

MGS THRIE BEAM TRANSITION
STA. 1334+20.10EB RT - STA. 1334+59.50EB RT

STA. 1335+83EB RT - STA. 1336+15EB RT
REMOVING GUARDRAIL REQ'D.

R/W

PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	LAYOUT DETAIL - IH 94	SHEET 18	E

STA. 1336+34WB LT - STA. 1336+68WB LT
REMOVING GUARDRAIL REQ'D.

WE ENERGIES (ELEC.)

STA. 1336+39.00WB
38.33' LT

STA. 1336+91WB
61.4' LT

STA. 1336+27.35WB
37.00' LT

CTH O

53+000

52+000

STA. 1337+49WB
70.0' LT

STA. 1338+37WB
72.5' LT

R/W

MGS THRIE BEAM TRANSITION
STA. 1338+09.50WB LT - 1338+48.90WB LT

STA. 1337+20WB LT - STA. 1340+93WB LT
REMOVING GUARDRAIL REQ'D.

MGS GUARDRAIL 3 HS
STA. 1339+73.90WB LT - 1340+48.90WB LT

MGS GUARDRAIL TERMINAL EAT REQ'D
POST #1
STA. 1341+02.03WB LT

N

MGS GUARDRAIL 3 REQ'D (TYP.)

SLOPE INTERCEPTS (TYP.)

STA. 1341+02.03WB
43.90' LT

STA. 1341+02.03WB
38.00' LT
POST #1

WISDOT FTMS

STA. 1342+35.00WB
35.00' LT

R-28-51

STA. 1342+35.00WB
34.00' LT

B-28-186

15:1 TAPER

51+000

STA. 1336+39.00WB
36.00' LT

STA. 1338+12.00WB
36.00' LT

IH 94 WB

STA. 1340+52.03WB
36.00' LT
POST #9

STA. 1341+62.03WB
34.00' LT

1338WB

1340WB

1342WB

STA. 1336+27.35WB
36.00' LT

CONCRETE BARRIER TYPE S42 REQ'D

STA. 1342+35.00WB
25.00' LT

MATCHLINE STA. 1336+15EB

STEEL THRIE BEAM BULLNOSE TERMINAL REQ'D

STA. 1336+17.65EB
36.00' RT

1338EB

1340EB

1342EB

STA. 1336+55.00EB
25.00' RT

IH 94 EB

STA. 1336+55.00EB
34.00' RT

STA. 1336+55.00EB
35.00' RT

FO

STA. 1336+45.00EB
36.00' RT

STA. 1336+45.00EB
37.00' RT

STA. 1336+65.59EB
66.17' RT

AT&T LEGACY/WISDOT (COMM.)

FENCE WOVEN WIRE
4-FT REQ'D (TYP.)

STA. 1336+17.65EB
37.00' RT

R/W

STEEL THRIE BEAM BULLNOSE TERMINAL AND STEEL THRIE BEAM
STA. 1335+35.58EB LT - STA. 1337+17.24EB LT
(POST 5 STA. 1337+01, 22.625' LT
TO FACE OF RAIL; 55.6' TO B-28-186 PIER; 4.3' LATERAL
OFFSET FROM BACK OF POST TO FACE OF PIER.)

PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	LAYOUT DETAIL - IH 94	SHEET 19	E

2

N

IH 94 WB

1322WB 1324WB 1326WB 1328WB 1330WB 1332WB 1334WB 1336

1322EB 1324EB 1326EB 1328EB 1330EB 1332EB 1334EB

IH 94 EB

MATCHLINE STA. 1336+00EB

47+000 48+000 49+000 CTH O

LEGEND

EROSION MAT CLASS I, TYPE A OR B	SILT FENCE INSTALLED IN PREVIOUS STAGE
SILT FENCE	
SLOPE INTERCEPT	TEMPORARY DITCH CHECKS INSTALLED IN PREVIOUS STAGE
TEMPORARY DITCH CHECKS	
CULVERT PIPE CHECKS	CULVERT PIPE CHECKS INSTALLED IN PREVIOUS STAGE
SURFACE WATER FLOW	
INLET PROTECTION TYPE A	INLET PROTECTION TYPE A INSTALLED IN PREVIOUS STAGE

N

53+000 52+000 51+000 CTH O

B-28-43

MATCHLINE STA. 1336+00EB

1338WB 1340WB 1342WB 1344WB 1346WB 1348WB 1350WB

1338EB 1340EB 1342EB 1344EB 1346EB 1348EB 1350EB

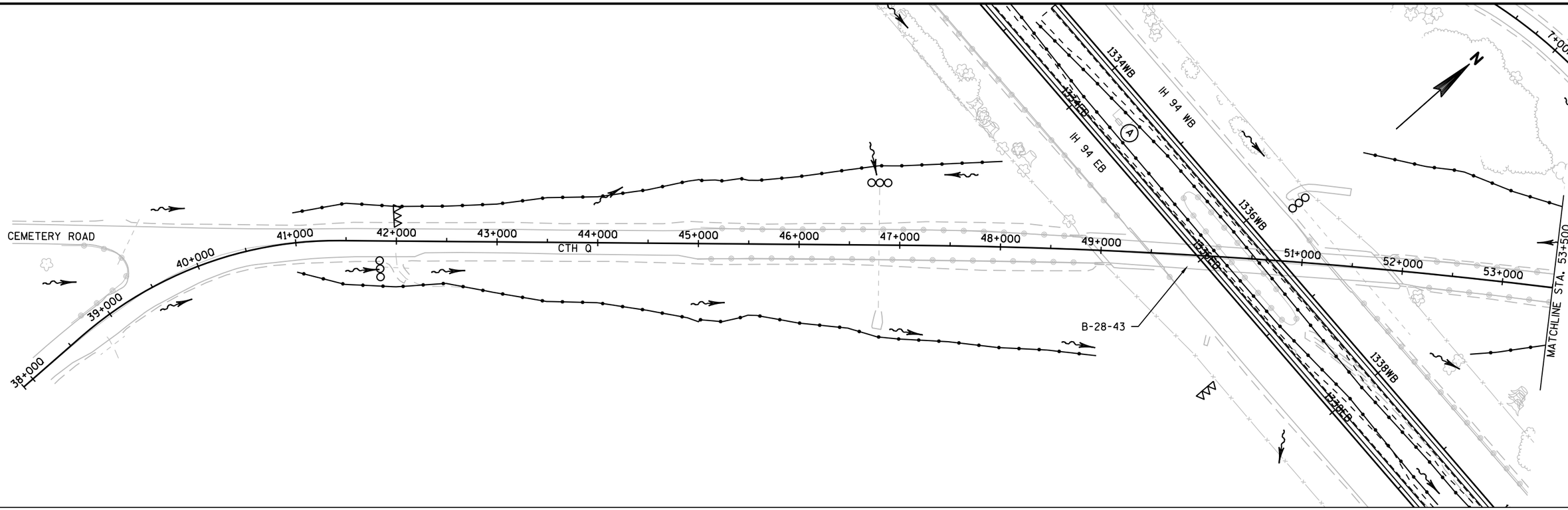
IH 94 WB

IH 94 EB

PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	EROSION CONTROL STAGE 1	SHEET 20	E

FILE NAME : S:\MAD\1000--1099\1089\397\ACAD\CIVIL3D\SHEETSPLAN\022001_EC1.DWG
LAYOUT NAME - 022001_EC1 - 022001_EC1

PLOT DATE : 6/28/2018 11:12 AM PLOT BY : GRIMME, SARA PLOT NAME : PLOT SCALE : **********



LEGEND

######	EROSION MAT CLASS I, TYPE A OR B
	SILT FENCE
	SLOPE INTERCEPT
	TEMPORARY DITCH CHECKS
	CULVERT PIPE CHECKS
	SURFACE WATER FLOW
A	INLET PROTECTION TYPE A
	SILT FENCE INSTALLED IN PREVIOUS STAGE
	TEMPORARY DITCH CHECKS INSTALLED IN PREVIOUS STAGE
	CULVERT PIPE CHECKS INSTALLED IN PREVIOUS STAGE
A	INLET PROTECTION TYPE A INSTALLED IN PREVIOUS STAGE

PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	EROSION CONTROL CTH Q STAGE 1	SHEET 21	E

2

2

N

IH 94 WB

1322WB 1324WB 1326WB 1328WB 1330WB 1332WB 1334WB 1336WB

1322EB 1324EB 1326EB 1328EB 1330EB 1332EB 1334EB 1336EB

IH 94 EB

MATCHLINE STA. 1336+00EB

49+000

48+000

CTH O

47+000

LEGEND

- EROSION MAT CLASS I, TYPE A OR B
- SILT FENCE
- SLOPE INTERCEPT
- TEMPORARY DITCH CHECKS
- CULVERT PIPE CHECKS
- SURFACE WATER FLOW
- (A) INLET PROTECTION TYPE A
- SILT FENCE INSTALLED IN PREVIOUS STAGE
- TEMPORARY DITCH CHECKS INSTALLED IN PREVIOUS STAGE
- CULVERT PIPE CHECKS INSTALLED IN PREVIOUS STAGE
- (A) INLET PROTECTION TYPE A INSTALLED IN PREVIOUS STAGE

N

RIPRAP MEDIUM

53+000

52+000

CTH O

51+000

MATCHLINE STA. 1336+00EB

1338WB 1340WB 1342WB 1344WB 1346WB 1348WB 1350WB

1338EB 1340EB 1342EB 1344EB 1346EB 1348EB 1350EB

IH 94 WB

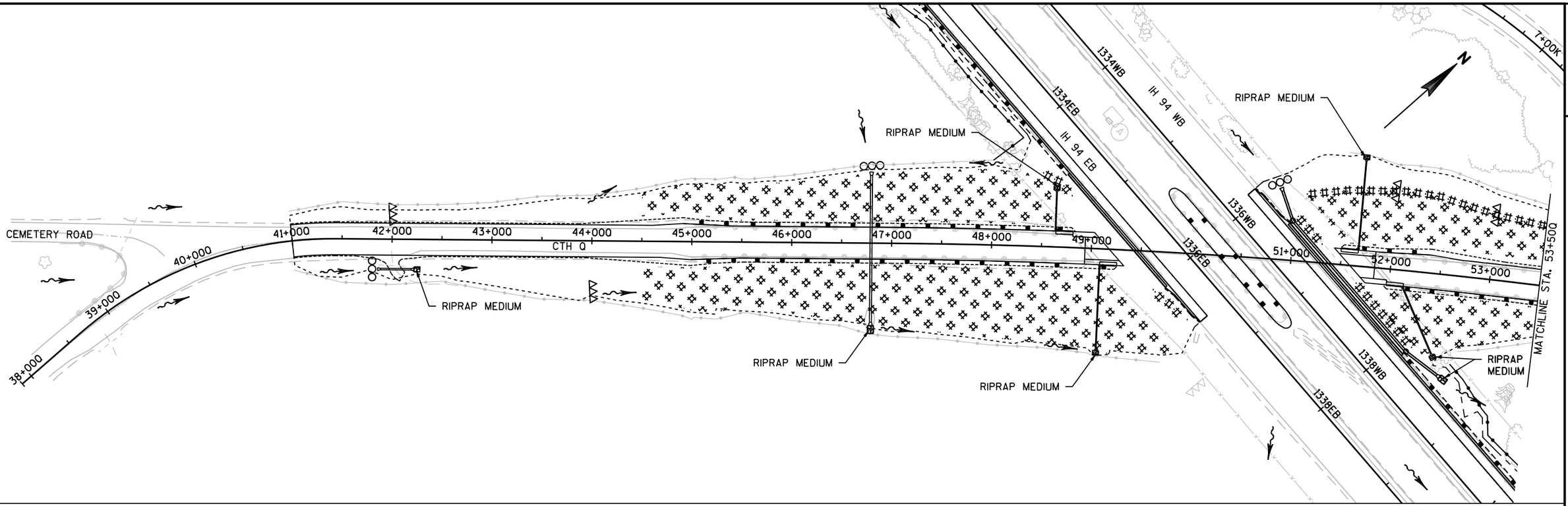
IH 94 EB

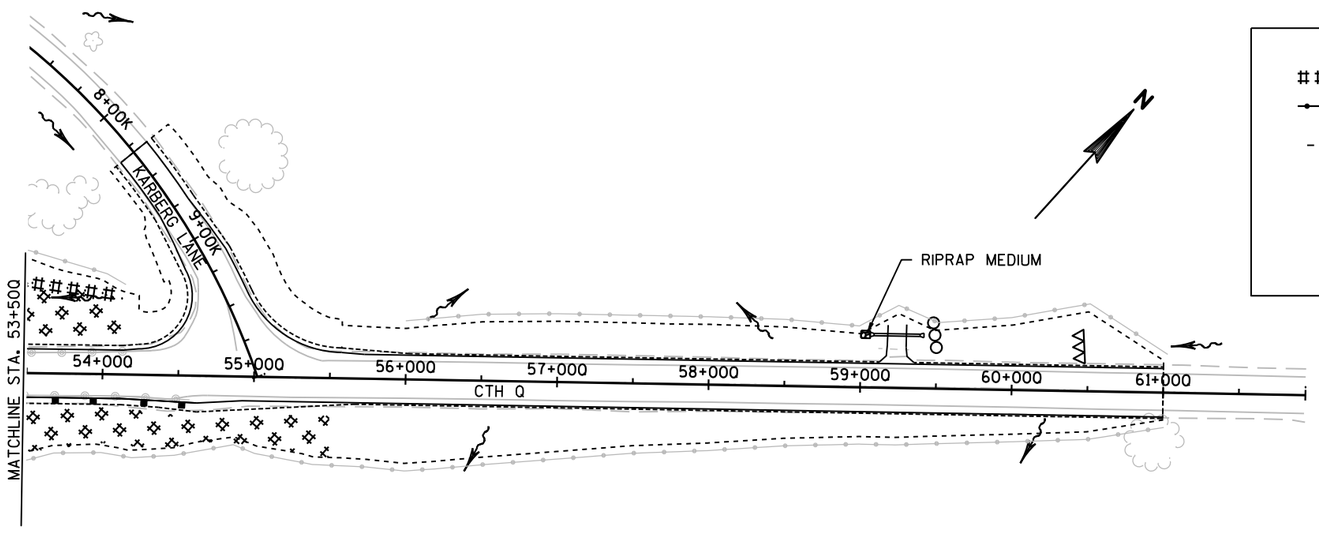
PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	EROSION CONTROL STAGE 4	SHEET 22	E

FILE NAME : S:\MAD\1000--1099\1089\397\ACAD\CIVIL3D\SHEETSPLAN\022003_EC4.DWG
LAYOUT NAME - 022003_EC4 - 022003_EC4

PLOT DATE : 6/28/2018 11:13 AM PLOT BY : GRIMME, SARA PLOT NAME : PLOT SCALE : **********

WISDOT/CADDS SHEET 42

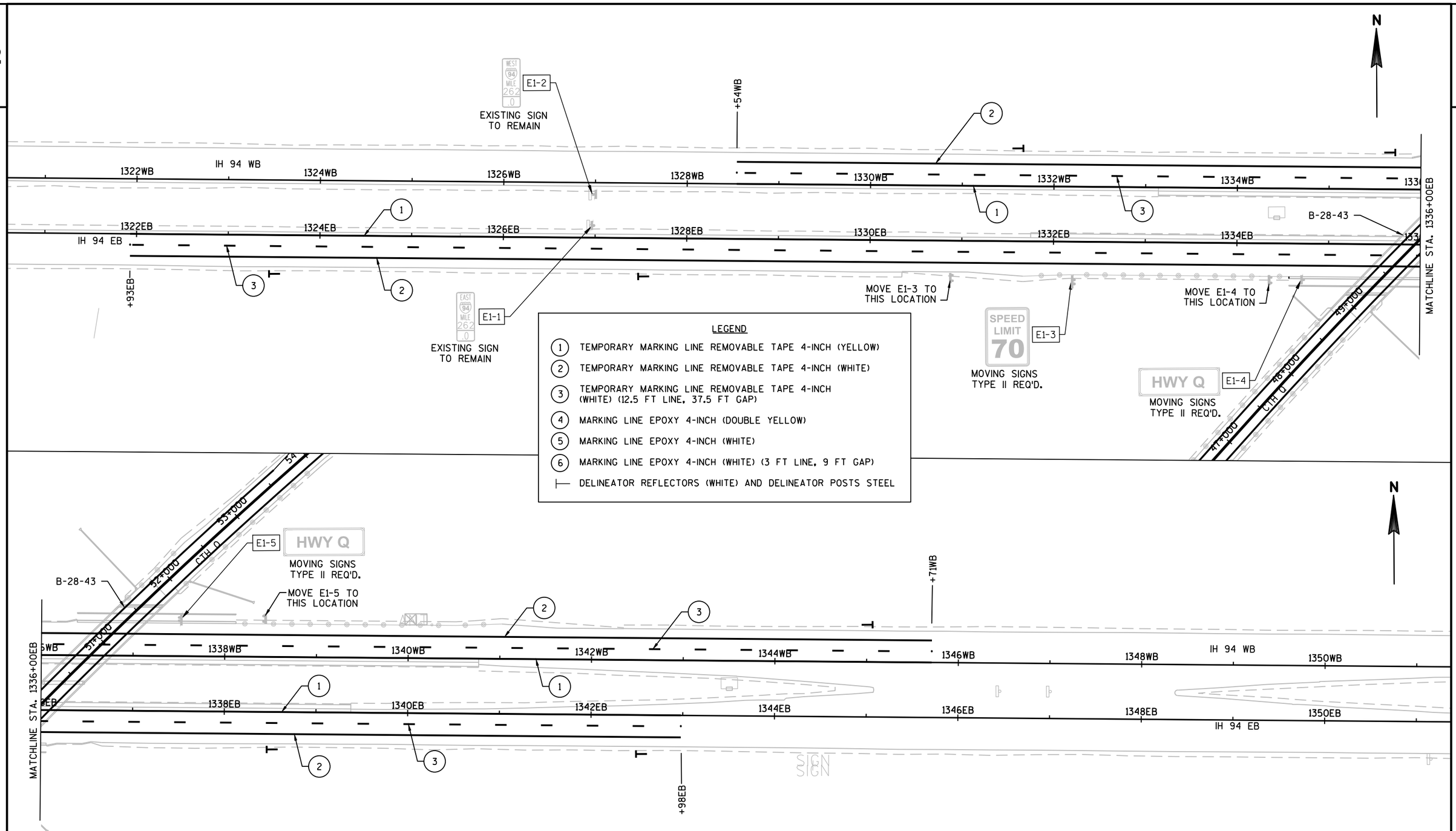




LEGEND

- EROSION MAT CLASS I, TYPE A OR B
- SILT FENCE
- SLOPE INTERCEPT
- TEMPORARY DITCH CHECKS
- CULVERT PIPE CHECKS
- SURFACE WATER FLOW
- (A) INLET PROTECTION TYPE A
- SILT FENCE INSTALLED IN PREVIOUS STAGE
- TEMPORARY DITCH CHECKS INSTALLED IN PREVIOUS STAGE
- CULVERT PIPE CHECKS INSTALLED IN PREVIOUS STAGE
- (A) INLET PROTECTION TYPE A INSTALLED IN PREVIOUS STAGE

PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	EROSION CONTROL CTH Q	SHEET 23	E

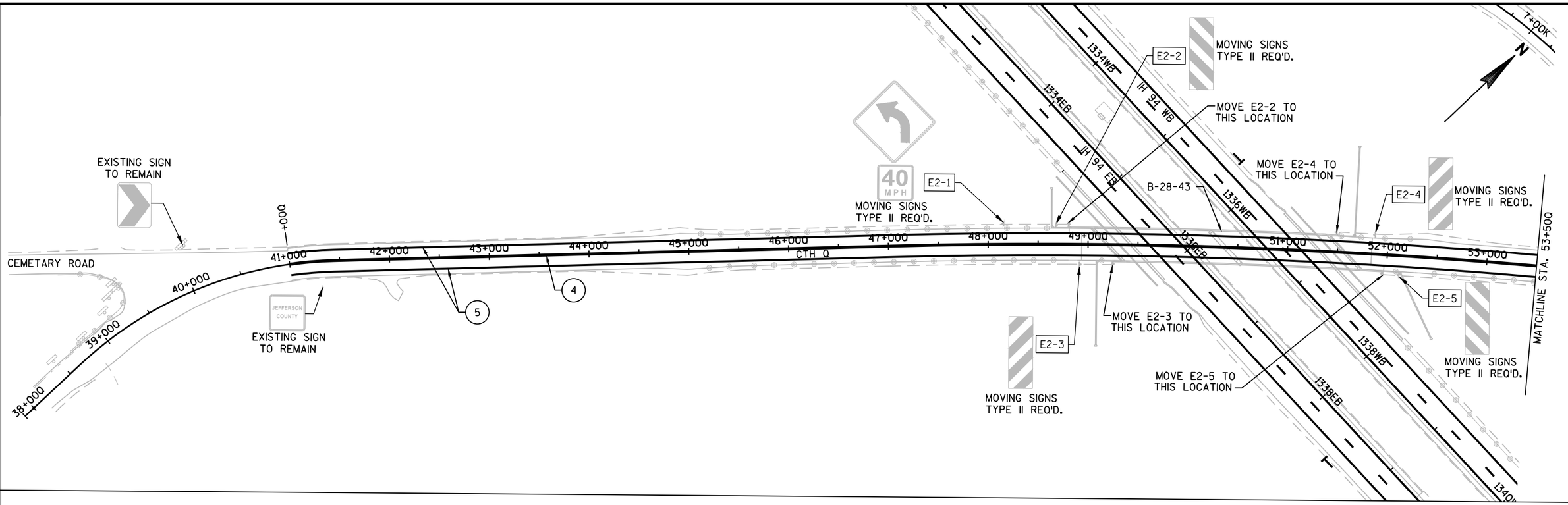


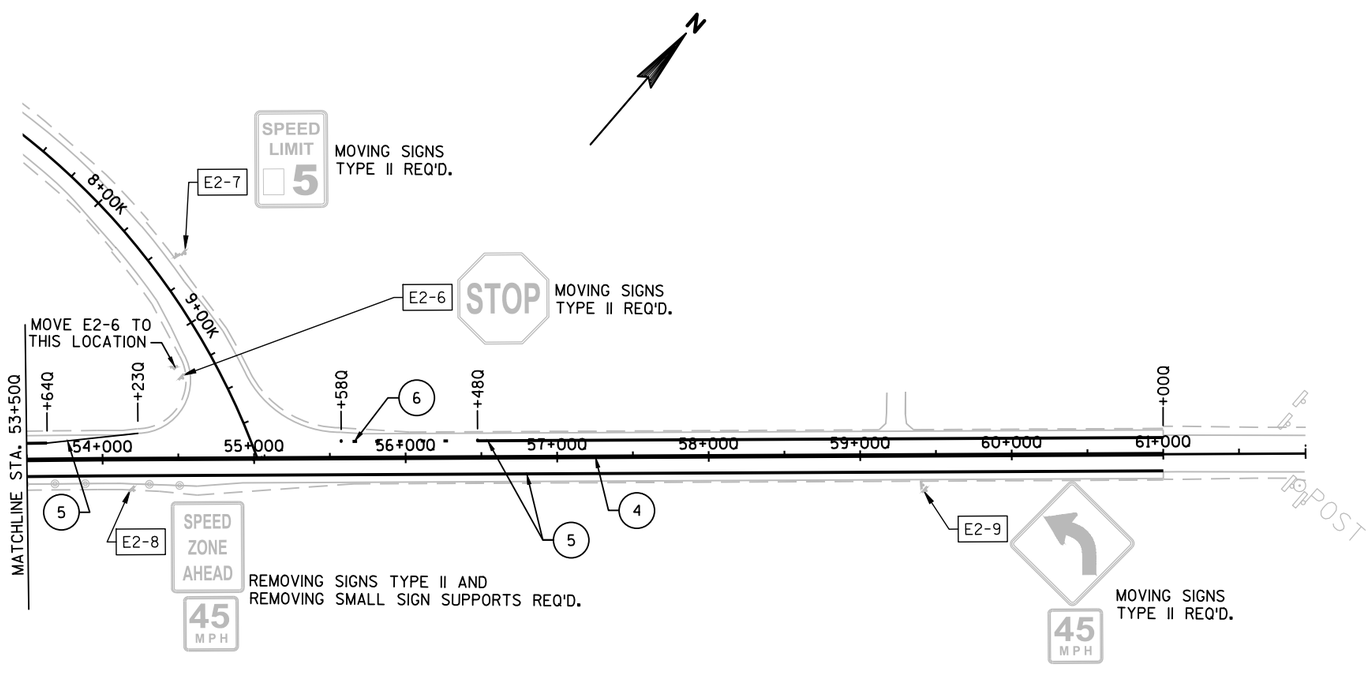
LEGEND

1. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
2. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
3. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE) (12.5 FT LINE, 37.5 FT GAP)
4. MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)
5. MARKING LINE EPOXY 4-INCH (WHITE)
6. MARKING LINE EPOXY 4-INCH (WHITE) (3 FT LINE, 9 FT GAP)

DELINEATOR REFLECTORS (WHITE) AND DELINEATOR POSTS STEEL

PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	PAVEMENT MARKING AND SIGNING	SHEET 24	E





LEGEND

1. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
2. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
3. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE) (12.5 FT LINE, 37.5 FT GAP)
4. MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)
5. MARKING LINE EPOXY 4-INCH (WHITE)
6. MARKING LINE EPOXY 4-INCH (WHITE) (3 FT LINE, 9 FT GAP)

DELINEATOR REFLECTORS (WHITE) AND DELINEATOR POSTS STEEL

PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	PAVEMENT MARKING AND SIGNING	SHEET 25	E

GENERAL NOTES FOR TRAFFIC CONTROL

1. THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

2. DRAWINGS SHOW TRAFFIC CONTROL FOR A TYPICAL SITUATION. ADDITIONAL TRAFFIC CONTROL DEVICES MAY BE REQUIRED AND/OR LAYOUT DETAILS MODIFIED DEPENDING ON CONTRACTORS METHODS OR SEQUENCES OF OPERATION.

3. ADJUST SPACING BETWEEN SIGNS TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) DISTANCE TO EXISTING SIGNS.

4. REMOVE OR COVER ANY TEMPORARY SIGNS WHICH CONFLICT WITH TRAFFIC CONTROL "IN-USE" AS NEEDED OR AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

5. EXISTING TRAFFIC SIGNS MAY REQUIRE RELOCATION DURING STAGES OF CONSTRUCTION AND SHALL BE LOCATED AS REQUIRED BY THE ENGINEER IN THE FIELD.

6. MOVE, REMOVE, OR INSTALL ROUTE MARKER SIGNS AS REQUIRED TO MAINTAIN NECESSARY ROUTE GUIDANCE THROUGHOUT CONSTRUCTION.

7. CONSIDER GEOMETRICS WHEN LOCATING SIGNS, ARROW BOARDS AND SIGN MESSAGE BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARDS, SIGN MESSAGE BOARDS, AND LANE CLOSURE DRUMS FOR A MINIMUM OF 1500 FEET IN FRONT OF THE DEVICE.

8. INSTALL LANE CLOSURE SERIES AS A COMPLETE UNIT WHICH INCLUDES ALL ADVANCED WARNING SIGNS, DRUMS, AND ARROW BOARDS.

9. FOR ANY LANE CLOSURES THAT ARE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS. TRAFFIC CONTROL SIGNS MOUNTED ON PORTABLE SUPPORTS MUST BE MOUNTED AT A MINIMUM OF 5 FEET FROM THE TOP OF PAVEMENT TO THE BOTTOM OF SIGN.

10. THE TURNING OF TRAFFIC CONTROL DEVICES WHEN NOT IN USE TO OBSCURE THE MESSAGE WILL NOT BE ALLOWED.

11. PAVEMENT MARKING CONFLICTING WITH STAGED TRAFFIC PATTERNS SHALL BE REMOVED.

12. USE ROAD MACHINERY, TRUCK ENTRANCE, FLAGMEN AHEAD, ETC., SIGNS AS NEEDED AND REMOVE OR COVER THEM WHEN THE ACTIVITY OR CONDITION DOES NOT EXIST. NO WARNING LIGHT SHALL BE USED WITH A COVERED SIGN.

13. ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

14. "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

15. DETAILS OF TRAFFIC CONTROL NOT SHOWN SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, APPLICABLE SPECIAL PROVISIONS, AND THE WISCONSIN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

16. FOR NIGHTTIME OPERATION ALL DRUMS IN TAPERS SHALL HAVE A TRAFFIC CONTROL WARNING LIGHTS TYPE C.

17. ALL TYPE III BARRICADES SHALL BE 8' WIDE, UNLESS OTHERWISE NOTED, AND EQUIPPED WITH TWO TRAFFIC CONTROL WARNING LIGHTS TYPE A.

18. ANCHOR CONCRETE BARRIER TEMPORARY PRECAST PER SDD "CONCRETE BARRIER TEMPORARY PRECAST". REFER TO MISCELLANEOUS QUANTITIES FOR APPROXIMATE LOCATIONS.

19. CONCRETE BARRIER TEMPORARY PRECAST LOCATIONS IN TRAFFIC CONTROL PLANS ARE TYPICAL AND MAY VARY.

20. PROTECTION OF THE EXCAVATION IS THE CONTRACTORS RESPONSIBILITY AND IS INCIDENTAL TO THE OPERATION FOR WHICH IT IS REQUIRED.

21. CONTRACTORS EQUIPMENT AND MATERIAL STOCKPILES MAY NOT BE STORED WITH IN THE MEDIAN OR CLEAR ZONE OF IH 94 UNLESS PROTECTED BY CONCRETE BARRIER TEMPORARY PRECAST.

LEGEND: TEMPORARY PAVEMENT MARKING (ALL STAGES)

(RT-4W)	TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
(RT-4Y)	TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
(RT-4W-LL)	TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE) (LANE LINE) (12.5' LINE, 37.5' GAP)

LEGEND: SYMBOLS ALL STAGES

‡	TRAFFIC CONTROL BARRICADES TYPE III
‡	TRAFFIC CONTROL BARRICADES TYPE III, W/TRAFFIC CONTROL SIGNS
●	TRAFFIC CONTROL DRUMS
	TRAFFIC CONTROL DRUMS W/TRAFFIC CONTROL WARNING LIGHTS TYPE C
	TRAFFIC CONTROL ARROW BOARDS
	TRAFFIC CONTROL SIGNS ON PERMANENT SUPPORT
PCMS	TRAFFIC CONTROL SIGNS PCMS
	CONCRETE BARRIER TEMPORARY PRECAST (SEE PLAN SHEETS FOR PAY ITEMS)
XXXX XXXX XXXX	SAWING ASPHALT
	MARKING REMOVAL
CC	CRASH CUSHIONS TEMPORARY

	WORK ZONE
	WORK ZONE TEMPORARY PAVEMENT
	TEMPORARY PAVEMENT
➡	DIRECTION OF TRAFFIC

PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	TRAFFIC CONTROL GENERAL NOTES & LEGENDS	SHEET 26	E

TRAFFIC CONTROL NOTES

COORDINATE TRAFFIC CONTROL WITH PROJECT ID 1067-04-71.

USE SIGNING FROM THIS DETAIL WHEN TRAFFIC CONTROL FROM PROJECT ID 1067-04-71 IS NOT IN PLACE.

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 7 CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE $\frac{1}{2}$ THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

* OPTIONAL - USE WHEN WARRANTED BY ROADWAY GEOMETRICS OR TRAFFIC VOLUMES

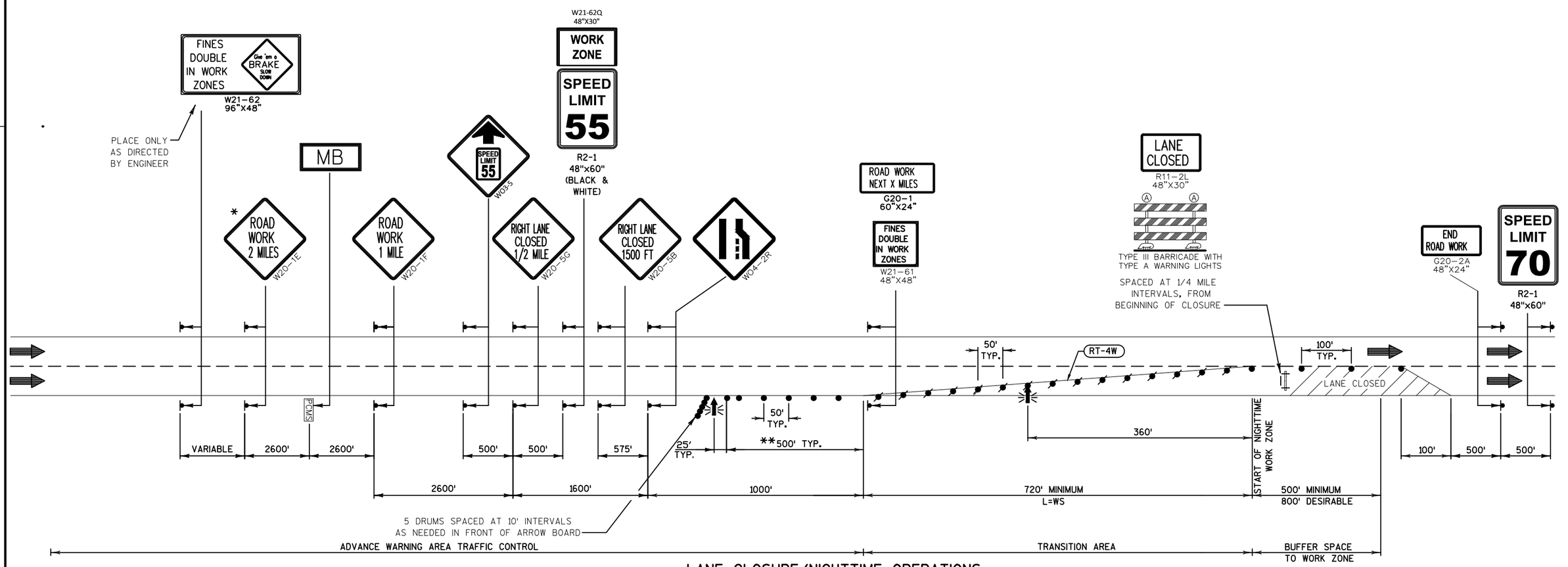
** CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE DRIVER HAS CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM OF 150 IN FRONT OF THE DRUMS.

COVERING AND REMOVAL OF MATERIAL COVERING TEMPORARY REGULATORY SPEED LIMIT AND EXISTING SPEED LIMIT SIGNS RELATED TO TEMPORARY AND/OR PERIODIC LANE CLO SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.

REFER TO TRAFFIC CONTROL GENERAL NOTES & LEGENDS PLAN SHEET FOR ADDITIONAL INFORMATION.

PORTABLE MESSAGE SIGN MESSAGES SHOULD READ:

FRAME 1	FRAME 2		
NIGHT WORK TIME PM - TIME AM	RIGHT LANE CLOSED	OR	LEFT LANE CLOSED



LANE CLOSURE/NIGHTTIME OPERATIONS

(SEE TRAFFIC CONTROL PLANS FOR LOCATIONS)

PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	TRAFFIC CONTROL DETAILS	SHEET	E

FILE NAME : S:\MAD\1000--1099\1089\397\ACAD\CIVIL3D\SHEETSPLAN\025001_TC.DWG PLOT DATE : 10/1/2019 1:55 PM PLOT BY : GRIMME, SARA PLOT NAME : PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 42

TRAFFIC CONTROL NOTES

COORDINATE TRAFFIC CONTROL WITH PROJECT ID 1067-04-71.

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 7 CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR * TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

OPTIONAL - USE WHEN WARRANTED BY ROADWAY GEOMETRICS OR TRAFFIC VOLUMES

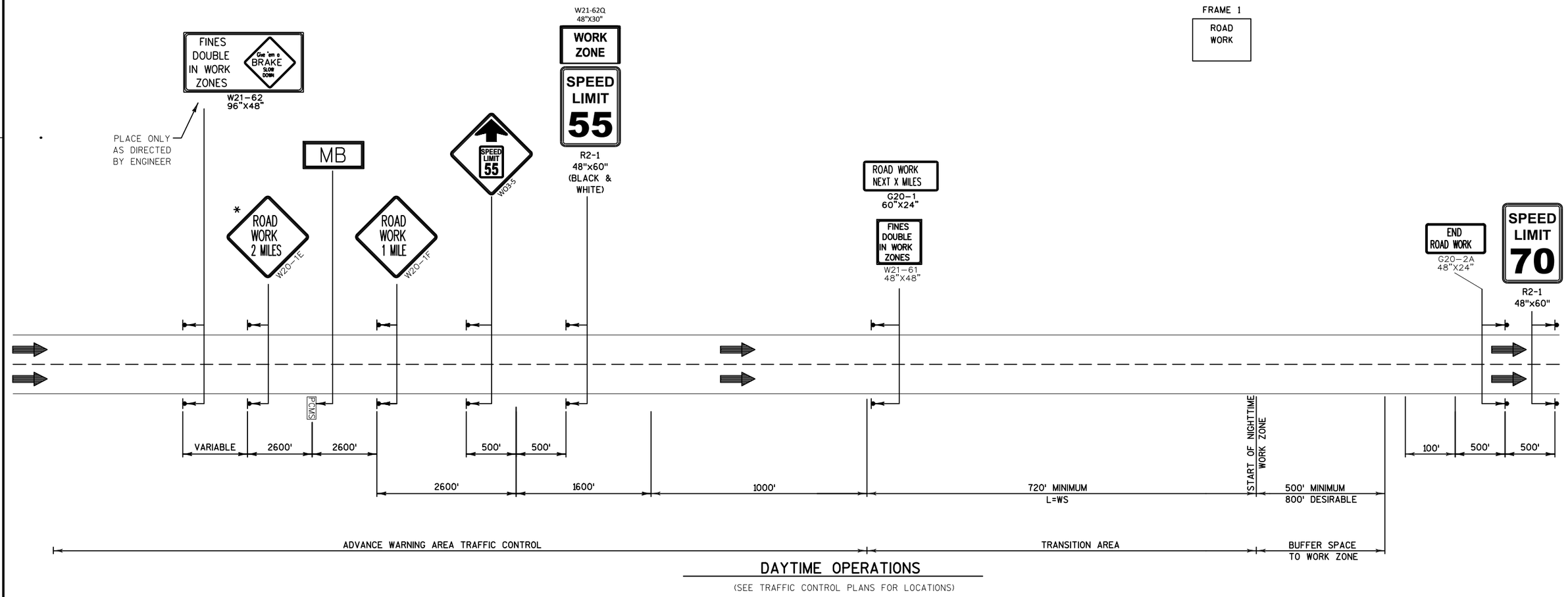
COVERING AND REMOVAL OF MATERIAL COVERING TEMPORARY REGULATORY SPEED LIMIT SIGNS AND EXISTING SPEED LIMIT SIGNS RELATED TO TEMPORARY AND/OR PERIODIC LANE CLOSURES SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.

REFER TO TRAFFIC CONTROL GENERAL NOTES & LEGENDS PLAN SHEET FOR ADDITIONAL INFORMATION.

PORTABLE MESSAGE SIGN MESSAGES SHOULD READ:

FRAME 1

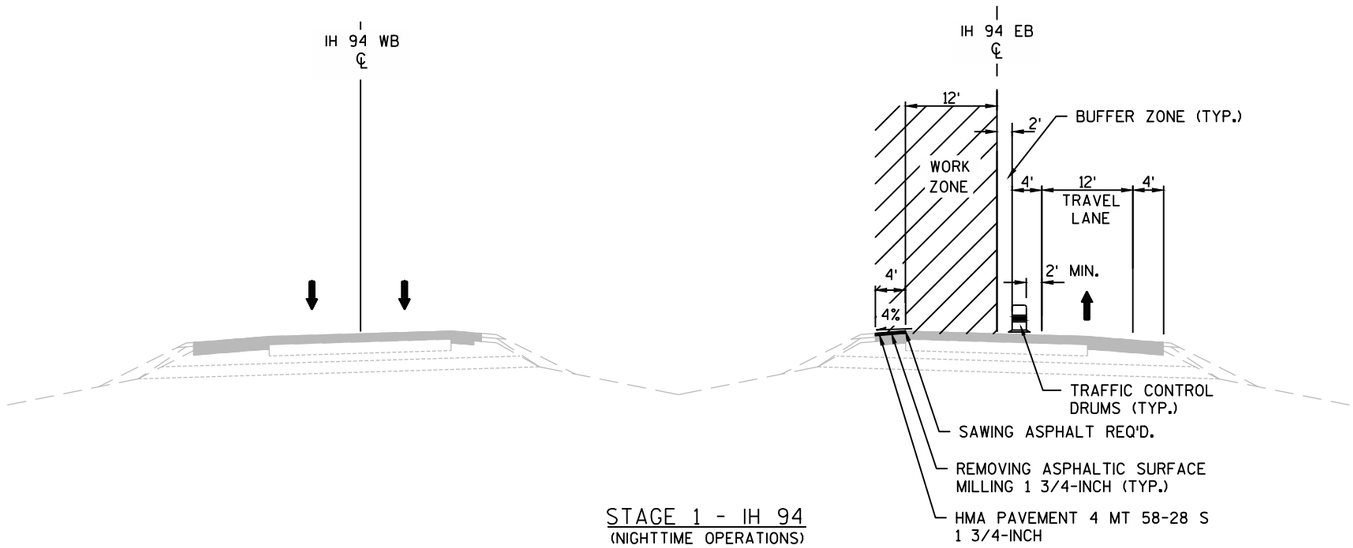
ROAD WORK



DAYTIME OPERATIONS

(SEE TRAFFIC CONTROL PLANS FOR LOCATIONS)

PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	PLAN: TRAFFIC CONTROL DETAILS	SHEET 28	E



STAGE 1 - IH 94
(NIGHTTIME OPERATIONS)

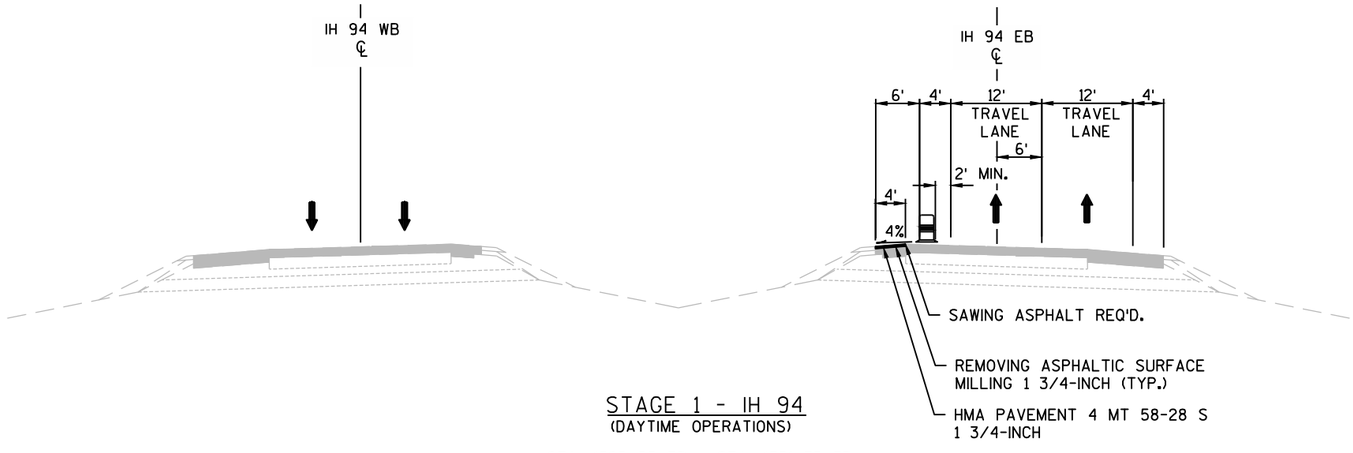
STA. 1325+53 EB - STA. 1331+75 EB

CONSTRUCTION AND TRAFFIC CONTROL

CLOSE INSIDE TRAVEL LANE DURING NIGHTTIME WORK HOURS AND SHIFT TRAFFIC ONTO OUTSIDE SHOULDER.

REMOVE EXISTING CTH O BRIDGE DECK AND PARAPETS FROM CENTER PIER TO 2 FEET BEYOND IH 94 CENTERLINE.

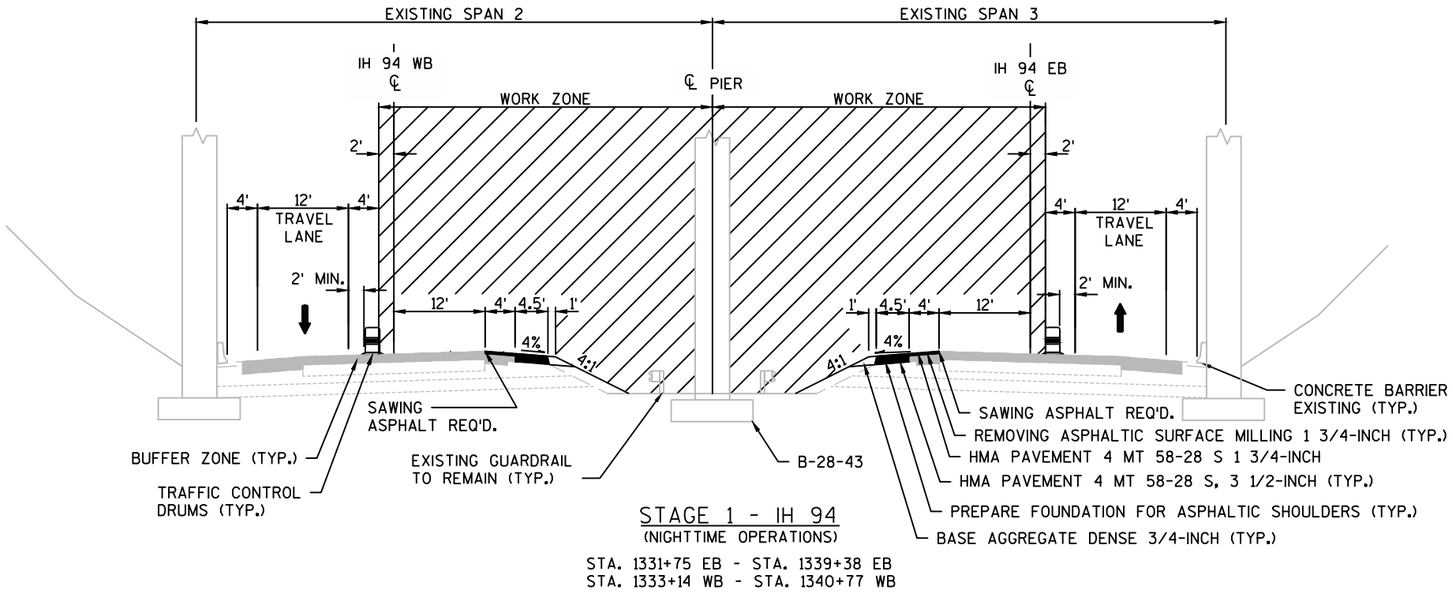
CONSTRUCT MEDIAN SHOULDER WIDENING AND PLACE CONCRETE BARRIER TEMPORARY PRECAST.



STAGE 1 - IH 94
(DAYTIME OPERATIONS)

STA. 1325+53 EB - STA. 1331+75 EB

PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	TRAFFIC CONTROL: TYPICAL SECTIONS	SHEET 29	E



STAGE 1 - IH 94
(NIGHTTIME OPERATIONS)

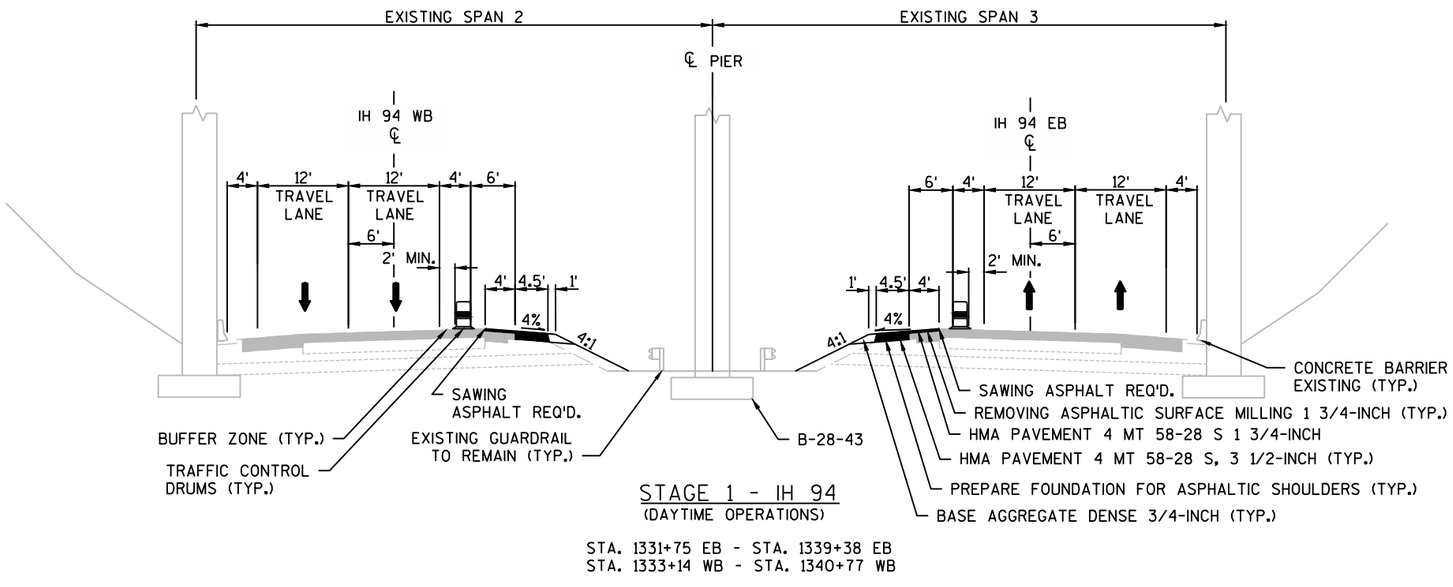
STA. 1331+75 EB - STA. 1339+38 EB
STA. 1333+14 WB - STA. 1340+77 WB

CONSTRUCTION AND TRAFFIC CONTROL

CLOSE INSIDE TRAVEL LANE DURING NIGHTTIME WORK HOURS AND SHIFT TRAFFIC ONTO OUTSIDE SHOULDER.

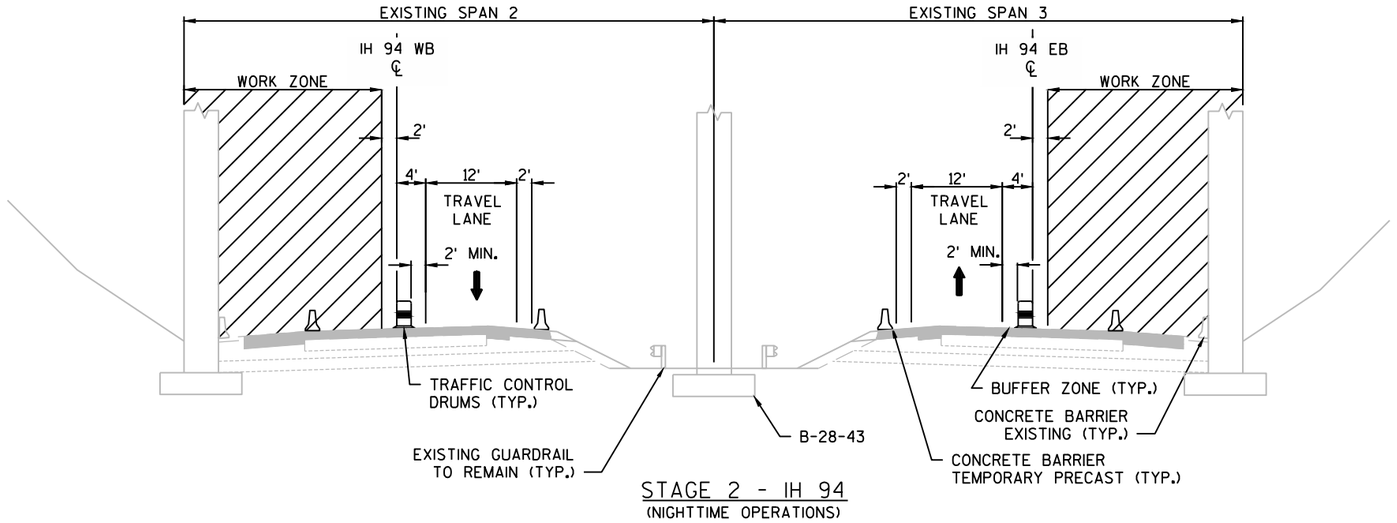
REMOVE EXISTING CTH Q BRIDGE DECK AND PARAPETS FROM CENTER PIER TO 2 FEET BEYOND IH 94 CENTERLINE.

CONSTRUCT MEDIAN SHOULDER WIDENING AND PLACE CONCRETE BARRIER TEMPORARY PRECAST.



STAGE 1 - IH 94
(DAYTIME OPERATIONS)

STA. 1331+75 EB - STA. 1339+38 EB
STA. 1333+14 WB - STA. 1340+77 WB

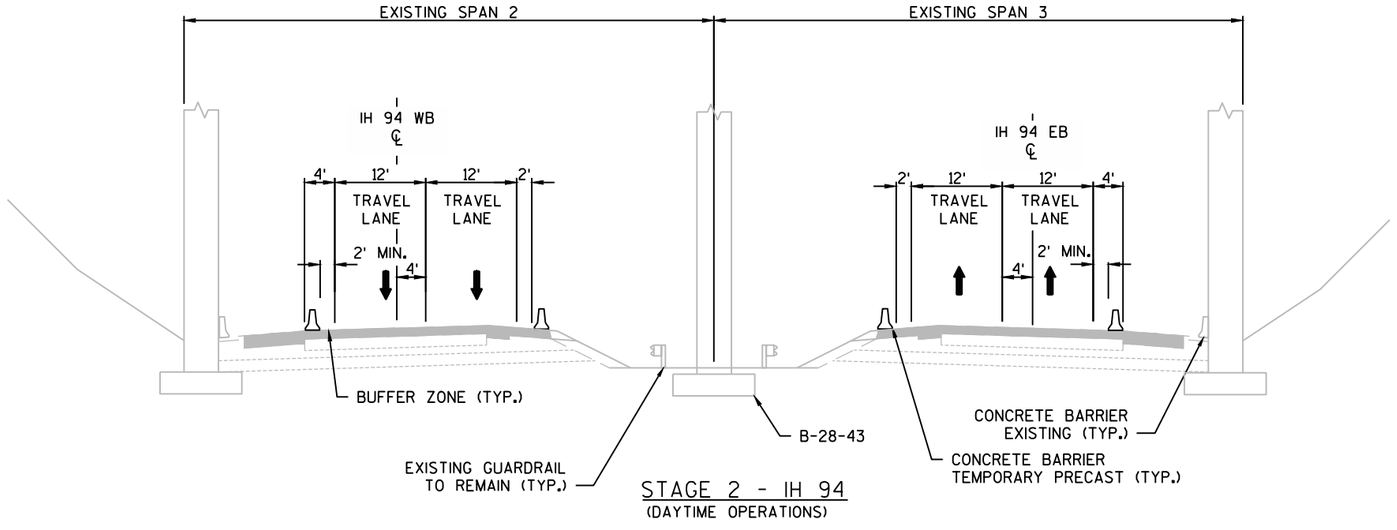


STAGE 2 - IH 94
(NIGHTTIME OPERATIONS)

CONSTRUCTION AND TRAFFIC CONTROL

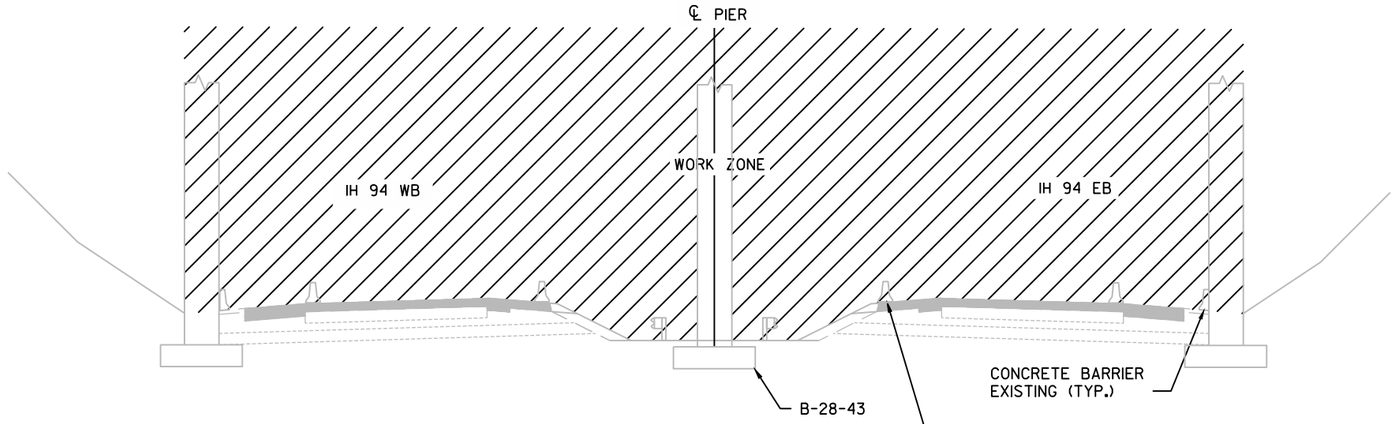
CLOSE OUTSIDE TRAVEL LANE DURING NIGHTTIME WORK HOURS AND SHIFT TRAFFIC ONTO INSIDE SHOULDER.

REMOVE EXISTING CTH Q BRIDGE DECK AND PARAPETS FROM 2 FEET BEYOND IH 94 CENTERLINE TO THE ABUTMENT.



STAGE 2 - IH 94
(DAYTIME OPERATIONS)

2

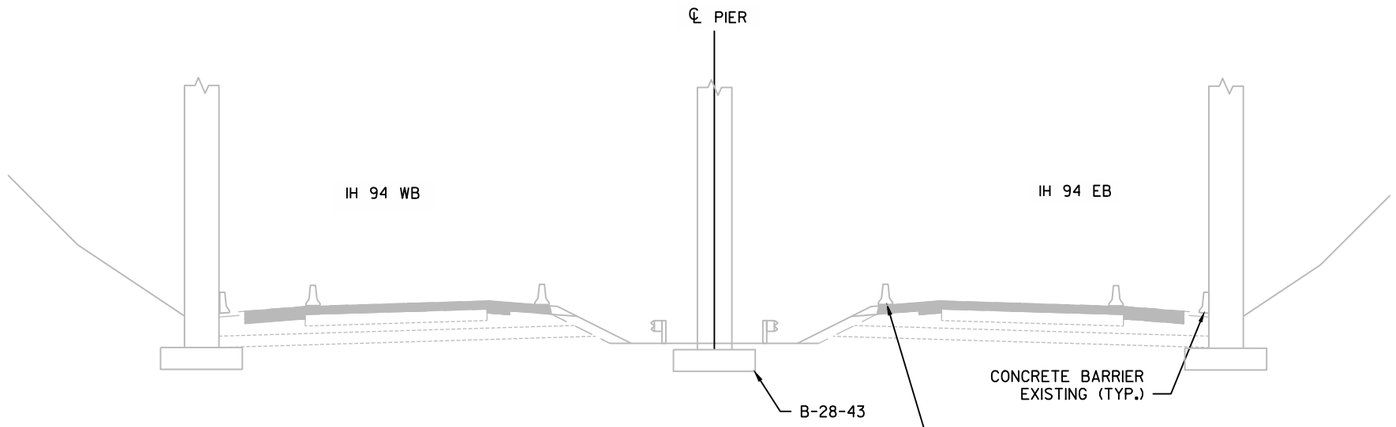


STAGE 3 - IH 94
(NIGHTTIME OPERATIONS)

CONSTRUCTION AND TRAFFIC CONTROL

ROLLING CLOSURE OF IH 94 DURING NIGHTTIME WORK HOURS FOR A MAXIMUM OF 15 MINUTES.

REMOVE EXISTING GIRDERS.

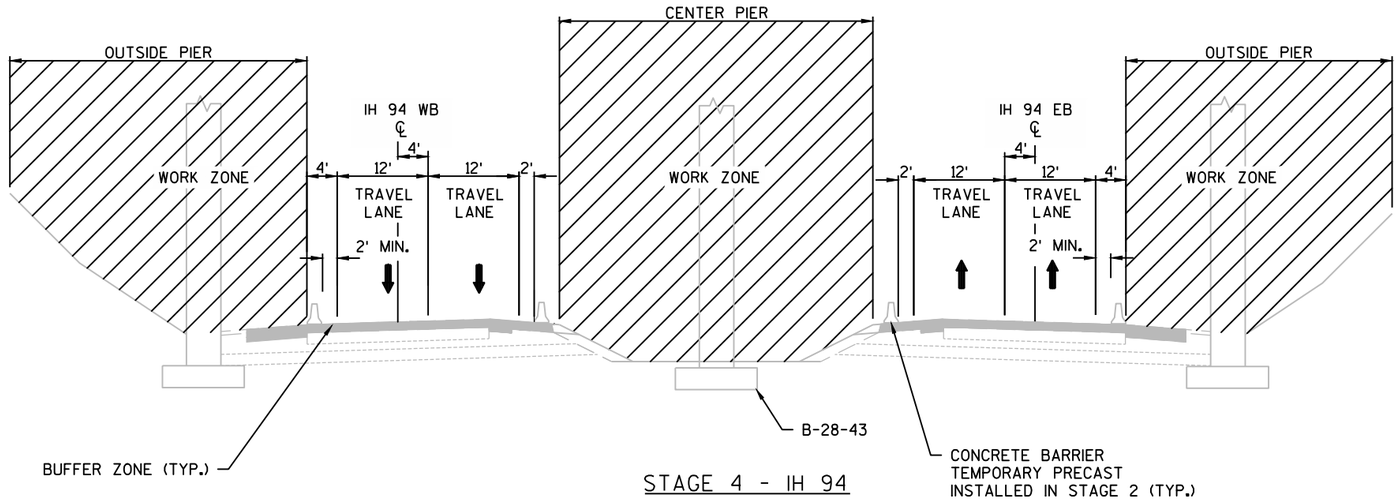


STAGE 3 - IH 94
(DAYTIME OPERATIONS)

PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	TRAFFIC CONTROL: TYPICAL SECTIONS	SHEET 32	E

FILE NAME : S:\MAD\1000--1099\1089\397\ACAD\CIVIL3D\SHEETSPLAN\025002_TC.DWG
LAYOUT NAME - 025005_ts
PLOT DATE : 5/24/2018 4:56 PM PLOT BY : GRIMME, SARA PLOT NAME : PLOT SCALE : **********
WISDOT/CADDS SHEET 42

2



STAGE 4 - IH 94

CONSTRUCTION AND TRAFFIC CONTROL

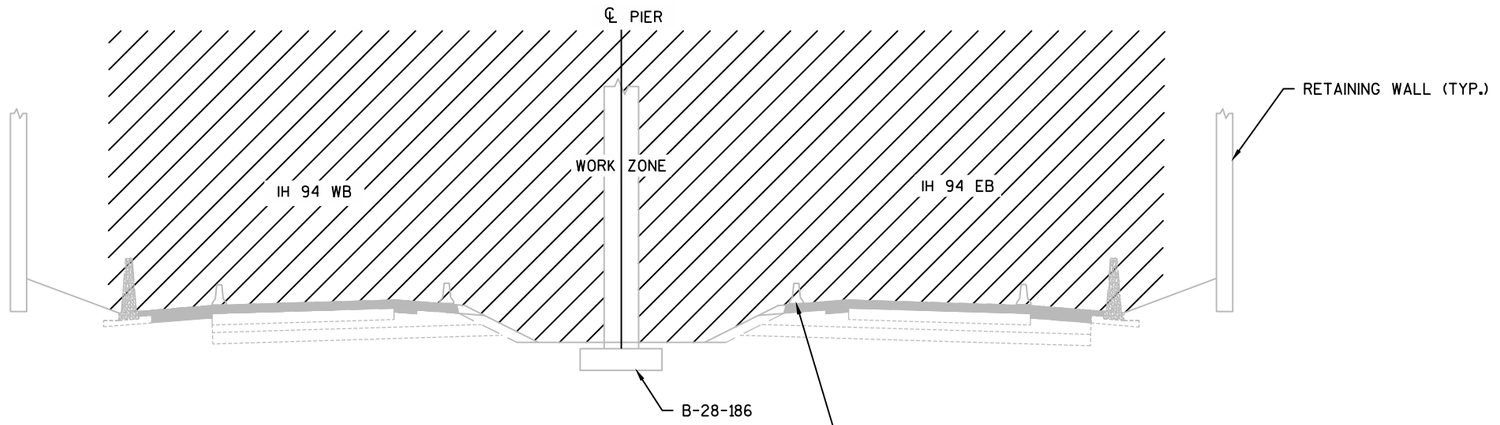
MAINTAIN BOTH TRAVEL LANES OPEN. USE CONCRETE BARRIER TEMPORARY PRECAST AT EDGE OF THE EXISTING INSIDE SHOULDER AND ALONG OUTSIDE SHOULDER TO PROTECT THE WORK ZONE.

REMOVE THE EXISTING PIERS (OUTSIDE AND MEDIAN), FOUNDATIONS, AND ABUTMENTS (CAN BE DAY AND NIGHTTIME OPERATIONS).

CONSTRUCT THE PROPOSED MEDIAN PIER, ABUTMENTS, AND RETAINING WALLS. (CAN BE DAY AND NIGHTTIME OPERATIONS).

CONSTRUCT WIDENED OUTSIDE SHOULDER, CONCRETE BARRIER TYPE S42, AND MGS GUARDRAIL.

2

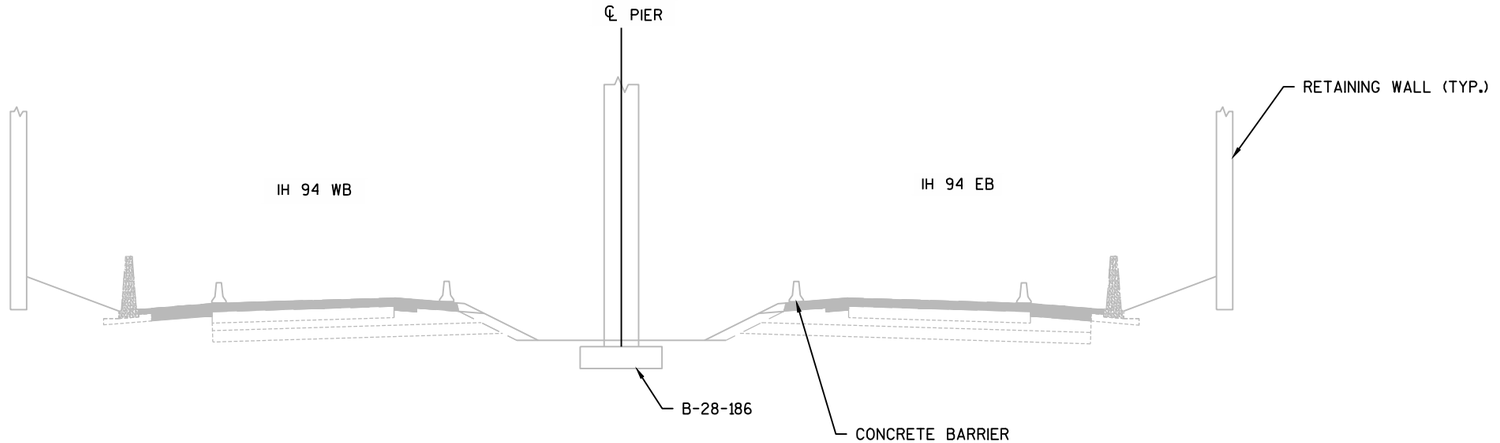


STAGE 5 - IH 94
(NIGHTTIME OPERATIONS)

CONSTRUCTION AND TRAFFIC CONTROL

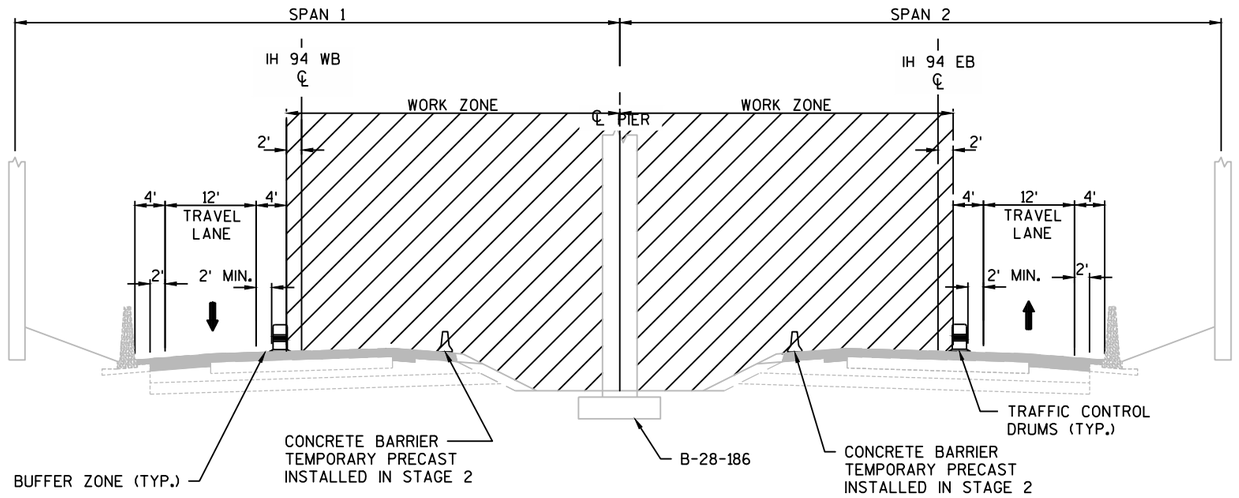
ROLLING CLOSURE OF IH 94 DURING NIGHTTIME WORK HOURS FOR A MAXIMUM OF 15 MINUTES.

ERECT PROPOSED GIRDERS.



STAGE 5 - IH 94
(DAYTIME OPERATIONS)

PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	TRAFFIC CONTROL: TYPICAL SECTIONS	SHEET 34	E



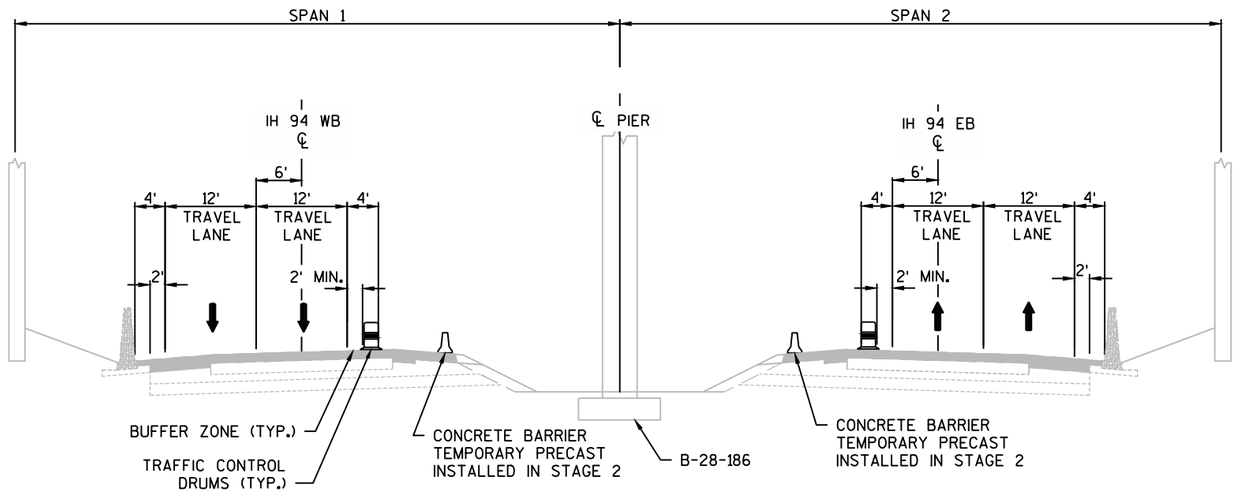
STAGE 6/STAGE 8 - IH 94
(NIGHTTIME OPERATIONS)

CONSTRUCTION AND TRAFFIC CONTROL

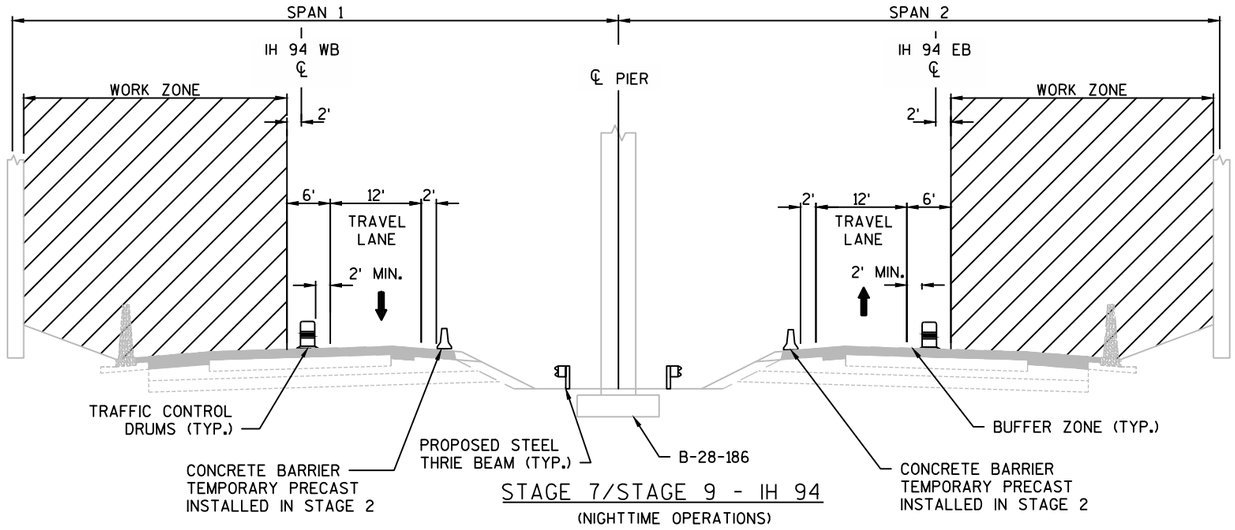
CLOSE INSIDE TRAVEL LANE DURING NIGHTTIME WORK HOURS AND SHIFT TRAFFIC ONTO OUTSIDE SHOULDER.

STAGE 6: FORM DECK FROM THE CENTER PIER TO 2 FEET BEYOND IH 94 CENTERLINE.

STAGE 8: REMOVE FORMS AND FALSEWORK STRIPPING FROM THE CENTER PIER TO 2 FEET BEHIND IH 94 CENTERLINE (NIGHTTIME OPERATIONS). COMPLETE MEDIAN GRADING, FINISHING, AND STEEL THRIE BEAM BULLNOSE.



STAGE 6/STAGE 8 - IH 94
(DAYTIME OPERATIONS)



STAGE 7/STAGE 9 - IH 94

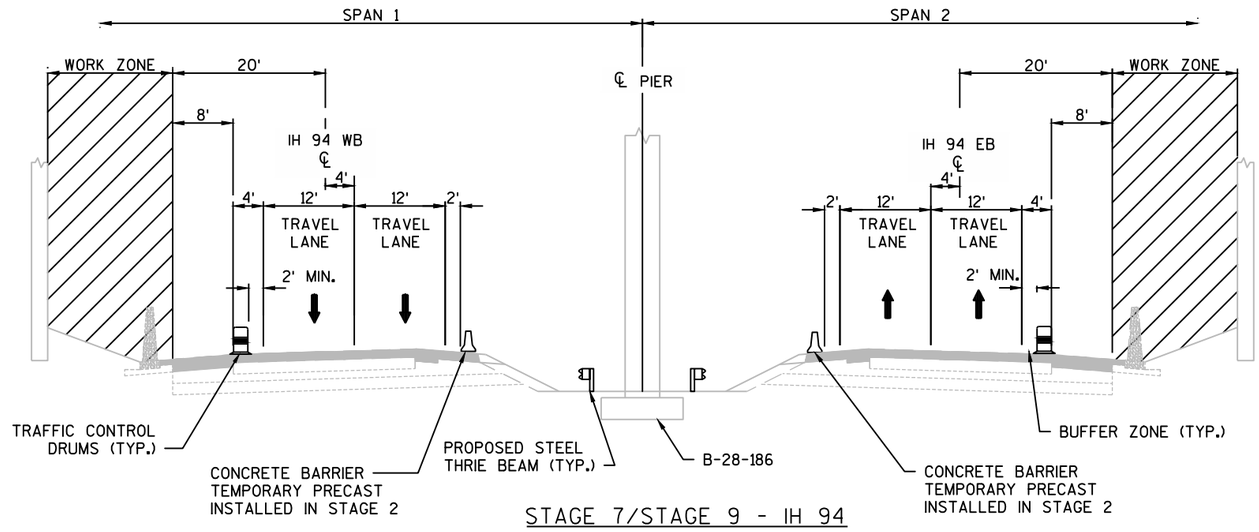
(NIGHTTIME OPERATIONS)

CONSTRUCTION AND TRAFFIC CONTROL

CLOSE OUTSIDE TRAVEL LANE DURING NIGHTTIME WORK HOURS AND SHIFT TRAFFIC ONTO INSIDE SHOULDER.

STAGE 7: FORM DECK FROM 2 FEET RIGHT OF CENTERLINE TO THE ABUTMENT. PLACE STEEL AND POUR DECK WITH NO LANE CLOSURES (CAN BE DAY AND NIGHTTIME OPERATIONS).

STAGE 9: REMOVE FORMS AND FALSEWORK STRIPPING FROM 2 FEET BEYOND IH 94 CENTERLINE TO THE ABUTMENT (NIGHTTIME OPERATIONS). PLACE TEMPORARY PAVEMENT MARKING (NIGHTTIME OPERATIONS).



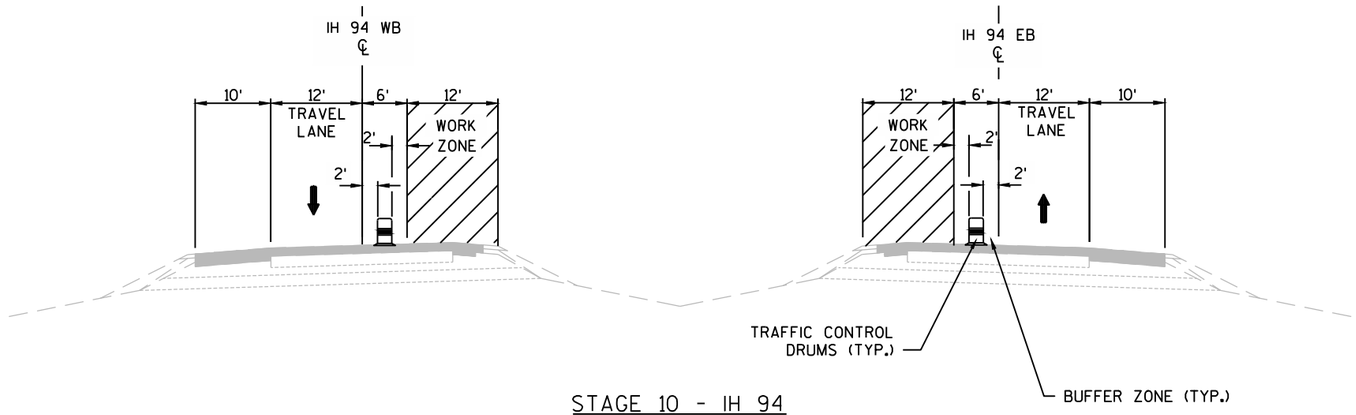
STAGE 7/STAGE 9 - IH 94

(DAYTIME OPERATIONS)

CONSTRUCTION

STAGE 7: PLACE STEEL AND POUR DECK WITH NO LANE CLOSURES (CAN BE DAY AND NIGHTTIME OPERATIONS).

2



STAGE 10 - IH 94
(NIGHTTIME OPERATIONS)

STA. 1325+53 EB - STA. 1339+96 EB
STA. 1332+44 WB - STA. 1345+71 WB

CONSTRUCTION AND TRAFFIC CONTROL

CLOSE INSIDE TRAVEL LANE DURING NIGHTTIME WORK HOURS.

STAGE 10: PLACE TEMPORARY PAVEMENT MARKING (NIGHTTIME OPERATIONS).

2

INSTALL AT
STA. 1318+93EB

W01-4BR

IH 94 WB

IH 94 EB

1322WB 1324WB 1326WB 1328WB 1330WB 1332WB 1334WB

1322EB 1324EB 1326EB 1328EB 1330EB 1332EB 1334EB

BEGIN TAPER/PAVEMENT MARKING
STA. 1321+93EB, 0' RT

BEGIN TAPER/PAVEMENT MARKING
STA. 1321+93EB, 12' RT

BEGIN TAPER/PAVEMENT MARKING
STA. 1321+93EB, 24' RT

END TAPER
STA. 1325+53EB, 6' RT

END TAPER
STA. 1325+53EB, 18' RT

END TAPER
STA. 1325+53EB, 30' RT

BEGIN TAPER/PAVEMENT MARKING
STA. 1328+54WB, 24' LT

BEGIN TAPER/PAVEMENT MARKING
STA. 1328+54WB, 12' LT

BEGIN TAPER/PAVEMENT MARKING
STA. 1328+54WB, 0' LT

50'
(TYP.)

100'
(TYP.)

RT-4W

RT-4W-LL

RT-4Y

END TAPER
STA. 1332+14WB, 30' LT

END TAPER
STA. 1332+14WB, 18' LT

END TAPER
STA. 1332+14WB, 6' LT

SEE TEMPORARY CRASH
CUSHION PAD DETAIL

AT&T LEGACY/WISDOT (COMM.)

WE ENERGIES (ELEC.)

W01-4BL

B-28-43

MATCHLINE STA. 1336+00EB

47+000

48+000

49+000

CTH O

SEE TRAFFIC CONTROL DETAIL "DAYTIME
OPERATIONS" FOR ADDITIONAL INFORMATION.

IH 94 WILL BE OPEN TO TRAFFIC AT ALL TIMES EXCEPT FOR
NIGHTTIME SINGLE LANE CLOSURES. SEE TRAFFIC CONTROL DETAIL
"LANE CLOSURE/NGIHTTIME OPERATIONS" FOR ADDITIONAL INFORMATION.

N

N

WE ENERGIES (ELEC.)

52+000

53+000

54+000

CTH O

GUY

B-28-43

RT-4W

RT-4W-LL

RT-4Y

WISDOT FTMS

SEE TEMPORARY CRASH
CUSHION PAD DETAIL

BEGIN TAPER
STA. 1341+71WB, 30' LT

BEGIN TAPER
STA. 1341+71WB, 18' LT

BEGIN TAPER
STA. 1341+71WB, 6' LT

END TAPER
STA. 1345+37WB, 24' LT

END TAPER
STA. 1345+37WB, 12' LT

END TAPER
STA. 1345+37WB, 0' LT

END PAVEMENT MARKING
STA. 1345+71WB, 24' LT

END PAVEMENT MARKING
STA. 1345+71WB, 12' LT

PAVEMENT MARKING
STA. 1345+71WB, 0' LT

50'
(TYP.)

100'
(TYP.)

1338WB 1340WB 1342WB 1344WB 1346WB 1348WB 1350WB

1338EB 1340EB 1342EB 1344EB 1346EB 1348EB 1350EB

IH 94 WB

IH 94 EB

BEGIN TAPER
STA. 1339+38EB, 6' RT

BEGIN TAPER
STA. 1339+38EB, 18' RT

BEGIN TAPER
STA. 1339+38EB, 30' RT

END TAPER/PAVEMENT MARKING
STA. 1342+98EB, 0' RT

END TAPER/PAVEMENT MARKING
STA. 1342+98EB, 12' RT

END TAPER/PAVEMENT MARKING
STA. 1342+98EB, 24' RT

AT&T LEGACY/WISDOT (COMM.)

INSTALL AT
STA. 1348+71WB

W01-4BR

W01-4BL

MATCHLINE STA. 1336+00EB

SEE TRAFFIC CONTROL DETAIL "DAYTIME OPERATIONS"
FOR ADDITIONAL INFORMATION.

IH 94 WILL BE OPEN TO TRAFFIC AT ALL TIMES EXCEPT
FOR NIGHTTIME SINGLE LANE CLOSURES. SEE TRAFFIC
CONTROL DETAIL "LANE CLOSURE/NGIHTTIME OPERATIONS"
FOR ADDITIONAL INFORMATION.

PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	TRAFFIC CONTROL STAGE 1	SHEET 38	E

FILE NAME : S:\MAD\1000--1099\1089\397\ACAD\CIVIL3D\SHEETSPLAN\026001_S1.DWG
LAYOUT NAME - 026001_S1 - 026001_S1

PLOT DATE : 6/28/2018 11:22 AM PLOT BY : GRIMME, SARA PLOT NAME : PLOT SCALE : **********

WISDOT/CADDS SHEET 42

INSTALL AT STA. 1322+53EB

W01-4BL

BEGIN PAVEMENT MARKING APPROXIMATE STA. 1328+54WB, 24' LT

BEGIN PAVEMENT MARKING APPROXIMATE STA. 1328+54WB, 12' LT

BEGIN PAVEMENT MARKING APPROXIMATE STA. 1328+54WB, 0' LT

RT-4W-LL

RT-4W

RT-4Y

IH 94 WB

1322WB 1324WB 1326WB 1328WB 1330WB 1332WB 1334WB

BEGIN PAVEMENT MARKING APPROXIMATE STA. 1321+93EB, 0' RT

BEGIN TAPER STA. 1325+53EB, 0' RT

END TAPER STA. 1329+53EB, 4' LT

BEGIN TAPER STA. 1332+44WB, 24' LT

BEGIN TAPER STA. 1332+44WB, 12' LT

BEGIN TAPER STA. 1332+44WB, 0' LT

END TAPER STA. 1334+84WB, 20' LT

END TAPER STA. 1334+84WB, 8' LT

END TAPER STA. 1334+84WB, 4' RT

WE ENERGIES (ELEC.)

BEGIN CONCRETE BARRIER TEMPORARY STA. 1335+84WB, 23' LT

BEGIN CONCRETE BARRIER TEMPORARY STA. 1333+14WB, 7' RT

1322EB 1324EB 1326EB 1328EB 1330EB 1332EB 1334EB

IH 94 EB

100' (TYP.)

50' (TYP.)

RT-4W

RT-4W-LL

RT-4Y

SEE TEMPORARY CRASH CUSHION PAD DETAIL

AT&T LEGACY/WISDOT (COMM.)

BEGIN PAVEMENT MARKING APPROXIMATE STA. 1321+93EB, 12' RT

BEGIN PAVEMENT MARKING APPROXIMATE STA. 1321+93EB, 24' RT

BEGIN TAPER STA. 1325+53EB, 12' RT

BEGIN CONCRETE BARRIER TEMPORARY STA. 1328+93EB, 23' RT

BEGIN TAPER STA. 1325+53EB, 24' RT

END TAPER STA. 1329+53EB, 8' RT

END TAPER STA. 1329+53EB, 20' RT

BEGIN CONCRETE BARRIER TEMPORARY STA. 1331+75EB, 7' LT

W01-4BR

B-28-43

MATCHLINE STA. 1336+00EB

49+000

48+000

47+000

CTH O

SEE TRAFFIC CONTROL DETAIL "DAYTIME OPERATIONS" FOR ADDITIONAL INFORMATION.

STAGE 3-ROLLING CLOSURE OF IH 94 DURING NIGHTTIME WORK HOURS FOR A MAXIMUM OF 15 MINUTES.

IH 94 WILL BE OPEN TO TRAFFIC AT ALL TIMES EXCEPT FOR NIGHTTIME SINGLE LANE CLOSURES. SEE TRAFFIC CONTROL DETAIL "LANE CLOSURE/NGIHTTIME OPERATIONS" FOR ADDITIONAL INFORMATION.

WE ENERGIES (ELEC.)

54+000

53+000

52+000

CTH O

B-28-43

W01-4BR

RT-4W-LL

WISDOT FTMS

SEE TEMPORARY CRASH CUSHION PAD DETAIL

RT-4W

RT-4Y

BEGIN TAPER STA. 1343+31WB, 20' LT

END CONCRETE BARRIER TEMPORARY STA. 1343+47WB, 23' LT

BEGIN TAPER STA. 1343+31WB, 12' LT

BEGIN TAPER STA. 1343+31WB, 4' RT

END CONCRETE BARRIER TEMPORARY STA. 1340+77WB, 7' RT

END TAPER/PAVEMENT MARKING STA. 1345+71WB, 24' LT

END TAPER/PAVEMENT MARKING STA. 1345+71WB, 12' LT

END TAPER/PAVEMENT MARKING STA. 1345+71WB, 0' LT

INSTALL AT STA. 1348+71WB

W01-4BL

1338WB 1340WB 1342WB 1344WB 1346WB 1348WB 1350WB

IH 94 WB

1338EB 1340EB 1342EB 1344EB 1346EB 1348EB 1350EB

IH 94 EB

50' (TYP.)

100' (TYP.)

BEGIN TAPER STA. 1337+56EB, 4' LT

BEGIN TAPER STA. 1337+56EB, 8' RT

BEGIN TAPER STA. 1337+56EB, 20' RT

END TAPER STA. 1339+96EB, 0' RT

END TAPER STA. 1339+96EB, 12' RT

END TAPER STA. 1339+96EB, 24' RT

RT-4W-LL

END PAVEMENT MARKING APPROXIMATE STA. 1342+98EB, 0' RT

END PAVEMENT MARKING APPROXIMATE STA. 1342+98EB, 12' RT

END PAVEMENT MARKING APPROXIMATE STA. 1342+98EB, 24' RT

AT&T LEGACY/WISDOT (COMM.)

END CONCRETE BARRIER TEMPORARY STA. 1336+56EB, 23' RT

END CONCRETE BARRIER TEMPORARY STA. 1339+38EB, 7' LT

MATCHLINE STA. 1336+00EB

STAGE 3-ROLLING CLOSURE OF IH 94 DURING NIGHTTIME WORK HOURS FOR A MAXIMUM OF 15 MINUTES.

IH 94 WILL BE OPEN TO TRAFFIC AT ALL TIMES EXCEPT FOR NIGHTTIME SINGLE LANE CLOSURES. SEE TRAFFIC CONTROL DETAIL "LANE CLOSURE/NGIHTTIME OPERATIONS" FOR ADDITIONAL INFORMATION.

PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	TRAFFIC CONTROL STAGES 2 & 3	SHEET 39	E

FILE NAME : S:\MAD\1000--1099\1089\397\ACAD\CIVIL3D\SHEETSPLAN\026002_S2.DWG
LAYOUT NAME - 026002_S2 - 026002_S2
PLOT DATE : 6/28/2018 11:26 AM PLOT BY : GRIMME, SARA PLOT NAME : PLOT SCALE : **********
WISDOT/CADDS SHEET 42

2

INSTALLED AT
STA. 1322+53EB
IN STAGE 2

W01-4BL

N

WE ENERGIES (ELEC.)

IH 94 WB

1322WB 1324WB 1326WB 1328WB 1330WB 1332WB 1334WB

1322EB 1324EB 1326EB 1328EB 1330EB 1332EB 1334EB

IH 94 EB

MATCHLINE STA. 1336+00EB

BEGIN CONCRETE BARRIER TEMPORARY
STA. 1328+93EB, 23' RT

AT&T LEGACY/WISDOT (COMM.)

INSTALLED
IN STAGE 2

W01-4BR

B-28-43

47+000 48+000 49+000 CTH O

STAGE 5-ROLLING CLOSURE OF IH 94
DURING NIGHTTIME WORK HOURS
FOR A MAXIMUM OF 15 MINUTES.

IH 94 WILL BE OPEN TO TRAFFIC AT ALL TIMES EXCEPT FOR
NIGHTTIME SINGLE LANE CLOSURES. SEE TRAFFIC CONTROL DETAIL
"LANE CLOSURE/NGIHTTIME OPERATIONS" FOR ADDITIONAL INFORMATION.

SEE TRAFFIC CONTROL DETAIL "DAYTIME
OPERATIONS" FOR ADDITIONAL INFORMATION.

WE ENERGIES (ELEC.)

INSTALLED
IN STAGE 2

W01-4BR

52+000 53+000 54+000 CTH O

B-28-43

WISDOT FTMS

MATCHLINE STA. 1336+00EB

1338WB 1340WB 1342WB 1344WB 1346WB 1348WB 1350WB

1338EB 1340EB 1342EB 1344EB 1346EB 1348EB 1350EB

IH 94 WB

IH 94 EB

END CONCRETE BARRIER TEMPORARY
STA. 1336+56EB, 23' RT

AT&T LEGACY/ WISDOT (COMM.)

SEE TRAFFIC CONTROL DETAIL "DAYTIME
OPERATIONS" FOR ADDITIONAL INFORMATION.

INSTALLED
IN STAGE 2

W01-4BL

N

STAGE 5-ROLLING CLOSURE OF IH 94
DURING NIGHTTIME WORK HOURS
FOR A MAXIMUM OF 15 MINUTES.

IH 94 WILL BE OPEN TO TRAFFIC AT ALL TIMES EXCEPT FOR
NIGHTTIME SINGLE LANE CLOSURES. SEE TRAFFIC CONTROL DETAIL
"LANE CLOSURE/NGIHTTIME OPERATIONS" FOR ADDITIONAL INFORMATION.

PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	TRAFFIC CONTROL STAGES 4 & 5	SHEET 40	E

FILE NAME : S:\MAD\1000--1099\1089\397\ACAD\CIVIL3D\SHEETSPLAN\026003_S4.DWG
LAYOUT NAME - 026003_S4 - 026003_S4

PLOT DATE : 6/28/2018 11:29 AM PLOT BY : GRIMME, SARA PLOT NAME : PLOT SCALE : **********

WISDOT/CADDS SHEET 42

INSTALLED AT STA. 1318+93EB

W01-4BR

IH 94 WB

1322WB 1324WB 1326WB 1328WB 1330WB 1332WB 1334WB

IH 94 EB

1322EB 1324EB 1326EB 1328EB 1330EB 1332EB 1334EB

BEGIN TAPER/PAVEMENT MARKING STA. 1328+54WB, 24' LT

BEGIN TAPER/PAVEMENT MARKING STA. 1328+54WB, 12' LT

BEGIN TAPER/PAVEMENT MARKING STA. 1328+54WB, 0' LT

50' (TYP.)

RT-4W-LL

RT-4W

RT-4Y

END TAPER STA. 1332+14WB, 30' LT

END TAPER STA. 1332+14WB, 18' LT

END TAPER STA. 1332+14WB, 6' LT

END TAPER STA. 1325+53EB, 6' RT

END TAPER STA. 1325+53EB, 18' RT

END TAPER STA. 1325+53EB, 30' RT

BEGIN TAPER/PAVEMENT MARKING STA. 1321+93EB, 0' RT

BEGIN TAPER/PAVEMENT MARKING STA. 1321+93EB, 12' RT

BEGIN TAPER/PAVEMENT MARKING STA. 1321+93EB, 24' RT

100' (TYP.)

SEE TRAFFIC CONTROL DETAIL "DAYTIME OPERATIONS" FOR ADDITIONAL INFORMATION.

IH 94 WILL BE OPEN TO TRAFFIC AT ALL TIMES EXCEPT FOR NIGHTTIME SINGLE LANE CLOSURES. SEE TRAFFIC CONTROL DETAIL "LANE CLOSURE/NGIHTTIME OPERATIONS" FOR ADDITIONAL INFORMATION.

N

WE ENERGIES (ELEC.)

W01-4BL

AT&T LEGACY/WISDOT (COMM.)

MATCHLINE STA. 1336+00EB

47+000 48+000 49+000 CTH O

2

WE ENERGIES (ELEC.)

52+000 53+000 54 CTH O

GUY

WISDOT FTMS

RT-4W RT-4W-LL RT-4Y

IH 94 WB

1338WB 1340WB 1342WB 1344WB 1346WB 1348WB 1350WB

IH 94 EB

1338EB 1340EB 1342EB 1344EB 1346EB 1348EB 1350EB

100' (TYP.)

50' (TYP.)

BEGIN TAPER STA. 1341+71WB, 30' LT

BEGIN TAPER STA. 1341+71WB, 18' LT

BEGIN TAPER STA. 1341+71WB, 6' LT

END TAPER STA. 1345+37WB, 24' LT

END TAPER STA. 1345+37WB, 12' LT

END TAPER STA. 1345+37WB, 0' LT

END PAVEMENT MARKING STA. 1345+71WB, 24' LT

END PAVEMENT MARKING STA. 1345+71WB, 12' LT

END PAVEMENT MARKING STA. 1345+71WB, 0' LT

BEGIN TAPER STA. 1339+38EB, 6' RT

BEGIN TAPER STA. 1339+38EB, 18' RT

BEGIN TAPER STA. 1339+38EB, 30' RT

END TAPER/PAVEMENT MARKING STA. 1342+98EB, 0' RT

END TAPER/PAVEMENT MARKING STA. 1342+98EB, 12' RT

END TAPER/PAVEMENT MARKING STA. 1342+98EB, 24' RT

SEE TRAFFIC CONTROL DETAIL "DAYTIME OPERATIONS" FOR ADDITIONAL INFORMATION.

W01-4BR

W01-4BL

AT&T LEGACY/WISDOT (COMM.)

IH 94 WILL BE OPEN TO TRAFFIC AT ALL TIMES EXCEPT FOR NIGHTTIME SINGLE LANE CLOSURES. SEE TRAFFIC CONTROL DETAIL "LANE CLOSURE/NGIHTTIME OPERATIONS" FOR ADDITIONAL INFORMATION.

MATCHLINE STA. 1336+00EB

N

PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	TRAFFIC CONTROL STAGES 6 & 8	SHEET 41	E

FILE NAME : S:\MAD\1000--1099\1089\397\ACAD\CIVIL3D\SHEETSPLAN\026004_S6.DWG
LAYOUT NAME - 026004_S6 - 026004_S6
PLOT DATE : 6/28/2018 11:32 AM PLOT BY : GRIMME, SARA PLOT NAME : PLOT SCALE : **********

INSTALLED AT STA. 1318+93EB

W01-4BL

IH 94 WB

1322WB 1324WB 1326WB 1328WB 1330WB 1332WB 1334WB 133

IH 94 EB

1322EB 1324EB 1326EB 1328EB 1330EB 1332EB 1334EB 133

LANE LINE INSTALLED IN STAGE 2

BEGIN PAVEMENT MARKING STA. 1321+93EB, 12' RT

BEGIN PAVEMENT MARKING STA. 1321+93EB, 24' RT

BEGIN TAPER/PAVEMENT MARKING STA. 1328+54WB, 24' LT

BEGIN TAPER/PAVEMENT MARKING STA. 1328+54WB, 12' LT

RT-4W-LL

RT-4W

50' (TYP.)

BEGIN TAPER STA. 1325+53EB, 12' RT

BEGIN TAPER STA. 1325+53EB, 24' RT

END TAPER STA. 1329+53EB, 20' RT

END TAPER STA. 1329+53EB, 8' RT

BEGIN TAPER STA. 1332+44WB, 24' LT

BEGIN TAPER STA. 1332+44WB, 12' LT

END TAPER STA. 1334+84WB, 20' LT

END TAPER STA. 1334+84WB, 8' LT

100' (TYP.)

LANE LINE INSTALLED IN STAGE 2

WE ENERGIES (ELEC.)

AT&T LEGACY/WISDOT (COMM.)

MATCHLINE STA. 1336+00EB

W01-4BR

49+000

48+000

CTH O

47+000

SEE TRAFFIC CONTROL DETAIL "DAYTIME OPERATIONS" FOR ADDITIONAL INFORMATION.

IH 94 WILL BE OPEN TO TRAFFIC AT ALL TIMES EXCEPT FOR NIGHTTIME SINGLE LANE CLOSURES. SEE TRAFFIC CONTROL DETAIL "LANE CLOSURE/NGIHTTIME OPERATIONS" FOR ADDITIONAL INFORMATION.

N

WE ENERGIES (ELEC.)

54+000

53+000

52+000

CTH O

51+000

W01-4BR

RT-4W-LL

WISDOT FTMS

RT-4W

BEGIN TAPER STA. 1343+31WB, 20' LT

BEGIN TAPER STA. 1343+31WB, 8' LT

END TAPER/PAVEMENT MARKING STA. 1345+71WB, 24' LT

END TAPER/PAVEMENT MARKING STA. 1345+71WB, 12' LT

50' (TYP.)

IH 94 WB

1338WB 1340WB 1342WB 1344WB 1346WB 1348WB 1350WB

IH 94 EB

1338EB 1340EB 1342EB 1344EB 1346EB 1348EB 1350EB

LANE LINE INSTALLED IN STAGE 2

END TAPER STA. 1339+96EB, 12' RT

END TAPER STA. 1339+96EB, 24' RT

RT-4W-LL

100' (TYP.)

RT-4W

BEGIN TAPER STA. 1337+56EB, 8' RT

BEGIN TAPER STA. 1337+56EB, 20' RT

END PAVEMENT MARKING STA. 1342+98EB, 12' RT

END PAVEMENT MARKING STA. 1342+98EB, 24' RT

AT&T LEGACY/WISDOT (COMM.)

MATCHLINE STA. 1336+00EB

W01-4BL

SEE TRAFFIC CONTROL DETAIL "DAYTIME OPERATIONS" FOR ADDITIONAL INFORMATION.

IH 94 WILL BE OPEN TO TRAFFIC AT ALL TIMES EXCEPT FOR NIGHTTIME SINGLE LANE CLOSURES. SEE TRAFFIC CONTROL DETAIL "LANE CLOSURE/NGIHTTIME OPERATIONS" FOR ADDITIONAL INFORMATION.

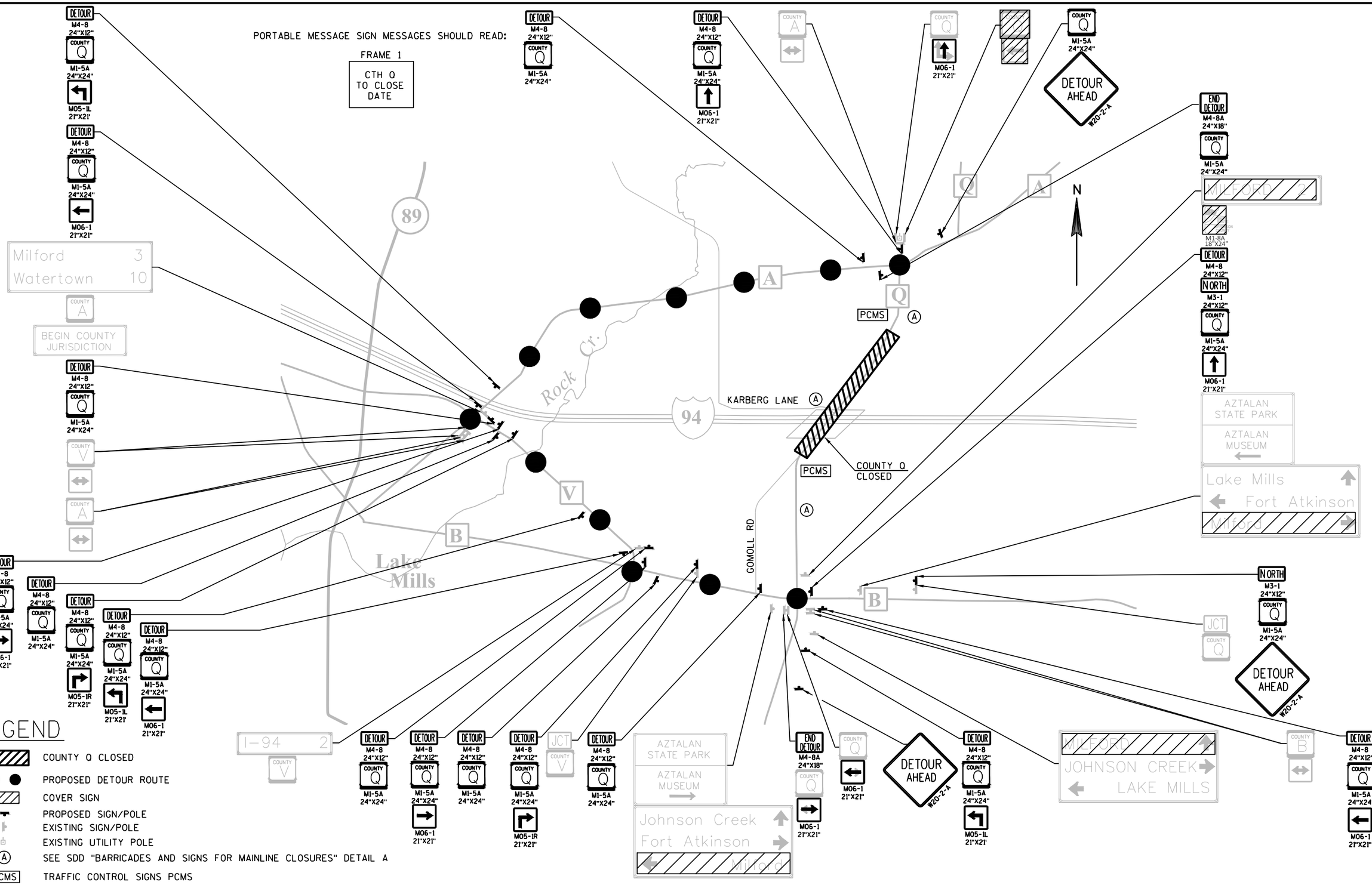
PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	TRAFFIC CONTROL STAGES 7 & 9	SHEET 42	E

FILE NAME : S:\MAD\1000--1099\1089\397\ACAD\CIVIL3D\SHEETSPLAN\026005_S7.DWG
LAYOUT NAME - 026005_S7 - 026005_S7
PLOT DATE : 6/28/2018 11:34 AM PLOT BY : GRIMME, SARA PLOT NAME : PLOT SCALE : **********
WISDOT/CADDS SHEET 42

PORTABLE MESSAGE SIGN MESSAGES SHOULD READ:

FRAME 1

CTH Q
TO CLOSE
DATE

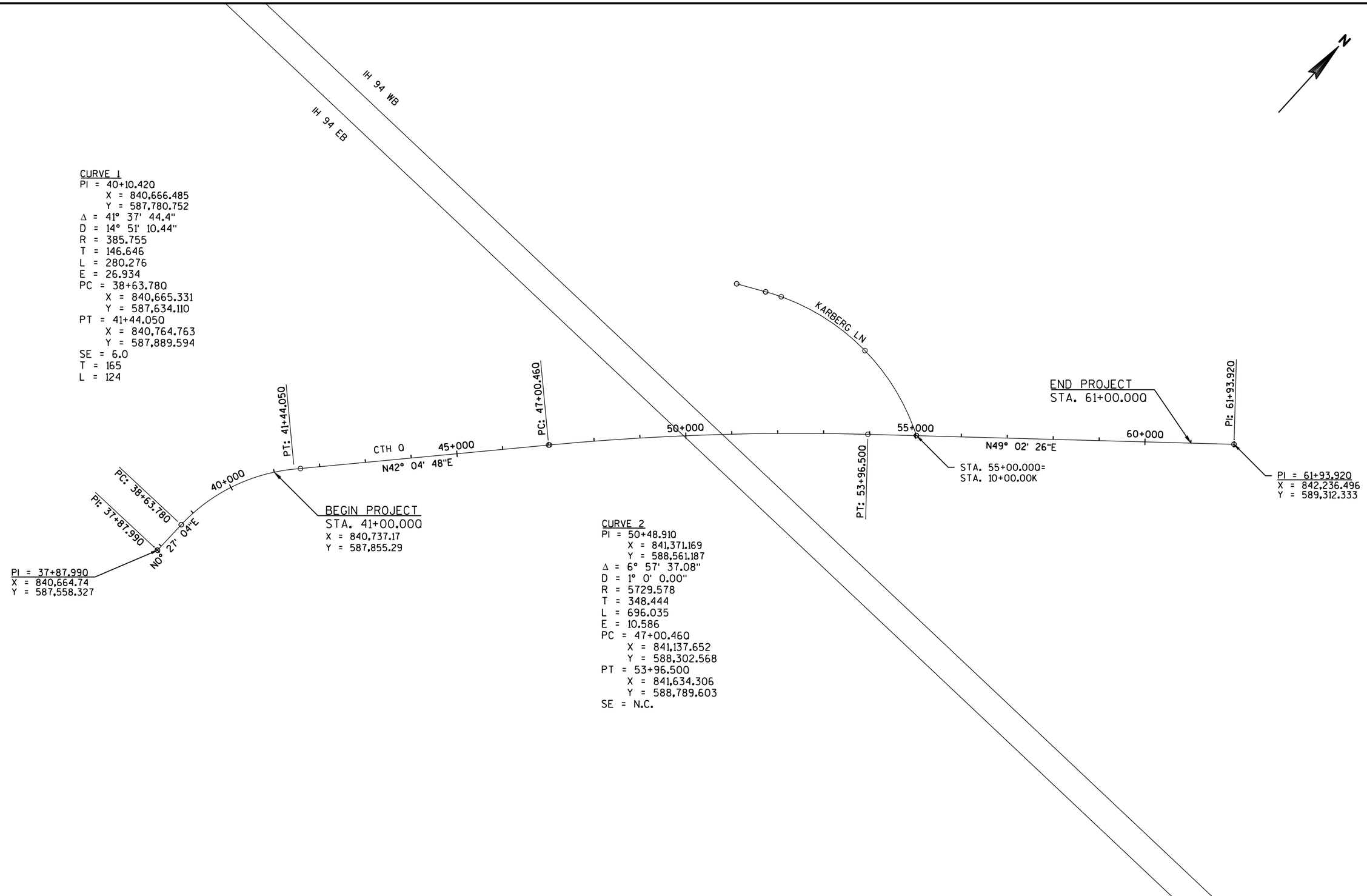


LEGEND

- COUNTY Q CLOSED
- PROPOSED DETOUR ROUTE
- COVER SIGN
- PROPOSED SIGN/POLE
- EXISTING SIGN/POLE
- EXISTING UTILITY POLE
- (A) SEE SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" DETAIL A
- PCMS TRAFFIC CONTROL SIGNS PCMS

PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	DETOUR SIGNING DETAIL - CTH Q CLOSED	SHEET 43	E

2



CURVE 1
PI = 40+10.420
X = 840,666.485
Y = 587,780.752
Δ = 41° 37' 44.4"
D = 14° 51' 10.44"
R = 385.755
T = 146.646
L = 280.276
E = 26.934
PC = 38+63.780
X = 840,665.331
Y = 587,634.110
PT = 41+44.050
X = 840,764.763
Y = 587,889.594
SE = 6.0
T = 165
L = 124

CURVE 2
PI = 50+48.910
X = 841,371.169
Y = 588,561.187
Δ = 6° 57' 37.08"
D = 1° 0' 0.00"
R = 5729.578
T = 348.444
L = 696.035
E = 10.586
PC = 47+00.460
X = 841,137.652
Y = 588,302.568
PT = 53+96.500
X = 841,634.306
Y = 588,789.603
SE = N.C.

PROJECT NO: 1066-06-72	HWY: CTH Q	COUNTY: JEFFERSON	ALIGNMENT DETAIL - CTH Q	SHEET 44	E

2

N

CURVE 1
PI = 7+84.88K
X = 841,489.741
Y = 588,984.968
Δ = 56° 24' 03.71"
D = 11° 56' 11.83"
R = 480.000
T = 257.379
L = 472.504
E = 64.650
PC = 5+27.50K
X = 841,260.557
Y = 588,867.841
PT/EP = 10+00.00K
X = 841,714.125
Y = 588,858.889

BEGIN CONSTRUCTION
STA. 8+30.00K
MATCH EXISTING

PC: 5+27.50K

6+00K

7+00K

8+00K

9+00K

PT: 10+00.00K

KARBERG LN

PI: 4+62.04K

5+00K

N62° 55' 49"E

STA. 10+00.00K=
STA. 55+00.000

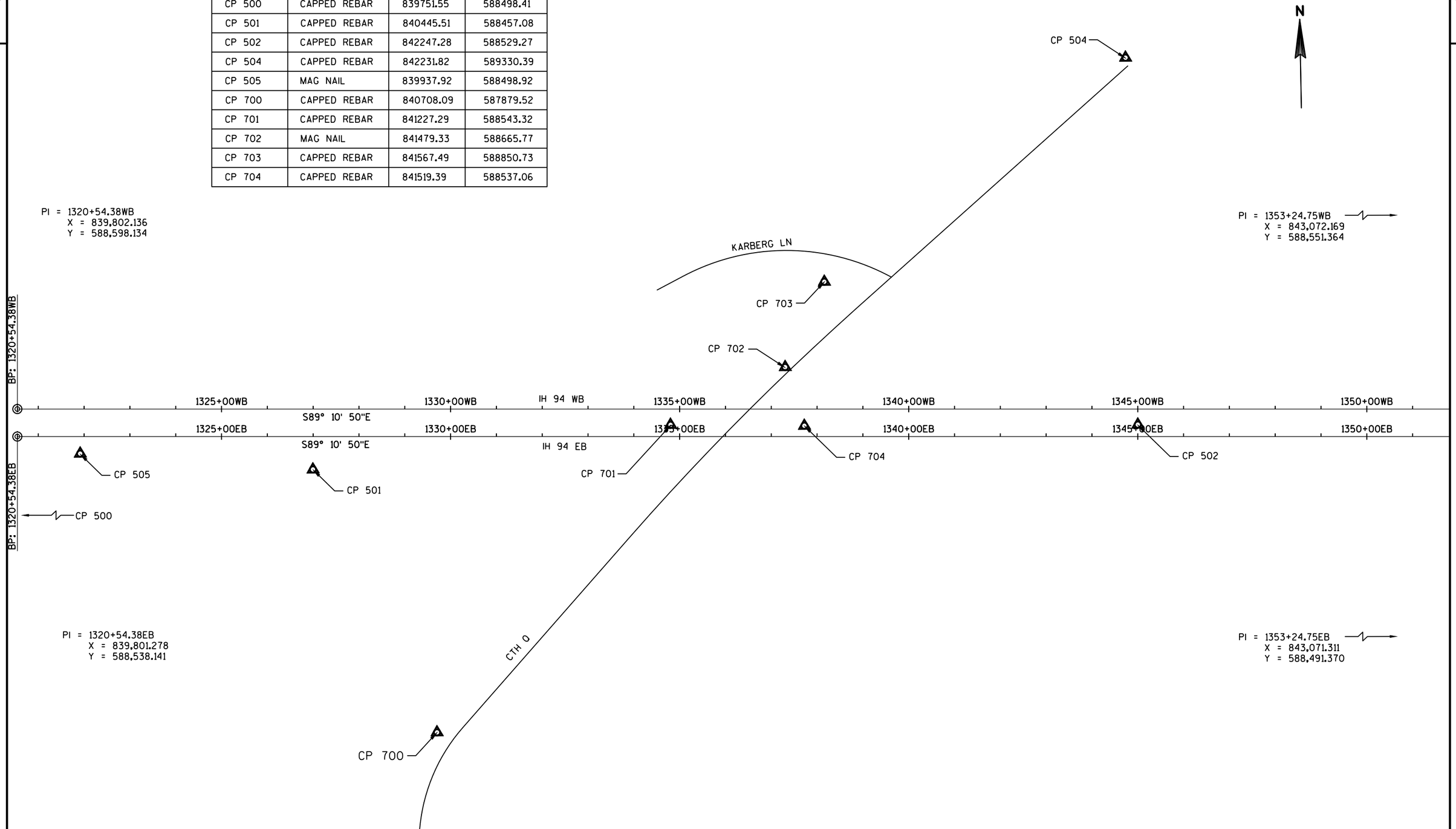
END CONSTRUCTION
STA. 10+00.00K

PI = 4+62.04K
X = 841,202.270
Y = 588,838.053

CTH Q

PROJECT NO:1066-06-72	HWY: CTH Q	COUNTY: JEFFERSON	ALIGNMENT DETAIL - KARBERG LANE	SHEET 45	E

CONTROL POINT SUMMARY			
POINT NAME	DESCRIPTION	X	Y
CP 500	CAPPED REBAR	839751.55	588498.41
CP 501	CAPPED REBAR	840445.51	588457.08
CP 502	CAPPED REBAR	842247.28	588529.27
CP 504	CAPPED REBAR	842231.82	589330.39
CP 505	MAG NAIL	839937.92	588498.92
CP 700	CAPPED REBAR	840708.09	587879.52
CP 701	CAPPED REBAR	841227.29	588543.32
CP 702	MAG NAIL	841479.33	588665.77
CP 703	CAPPED REBAR	841567.49	588850.73
CP 704	CAPPED REBAR	841519.39	588537.06



PROJECT NO: 1066-06-72	HWY: CTH Q	COUNTY: JEFFERSON	ALIGNMENT DETAIL - IH 94	SHEET 46	E

1066-06-72

Line	Item	Item Description	Unit	Total	Qty
0002	203.0100	Removing Small Pipe Culverts	EACH	4.000	4.000
0004	203.0200	Removing Old Structure (station) 01. 49+00 Q	LS	1.000	1.000
0006	203.0210.S	Abatement of Asbestos Containing Material (structure) 01. B-28-43	LS	1.000	1.000
0008	203.0225.S	Debris Containment (structure) 01. B-28-43	LS	1.000	1.000
0016	204.0120	Removing Asphaltic Surface Milling	SY	2,840.000	2,840.000
0018	204.0165	Removing Guardrail	LF	2,430.000	2,430.000
0020	204.0170	Removing Fence	LF	415.000	415.000
0022	204.0180	Removing Delineators and Markers	EACH	10.000	10.000
0026	204.9180.S	Removing (item description) 01. Concrete Flume	SY	50.000	50.000
0028	205.0100	Excavation Common	CY	1,927.000	1,927.000
0030	206.1000	Excavation for Structures Bridges (structure) 01. B-28-186	LS	1.000	1.000
0034	208.0100	Borrow	CY	14,022.000	14,022.000
0036	209.2100	Backfill Granular Grade 2	CY	237.000	237.000
0042	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	16.000	16.000
0044	213.0100	Finishing Roadway (project) 01. 1066-06-72	EACH	1.000	1.000
0050	305.0110	Base Aggregate Dense 3/4-Inch	TON	511.000	511.000
0052	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	4,022.000	4,022.000
0056	312.0110	Select Crushed Material	TON	174.000	174.000
0058	415.0120	Concrete Pavement 12-Inch	SY	69.000	69.000
0060	415.0410	Concrete Pavement Approach Slab	SY	120.000	120.000
0062	416.1010	Concrete Surface Drains	CY	8.000	8.000
0066	455.0605	Tack Coat	GAL	245.000	245.000
0072	460.2000	Incentive Density HMA Pavement	DOL	1,300.000	1,300.000
0080	460.5224	HMA Pavement 4 LT 58-28 S	TON	1,495.000	1,495.000
0084	460.6224	HMA Pavement 4 MT 58-28 S	TON	465.000	465.000
0094	502.0100	Concrete Masonry Bridges	CY	607.000	607.000
0096	502.3101	Expansion Device (structure) 01. B-28-186	LF	98.000	98.000
0098	502.3200	Protective Surface Treatment	SY	832.000	832.000
0100	502.3210	Pigmented Surface Sealer	SY	267.000	267.000
0104	503.0146	Prestressed Girder Type I 45W-Inch	LF	1,380.000	1,380.000
0106	505.0400	Bar Steel Reinforcement HS Structures	LB	10,730.000	10,730.000
0108	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	101,380.000	101,380.000
0120	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	12.000	12.000
0122	506.2610	Bearing Pads Elastomeric Laminated	EACH	12.000	12.000
0124	506.4000	Steel Diaphragms (structure) 01. B-28-186	EACH	20.000	20.000
0130	513.2001	Railing Pipe	LF	100.000	100.000
0132	516.0500	Rubberized Membrane Waterproofing	SY	24.000	24.000
0134	520.1024	Apron Endwalls for Culvert Pipe 24-Inch	EACH	2.000	2.000

1066-06-72

Line	Item	Item Description	Unit	Total	Qty
0136	520.4124	Culvert Pipe Class IV 24-Inch	LF	147.000	147.000
0138	521.1012	Apron Endwalls for Culvert Pipe Steel 12-Inch	EACH	4.000	4.000
0144	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	2.000	2.000
0146	522.2314	Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-III 14x23-Inch	LF	60.000	60.000
0148	522.2614	Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 14x23-Inch	EACH	4.000	4.000
0150	550.0500	Pile Points	EACH	52.000	52.000
0152	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	3,930.000	3,930.000
0154	603.1142	Concrete Barrier Type S42	LF	325.000	325.000
0156	603.8000	Concrete Barrier Temporary Precast Delivered	LF	3,060.000	3,060.000
0158	603.8125	Concrete Barrier Temporary Precast Installed	LF	3,060.000	3,060.000
0160	604.0400	Slope Paving Concrete	SY	43.000	43.000
0162	604.0500	Slope Paving Crushed Aggregate	SY	97.000	97.000
0164	606.0200	Riprap Medium	CY	18.000	18.000
0168	608.0424	Storm Sewer Pipe Reinforced Concrete Class IV 24-Inch	LF	243.000	243.000
0170	611.0530	Manhole Covers Type J	EACH	2.000	2.000
0172	611.2005	Manholes 5-FT Diameter	EACH	2.000	2.000
0174	612.0212	Pipe Underdrain Unperforated 12-Inch	LF	280.000	280.000
0176	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	343.000	343.000
0178	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0180	614.0220	Steel Thrie Beam Bullnose Terminal	EACH	2.000	2.000
0182	614.0230	Steel Thrie Beam	LF	125.000	125.000
0186	614.0905	Crash Cushions Temporary	EACH	4.000	4.000
0196	614.2300	MGS Guardrail 3	LF	1,137.500	1,137.500
0198	614.2310	MGS Guardrail 3 HS	LF	75.000	75.000
0200	614.2500	MGS Thrie Beam Transition	LF	236.400	236.400
0202	614.2610	MGS Guardrail Terminal EAT	EACH	6.000	6.000
0206	616.0100	Fence Woven Wire (height) 01. 4-FT	LF	380.000	380.000
0208	616.0206	Fence Chain Link 6-FT	LF	239.000	239.000
0212	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1066-06-72	EACH	1.000	1.000
0218	619.1000	Mobilization	EACH	0.150	0.150
0220	624.0100	Water	MGAL	79.600	79.600
0222	625.0500	Salvaged Topsoil	SY	15,750.000	15,750.000
0224	627.0200	Mulching	SY	21,050.000	21,050.000
0226	628.1504	Silt Fence	LF	6,835.000	6,835.000
0228	628.1520	Silt Fence Maintenance	LF	13,670.000	13,670.000
0230	628.1905	Mobilizations Erosion Control	EACH	8.000	8.000

1066-06-72

Line	Item	Item Description	Unit	Total	Qty
0232	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0234	628.2002	Erosion Mat Class I Type A	SY	9,950.000	9,950.000
0236	628.2004	Erosion Mat Class I Type B	SY	550.000	550.000
0242	628.7005	Inlet Protection Type A	EACH	2.000	2.000
0244	628.7504	Temporary Ditch Checks	LF	90.000	90.000
0246	628.7555	Culvert Pipe Checks	EACH	29.000	29.000
0248	629.0210	Fertilizer Type B	CWT	21.500	21.500
0250	630.0120	Seeding Mixture No. 20	LB	510.000	510.000
0252	630.0200	Seeding Temporary	LB	15.000	15.000
0254	630.0300	Seeding Borrow Pit	LB	175.000	175.000
0256	630.0500	Seed Water	MGAL	627.000	627.000
0258	633.0100	Delineator Posts Steel	EACH	7.000	7.000
0260	633.0500	Delineator Reflectors	EACH	7.000	7.000
0264	638.2102	Moving Signs Type II	EACH	11.000	11.000
0266	638.2602	Removing Signs Type II	EACH	2.000	2.000
0268	638.3000	Removing Small Sign Supports	EACH	1.000	1.000
0272	642.5201	Field Office Type C	EACH	0.150	0.150
0274	643.0300	Traffic Control Drums	DAY	12,002.000	12,002.000
0276	643.0420	Traffic Control Barricades Type III	DAY	3,030.000	3,030.000
0278	643.0705	Traffic Control Warning Lights Type A	DAY	2,730.000	2,730.000
0280	643.0715	Traffic Control Warning Lights Type C	DAY	5,727.000	5,727.000
0282	643.0800	Traffic Control Arrow Boards	DAY	500.000	500.000
0284	643.0900	Traffic Control Signs	DAY	16,500.000	16,500.000
0288	643.0920	Traffic Control Covering Signs Type II	EACH	9.000	9.000
0290	643.1050	Traffic Control Signs PCMS	DAY	264.000	264.000
0292	643.4100.S	Traffic Control Interim Lane Closure	EACH	84.000	84.000
0294	643.5000	Traffic Control	EACH	0.150	0.150
0298	645.0120	Geotextile Type HR	SY	72.000	72.000
0300	646.1020	Marking Line Epoxy 4-Inch	LF	7,793.000	7,793.000
0316	646.9010	Marking Removal Line Water Blasting 4-Inch	LF	8,600.000	8,600.000
0320	649.0150	Temporary Marking Line Removable Tape 4-Inch	LF	56,040.000	56,040.000
0324	650.4000	Construction Staking Storm Sewer	EACH	4.000	4.000
0326	650.4500	Construction Staking Subgrade	LF	1,917.000	1,917.000
0328	650.5000	Construction Staking Base	LF	2,811.000	2,811.000
0330	650.6000	Construction Staking Pipe Culverts	EACH	5.000	5.000
0332	650.6500	Construction Staking Structure Layout (structure) 01. B-28-186	LS	1.000	1.000
0334	650.6500	Construction Staking Structure Layout (structure) 02. R-28-50	LS	1.000	1.000
0336	650.6500	Construction Staking Structure Layout (structure) 03. R-	LS	1.000	1.000

1066-06-72

Line	Item	Item Description	Unit	Total	Qty
		28-51			
0340	650.7000	Construction Staking Concrete Pavement	LF	49.000	49.000
0344	650.9910	Construction Staking Supplemental Control (project) 01. 1066-06-72	LS	1.000	1.000
0350	650.9920	Construction Staking Slope Stakes	LF	2,860.000	2,860.000
0352	690.0150	Sawing Asphalt	LF	5,749.000	5,749.000
0354	715.0415	Incentive Strength Concrete Pavement	DOL	500.000	500.000
0356	715.0502	Incentive Strength Concrete Structures	DOL	3,642.000	3,642.000
0360	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	1,200.000	1,200.000
0362	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	2,000.000	2,000.000
0370	SPV.0165	Special 01. Wall Concrete Panel Mechanically Stabilized Earth R-28-50	SF	1,740.000	1,740.000
0372	SPV.0165	Special 02. Wall Concrete Panel Mechanically Stabilized Earth R-28-51	SF	1,993.000	1,993.000
0374	SPV.0165	Special 03. Abutment Backwall Soil Reinforcement	SF	760.000	760.000

REMOVING SMALL PIPE CULVERTS

CATEGORY	STATION	LOCATION	203.0100 EACH	REMARKS
0010	42+00Q	RT	1	18" x 26.5' CMCP
	46+79Q	RT & LT	1	24" x 119' CMCP
	51+50Q	RT	1	24" x 170' CMCP
	59+25Q	LT	1	18" x 20' CMCP
		TOTAL	4	

REMOVING FENCE

CATEGORY	STATION - STATION	LOCATION	204.0170 LF
0010	1334+17EB - 1335+02EB	RT	90
	1335+42EB - 1336+65EB	RT	125
	1335+98WB - 1337+12WB	LT	115
	1337+55WB - 1338+37WB	LT	85
		TOTAL	415

REMOVING CONCRETE FLUME

CATEGORY	STATION	LOCATION	204.9180.S.01 SY
0010	1336+11WB	LT	50

REMOVING ASPHALTIC SURFACE MILLING

CATEGORY	STAGE	STATION - STATION	LOCATION	204.0120 SY
0010	PRE-1	1321+93EB - 1342+98EB	RT	470
		1333+54WB - 1340+37WB	LT	150
		SUBTOTALS (PRE-STAGE 1)		620
	1	1325+53EB - 1339+38EB	LT	616
		1333+14WB - 1340+77WB	RT	339
		SUBTOTALS (STAGE 1)		955
	4	1330+35EB - 1336+55EB	RT	620
		1335+90WB - 1342+35WB	LT	645
		SUBTOTALS (STAGE 4)		1,265
		TOTAL		2,840

REMOVING DELINEATORS AND MARKERS

CATEGORY	STATION	LOCATION	204.0180 EACH	REMARKS
0010	1321+93EB - 1342+98EB	RT	4	DELINEATORS
	1328+54WB - 1345+71WB	LT	3	DELINEATORS
	41+85Q	RT	1	MARKERS CULVERT END
	KARBERG INTERSECTION	LT	2	DELINEATORS
		TOTAL	10	

PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS

CATEGORY	STATION	LOCATION	211.0400 STA
0010	1331+75EB - 1339+38EB	LT	8
	1333+14WB - 1340+77WB	RT	8
		TOTAL	16

BASE AGGREGATE SUMMARY

CATEGORY	STAGE	STATION - STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	*624.0100 WATER MGAL
0010	1	1331+75EB - 1339+38EB	LT	30	---	0.4
		1333+14WB - 1340+77WB	RT	30	---	0.4
			SUBTOTALS (STAGE 1)	60	---	0.8
	4	1330+35EB - 1334+57EB	RT	70	90	2.6
		1334+57EB - 1336+06EB	RT	---	25	0.4
		1336+06EB - 1336+55EB	RT	3	6	0.1
		1335+90WB - 1336+39WB	LT	3	6	0.1
		1336+39EB - 1338+12EB	LT	---	30	0.5
		1338+12WB - 1342+35WB	LT	70	65	2.2
			SUBTOTALS (STAGE 4)	146	222	5.9
	-	8+30K - 9+47K	RT	15	---	0.3
		8+30K - 9+83K	LT	20	---	0.3
		8+30K - 9+83K	LT & RT	---	350	5.9
		41+00Q - 49+28Q	LT & RT	150	1,650	29.9
		42+00Q	FE RT	---	35	0.6
		51+48Q - 61+00Q	LT & RT	120	1,750	31.8
		59+25Q	LT	---	15	0.3
			SUBTOTALS	305	3,800	69.1
			TOTALS	511	4,022	75.8

*ADDITIONAL QUANTITIES LISTED ELSEWHERE.

CONCRETE PAVEMENT 12-INCH

CATEGORY	STATION - STATION	LOCATION	415.0120 SY
0010	48+81Q - 49+07Q	LT	13
	48+94Q - 49+33Q	RT	21
	51+42Q - 51+84Q	LT	22
	51+71Q - 51+97Q	RT	13
		TOTAL	69

CONCRETE PAVEMENT APPROACH SLAB

CATEGORY	STATION - STATION	LOCATION	415.0410 SY
0010	48+94Q - 49+28Q	LT & RT	59
	51+48Q - 51+84Q	LT & RT	61
		TOTALS	120

REMOVING GUARDRAIL

CATEGORY	STAGE	STATION - STATION	LOCATION	204.0165 LF
0010	2	1331+35EB - 1335+30EB	RT	395
		1335+40EB - 1337+09EB	LT/MEDIAN	310
		1335+83EB - 1336+15EB	RT	30
		1336+34WB - 1336+68WB	LT	35
		1337+20WB - 1340+93WB	LT	375
		SUBTOTALS (PRE-STAGE 1)		1,145
	-	44+99Q - 48+95Q	RT	395
		45+02Q - 48+72Q	LT	370
		51+70Q - 54+32Q	LT	260
		51+98Q - 54+58Q	RT	260
		SUBTOTALS		1,285
		TOTAL		2,430

EARTHWORK

CATEGORY	STAGE	LOCATION	STATION - STATION	205.0100 EXCAVATION COMMON (1) CUT CY	205.0100 EXCAVATION COMMON (1) EBS EXCAVATION (2) 5% OF CUT CY	UNUSABLE PAVEMENT MATERIAL CY	AVAILABLE MATERIAL (3) CY	UNEXPANDED FILL CY	EXPANDED FILL (4) FACTOR 1.25 CY	MASS ORDINATE +/- (5)	208.0100 BORROW CY	312.0110 SELECT CRUSHED MATERIAL (6) TON	*624.0100 WATER MGAL
0010	1	I94_TEMP WIDENING	1331+75EB - 1340+77EB	77	4	0	77	75	93	-16	16	7	0.2
			SUBTOTALS - STAGE 1	77	4	0	77	75	93	-16	16	7	0.2
	4	I94_OUTSIDE WIDENING	1330+35EB - 1342+35EB	451	23	0	451	424	530	-78	78	45	0.9
			SUBTOTALS - STAGE 4	451	23	0	451	424	530	-78	78	45	0.9
	8	I94_BULLNOSE GRADING	1333+26EB - 1339+40EB	166	8	0	166	262	327	-161	161	15	0.3
			SUBTOTALS - STAGE 8	166	8	0	166	262	327	-161	161	15	0.3
	-	CTH Q	41+00Q - 61+00Q	1,062	53	727	335	11,141	13,927	-13,591	13,591	100	2.2
		KARBERG LN	8+30 K - 9+75 K	78	4	59	19	156	194	-175	175	7	0.2
			SUBTOTALS	1,141	57	786	355	11,297	14,121	-13,766	13,766	107	2.4
			TOTALS		1,927						14,022	174	3.8

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

NOTES:
1) EXCAVATION COMMON IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100
2) EBS EXCAVATION TO BE BACKFILLED WITH SELECT CRUSHED MATERIAL
3) AVAILABLE MATERIAL = CUT - UNUSABLE PAVEMENT MATERIAL
4) EXPANDED FILL = UNEXPANDED FILL * EXPANDED FILL FACTOR. EXPANDED FILL FACTOR = 1.25
5) MASS ORDINATE = CUT - (FILL * FILL FACTOR)
PLUS MASS ORDINATE QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS MASS ORDINATE QUANTITY INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION
6) USED FOR BACKFILL OF EBS

CONCRETE SURFACE DRAINS SUMMARY

CATEGORY	STATION - STATION	LOCATION	416.1010 CONCRETE SURFACE DRAINS CY	*606.0200 RIPRAP MEDIUM CY	*645.0120 GEOTEXTILE TYPE HR SY	612.0212 PIPE UNDERDRAIN UNPERFORATED 12-INCH LF	521.1012 APRON ENDWALLS FOR CULVERT PIPE STEEL 12-INCH EACH	*650.6000 CONSTRUCTION STAKING PIPE CULVERT EACH
0010	48+63.9Q - 48+81.1Q	LT	2	2	7	38	1	1
	49+09.0Q - 49+29.1Q	RT	2	2	7	82	1	1
	51+49.3Q - 51+66.5Q	LT	2	2	7	88	1	1
	51+97.4Q - 51+14.5Q	RT	2	2	7	72	1	1
		TOTALS	8	8	28	280	4	4

*ADDITIONAL QUANTITIES LISTED ELSEWHERE.

CULVERT PIPE SUMMARY
CROSS DRAINS

CATEGORY	STATION	LOCATION	522.2614 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 14X23-INCH EACH	520.1024 APRON ENDWALLS FOR CULVERT PIPE 24-INCH EACH	520.4124 CULVERT PIPE CLASS IV 24-INCH LF	THICKNESS (INCHES) STEEL	522.2314 CULVERT PIPE REINFORCED HORIZONTAL CLASS HE-III 14X23-INCH LF	*650.6000 CONSTRUCTION STAKING PIPE CULVERT EACH
0010	46+79Q	LT & RT	---	2	147	0.079	---	1
	MINOR FIELD ENTRANCE DRAINS							
	42+00Q	RT	2	---	---	---	30	---
	59+25Q	LT	2	---	---	---	30	---
		TOTALS	4	2	147		60	1

*ADDITIONAL QUANTITIES LISTED ELSEWHERE.

ASPHALTIC ITEMS

CATEGORY	STAGE	STATION - STATION	LOCATION	455.0605 TACK COAT GAL	460.5224 HMA PAVEMENT 4 LT 58-28 S TON	460.6224 HMA PAVEMENT 4 MT 58-28 S TON
0010	1	1325+53EB - 1339+38EB	LT	25	---	135
		1333+14WB - 1340+77WB	RT	20	---	110
		SUBTOTALS (STAGE 1)		45	---	245
	4	1330+35EB - 1336+55EB	RT	35	---	180
		1335+90WB - 1342+62WB	LT	5	---	40
		SUBTOTALS (STAGE 4)		40	---	220
	-	8+30K - 9+83K	LT & RT	10	130	---
		41+00Q - 48+94Q	LT & RT	70	635	---
		51+84Q - 61+00Q	LT & RT	80	730	---
		SUBTOTALS		160	1,495	---
		TOTALS		245	1,495	465

NOTES: A UNIT WEIGHT OF 112 POUNDS PER SQUARE YARD PER INCH OF THICKNESS WAS USED TO ESTIMATE ALL ASPHALT QUANTITIES.

CONCRETE BARRIER TEMPORARY PRECAST

CATEGORY	STAGE	STATION - STATION	LOCATION	603.8000 DELIVERED LF	603.8125 INSTALLED LF
0010	2	1328+93EB - 1336+56EB	23' RT	765	765
		1331+75EB - 1339+38EB	7' LT	765	765
		1333+14WB - 1340+77WB	7' RT	765	765
		1335+84WB - 1343+47WB	23' LT	765	765
		TOTALS		3,060	3,060

CONCRETE BARRIER TYPE S42

CATEGORY	STATION - STATION	LOCATION	603.1142 LF
0010	1334+57EB - 1336+06EB	RT	150
	1336+39WB - 1338+12WB	LT	175
	TOTALS		325

RIPRAP SUMMARY

CATEGORY	STATION	LOCATION	*606.0200 RIPRAP MEDIUM CY	*645.0120 GEOTEXTILE TYPE HR SY
0010	1338+57WB	LT	3	13
	42+25Q	RT	2	9
	46+79Q	RT	3	13
	59+00Q	LT	2	9
	TOTALS		10	44

*ADDITIONAL QUANTITIES LISTED ELSEWHERE.

STORM SEWER PIPE REINFORCED CONCRETE CLASS IV

CATEGORY	FROM STRUCTURE	TO STRUCTURE	608.0424 24-INCH LF
0010	100	101	31
	101	102	173
	102	103	39
	TOTALS		243

MANHOLES, MANHOLE COVERS AND APRON ENDWALLS SUMMARY

CATEGORY	STRUCTURE NUMBER	STATION	OFFSET	522.1024 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH EACH	611.0530 MANHOLE COVERS TYPE J EACH	611.2005 MANHOLES 5-FT DIAMETER EACH	650.4000 CONSTRUCTION STAKING STORM SEWER SYSTEM EACH
0010	100	1336+10WB	53.8' LT	1	---	---	1
	101	1336+39WB	42.0' LT	---	1	1	1
	102	1338+12WB	42.0' LT	---	1	1	1
	103	1338+50WB	50.0' LT	1	---	---	1
			TOTALS	2	2	2	4

STEEL THRIE BEAM BULLNOSE SUMMARY

CATEGORY	STATION - STATION	LOCATION	614.0220 STEEL THRIE BEAM BULLNOSE TERMINAL EACH	614.0230 STEEL THRIE BEAM LF
0010	1335+36EB - 1335+89EB	LT	1	---
	1335+89EB - 1336+64EB	LT	---	62.5
	1335+89EB - 1336+64EB	LT	---	62.5
	1336+64EB - 1337+17EB	LT	1	---
		TOTALS	2	125.0

FENCE WOVEN WIRE

CATEGORY	STATION	LOCATION		STATION	LOCATION	616.0100.01 4-FT LF
0010	1334+17 EB	77' RT	-	1335+02EB	71' RT	85
	1335+59EB	62' RT	-	1336+65EB	66' RT	110
	1335+98WB	64' LT	-	1336+91WB	61' LT	95
	1337+49WB	70' LT	-	1338+37WB	73' LT	90
					TOTAL	380

CRASH CUSHIONS TEMPORARY

CATEGORY	STAGE	STATION	LOCATION	614.0905 EACH	BACK WIDTH FT	OBJECT MARKING PATTERN	CRASH TEST LEVEL	TRAFFIC DIRECTION	TRAFFIC LOCATION	CRASH CUSHION SHIELDS
0010	2	1328+93EB	23' RT	1	2	OM-3R	3	UNIDIRECTIONAL	LT	TEMPORARY BARRIER
		1331+75EB	7'LT	1	2	OM-3L	3	UNIDIRECTIONAL	RT	TEMPORARY BARRIER
		1340+77WB	7' RT	1	2	OM-3R	3	UNIDIRECTIONAL	LT	TEMPORARY BARRIER
		1343+47WB	23' LT	1	2	OM-3L	3	UNIDIRECTIONAL	RT	TEMPORARY BARRIER
			TOTAL	4						

MGS GUARDRAIL SUMMARY

CATEGORY	STATION - STATION	LOCATION	614.2300 MGS GUARDRAIL 3 LF	614.2310 MGS GUARDRAIL 3 HS LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH
0010	1331+67EB - 1332+20EB	RT	---	---	---	1
	1332+20EB - 1334+20EB	RT	200.0	---	---	---
	1334+20EB - 1334+60EB	RT	---	---	39.4	---
	1338+10WB - 1338+49WB	RT	---	---	39.4	---
	1338+49WB - 1339+74WB	RT	125.0	---	---	---
	1339+74WB - 1430+49WB	RT	---	75.0	---	---
	1340+49WB - 1341+02WB	RT	---	---	---	1
	44+91Q - 45+44Q	LT	---	---	---	1
	44+99Q - 45+52Q	RT	---	---	---	1
	45+44Q - 48+44Q	LT	300.0	---	---	---
	45+52Q - 48+89Q	RT	337.5	---	---	---
	48+44Q - 48+84Q	LT	---	---	39.4	---
	48+89Q - 49+29Q	RT	---	---	39.4	---
	51+47Q - 51+86Q	LT	---	---	39.4	---
	51+86Q - 52+39Q	LT	---	---	---	1
	51+95Q - 52+34Q	RT	---	---	39.4	---
	52+34Q - 54+09Q	RT	175.0	---	---	---
	54+09Q - 54+62Q	RT	---	---	---	1
		TOTALS	1137.5	75.0	236.4	6

FINISHING ITEMS

CATEGORY	STAGE	STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	627.0200 MULCHING SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0200 SEEDING TEMPORARY LB	630.0300 SEEDING BORROW PIT LB	630.0500 SEED WATER MGAL
0010	1	1331+75EB - 1333+26EB	LT	100	100	0.1	5	0	0	3
		1333+14WB - 1333+26WB	RT	0	0	0.0	0	0	0	0
		1333+26EB - 1339+40EB	LT	0	500	0.0	0	15	0	0
		1339+40WB - 1340+77WB	RT	100	100	0.1	0	0	0	0
		SUBTOTALS (STAGE 1)		200	700	0.2	5	15	0	3
	4	1330+35EB - 1336+55EB	RT	300	300	0.3	10	0	0	11
		1335+90WB - 1342+35WB	LT	450	450	0.4	10	0	0	14
		SUBTOTALS (STAGE 4)		750	750	0.7	20	0	0	25
	8	1333+26EB - 1339+40EB	LT	2,650	2,650	1.7	50	0	0	60
		SUBTOTALS (STAGE 8)		2,650	2,650	1.7	50	0	0	60
	-	KARBERG LANE	LT/RT	300	300	1.0	30	0	0	36
		CTH Q	LT/RT	11,850	3,950	8.2	235	0	0	293
		SUBTOTALS		12,150	4,250	9.2	265	0	0	329
		BORROW SITE		0	8,500	5.4	0	0	115	0
		UNDISTRIBUTED	---	0	4,200	4.3	170	0	60	210
		TOTALS		15,750	21,050	21.5	510	15	175	627

SILT FENCE

CATEGORY	STAGE	STATION - STATION	OFFSET	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF
0010	1	1331+75EB - 1339+38EB	LT	765	1,530
		1333+14WB - 1340+77WB	RT	765	1,530
		41+00Q - 49+00Q	RT	805	1,610
		41+00Q - 48+00Q	LT	710	1,420
		51+53Q - 54+14Q	LT	270	540
		52+76Q - 61+00Q	RT	830	1,660
		56+00Q - 61+00Q	LT	515	1,030
		SUB TOTALS (STAGE 1)		4,660	9,320
	4	1330+35EB - 1333+97EB	RT	415	830
		1336+39WB - 1338+12WB	LT	390	780
		SUB TOTALS (STAGE 4)		805	1,610
		UNDISTRIBUTED	---	1,370	2,740
		TOTALS		6,835	13,670

MOBILIZATIONS EROSION CONTROL

CATEGORY	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
0010	8	4

EROSION MAT SUMMARY

CATEGORY	STAGE	STATION - STATION	LOCATION	628.2002 CLASS I TYPE A SY	628.2004 CLASS I TYPE B SY
0010	STAGE 4	1334+40EB - 1334+76EB	RT	---	35
		1336+00EB - 1336+45EB	RT	---	30
		1336+39EB - 1336+76WB	LT	---	35
		1337+25WB - 1338+12WB	LT	---	80
		SUBTOTALS (STAGE 4)		0	180
	-	44+50Q - 48+68Q	LT	1,950	---
		44+50Q - 49+86Q	RT	3,350	---
		51+11Q - 54+11Q	LT	1,400	270
		52+02Q - 55+50Q	RT	1,250	---
		SUBTOTALS		7,950	270
	UNDISTRIBUTED	---		2,000	100
		TOTALS		9,950	550

INLET PROTECTION

CATEGORY	STAGE	STATION	LOCATION	628.7005 TYPE A EACH
0010	1	1334+43EB	LT	1
		1343+50EB	LT	1
			TOTAL	2

TEMPORARY DITCH CHECKS

CATEGORY	STAGE	STATION	LOCATION	628.7504 LF
0010	1	1337+00EB	RT	10
		42+00Q	LT	10
		60+50Q	LT	10
		SUBTOTAL (STAGE 1)		30
	-	42+00Q	LT	10
		52+00Q	LT	10
		53+00Q	LT	10
		60+50Q	LT	10
		SUBTOTAL		40
		UNDISTRIBUTED	---	20
		TOTAL		90

CULVERT PIPE CHECKS

CATEGORY	STAGE	STATION	LOCATION	628.7555 EACH
0010	1	1326+00EB	LT	2
		1336+20WB	LT	3
		41+84Q	RT	2
		46+80Q	LT	3
		59+39Q	LT	2
		SUBTOTAL (STAGE 1)		12
	4	1336+02EB	LT	3
		SUBTOTAL (STAGE 4)		3
	-	41+80Q	RT	3
		46+79Q	LT	3
		59+49Q	LT	3
		SUBTOTAL		9
		UNDISTRIBUTED	---	5
		TOTAL		29

DELINEATOR

CATEGORY	STATION	LOCATION	633.0100 POSTS STEEL EACH	633.0500 REFLECTORS EACH
0010	1323+45EB	RT	1	1
	1327+47EB	RT	1	1
	1338+47EB	RT	1	1
	1342+49EB	RT	1	1
	1331+66WB	LT	1	1
	1335+72WB	LT	1	1
	1345+06WB	LT	1	1
	TOTALS		7	7

MOVING SIGNS TYPE II

CATEGORY	SIGN	STATION	LOCATION	638.2102 EACH	REMARKS
0010	E1-3	1332+21EB	RT	1	RE-INSTALL AT STA. 1330+89EB RT
	E1-4	1334+71EB	RT	1	RE-INSTALL AT STA. 1334+35EB RT
	E1-5	1337+53WB	LT	1	RE-INSTALL AT STA. 1337+53WB LT
	E2-1	48+15Q	LT	1	RE-INSTALL IN SAME LOCATION
	E2-2	48+68Q	LT	1	RE-INSTALL AT STA. 48+81Q LT
	E2-3	48+92Q	RT	1	RE-INSTALL AT STA. 48+80Q RT
	E2-4	51+86Q	LT	1	RE-INSTALL AT STA. 51+49Q LT
	E2-5	52+12Q	RT	1	RE-INSTALL AT STA. 51+96Q RT
	E2-6	9+29K	RT	1	RE-INSTALL AT STA. 9+20K RT
	E2-7	8+59K	LT	1	RE-INSTALL IN SAME LOCATION
	E2-9	59+40Q	RT	1	RE-INSTALL IN SAME LOCATION
			TOTALS	11	

REMOVING SIGN SUMMARY

CATEGORY	SIGN NUMBER	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	DESCRIPTION
0010	E2-8	2	1	SPEED ZONE AHEAD, 45 MPH

FIELD OFFICE TYPE C

CATEGORY	PROJECT	642.5201 EACH
0010	1066-06-72	0.15

PERMANENT MARKING LINE EPOXY 4-INCH

CATEGORY	STATION	-	STATION	LOCATION	646.1020 (WHITE) LF	646.1020 (YELLOW) LF	646.1020 (WHITE SKIP) (3' SEG, 9' GAP) LF
0010	41+00Q	-	61+00Q	RT	2,000	---	---
	41+00Q	-	61+00Q	CL	---	4,000	---
	41+00Q	-	54+23Q	LT	1,320	---	---
	55+58Q	-	56+48Q	LT	---	---	23
	56+48Q	-	61+00Q	LT	450	---	---
				SUBTOTALS	3,770	4,000	23
				TOTALS		7,793	

MARKING REMOVAL LINE WATER BLASTING 4-INCH

CATEGORY	STAGE	STATION - STATION	646.9010 LF
0010	1	1321+93EB - 1342+98EB	4,740
	1	1328+54WB - 1345+71WB	3,860
		TOTAL	8,600

TRAFFIC CONTROL PAVEMENT MARKING

CATEGORY	STAGE	STATION - STATION	649.0150 TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE) LF	649.0150 TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW) LF	649.0150 TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE SKIP) 12.5' SEG. 37.5' GAP LF
0010	1	1321+93EB - 1342+98EB	2,110	2,110	530
		1328+54WB - 1345+71WB	1,720	1,720	430
		EB ADVANCED WARNING/LANE CLOSURES	720	---	---
		WB ADVANCED WARNING/LANE CLOSURES	720	---	---
	2&3	1321+93EB - 1342+98EB	2,110	2,110	530
		1328+54WB - 1345+71WB	1,720	1,720	430
		EB ADVANCED WARNING/LANE CLOSURES	720	---	---
		WB ADVANCED WARNING/LANE CLOSURES	720	---	---
	4&5	EB ADVANCED WARNING/LANE CLOSURES	720	---	---
		WB ADVANCED WARNING/LANE CLOSURES	720	---	---
	6	1321+93EB - 1342+98EB	2,110	2,110	530
		1328+54WB - 1345+71WB	1,720	1,720	430
	7	1321+93EB - 1342+98EB	2,110	2,110	530
		1328+54WB - 1345+71WB	1,720	1,720	430
	8	1321+93EB - 1342+98EB	2,110	2,110	530
		1328+54WB - 1345+71WB	1,720	1,720	430
	9	1321+93EB - 1342+98EB	2,110	2,110	530
		1328+54WB - 1345+71WB	1,720	1,720	430
		TOTALS	27,300	22,980	5,760
		ITEM TOTALS		56,040	

TRAFFIC CONTROL SUMMARY

CATEGORY	STAGE	STATION - STATION	DURATION (DAYS)	643.0300 DRUMS EACH	643.0300 DRUMS DAY	643.0420 BARRICADES TYPE III EACH	643.0420 BARRICADES TYPE III DAY	643.0705 WARNING LIGHTS TYPE A EACH	643.0705 WARNING LIGHTS TYPE A DAY	643.0715 WARNING LIGHTS TYPE C EACH	643.0715 WARNING LIGHTS TYPE C DAY	643.0800 ARROW BOARDS EACH	643.0800 ARROW BOARDS DAY	643.0900 SIGNS EACH	643.0900 SIGNS DAY	643.0920 COVERING SIGNS TYPE II EACH	643.1050 SIGNS PCMS EACH	643.1050 SIGNS PCMS DAY	643.4100.S INTERIM LANE CLOSURE EACH
0010	1	1320+93EB - 1344+98EB	10	38	380	0	0	0	0	16	160	0	0	5	50	0	0	0	10
		1328+54WB - 1347+00WB	10	32	320	0	0	0	0	16	160	0	0	5	50	0	0	0	10
		EB ADVANCED WARNING/LANE CLOSURES	10	26	260	1	10	2	20	15	150	2	20	28	280	0	1	10	0
		WB ADVANCED WARNING/LANE CLOSURES	10	26	260	1	10	2	20	15	150	2	20	28	280	0	1	10	0
		SUBTOTALS (STAGE 1)			1,220		20		40		620		40		660	0	2	20	20
	2	1320+93EB - 1346+98EB	5	20	100	0	0	0	0	9	45	0	0	4	20	0	0	0	5
		1328+00WB - 1340+00WB	5	15	75	0	0	0	0	7	35	0	0	4	20	0	0	0	5
		EB ADVANCED WARNING/LANE CLOSURES	5	26	130	1	5	2	10	15	75	2	10	28	140	0	1	5	0
		WB ADVANCED WARNING/LANE CLOSURES	5	26	130	1	5	2	10	15	75	2	10	28	140	0	1	5	0
		SUBTOTALS (STAGE 2)			435		10		20		230		20		320	0		10	10
	3	1320+93EB - 1346+98EB	5	20	100	0	0	0	0	9	45	0	0	4	20	0	0	0	0
		1328+00WB - 1340+00WB	5	15	75	0	0	0	0	7	35	0	0	4	20	0	0	0	0
		EB ADVANCED WARNING/LANE CLOSURES	5	26	130	1	5	2	10	15	75	2	10	28	140	0	1	5	0
		WB ADVANCED WARNING/LANE CLOSURES	5	26	130	1	5	2	10	15	75	2	10	28	140	0	1	5	0
		SUBTOTALS (STAGE 3)			435		10		20		230		20		320	0		10	0
	4	1320+93EB - 1346+98EB	54	20	1,080	0	0	0	0	9	486	0	0	4	216	0	0	0	0
		1328+00WB - 1340+00WB	54	15	810	0	0	0	0	7	378	0	0	4	216	0	0	0	0
		EB ADVANCED WARNING/LANE CLOSURES	54	26	1,404	1	54	2	108	15	810	2	108	28	1,512	0	1	54	0
		WB ADVANCED WARNING/LANE CLOSURES	54	26	1,404	1	54	2	108	15	810	2	108	28	1,512	0	1	54	0
		SUBTOTALS (PRE STAGE 4)			4,698		108		216		2,484		216		3,456	0		108	0
	5	1320+93EB - 1346+98EB	9	20	180	0	0	0	0	9	81	0	0	4	36	0	0	0	0
		1328+00WB - 1340+00WB	9	15	135	0	0	0	0	7	63	0	0	4	36	0	0	0	0
		EB ADVANCED WARNING/LANE CLOSURES	9	26	234	1	9	2	18	15	135	2	18	28	252	0	1	9	0
		WB ADVANCED WARNING/LANE CLOSURES	9	26	234	1	9	2	18	15	135	2	18	28	252	0	1	9	0
		SUBTOTALS (STAGE 5)			783		18		36		414		36		576	0		18	0
	6	1321+93EB - 1344+98EB	6	35	210	0	0	0	0	16	96	0	0	4	24	0	0	0	6
		1326+00WB - 1345+71WB	6	31	186	0	0	0	0	16	96	0	0	4	24	0	0	0	6
		EB ADVANCED WARNING/LANE CLOSURES	6	26	156	1	6	2	12	15	90	2	12	28	168	0	1	6	0
		WB ADVANCED WARNING/LANE CLOSURES	6	26	156	1	6	2	12	15	90	2	12	28	168	0	1	6	0
		SUBTOTALS (STAGE 6)			708		12		24		372		24		384	0		12	12

CON'T. ON NEXT PAGE

TRAFFIC CONTROL SUMMARY (CON'T.)

CATEGORY	STAGE	STATION - STATION	DURATION (DAYS)	643.0300 DRUMS EACH	643.0300 DRUMS DAY	643.0420 BARRICADES TYPE III EACH	643.0420 BARRICADES TYPE III DAY	643.0705 WARNING LIGHTS TYPE A EACH	643.0705 WARNING LIGHTS TYPE A DAY	643.0715 WARNING LIGHTS TYPE C EACH	643.0715 WARNING LIGHTS TYPE C DAY	643.0800 ARROW BOARDS EACH	643.0800 ARROW BOARDS DAY	643.0900 SIGNS EACH	643.0900 SIGNS DAY	643.0920 COVERING SIGNS TYPE II EACH	643.1050 SIGNS PCMS EACH	643.1050 SIGNS PCMS DAY	643.4100.S INTERIM LANE CLOSURE EACH
0010	7	1321+93EB - 1342+98EB	13	27	351	0	0	0	0	10	130	0	0	4	52	0	0	0	13
		1328+54WB - 1345+71WB	13	22	286	0	0	0	0	7	91	0	0	4	52	0	0	0	13
		EB ADVANCED WARNING/LANE CLOSURES	13	26	338	1	13	2	26	15	195	2	26	28	364	0	1	13	0
		WB ADVANCED WARNING/LANE CLOSURES	13	26	338	1	13	2	26	15	195	2	26	28	364	0	1	13	0
		SUBTOTALS (STAGE 7)			1,313		26		52		611		52		832	0		26	26
	8	1321+93EB - 1344+98EB	6	35	210	0	0	0	0	16	96	0	0	4	24	0	0	0	6
		1326+00WB - 1345+71WB	6	31	186	0	0	0	0	16	96	0	0	4	24	0	0	0	6
		EB ADVANCED WARNING/LANE CLOSURES	6	26	156	1	6	2	12	15	90	2	12	28	168	0	1	6	0
		WB ADVANCED WARNING/LANE CLOSURES	6	26	156	1	6	2	12	15	90	2	12	28	168	0	1	6	0
																		0	
		SUBTOTALS (STAGE 8)			708		12		24		372		24		384	0		12	12
	9	1321+93EB - 1342+98EB	2	27	54	0	0	0	0	10	20	0	0	4	8	0	0	0	2
		1328+54WB - 1345+71WB	2	22	44	0	0	0	0	7	14	0	0	4	8	0	0	0	2
		EB ADVANCED WARNING/LANE CLOSURES	2	26	52	1	2	2	4	15	30	2	4	28	56	0	1	2	0
		WB ADVANCED WARNING/LANE CLOSURES	2	26	52	1	2	2	4	15	30	2	4	28	56	0	1	2	0
		SUBTOTALS (STAGE 9)			202		4		8		94		8		128	0		4	4
	-	CTH Q DETOUR/CLOSURE	110	0	0	25	2,750	20	2,200	0	---	0	0	79	8,690	7	2	14	0
		SUBTOTALS			0		2,750		2,200		0		0		8,690	7		14	0
		UNDISTRIBUTED	30	50	1,500	2	60	3	90	10	300	2	60	25	750	2	1	30	0
		TOTALS			12,002		3,030		2,730		5,727		500		16,500	9		264	84

CONSTRUCTION STAKING SUMMARY

CATEGORY	STATION - STATION	LOCATION	650.4500 SUBGRADE LF	650.5000 BASE LF	650.7000 CONCRETE PAVEMENT LF	650.9920 SLOPE STAKES LF
0010	1330+35EB - 1334+57EB	RT	---	422	---	422
	1336+06EB - 1336+55EB	RT	---	49	---	49
	1335+90WB - 1336+39WB	LT	---	49	---	49
	1338+12WB - 1342+35WB	LT	---	423	---	423
	41+00Q - 49+18Q	LT & RT	818	794	24	818
	51+59Q - 61+00Q	LT & RT	941	916	25	941
	8+30K - 9+88K	LT & RT	158	158	---	158
		TOTALS	1,917	2,811	49	2,860

SAWING ASPHALT SUMMARY

CATEGORY	STAGE	STATION - STATION	LOCATION	690.0150 LF
0010	1	1325+53 EB - 1339+38 EB	LT	1,390
		1333+14 WB - 1340+77 WB	RT	765
		1258+41 - 1275+66		1,730
		SUBTOTALS (STAGE 1)		3,885
	4	1330+25EB - 1336+56EB	LT	630
		1335+90WB - 1342+35WB	LT	645
		SUBTOTALS (STAGE 4)		1,275
	-	8+30K		22
		41+00Q		22
		61+00Q		22
		SUBTOTALS		66
		UNDISTRIBUTED		523
		TOTALS		5,749



STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
TRANSPORTATION PROJECT PLAT TITLE SHEET

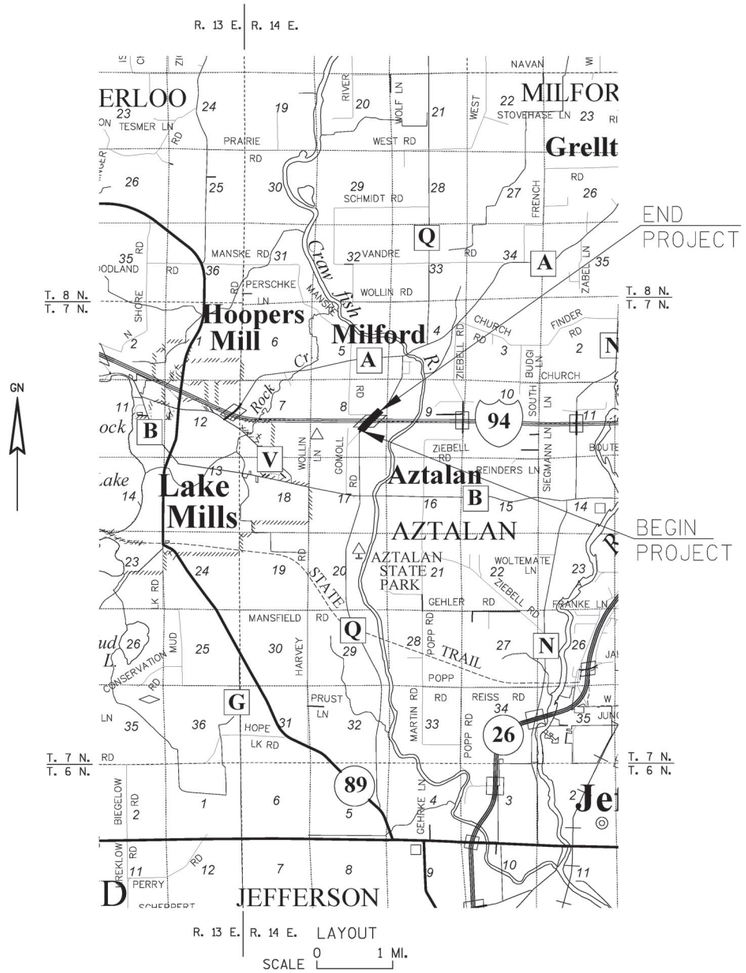
1066-06-22

LAKE MILLS-OCONOMOWOC

CTH Q (B-28-0043)

IH 94

JEFFERSON COUNTY



CONVENTIONAL SYMBOLS

- SECTION LINE
- QUARTER LINE
- SIXTEENTH LINE
- NEW REFERENCE LINE
- NEW R/W LINE
- EXISTING R/W OR HE LINE
- PROPERTY LINE
- LOT, TIE & OTHER MINOR LINES
- SLOPE INTERCEPT
- CORPORATE LIMITS
- UNDERGROUND FACILITY (COMMUNICATIONS, ELECTRIC, ETC)
- NEW R/W (FEE OR HE) (HATCHING VARIES BY OWNER)
- TEMPORARY LIMITED EASEMENT AREA
- EASEMENT AREA (PERMANENT LIMITED OR RESTRICTED DEVELOPMENT)
- TRANSMISSION STRUCTURES
- BUILDING TO BE REMOVED
- BRIDGE
- SECTION CORNER SYMBOL
- SECTION CORNER MONUMENT
- GEODETIC SURVEY MONUMENT
- SIXTEENTH CORNER MONUMENT
- SIGN
- R/W MONUMENT (TO BE SET)
- NON-MONUMENTED R/W POINT
- FOUND IRON PIN (3/4" REBAR UNLESS NOTED)
- OFF-PREMISE SIGN
- ELECTRIC POLE (COMPENSABLE / NON-COMPENSABLE)
- TELEPHONE POLE (COMPENSABLE / NON-COMPENSABLE)
- PEDESTAL (LABEL TYPE) (TV, TEL, ELEC, ETC.) (COMPENSABLE / NON-COMPENSABLE)
- ACCESS RESTRICTED BY ACQUISITION
- NO ACCESS (BY STATUTORY AUTHORITY)
- ACCESS RESTRICTED (BY PREVIOUS PROJECT OR CONTROL)
- NO ACCESS (NEW HIGHWAY)
- PARCEL NUMBER (25) UTILITY NUMBER (40)
- PARALLEL OFFSETS
- TLE POINT (TLE100)
- R/W BOUNDARY PONT (PRW100)

CONVENTIONAL ABBREVIATIONS

ACCESS RIGHTS	AR	POINT OF INTERSECTION	PI
ACRES	AC	PROPERTY LINE	PL
AHEAD	AH	REBAR	RBR.
ALUMINUM	ALUM	RECORDED AS	(100')
AND OTHERS	ET AL	REEL / IMAGE	R/I
BACK	BK	REFERENCE LINE	R/L
BLOCK	BLK	REMAINING	REM
CENTERLINE	C/L	RESTICTIVE DEVELOPMENT EASEMENT	RDE
CERTIFIED SURVEY MAP	CSM	RIGHT	RT
CONCRETE	CONC	RIGHT OF WAY	R/W
COUNTY	CO	SECTION	SEC
COUNTY TRUNK HIGHWAY	CTH	SEPTIC VENT	SEPV
DISTANCE	DIST	SQUARE FEET	SF
CORNER	COR	STATE TRUNK HIGHWAY	STH
DOCUMENT NUMBER	DOC	STATION	STA
EASEMENT	EASE	TELEPHONE PEDESTAL	TP
EXISTING	EX	TEMPORARY LIMITED EASEMENT	TLE
GAS VALVE	GV	TRANSPORTATION PROJECT PLAT	TPP
GRID NORTH	GN	UNITED STATES HIGHWAY	USH
HIGHWAY EASEMENT IDENTIFICATION	HE ID	VOLUME	V
LAND CONTRACT	LC		
LEFT	LT		
MONUMENT	MON		
NATIONAL GEODETIC SURVEY NUMBER	NGS NO		
OUTLOT	OL		
PAGE	P		
POINT OF TANGENCY	PT		
PERMANENT LIMITED EASEMENT	PLE		
POINT OF BEGINNING	POB		
POINT OF CURVATURE	PC		
POINT OF COMPOUND CURVE	PCC		

CURVE DATA

LONG CHORD	LCH
LONG CHORD BEARING	LCB
RADIUS	R
DEGREE OF CURVE	D
CENTRAL ANGLE	Δ/DELTA
LENGTH OF CURVE	L
TANGENT	T
DIRECTION AHEAD	DA
DIRECTION BACK	DB

CONVENTIONAL UTILITY SYMBOLS

- WATER (W)
- GAS (G)
- TELEPHONE (T)
- OVERHEAD TRANSMISSION LINES (OH)
- ELECTRIC (E)
- CABLE TELEVISION (TV)
- FIBER OPTIC (FO)
- SANITARY SEWER (SAN)
- STORM SEWER (SS)

THE NOTES,CONVENTIONAL SIGNS, AND ABBREVIATIONS ARE ASSOCIATED WITH EACH TRANSPORTATION PROJECT PLAT FOR PROJECT 1066-06-22

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), JEFFERSON COUNTY, NAD 83 (2011) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ALL NEW RIGHT-OF-WAY MONUMENTS WILL BE TYPE 2 (TYPICALLY ¾" X 24" IRON REBARS), UNLESS OTHERWISE NOTED, AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

ALL RIGHT-OF-WAY LINES DEPICTED IN THE NON-ACQUISITION AREAS ARE INTENDED TO RE-ESTABLISH EXISTING RIGHT-OF-WAY LINES AS DETERMINED FROM PREVIOUS PROJECTS, OTHER RECORDED DOCUMENTS, OR FROM CENTERLINE OF EXISTING PAVEMENTS.

RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER "SURVEYS" OF PUBLIC RECORD.

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO THE NEW REFERENCE LINES.

A TEMPORARY LIMITED EASEMENT (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON, THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM DESIRABLE. ALL (TLEs) ON THIS PLAT EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

A PERMANENT LIMITED EASEMENT (PLE) IS A RIGHT FOR CONSTRUCTION AND MAINTENANCE PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM DESIRABLE, BUT WITHOUT PREJUDICE TO THE OWNER'S RIGHTS TO MAKE OR CONSTRUCT IMPROVEMENTS ON SAID LANDS OR TO PLATTEN THE SLOPES, PROVIDING SAID ACTIVITIES WILL NOT IMPAIR OR OTHERWISE ADVERSELY AFFECT THE HIGHWAY FACILITIES.

AN EASEMENT FOR HIGHWAY PURPOSES (HE), AS LONG AS SO USED, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM DESIRABLE.

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

FOR THE LATEST ACCESS/DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN MADISON.

PARCEL IDENTIFICATION NUMBERS MAY NOT POINT TO ALL AREAS OF ACQUISITION, AS NOTED ON THE SCHEDULE OF LANDS & INTERESTS REQUIRED.

EXISTING R/W ON IH 94 BASED ON PREVIOUS PROJECT: I 94-3(19) 252

EXISTING R/W ON CTH Q BASED ON PREVIOUS PROJECT: I 94-3(19) 252

EXISTING R/W ON MANSKE ROAD BASED ON PREVIOUS PROJECT: I 94-3(19) 252

EXISTING ACCESS CONTROL ON IH 94 & CTH Q BASED ON PREVIOUS PROJECT: I 94-3(19) 252

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1066-06-22-4.01
SHEET 2 OF 2
AMENDMENT NO:

TRANSPORTATION PROJECT PLAT NO: 1066-06-22 - 4.01

THAT PART OF THE NORTHWEST 1/4 OF THE SOUTHEAST 1/4 AND THAT PART OF THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 8, TOWNSHIP 7 NORTH, RANGE 14 EAST, TOWN OF AZTALAN, JEFFERSON COUNTY, WISCONSIN.

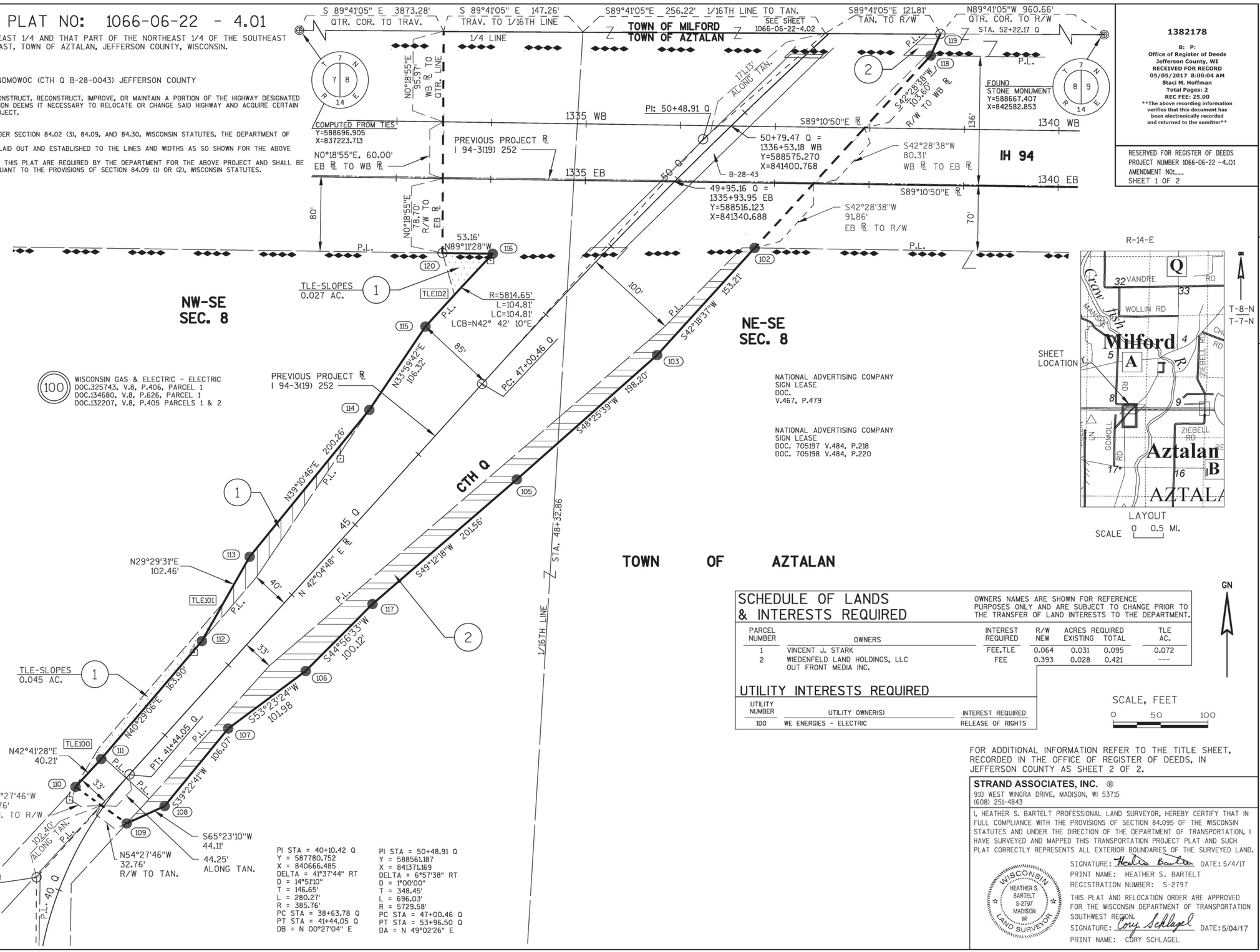
RELOCATION ORDER IH 94 LAKE MILLS - OCONOMOWOC (CTH Q B-28-0043) JEFFERSON COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3), 84.09, AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:
1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

COURSE	BEARING	DISTANCE
119-118	S 23°56'56" W	25.21'

POINT #	STATION	OFFSET
102	50+06.18 Q	109.53'
103	48+50.00 Q	115.00'
105	46+50.00 Q	95.00'
106	43+50.00 Q	65.00'
107	42+50.00 Q	45.00'
108	41+44.05 Q	50.00'
109	41+00.00 Q	30.23'
110	41+00.00 Q	36.28'
111	41+36.79 Q	33.18'
112	43+00.00 Q	37.67'
113	44+00.00 Q	60.00'
114	46+00.00 Q	70.13'
115	47+05.19 Q	85.09'
116	48+08.47 Q	84.98'
117	44+50.00 Q	70.00'
118	52+86.15 Q	90.00'
119	53+09.51 Q	79.70'
120	47+73.41 Q	124.38'
TLE100	41+44.05 Q	43.00'
TLE101	43+47.21 Q	48.21'
TLE102	47+50.00 Q	85.04'



TOWN OF AZTALAN

SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT.

PARCEL NUMBER	OWNERS	INTEREST REQUIRED	R/W NEW	ACRES REQUIRED EXISTING	ACRES REQUIRED TOTAL	TLE AC.
1	VINCENT J. STARK	FEE,TLE	0.064	0.031	0.095	0.072
2	WIEDENFELD LAND HOLDINGS, LLC OUT FRONT MEDIA INC.	FEE	0.393	0.028	0.421	---

UTILITY INTERESTS REQUIRED

UTILITY NUMBER	UTILITY OWNER(S)	INTEREST REQUIRED
100	WE ENERGIES - ELECTRIC	RELEASE OF RIGHTS

GN

SCALE, FEET 0 50 100

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), JEFFERSON COUNTY, NAD83 2011 IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

FOR THE LATEST ACCESS/DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN MADISON.

EXISTING R/W FOR IH-94 BASED ON PREVIOUS PROJECT: I 94-3(19) 252

EXISTING R/W FOR CTH Q BASED ON PREVIOUS PROJECT: I 94-3(19) 252

EXISTING ACCESS CONTROL FOR IH-94 BASED ON PREVIOUS PROJECT: I 94-3(19) 252

FOR ADDITIONAL INFORMATION REFER TO THE TITLE SHEET, RECORDED IN THE OFFICE OF REGISTER OF DEEDS, IN JEFFERSON COUNTY AS SHEET 2 OF 2.

STRAND ASSOCIATES, INC. ®
910 WEST WINGRA DRIVE, MADISON, WI 53715
(608) 251-4843

I, HEATHER S. BARTELT PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE DEPARTMENT OF TRANSPORTATION, I HAVE SURVEYED AND MAPPED THIS TRANSPORTATION PROJECT PLAT AND SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

WISCONSIN HEATHER S. BARTELT S-2797 MADISON WI LAND SURVEYOR

SIGNATURE: Heather Bartelt DATE: 5/4/17
PRINT NAME: HEATHER S. BARTELT
REGISTRATION NUMBER: S-2797

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION SOUTHWEST REGION.
SIGNATURE: Cory Schlagel DATE: 5/04/17
PRINT NAME: CORY SCHLAGEL

1382178
B: P:
Office of Register of Deeds
Jefferson County, WI
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RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1066-06-22 -4.01
AMENDMENT NO:___
SHEET 1 OF 2

TRANSPORTATION PROJECT PLAT NO: 1066-06-22 - 4.02

THAT PART OF THE SOUTHEAST 1/4 OF THE NORTHEAST 1/4 OF SECTION 8, TOWNSHIP 7 NORTH, RANGE 14 EAST, TOWN OF MILFORD, JEFFERSON COUNTY, WISCONSIN.

RELOCATION ORDER IH 94 LAKE MILLS - OCONOMOWOC (CTH Q B-28-0043) JEFFERSON COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3), 84.09, AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:
1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

POINT #	STATION	OFFSET
200	5+56.32 K	71.71'
201	9+03.40 K	70.65'
202	56+63.87 Q	50.00'
203	61+00.00 Q	60.00'
204	61+30.00 Q	32.29'
205	61+00.00 Q	33.71'
206	58+00.00 Q	50.00'
207	56+00.00 Q	70.00'
208	55+00.00 Q	60.07'
209	53+88.38 Q	70.63'
210	53+30.00 Q	70.56'
211	53+09.51 Q	79.70'

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), JEFFERSON COUNTY, NAD83 2011 IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

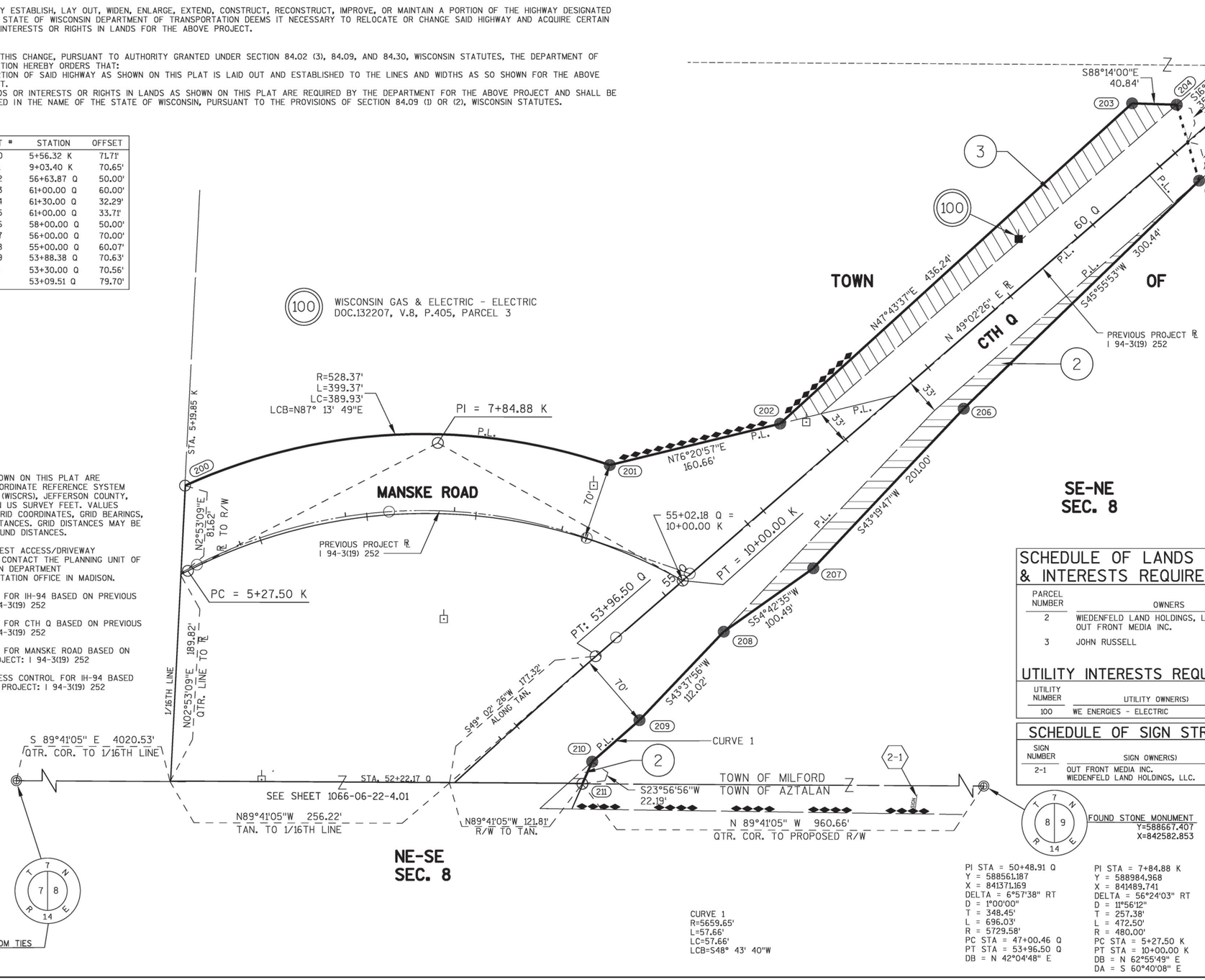
FOR THE LATEST ACCESS/DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN MADISON.

EXISTING R/W FOR IH-94 BASED ON PREVIOUS PROJECT: I 94-3(19) 252

EXISTING R/W FOR CTH Q BASED ON PREVIOUS PROJECT: I 94-3(19) 252

EXISTING R/W FOR MANSKE ROAD BASED ON PREVIOUS PROJECT: I 94-3(19) 252

EXISTING ACCESS CONTROL FOR IH-94 BASED ON PREVIOUS PROJECT: I 94-3(19) 252



PI STA = 50+48.91 Q
Y = 588561.187
X = 841371.169
DELTA = 6°57'38" RT
D = 1°00'00"
T = 348.45'
L = 696.03'
R = 5729.58'
PC STA = 47+00.46 Q
PT STA = 53+96.50 Q
DB = N 42°04'48" E

PI STA = 7+84.88 K
Y = 588984.968
X = 841489.741
DELTA = 56°24'03" RT
D = 11°56'12"
T = 257.38'
L = 472.50'
R = 480.00'
PC STA = 5+27.50 K
PT STA = 10+00.00 K
DB = N 62°55'49" E
DA = S 60°40'08" E

CURVE 1
R=5659.65'
L=57.66'
LC=57.66'
LCB=S48° 43' 40"W

SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT.

PARCEL NUMBER	OWNERS	INTEREST REQUIRED	R/W NEW	ACRES REQUIRED EXISTING	ACRES REQUIRED TOTAL	TLE AC.
2	WIEDENFELD LAND HOLDINGS, LLC OUT FRONT MEDIA INC.	FEE	0.168	0.029	0.197	---
3	JOHN RUSSELL	FEE	0.230	0.297	0.527	---

UTILITY INTERESTS REQUIRED

UTILITY NUMBER	UTILITY OWNER(S)	INTEREST REQUIRED
100	WE ENERGIES - ELECTRIC	RELEASE OF RIGHTS

SCHEDULE OF SIGN STRUCTURES

SIGN NUMBER	SIGN OWNER(S)	OASIS NUMBER
2-1	OUT FRONT MEDIA INC. WIEDENFELD LAND HOLDINGS, LLC.	14689

GN

SCALE, FEET
0 50 100

FOR ADDITIONAL INFORMATION REFER TO THE TITLE SHEET, RECORDED IN THE OFFICE OF REGISTER OF DEEDS, IN JEFFERSON COUNTY AS SHEET 2 OF 2 OF DOCUMENT 1382178.

STRAND ASSOCIATES, INC. ®
910 WEST WINGRA DRIVE, MADISON, WI 53715
(608) 251-4843

I, HEATHER S. BARTELT PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE DEPARTMENT OF TRANSPORTATION, I HAVE SURVEYED AND MAPPED THIS TRANSPORTATION PROJECT PLAT AND SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

SIGNATURE: Heather Bartelt DATE: 5/9/17
PRINT NAME: HEATHER S. BARTELT
REGISTRATION NUMBER: S-2797

WISCONSIN HEATHER S. BARTELT S-2797 MADISON WI LAND SURVEYOR

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION SOUTHWEST REGION.
SIGNATURE: Cory Schlagel DATE: 5/09/17
PRINT NAME: CORY SCHLAGEL

1382355

B: P:
Office of Register of Deeds
Jefferson County, WI
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PROJECT NUMBER 1066-06-22 -4.02
AMENDMENT NO:___

TRANSPORTATION PROJECT PLAT NO: 1066-06-22 - 4.03

RELOCATION ORDER IH 94 LAKE MILLS - OCONOMOWOC (CTH Q B-28-0043) JEFFERSON COUNTY

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), JEFFERSON COUNTY, NAD83 2011 IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

DATE: 3/16/17	REVISED:

POINT #	Y	X
102	588446.265	841425.750
103	588332.965	841322.618
105	588201.448	841174.344
106	587998.891	840951.027
107	587938.073	840869.166
108	587856.085	840801.873
109	587837.714	840761.772
110	587876.376	840707.644
111	587905.930	840734.907
112	588030.586	840841.316
113	588119.772	840891.759
114	588275.005	841018.271
115	588363.151	841077.715
116	588440.173	841148.796
117	588069.761	841021.755
118	588649.656	841611.976
119	588672.695	841622.209
120	588440.924	841095.640

POINT #	Y	X
200	588945.875	841257.853
201	588964.718	841647.325
202	589002.634	841803.445
203	589296.078	842126.241
204	589294.819	842167.060
205	589225.314	842187.667
206	589016.351	841971.797
207	588870.142	841833.873
208	588812.086	841751.848
209	588731.006	841674.549
210	588692.974	841631.216
211	588672.695	841622.209

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
BM 604	40+86.390	RAILROAD SPIKE IN POWER POLE	814.94
BM 300	49+80.220	WHITE PAINT MTL PLATE GRB WOOD POST	815.89

STA. 45+020 - STA. 48+720 LT
REMOVING GUARDRAIL REQ'D.

STA. 48+100, 85' LT -
STA. 50+000, 100' RT
REMOVING FENCE REQ'D.

AT&T LEGACY/WISDOT (COMM.)

STA. 48+63.90 LT
PIPE UNDERDRAIN
UNPERFORATED 12-INCH REQ'D.

WE ENERGIES (ELEC.)

TLE

R/W

BM 604

TLE

45+000

CTH Q

CEMETERY RD

40+000

R/W

SLOPE INTERCEPT (TYP.)

STA. 51+700 - STA. 54+320 LT
REMOVING GUARDRAIL REQ'D.

STA. 51+6.50 LT
PIPE UNDERDRAIN
UNPERFORATED 12-INCH REQ'D.

STA. 1336+11WB LT
REMOVING CONCRETE FLUME REQ'D.

BM 300

STA. 50+890, 82' LT -
STA. 52+540, 67' RT
REMOVING FENCE REQ'D.

1335WB

1335EB

STRUCTURE R-28-51

50+000

STRUCTURE R-28-50

STRUCTURE B-28-186

IH 94 WB

IH 94 EB

MATCHLINE STA. 53+000

STA. 49+09.00 RT
PIPE UNDERDRAIN
UNPERFORATED 12-INCH REQ'D.

STA. 52+13.90 RT
PIPE UNDERDRAIN
UNPERFORATED 12-INCH REQ'D.

BEGIN PROJECT
STATION 41+00.000
X:840,737.17
Y:587,855.29

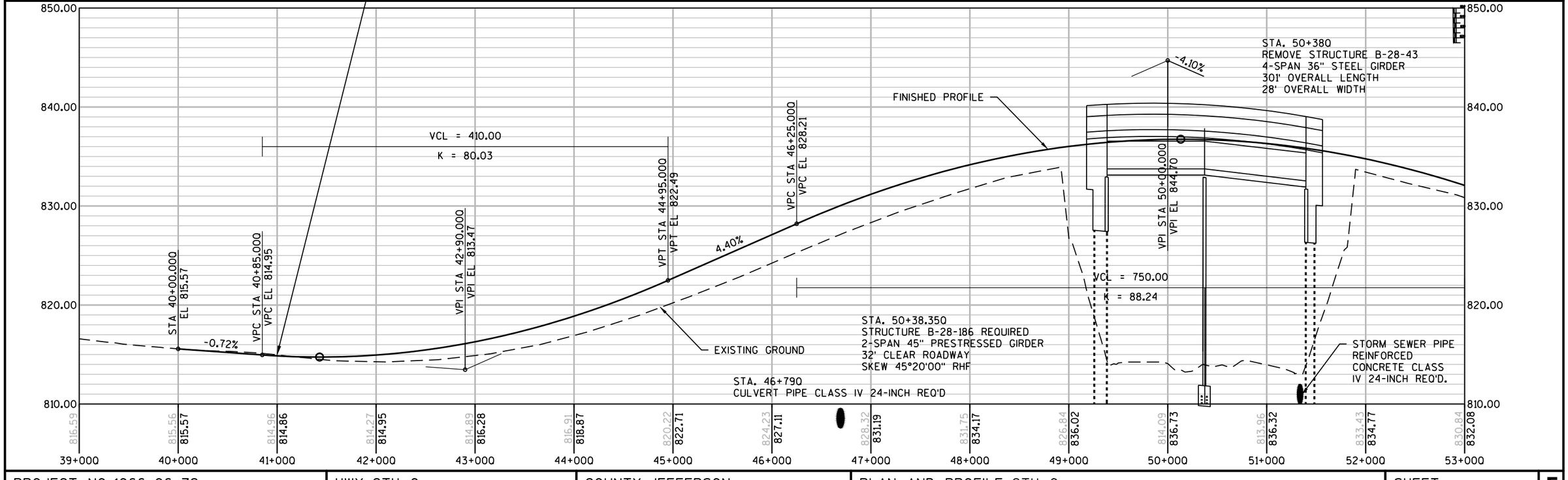
STA. 42+000 RT
CONSTRUCT F.E.
REMOVE EXIST. 18"x26.5' CMCP
1 - 30 LF, CULVERT PIPE REINFORCED CONCRETE
HORIZONTAL ELLIPTICAL CLASS HE-III 14 X 23-INCH REQ'D.
2 - APRON ENDWALLS FOR CULVERT PIPE REINFORCED
CONCRETE HORIZONTAL ELLIPTICAL 14 X 23-INCH REQ'D.

STA. 44+990 - STA. 48+950 RT
REMOVING GUARDRAIL REQ'D.

STA. 46+790
REMOVE 1 - 24"x119' CMCP

STA. 51+980 - STA. 54+580 RT
REMOVING GUARDRAIL REQ'D.

STA. 51+500
REMOVE 1 - 24"x170' CMCP



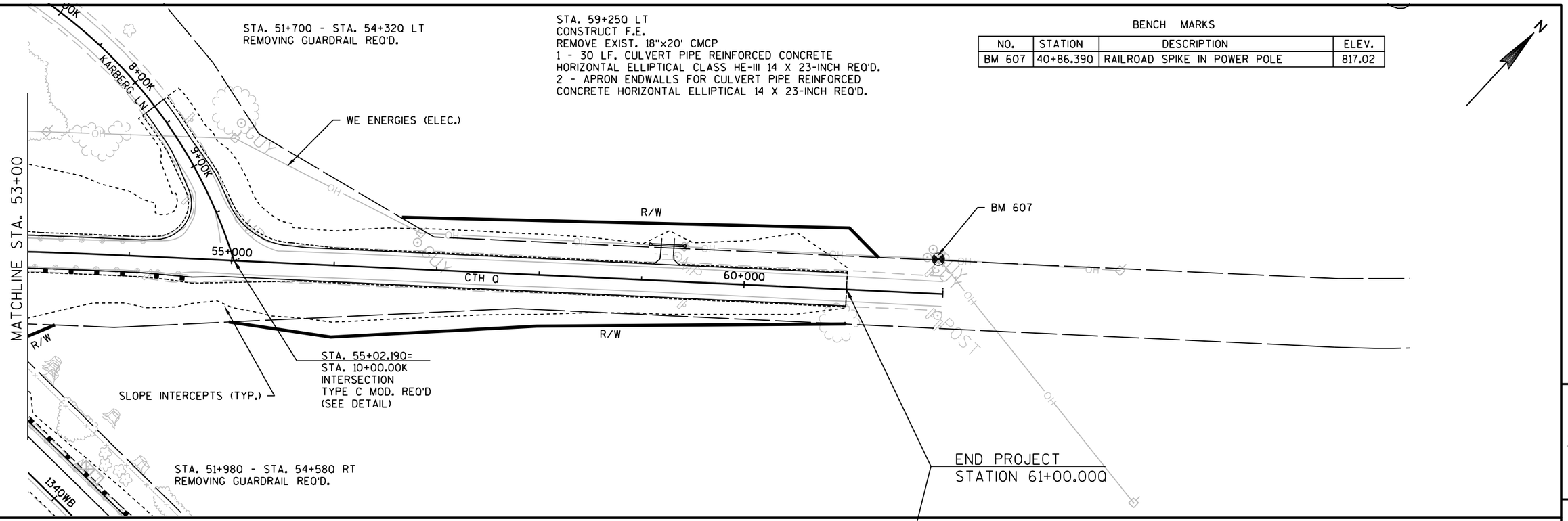
PROJECT NO: 1066-06-72	HWY: CTH Q	COUNTY: JEFFERSON	PLAN AND PROFILE: CTH Q	SHEET 63	E

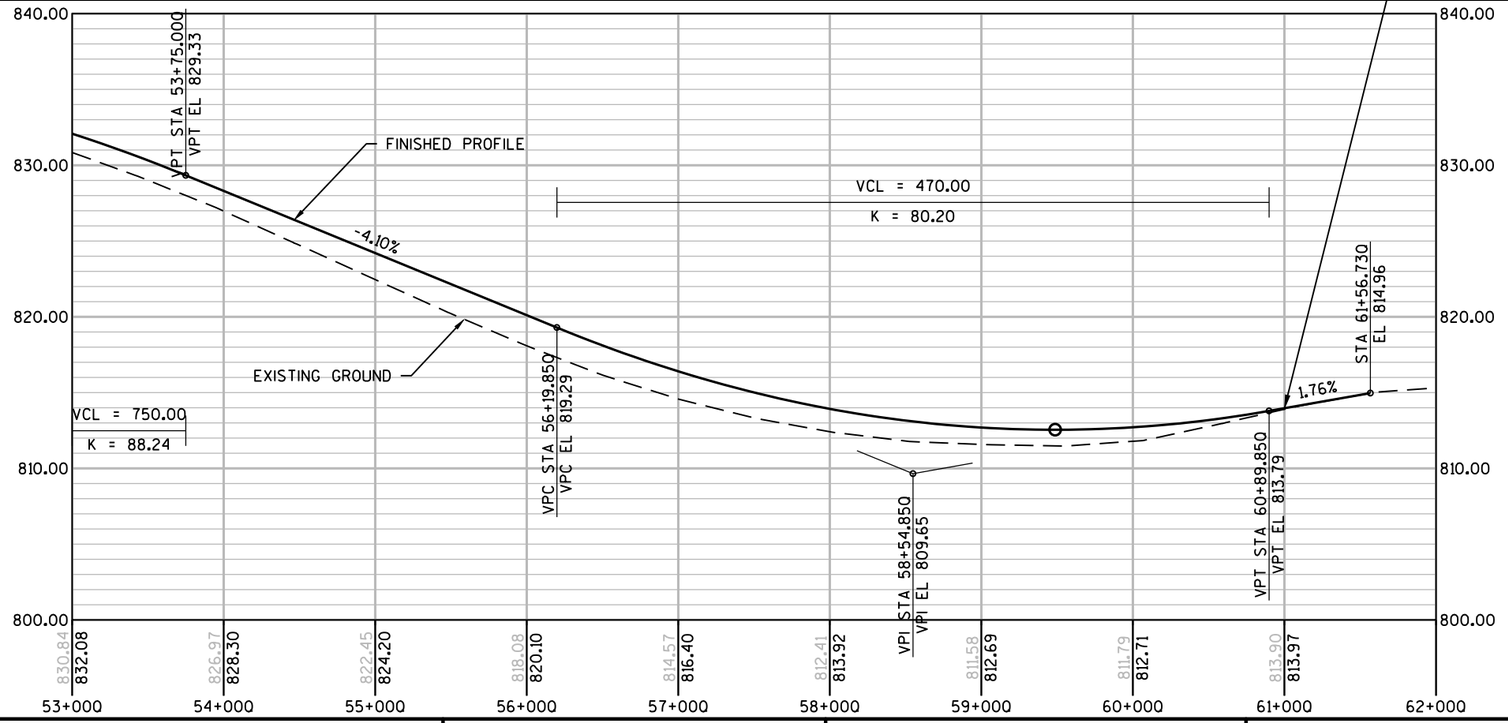
STA. 51+700 - STA. 54+320 LT
REMOVING GUARDRAIL REQ'D.

STA. 59+250 LT
CONSTRUCT F.E.
REMOVE EXIST. 18"x20' CMCP
1 - 30 LF. CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 14 X 23-INCH REQ'D.
2 - APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 14 X 23-INCH REQ'D.

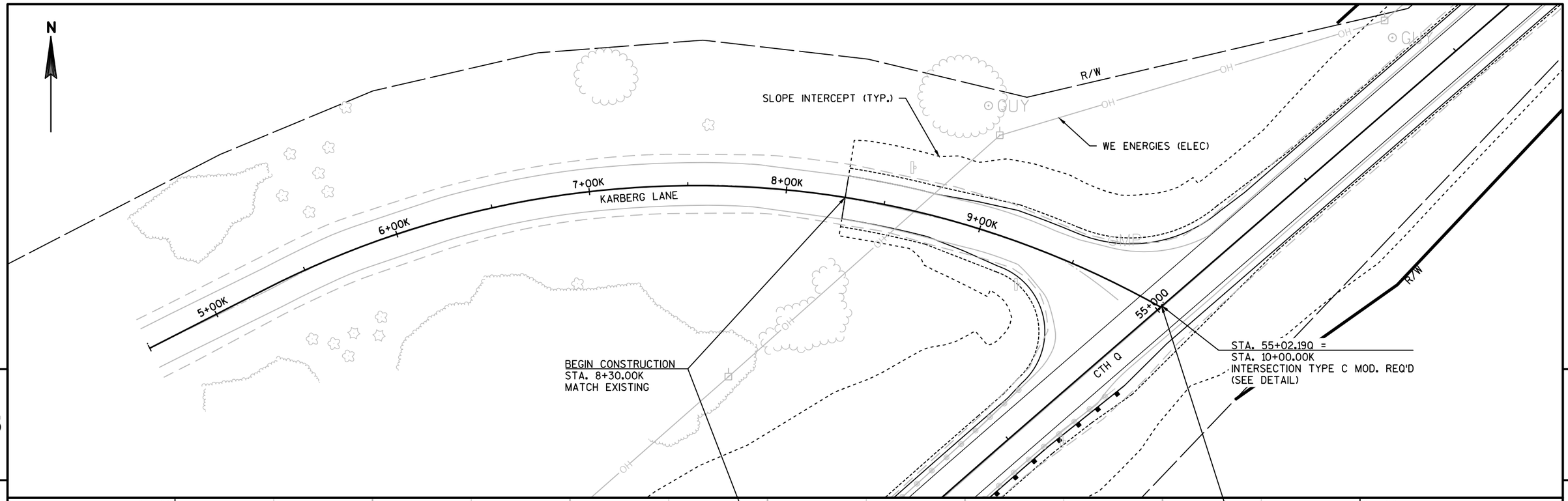
BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
BM 607	40+86.390	RAILROAD SPIKE IN POWER POLE	817.02





PROJECT NO: 1066-06-72	HWY: CTH Q	COUNTY: JEFFERSON	PLAN AND PROFILE: CTH Q	SHEET 64	E



PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	PLAN AND PROFILE: KARBERG LANE	SHEET 65	E

Standard Detail Drawing List

08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-02	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F02-01	APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
12A03-10	NAME PLATE (STRUCTURES)
13A03-06	CONCRETE PAVEMENT SHOULDERS
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
14B07-15A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15I	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B08-02A	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02B	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02C	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02D	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02E	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B26-03A	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-03B	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-03C	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-03D	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-03E	STEEL THRIE BEAM BULLNOSE TERMINAL
14B29-01	SAFETY EDGE
14B32-06A	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-06B	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-06C	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-06D	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-06E	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B33-01G	CONCRETE BARRIER SINGLE SLOPE 42" THRIE BEAM ANCHOR
14B33-01H	CONCRETE BARRIER SINGLE SLOPE 42" THRIE BEAM ANCHOR
14B42-06A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15A04-04B	DELINEATOR BRACKET WITH REFLECTIVE SHEETING
15A04-04C	DELINEATOR POST WITH REFLECTIVE SHEETING
15B01-08A	FENCE WOVEN WIRE
15B01-08B	FENCE WOVEN WIRE
15C02-07A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-07B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-07C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C08-19A	LONGITUDINAL MARKING (MAINLINE)
15C11-07B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C35-03A	PAVEMENT MARKING (INTERSECTIONS)
15D12-07B	TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS

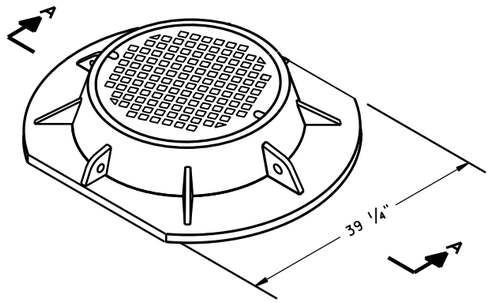
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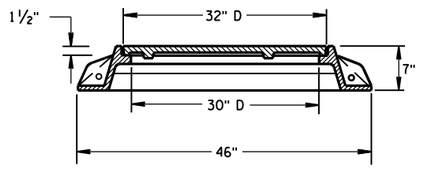
Standard Detail Drawing List

15D39-02 TRAFFIC CONTROL, DROP-OFF SIGNING

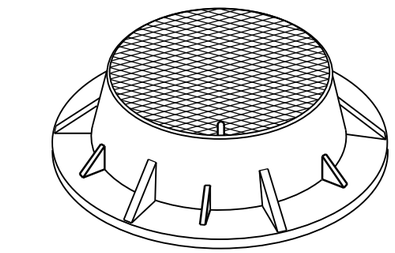
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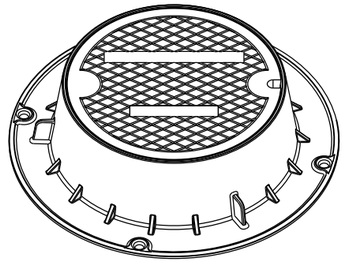
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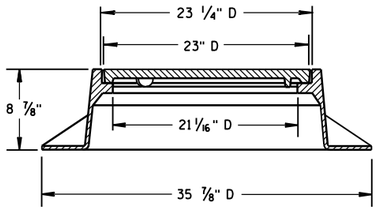


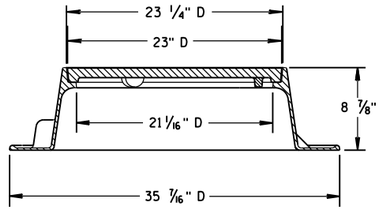


SECTION A-A
TYPE "K"









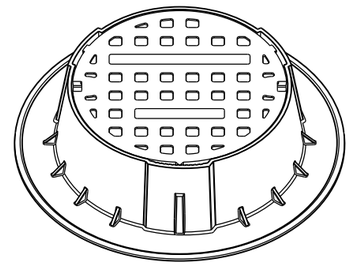
TYPE "J"
NOTE: EITHER CASTING IS ACCEPTABLE

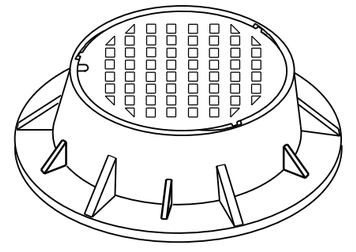
GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

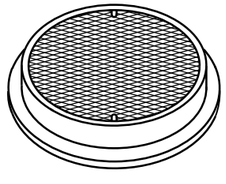
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

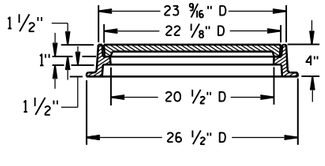
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.



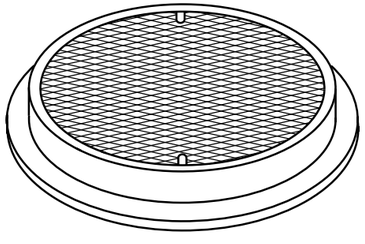


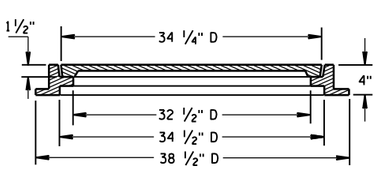
TYPE "J" SPECIAL
TYPE "B" NON-ROCKING SELF-SEAL LID
(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)
NOTE: EITHER CASTING IS ACCEPTABLE



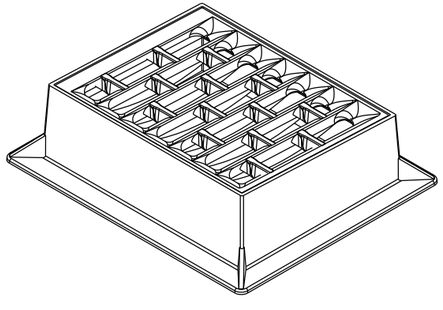


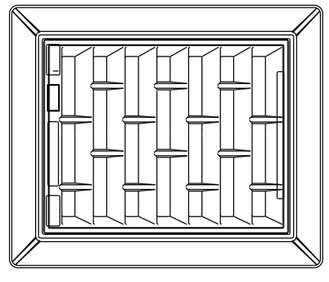
TYPE "L"

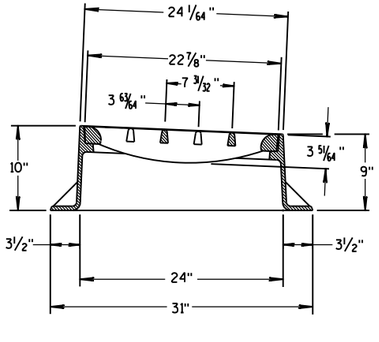


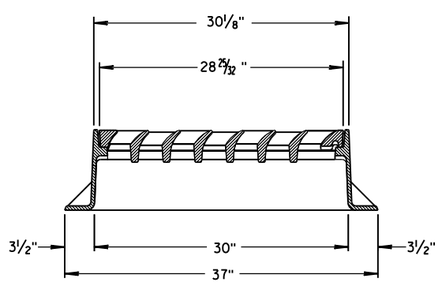


TYPE "M"









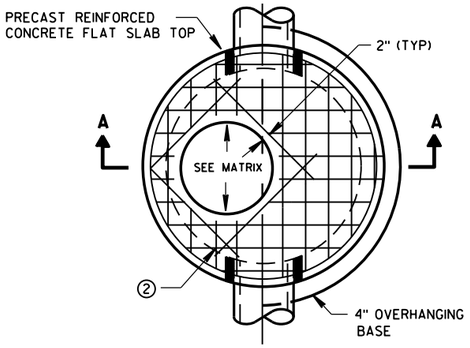
INLET COVER TYPE "BW"

INLET COVER TYPE BW
MANHOLE COVERS, TYPE K, J, J-S, L & M

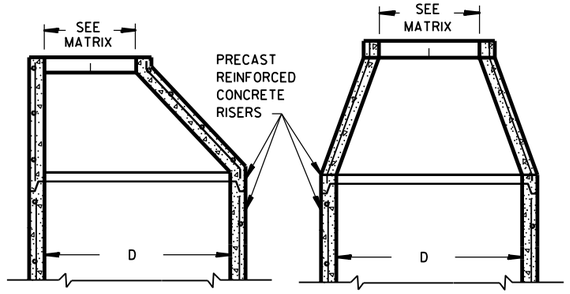
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 8 A 5-19d

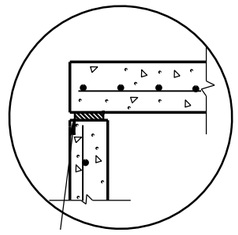


PLAN VIEW CIRCULAR OPENING

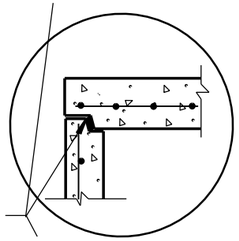


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

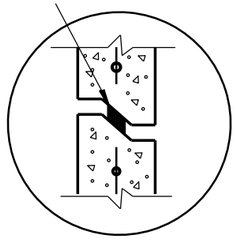


TOP WITH PLAIN END JOINT



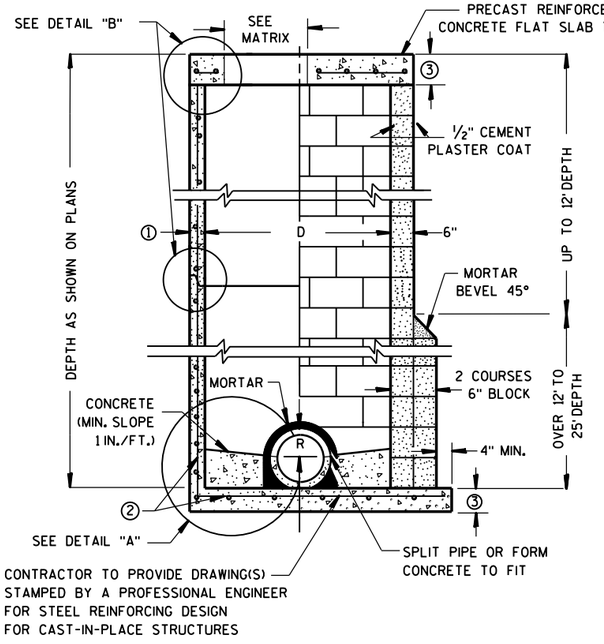
JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C990 (TYP)

TOP WITH TONGUE AND GROOVE JOINT



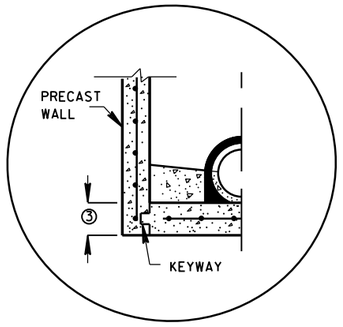
RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

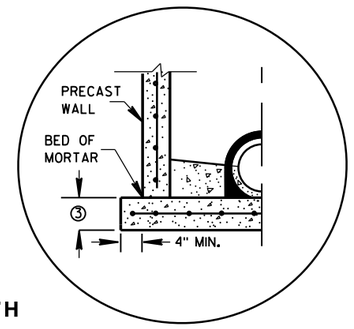


PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②

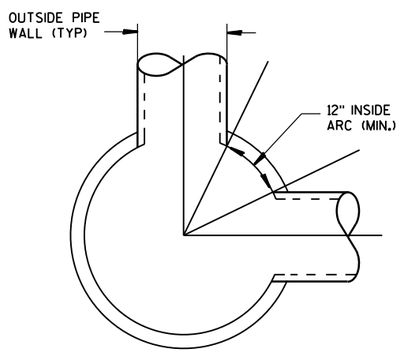


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "C"

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST MANHOLE UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATE THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

PRECAST REINFORCED CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES.

ECCENTRIC CONE TOPS MAY BE USED ON ALL STRUCTURES, AND CONCENTRIC CONE TOPS SHALL BE USED ONLY ON STRUCTURES 5 FEET OR LESS IN DEPTH, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

STEPS MEETING AASHTO M199 AND THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH: 16 INCH C-C MAXIMUM SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM LENGTH OF 10 INCHES; MINIMUM WALL EMBEDMENT OF 3 INCHES. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF ½" AND MEET THE REQUIREMENTS OF ASTM A615.

CERTIFICATION SHALL BE PROVIDED THAT INSTALLED STEPS WHEN TESTED IN ACCORDANCE WITH SECTION 10 OF AASHTO T280 CAN WITHSTAND A VERTICAL LOAD OF 800 LBS. AND A HORIZONTAL LOAD OF 400 LBS.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

CONCRETE BLOCK WILL NOT BE PERMITED FOR STRUCTURES GREATER THAN 4 FEET IN DIAMETER.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

ALL PRECAST MANHOLE UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M 199.

4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

① MINIMUM WALL THICKNESS SHALL BE 4 INCHES FOR 3-FT, 5 INCHES FOR 4-FT, 6 INCHES FOR 5-FT, 7 INCHES FOR 6-FT, 8 INCHES FOR 7-FT AND 9 INCHES FOR 8-FT DIAMETER PRECAST MANHOLES.

② FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

③ PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER OF 48" AND LESS SHALL HAVE A MINIMUM THICKNESS OF 6". PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER LARGER THAN 48" SHALL HAVE A MINIMUM THICKNESS OF 8".

MANHOLE COVER OPENING MATRIX

MANHOLE COVER TYPE	C	ALL J'S	K	L	M
OPENING SIZE (FT)					
2 DIA.	X	X		X	
3 DIA.			X		X

PIPE MATRIX

MANHOLE SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18
5-FT	36	24
6-FT	42	36
7-FT	48	36
8-FT	60	42

MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

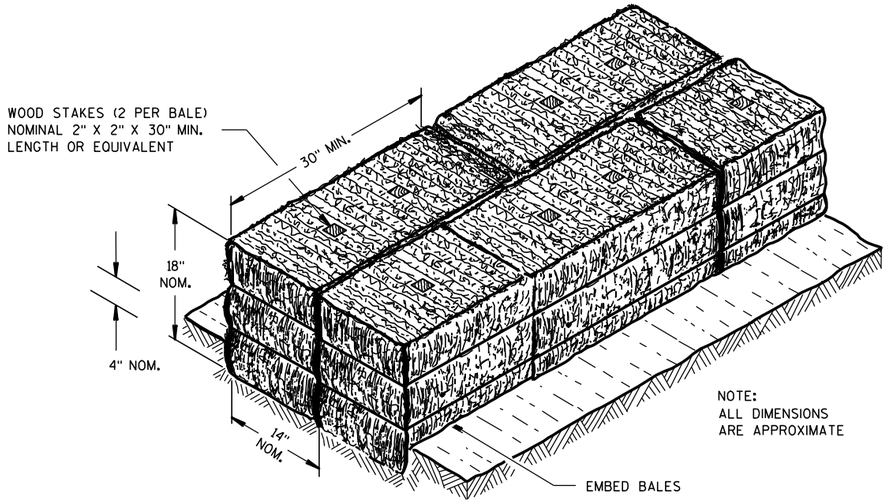
APPROVED

Sept., 2016
DATE

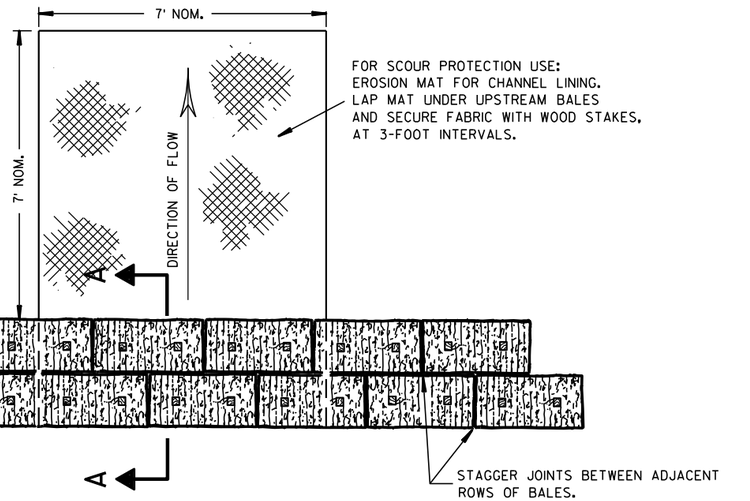
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERV

FHWA

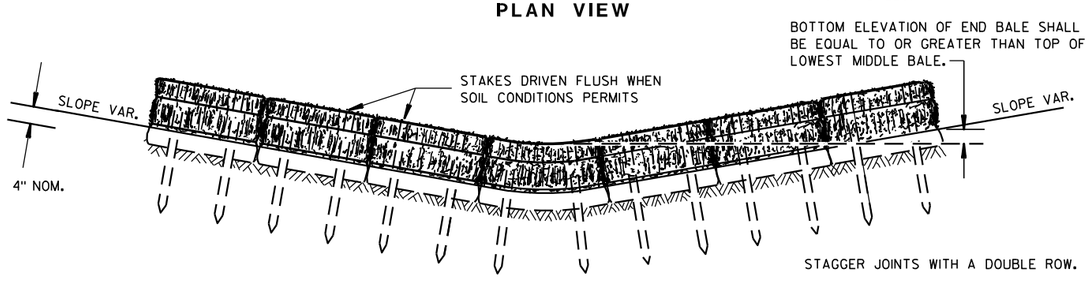
6
S.D.D. 8 B 9-2



SECTION A-A



PLAN VIEW



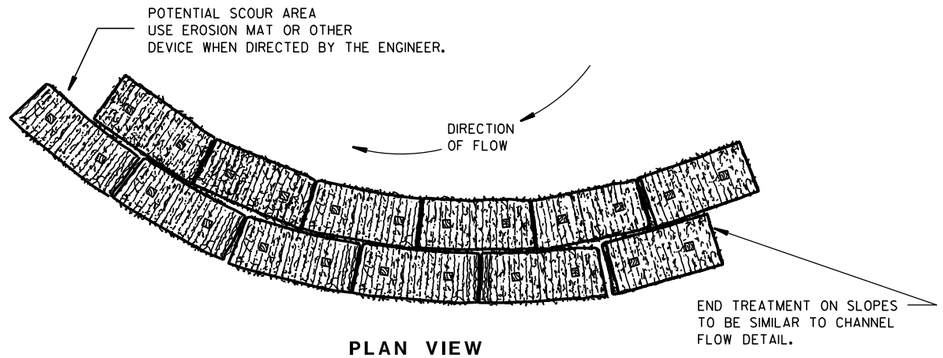
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

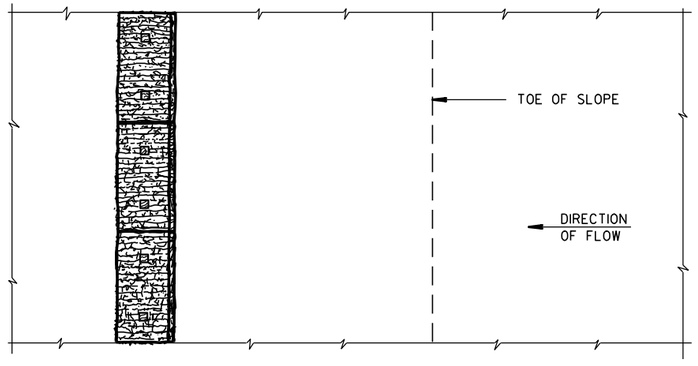
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

① TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

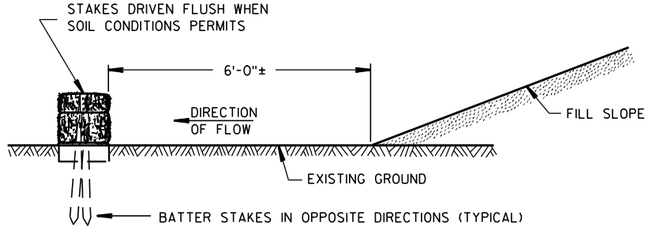


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

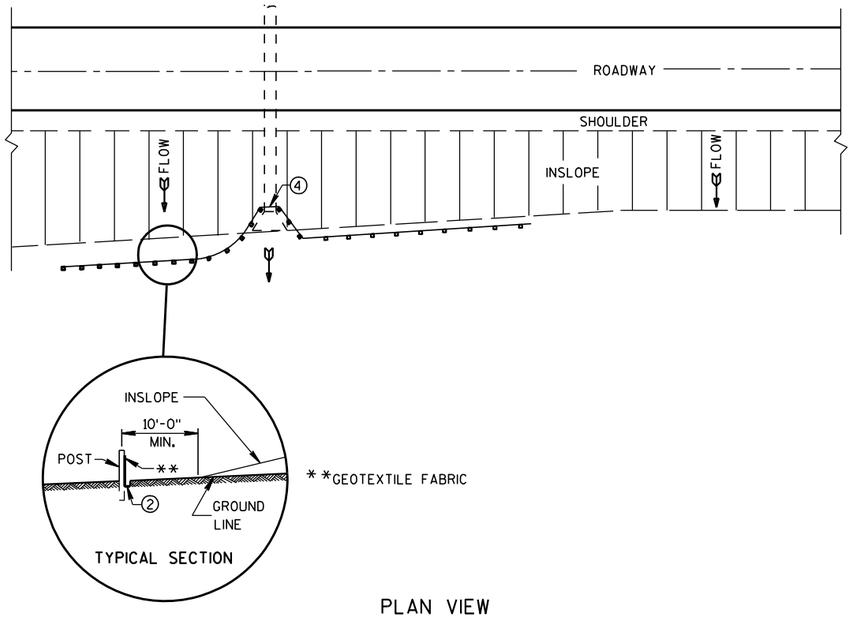
APPROVED
6/04/02 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 E 8-3

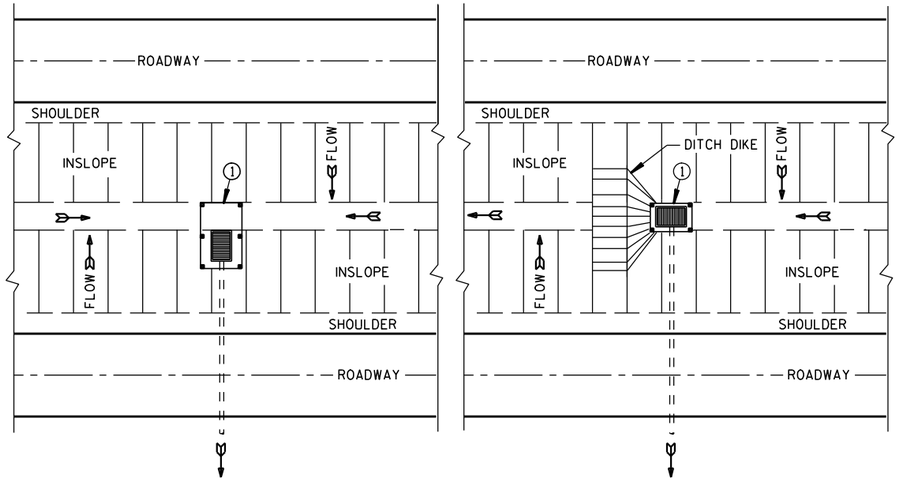
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S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



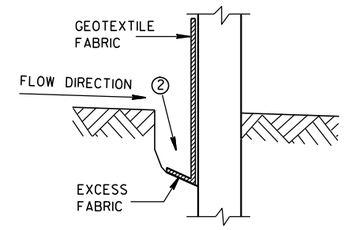
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

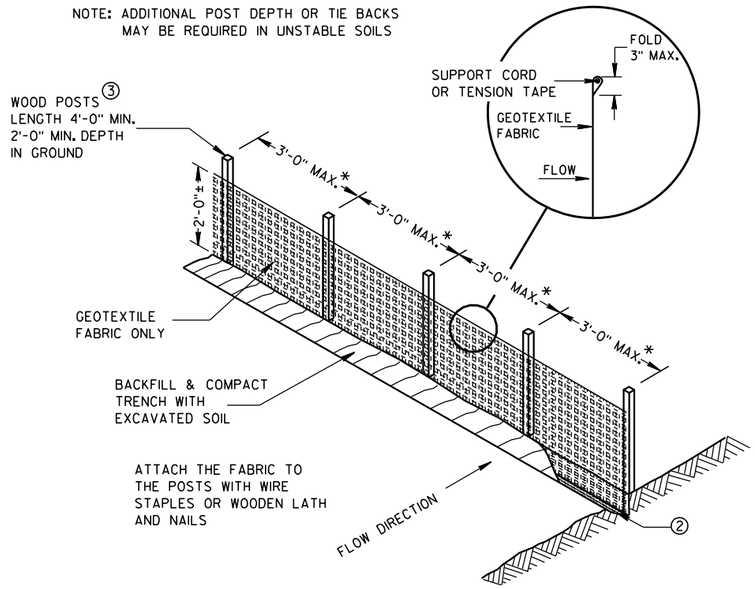
GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

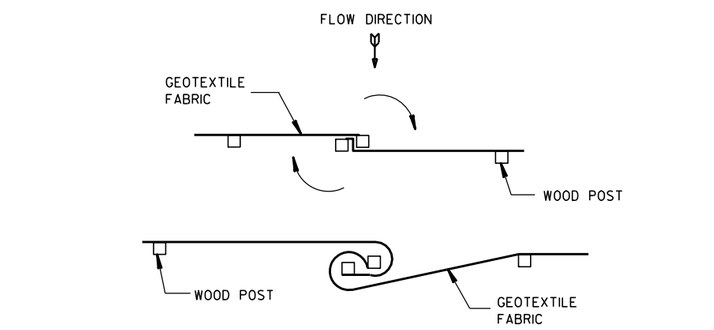
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.
4. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
5. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



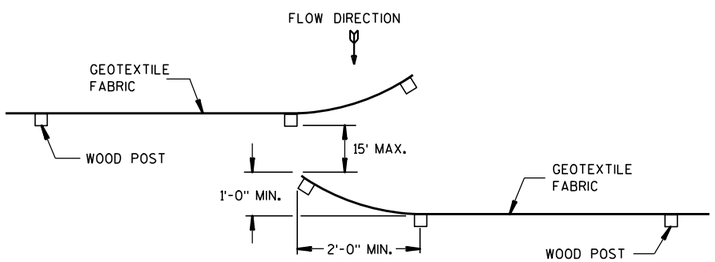
TRENCH DETAIL



SILT FENCE

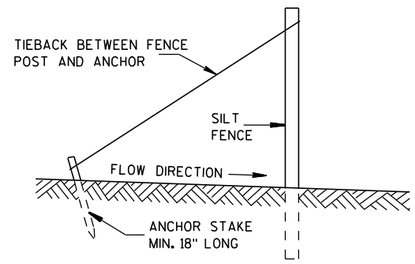


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

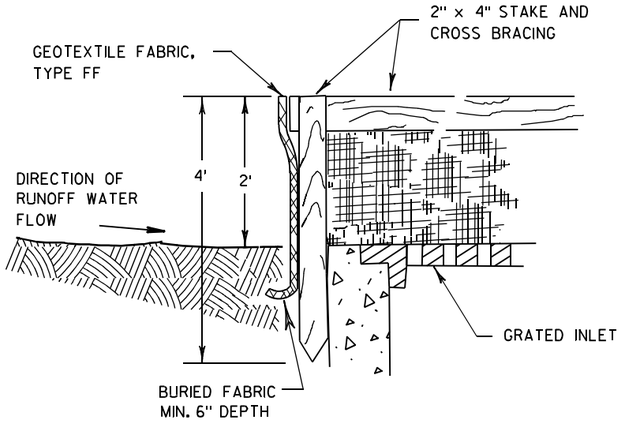
SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
4-29-05 DATE	/S/ Beth Cannestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	

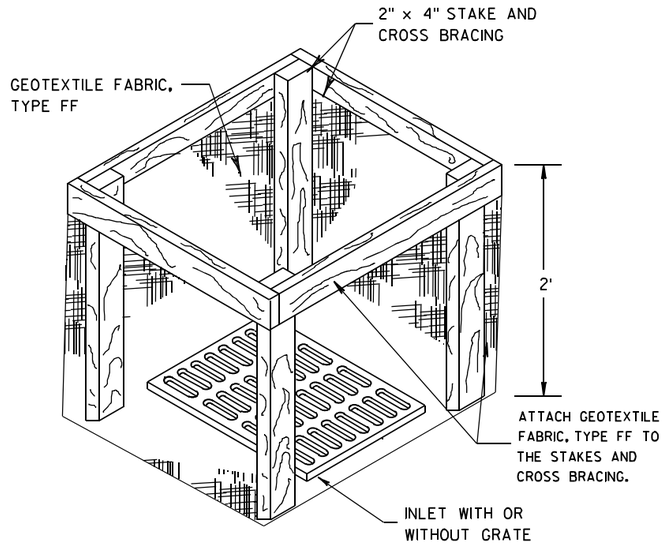
6

S.D.D. 8 E 9-6

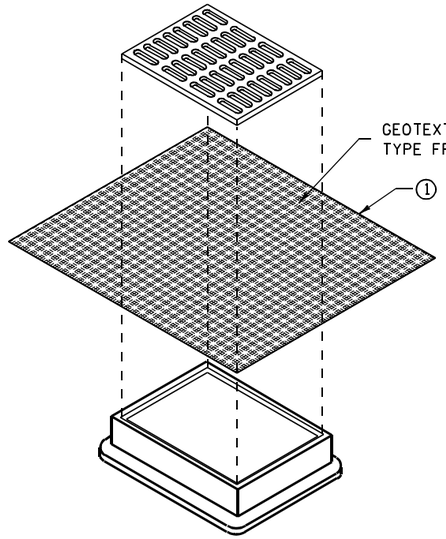
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S.D.D. 8 E 9-6



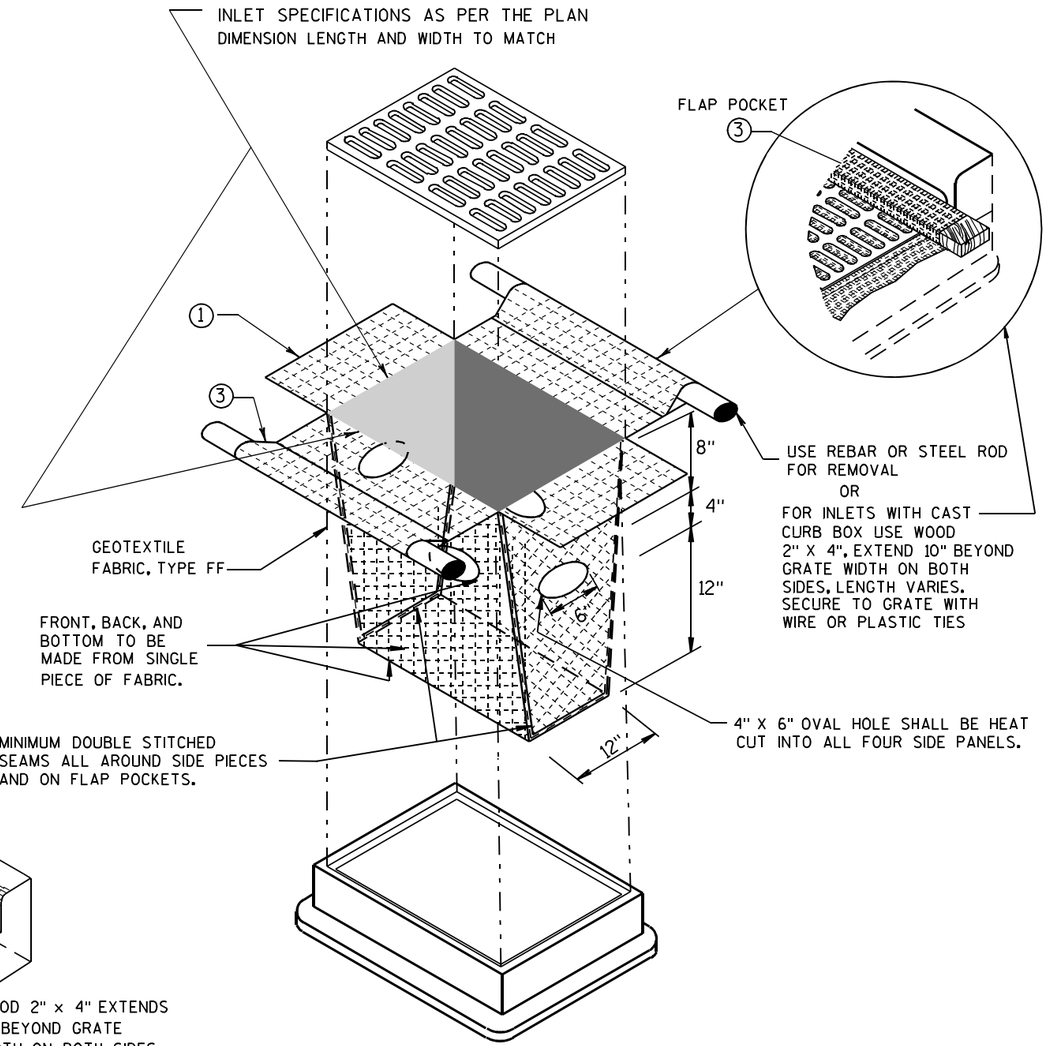


INLET PROTECTION, TYPE A



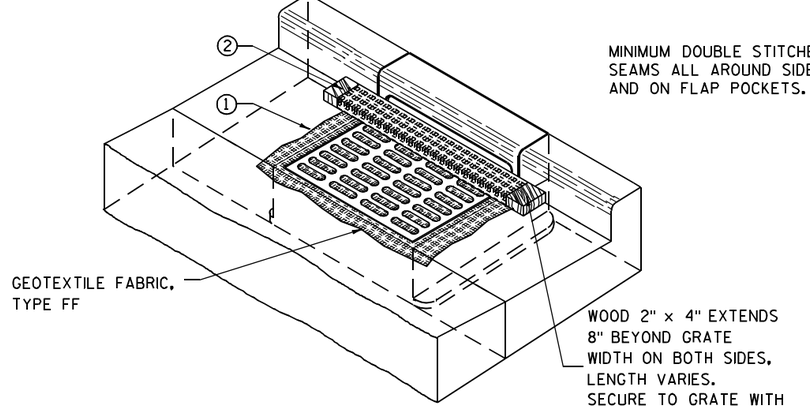
INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE D

(CAN BE INSTALLED IN ANY INLET TYPE WITH
OR WITHOUT A CURB BOX AS PER NOTE ②)



INLET PROTECTION, TYPE C (WITH CURB BOX)

GENERAL NOTES

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

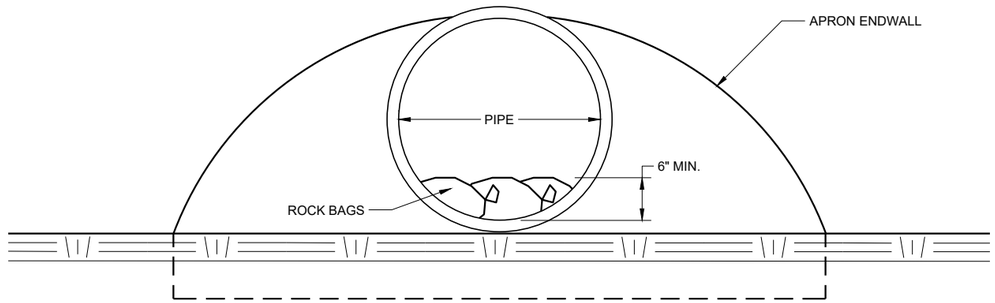
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

INLET PROTECTION
TYPE A, B, C, AND D

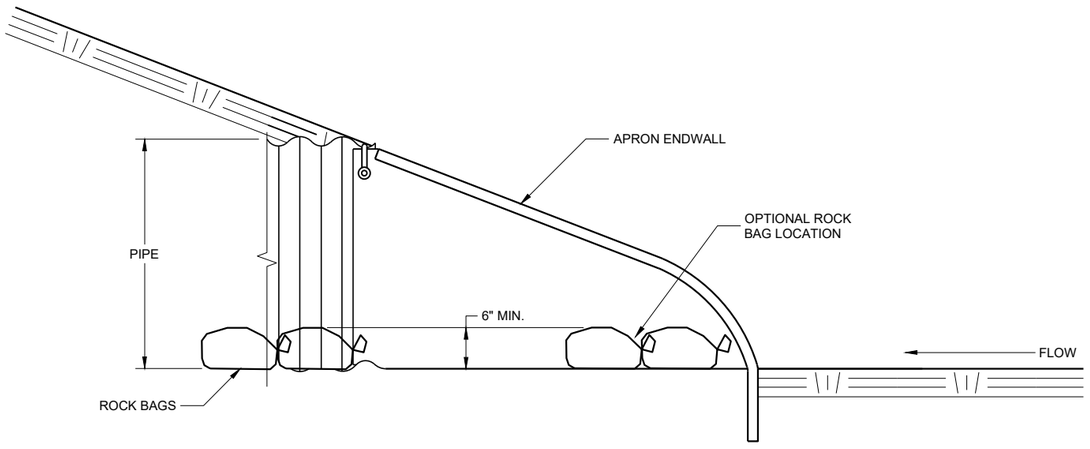
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/16/02
DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 8 E 10-2



END □ IE□



SIDE □ IE□

CUL□ ERT PIPE C□ EC□

(INSTALL ON INLET END ONLY)

6

SDD 0□E15 - 01

6

SDD 0□E15 - 01

CUL□ ERT PIPE C□ EC□

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019
DATE

/S/ Daniel Schave
EROSION CONTROL ENGI

FHWA

METAL APRON ENDWALLS

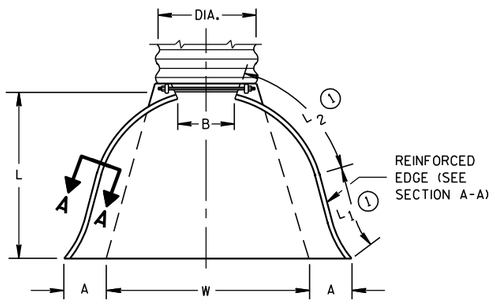
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.
60	.109×	.105×	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109×	.105×	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109×	.105×	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109×	.105×	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109×	.105×	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109×	.105×	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109×	.105×	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

× EXCEPT CENTER PANEL SEE GENERAL NOTES

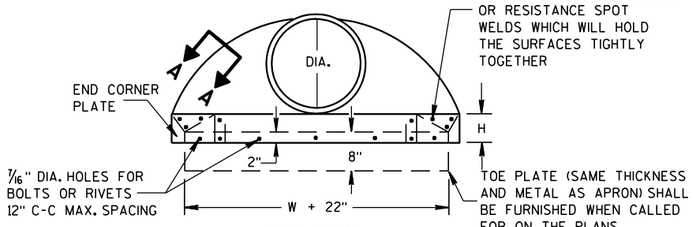
REINFORCED CONCRETE APRON ENDWALLS

PIPE DIA. (IN.)	DIMENSIONS (Inches) T	A	B	C	D	E	G	APPROX. SLOPE
12	2	4	24	48 7/8	72 1/8	24	2	3 to 1
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1
48	5	24	72	26	98	84	5	3 to 1
54	5 1/2	27	65	* 33 1/4 - ** 35	* 98 1/4 - ** 100	90	5 1/2	2 2/5 to 1
60	6	* 30 - ** 35	60	39	99	96	5	2 to 1
66	6 1/2	* 24 - ** 30	* 72 - ** 78	* 21 - ** 27	99	102	5 1/2	2 to 1
72	7	* 24 - ** 36	78	21	99	108	6	2 to 1
78	7 1/2	* 24 - ** 36	78	21	99	114	6 1/2	2 to 1
84	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2 to 1
90	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	1 1/2 to 1

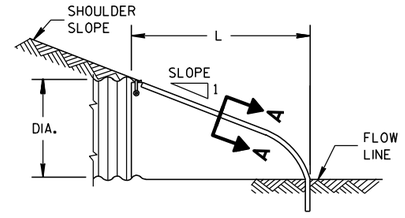
*MINIMUM
**MAXIMUM



PLAN VIEW

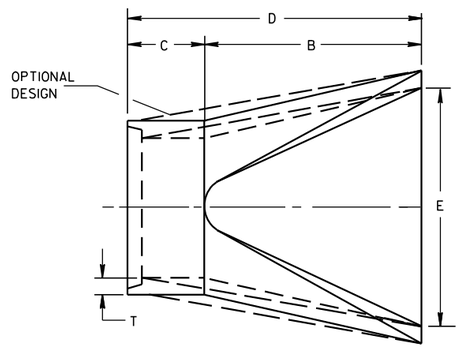


END VIEW

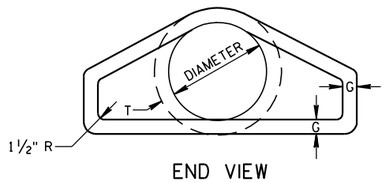


SIDE ELEVATION

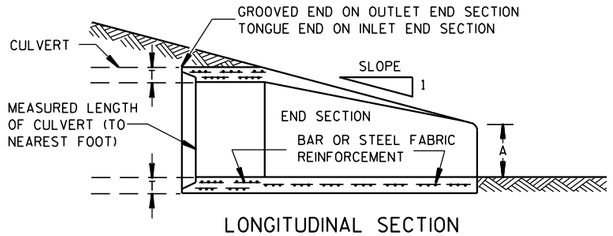
METAL ENDWALLS



PLAN

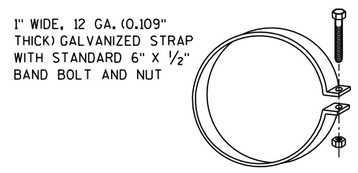


END VIEW



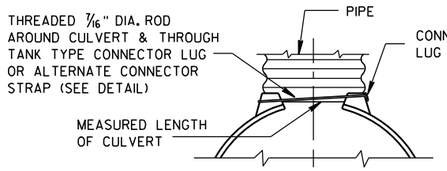
LONGITUDINAL SECTION

CONCRETE ENDWALLS

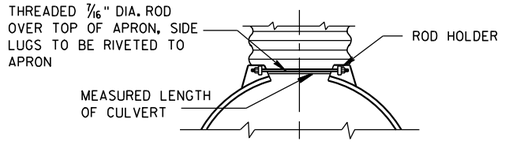


ALTERNATE FOR TYPE 1 CONNECTION

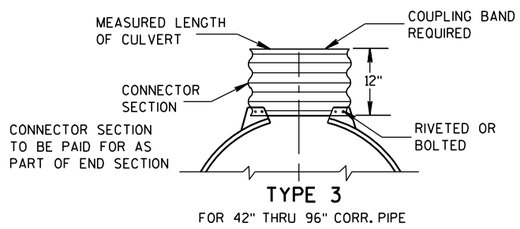
END SECTION CONNECTOR STRAP



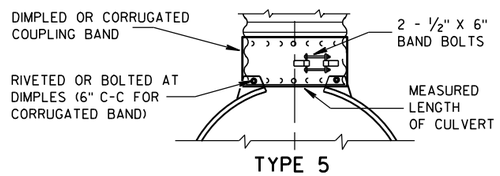
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

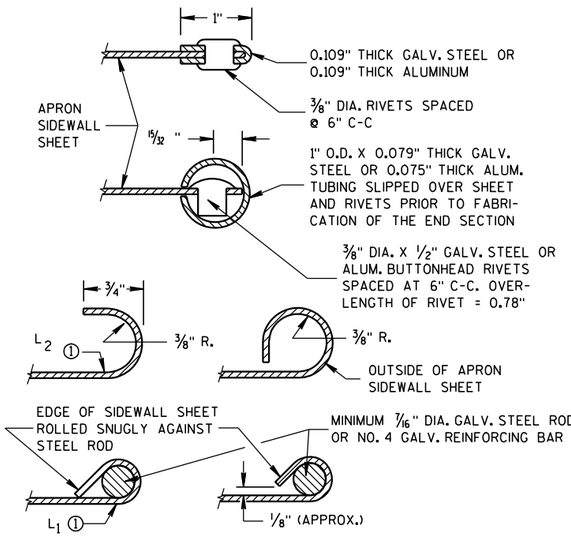
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

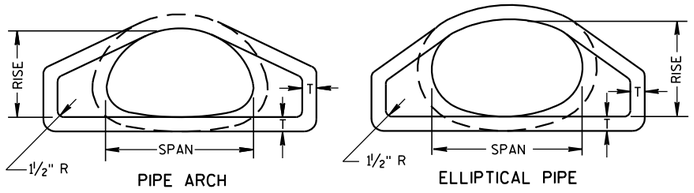
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

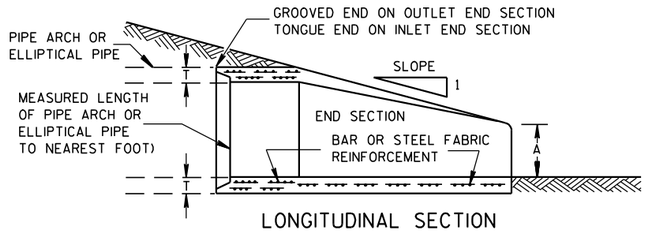
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/94 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

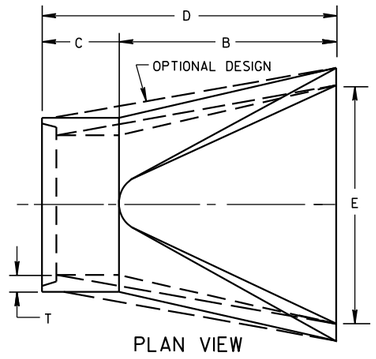
6
S.D.D. 8 F 1-11



END VIEW

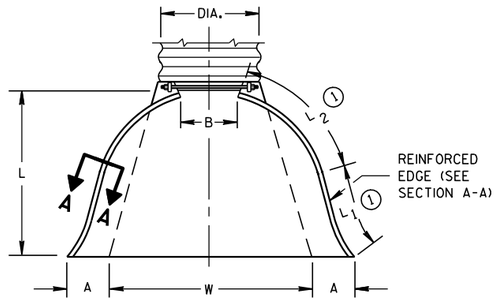


LONGITUDINAL SECTION

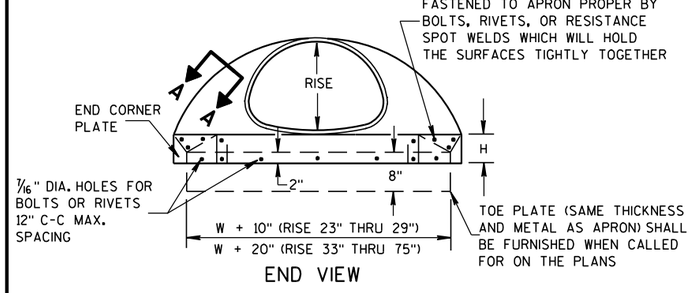


PLAN VIEW

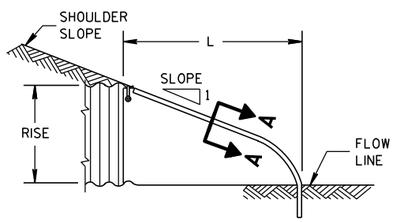
CONCRETE ENDWALLS



PLAN VIEW

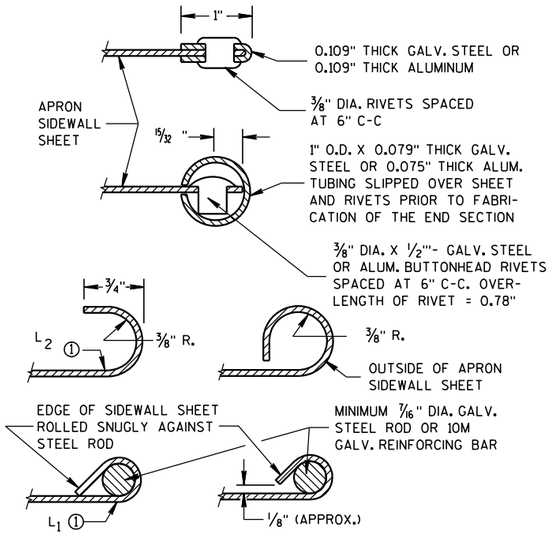


END VIEW



SIDE ELEVATION

METAL ENDWALLS



SECTION A-A

2- 2/3" X 1/2" CORRUGATIONS

EQUIV. DIA. (Inches)	(Inches) SPAN	(Inches) RISE	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
15	17	13	.064	.060	7	9	6	19	14	16	30	2½ to 1	1 Pc.
18	21	15	.064	.060	7	10	6	23	14	19⅜	36	2½ to 1	1 Pc.
21	24	18	.064	.060	8	12	6	28	18	21¾	42	2½ to 1	1 Pc.
24	28	20	.064	.060	9	14	6	32	18	27½	48	2½ to 1	1 Pc.
30	35	24	.079	.075	10	16	6	39	18	37⅝	60	2½ to 1	1 Pc.
36	42	29	.079	.075	12	18	8	46	24	45⅜	75	2½ to 1	1 Pc.
42	49	33	.109	.105	13	21	9	53	24	54¾	85	2½ to 1	2 Pc.
48	57	38	.109	.105	18	26	12	63	24	68	90	2½ to 1	3 Pc.
54	64	43	.109	.105	18	30	12	70	24	72¾	102	2¼ to 1	3 Pc.
60	71	47	.109*	.105*	18	33	12	77	30	82¼	114	2¼ to 1	3 Pc.
66	77	52	.109*	.105*	18	36	12	77	—	—	126	2 to 1	3 Pc.
72	83	57	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.

3" X 1" CORRUGATIONS

EQUIV. DIA. (Inches)	(Inches) SPAN	(Inches) RISE	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
48	53	41	.109	.105	18	26	12	63	24	72¾	90	2½ to 1	2 Pc.
54	60	46	.109	.105	18	30	12	70	30	82¼	102	2 to 1	2 Pc.
60	66	51	.109*	.105*	18	33	12	77	—	—	114	1½ to 1	3 Pc.
66	73	55	.109*	.105*	18	36	12	77	—	—	126	1½ to 1	3 Pc.
72	81	59	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.
78	87	63	.109*	.105*	22	38	12	77	—	—	148	1½ to 1	3 Pc.
84	95	67	.109*	.105*	22	34	12	77	—	—	162	1½ to 1	3 Pc.
90	103	71	.109*	.105*	22	38	12	77	—	—	174	1½ to 1	3 Pc.
96	112	75	.109*	.105*	24	40	12	77	—	—	174	1½ to 1	3 Pc.

NOTE: ALL SPLICES TO BE LAP RIVETED OR BOLTED.

* EXCEPT CENTER PANEL SEE GENERAL NOTES

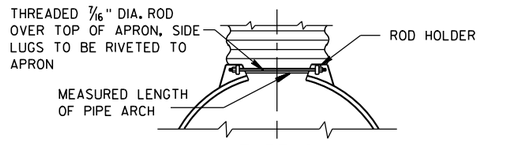
REINFORCED CONCRETE PIPE ARCH

EQUIV. DIA. (Inches)	DIMENSIONS (Inches) ** SPAN	** RISE	T	A	B	C	D	E	APPROX. SLOPE
24	29	18	3	8½	39	33	72	48	3 to 1
30	36	22	3½	9½	50	46	96	60	3 to 1
36	44	27	4	11⅛	60	36	96	72	3 to 1
42	51	31	4½	15 13/16	60	36	96	78	3 to 1
48	58	36	5	21	60	36	96	84	3 to 1
54	65	40	5½	25½	60	36	96	90	3 to 1
60	73	45	6	31	60	36	96	96	3 to 1
72	88	54	7	31	60	39	99	120	2 to 1
84	102	62	8	28½	83	19	102	144	2 to 1

REINFORCED CONCRETE ELLIPTICAL PIPE

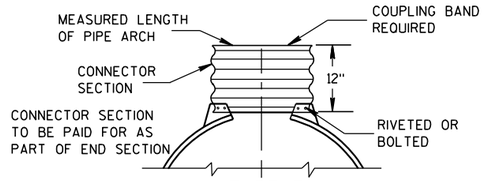
EQUIV. DIA. (Inches)	DIMENSIONS (Inches) ** SPAN	** RISE	T	A	B	C	D	E	APPROX. SLOPE
24	30	19	3¼	8½	39	33	72	48	3 to 1
30	38	24	3¾	9½	54	18	72	60	3 to 1
36	45	29	4½	11⅛	60	24	84	72	2½ to 1
42	53	34	5	15¾	60	36	96	78	2½ to 1
48	60	38	5½	21	60	36	96	84	2½ to 1
54	68	43	6	25½	60	36	96	90	2½ to 1
60	76	48	6½	30	60	36	96	96	2½ to 1

**NOMINAL SIZE



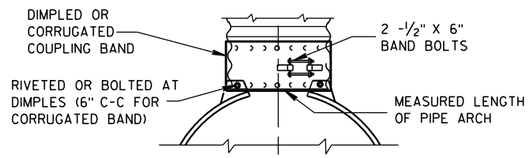
TYPE 2

FOR 17" X 13" THRU 112" X 75" PIPE ARCH



TYPE 3

FOR 64" X 43" THRU 112" X 75" PIPE ARCH



TYPE 5

ALTERNATE FOR:

ALL SIZES CORRUGATED PIPE ARCHES

NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL.

CONNECTION DETAILS

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

CONCRETE APRON ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM APRON ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 66" X 51" PIPE ARCH AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 66" X 51" PIPE ARCH AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE ARCH PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 77" X 52" THROUGH 112" X 75" APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

① FOR PIPE ARCH SIZES UP TO 73" X 55" A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

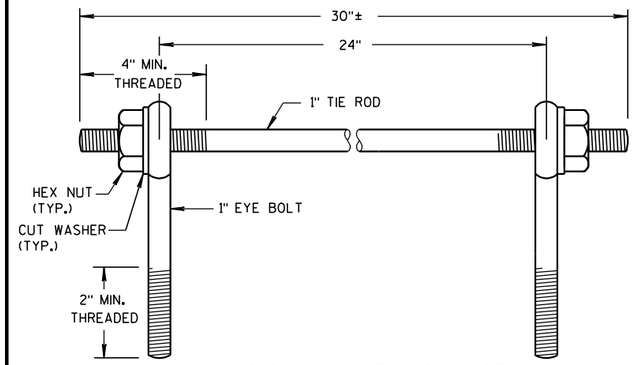
11/30/94 — DATE

/S/ Rory L. Rhinesmith — CHIEF ROADWAY DEVELOPMENT ENGINEER

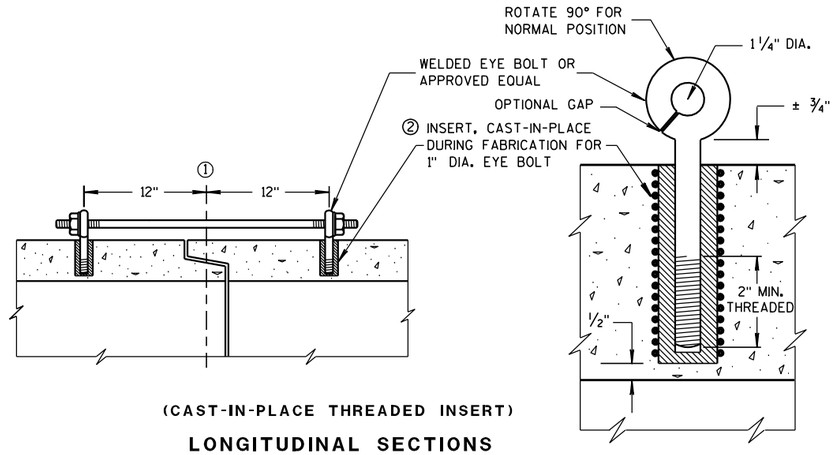
FHWA

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S.D.D. 8 F 2-1



EYE BOLTS AND TIE ROD



(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

① ℄ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

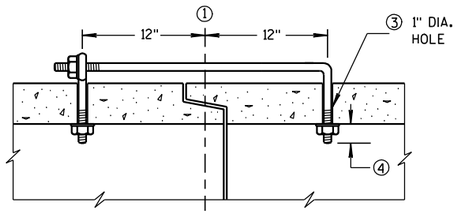
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12 INCHES FROM ℄ OF TONGUE AND GROOVE.

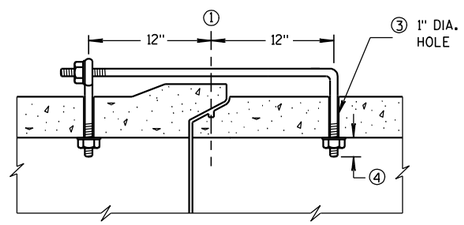
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.



(TONGUE & GROOVE PIPE)

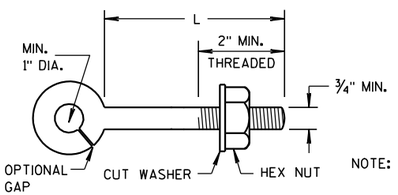


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

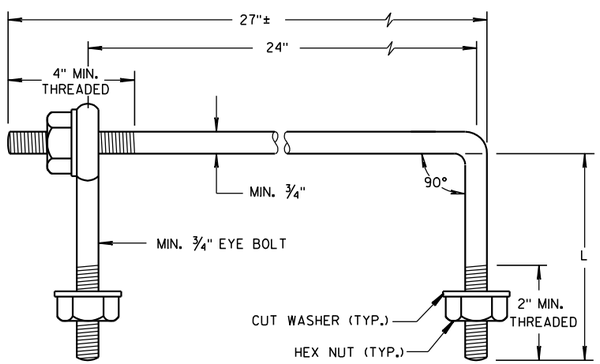
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



NOTE:

EYE BOLT

NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD

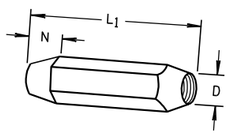
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

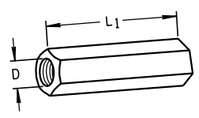
ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12-60	5/8	5/8	5	1/2
66-84	3/4	3/4	5	1/2
90-108	1	1	7	1 1/16

DIMENSIONS SHOWN ARE IN INCHES



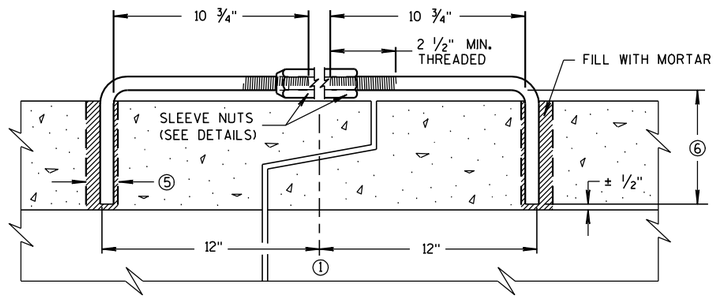
TAPERED



PLAIN

RIGHT AND LEFT THREADS

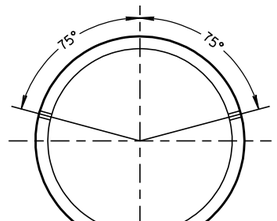
SLEEVE NUTS



LONGITUDINAL SECTION

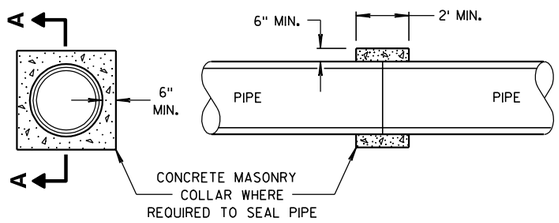
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION



SECTION A-A

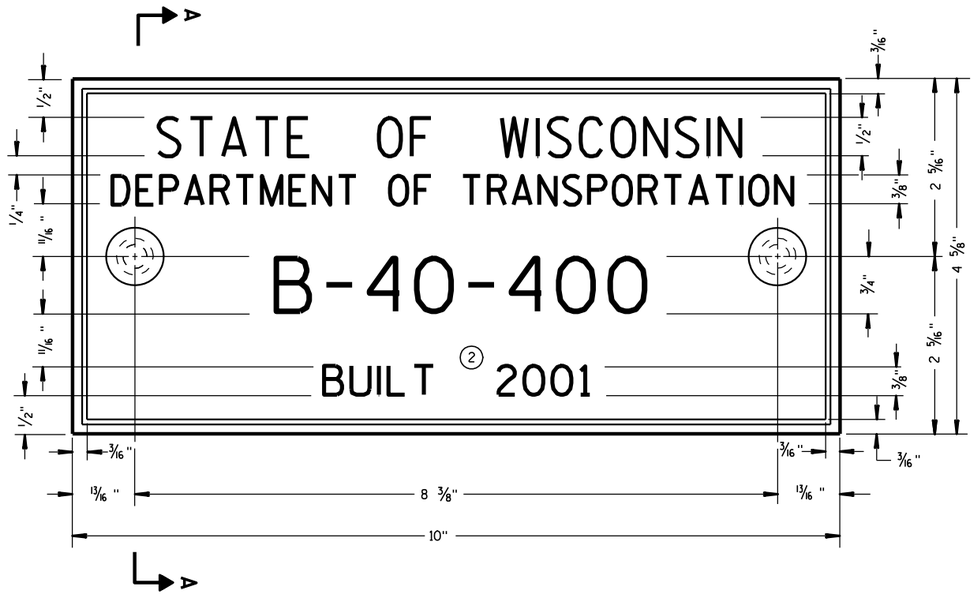
CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6 S.D.D. 8 F 4-7



TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)

FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

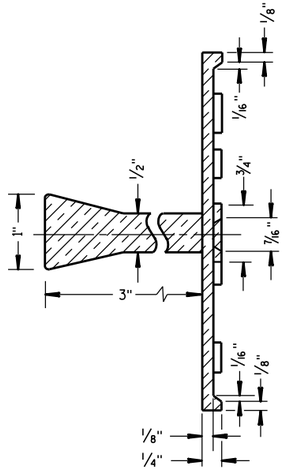
GENERAL NOTES

NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

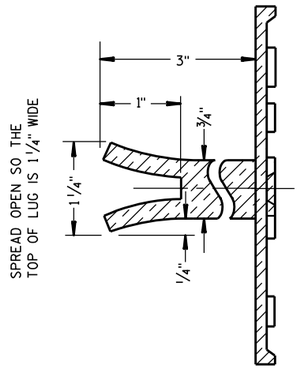
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

(1) EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

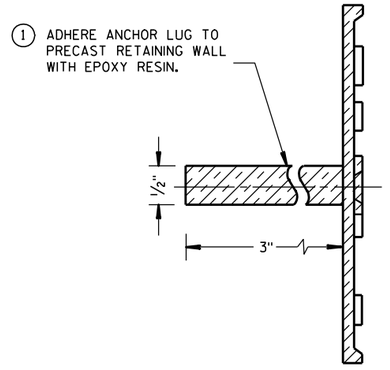
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10 DATE

/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOP 77 ENGINEER

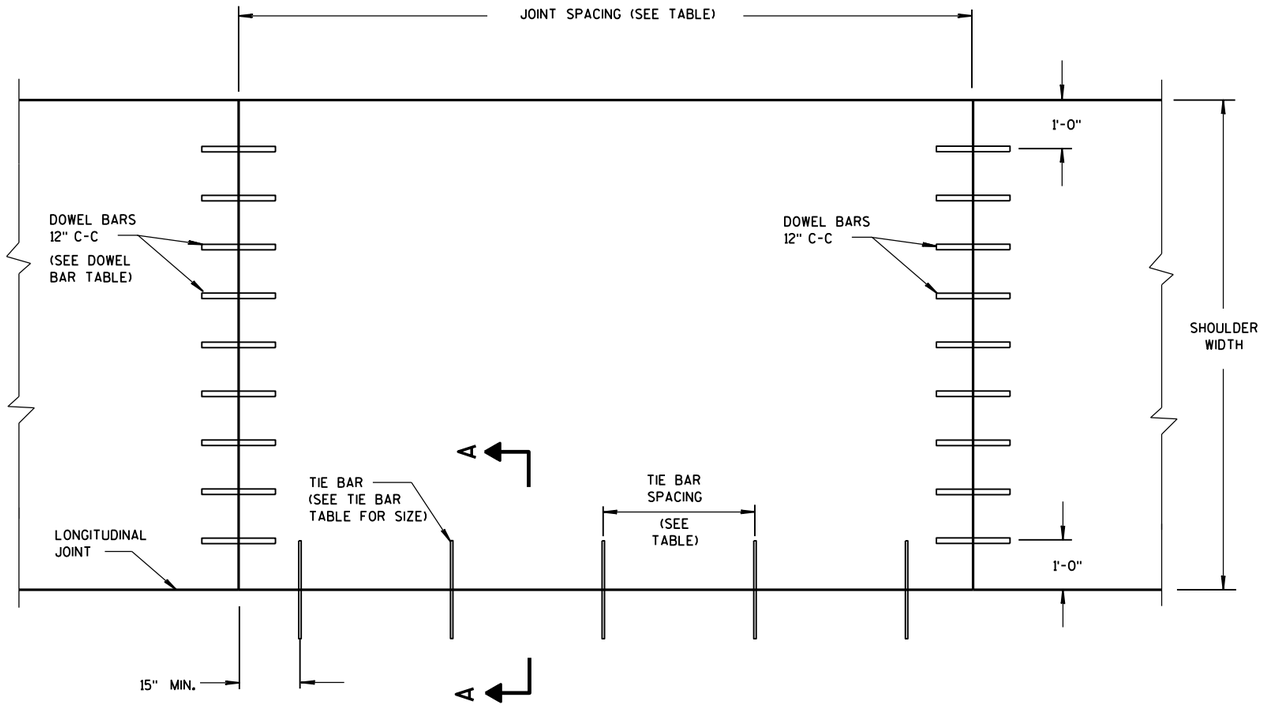
FHWA

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S.D.D. 12 A 3-10

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S.D.D. 12 A 3-10



PLAN VIEW

CONCRETE PAVEMENT SHOULDER

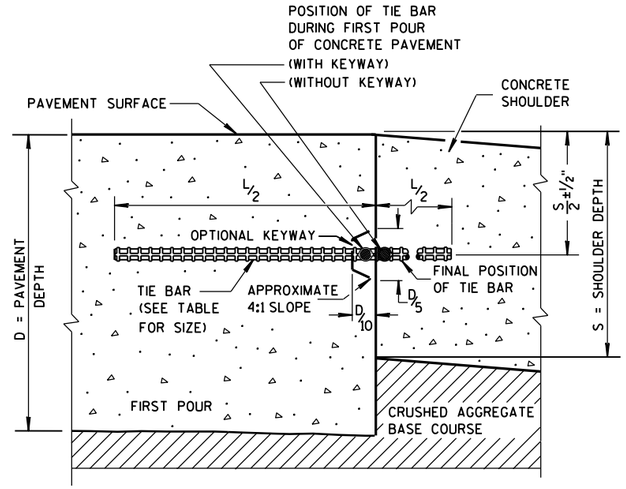
GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

TRANSVERSE JOINT DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

FINISH THE SHOULDER PAVEMENT CONFORMING TO SUBSECTION 415.3.8 OF THE STANDARD SPECIFICATIONS.

TIE BARS SHALL CONFORM TO SUBSECTION 505.2.4 OF THE STANDARD SPECIFICATIONS.



SECTION A-A

LONGITUDINAL CONSTRUCTION JOINT

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 ½"	NO. 4	30"	36"
≥ 10 ½"	NO. 5	36"	36"
	NO. 4*	30"	24"**

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER***	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'

*** FOR DOWELED CONCRETE SHOULDERS WITH TRAPEZOIDAL CROSS SECTIONS, CHOSE THE APPROPRIATE DOWEL BAR DIAMETER BASED ON THE SMALLER PAVEMENT DEPTH (LIKELY THE OUTSIDE EDGE OF THE SHOULDER). IF USING BASKETS, USE BASKETS FOR THE AVERAGE THICKNESS OF THE CROSS SECTION.

CONCRETE PAVEMENT SHOULDERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

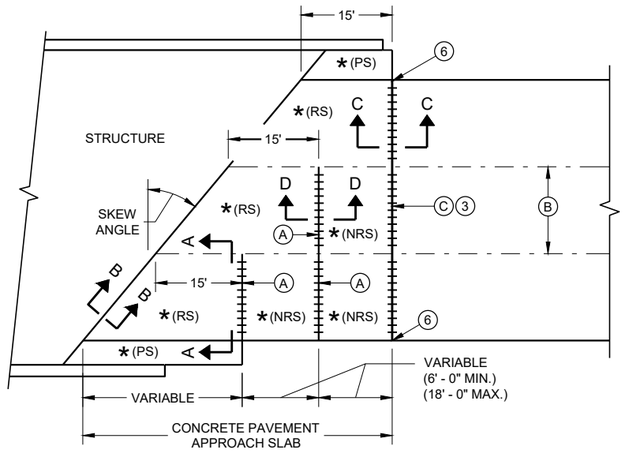
APPROVED
June, 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPERV
FHWA

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S.D.D. 13 A 3-6

6

S.D.D. 13 A 3-6



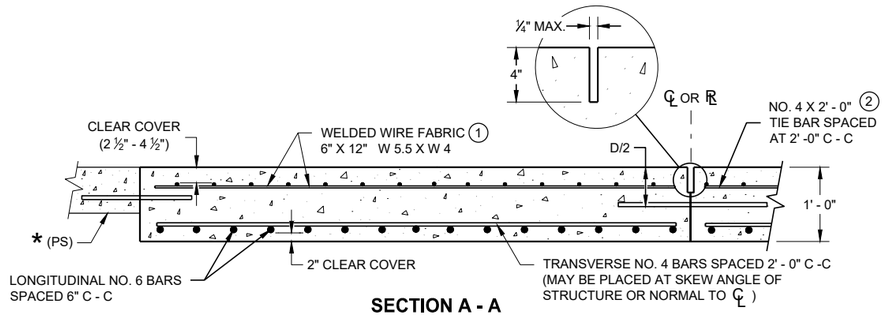
SKEWED APPROACH
(PAVEMENT MORE THAN TWO LANES)

(RS) = REINFORCED CONCRETE SLAB

(PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB

(NRS) - NON - REINFORCED CONCRETE SLAB

*** STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11 AND SDD 13C13)



SECTION A - A
REINFORCEMENT POSITIONING DETAIL

GENERAL NOTES

THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

(1) THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2' - 0 " C - C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

(2) THE CONTRACTOR MAY OMIT THE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.

(3) DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

(4) USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.

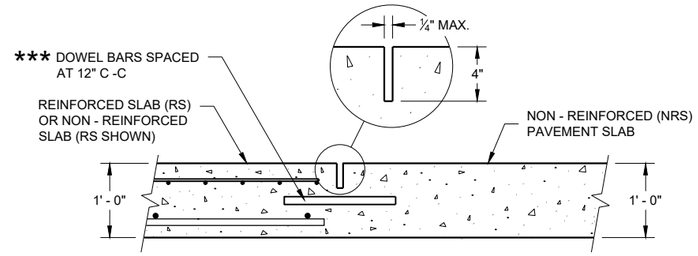
(5) PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.

(6) EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.

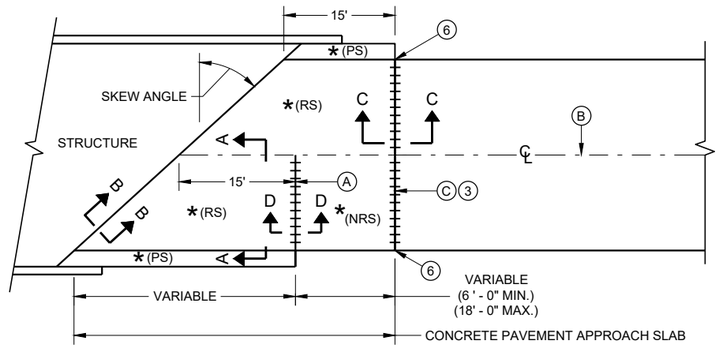
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℞.

(B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.

(C) 1 ½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℞

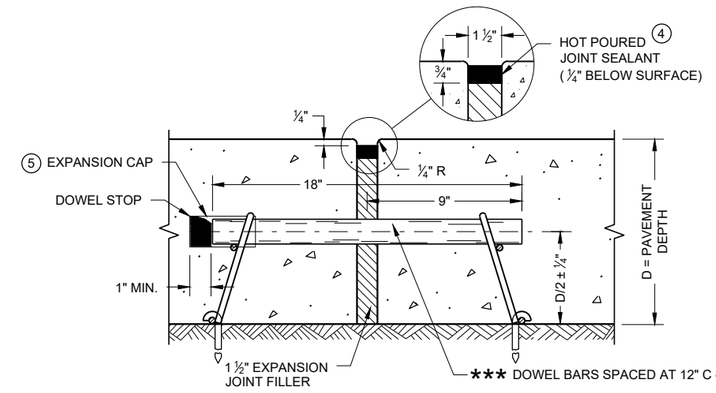


SECTION D - D
CONTRACTION JOINT

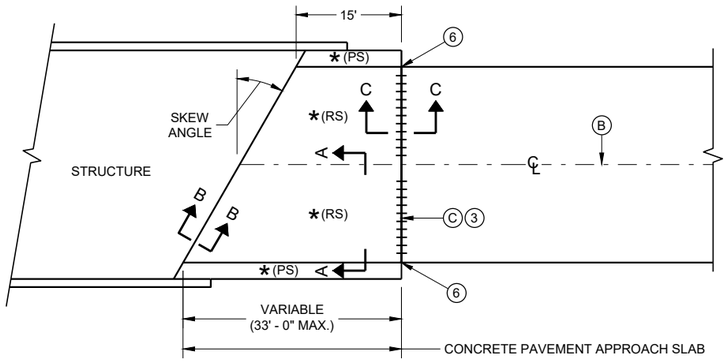


SKEWS > 20°
(PAVEMENT WIDTH ≤ 30')

SECTION B - B
BEND DETAIL
BOTTOM REINFORCEMENT

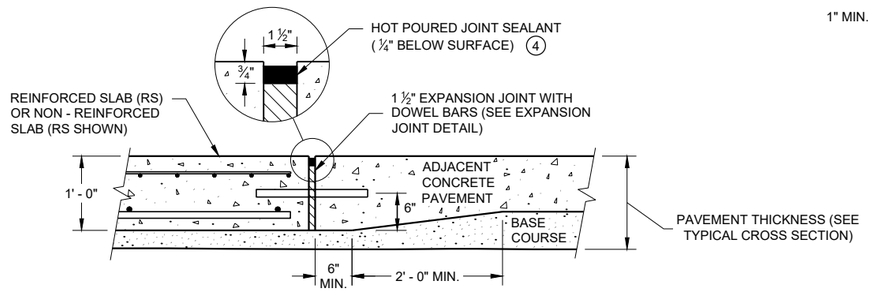


EXPANSION JOINT DETAIL



SKEWS ≤ 20°
(PAVEMENT WIDTH ≤ 30')

APPROACH SLAB AND ADJACENT PAVEMENT



SECTION C - C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

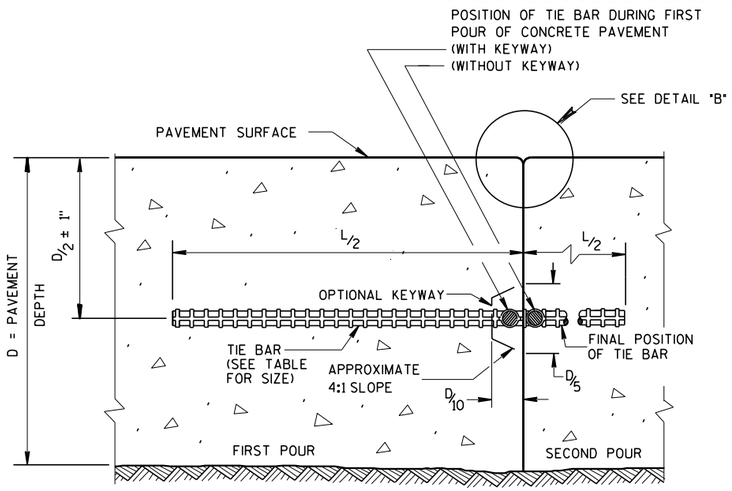
/S/ Peter Kemp P.E.
PAVEMENT SUPERVISOR

FHWA

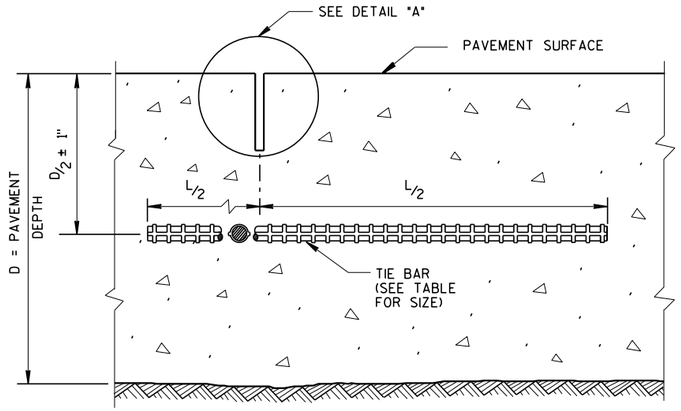
6

SDD 13B02 - 09a

SDD 13B02 - 09a



CONSTRUCTION JOINT



SAWED JOINT

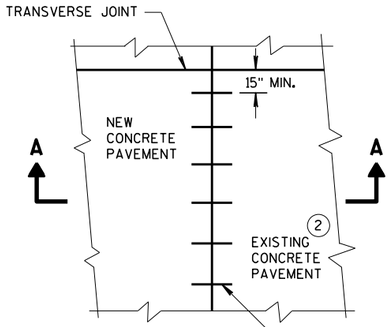
GENERAL NOTES

CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

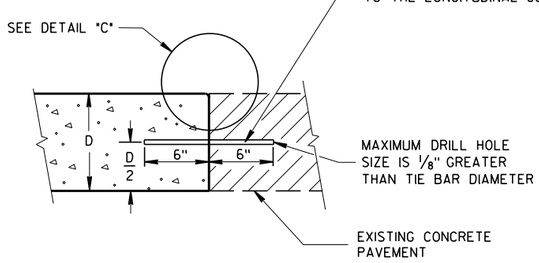
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

(2) PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.

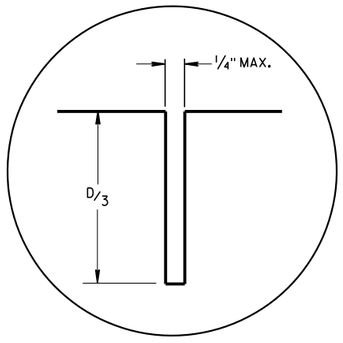


PLAN VIEW

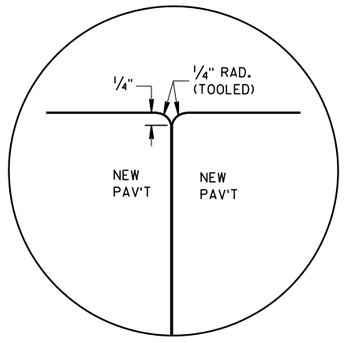


SECTION A-A

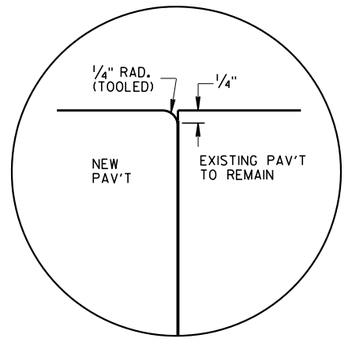
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT



DETAIL "A"



DETAIL "B"



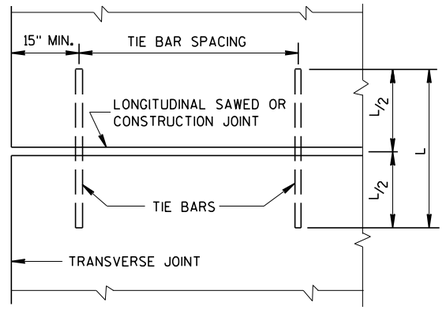
DETAIL "C"

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.



PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT
LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

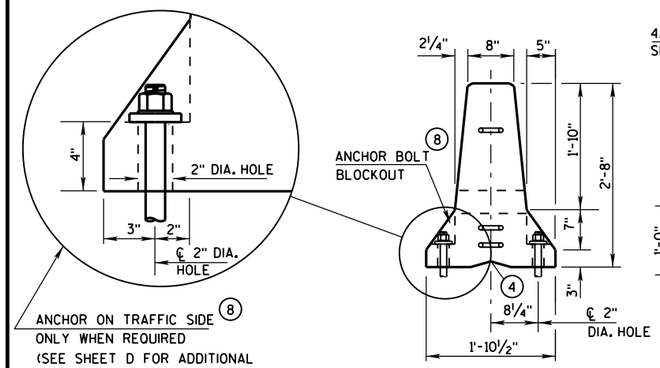
APPROVED
March 2018
DATE
/S/ Peter Kemp
PAVEMENT SUPE
FHWA

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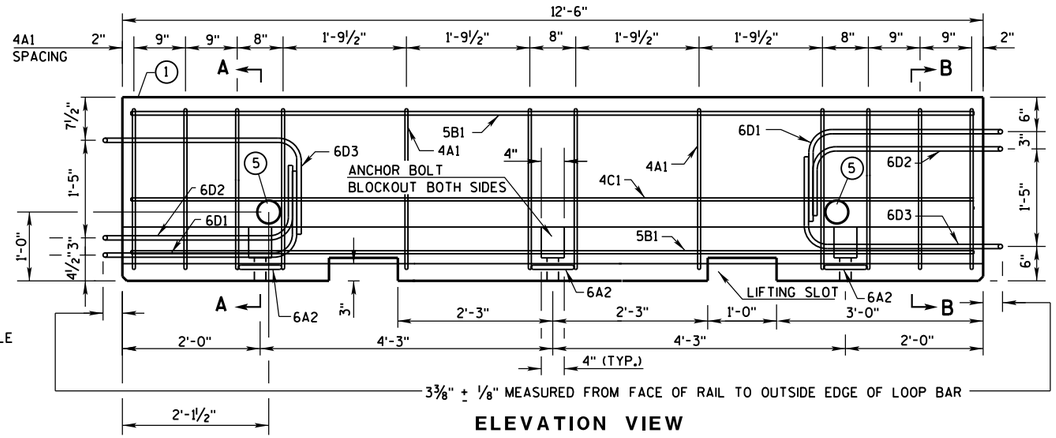
S.D.D. 13 C 1-19

6

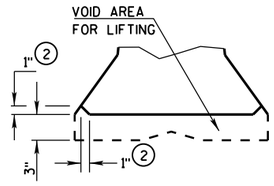
S.D.D. 13 C 1-19



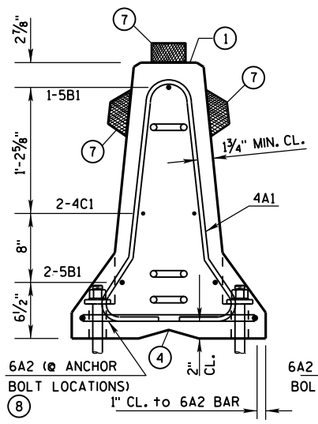
END VIEW



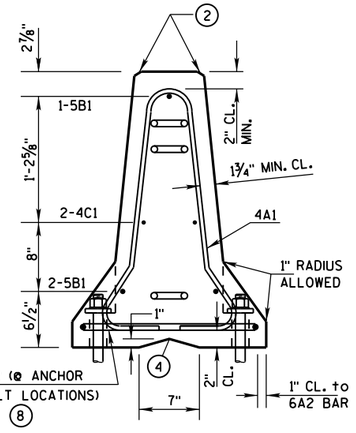
ELEVATION VIEW



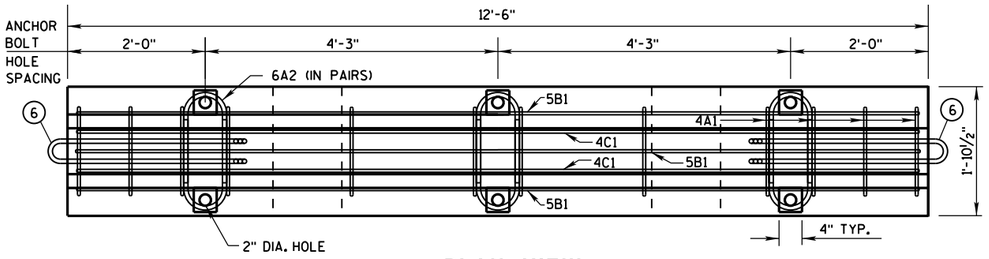
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)

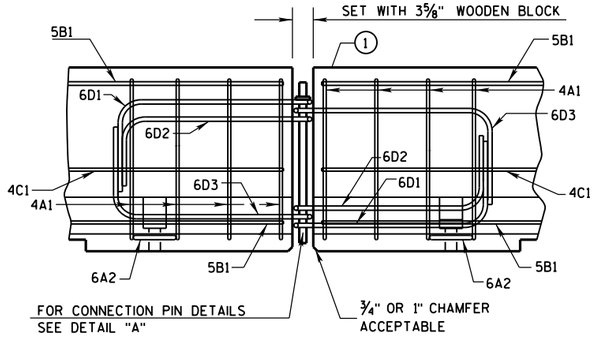


SECTION B-B
(STIRRUP PLACEMENT)

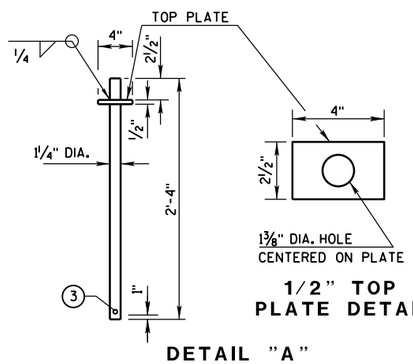


PLAN VIEW

DETAILS OF BARRIER SECTION

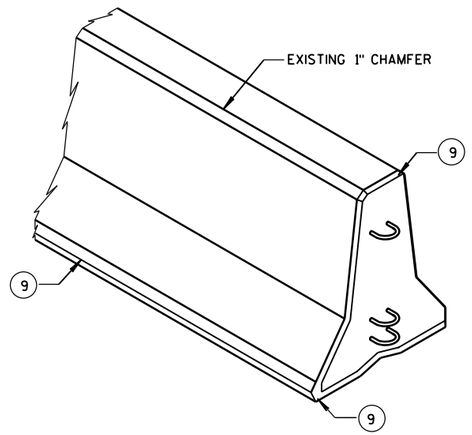


DETAILS OF BARRIER CONNECTION



1/2" TOP
PLATE DETAIL

DETAIL "A"
CONNECTION PIN
(A36 STEEL (10.9 LB EACH))



GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-15(a) THRU 14B7-15(i).

DO NOT INTERMIX CONCRETE BARRIER TEMPORARY PRCAST, 12'-6" (CBTP12.5) WITH OTHER TEMPORARY CONCRETE BARRIERS.

USE ASTM A-615, GRADE 60, DEFORMED STEEL BARS FOR BARS 4A1, 6A2, 5B1 AND 4C1 IN THE BARRIER SECTION AND FOR 4V1, 4V2, 4V3, 4V4, 4V5, 4V6, 4F1, 4F2 AND 5F3 IN THE BARRIER TAPER SECTION.

LOOP BARS 6D1, 6D2 AND 6D3 SHALL BE ¾" SMOOTH STEEL BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 80 KSI, A MINIMUM 14% ELONGATION IN 8 INCHES AND PASSING A 180 DEGREE BEND TEST USING A 3-½" PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN ⅛" OF THE PLAN DIMENSION.

CONSTRUCT LIFTING SLOTS AS SPECIFIED ON THE PLANS TO FACILITATE THE DRAINAGE OF WATER AFTER INSTALLATION.

PLACE BARRIER ON A PAVED SURFACE. REMOVE ALL LOOSE DIRT AND SAND FROM THE ROADWAY SURFACE PRIOR TO PLACEMENT OF THE BARRIER.

INSTALL MECHANICAL OR ADHESIVE ANCHORS PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE MANUFACTURER'S INFORMATION TO PROJECT ENGINEER.

(1) MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
- a. TYPE: WI CBTP
- b. MANUFACTURER
- c. DATE MANUFACTURED (MONTH AND YEAR)

(2) 1" CHAMFER TO PREVENT SPALLING.

(3) A ⅜" HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..

(4) "V" NOTCH IS OPTIONAL.

(5) THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).

(6) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

(7) USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURES INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED TO THE RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO THE SIDE MOUNTED DELINEATORS ON ALL BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.

(8) SEE SHEET D FOR HOW TO ANCHOR BARRIER. SEE SHEET E FOR WHEN TO ANCHOR BARRIER.

(9) 1" CHAMFER OPTIONAL.

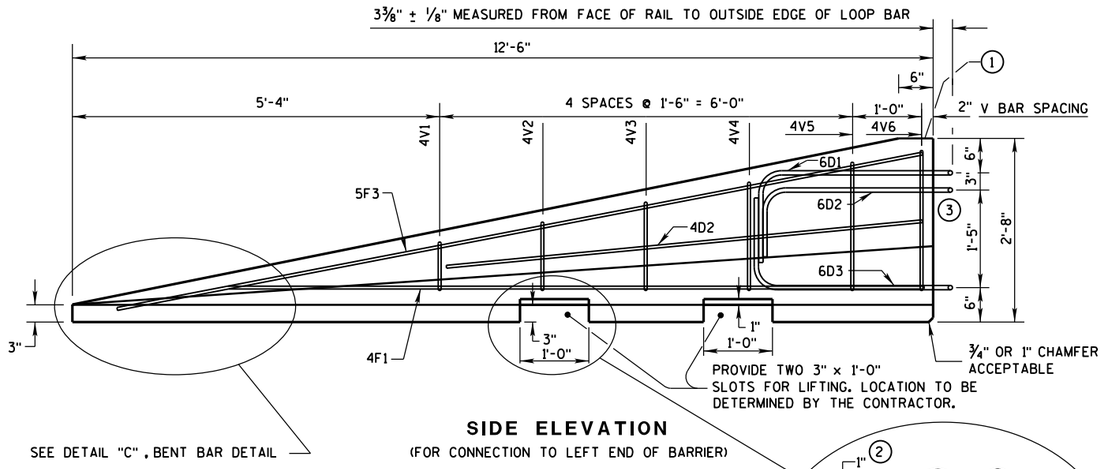
f'c = 4,000 psi

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

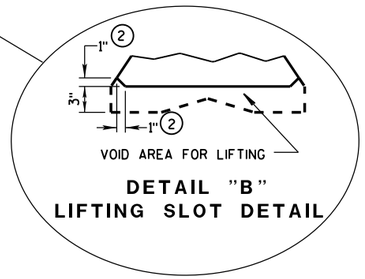
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

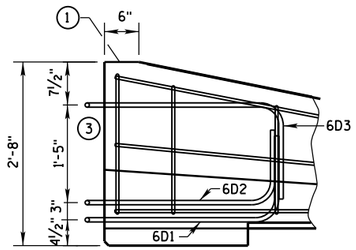
S.D.D. 14 B 7-15a



SIDE ELEVATION
(FOR CONNECTION TO LEFT END OF BARRIER)



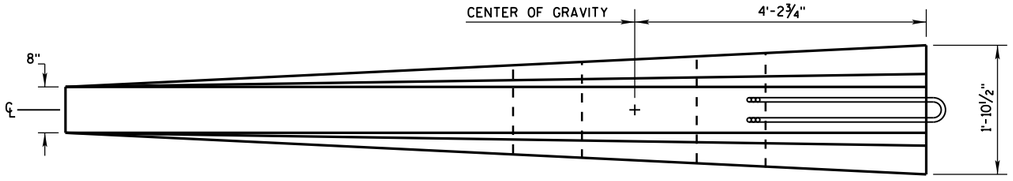
DETAIL "B"
LIFTING SLOT DETAIL



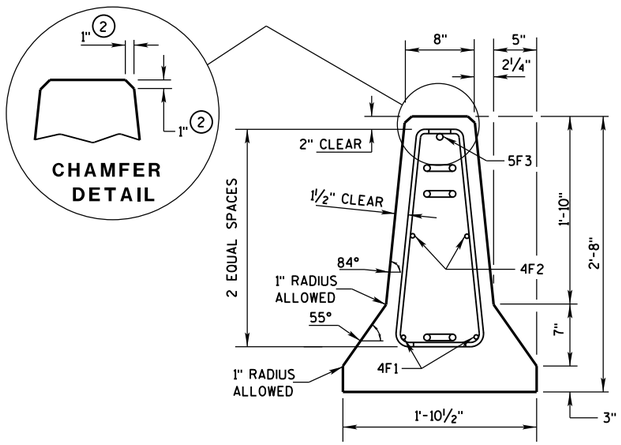
SIDE ELEVATION
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

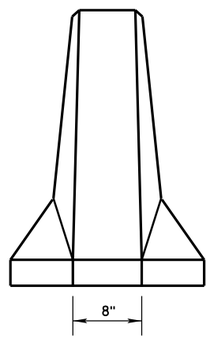
1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



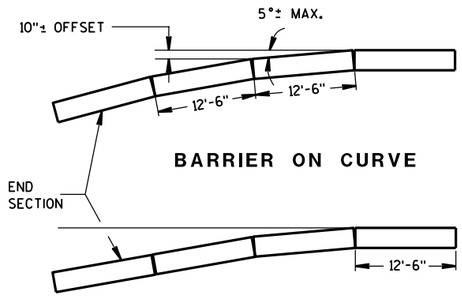
PLAN VIEW



END SECTION



FRONT ELEVATION



BARRIER ON CURVE

FLARE AT BARRIER END

POSTED SPEED, (MPH)	FLARE RATE
40 OR LESS	6:1
45 OR GREATER	8:1

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

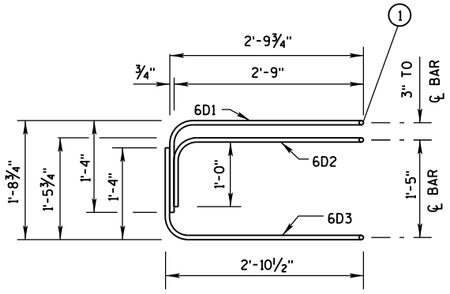
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6
S.D.D. 14 B 7-15b

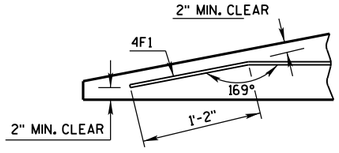
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

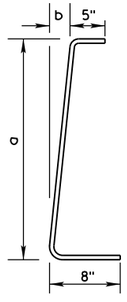
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



ELEVATION
LOOP BAR ASSEMBLY



DETAIL "C"
BENT BAR DETAIL



BAR	a	b
V1	10"	1"
V2	1'-1"	1¼"
V3	1'-5"	1⅝"
V4	1'-8"	1⅞"
V5	2'-0½"	2⅜"
V6	2'-3"	2¾"

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

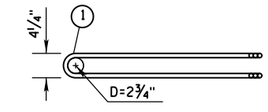
GENERAL NOTES

(1) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

BARRIER SECTION BILL OF MATERIALS

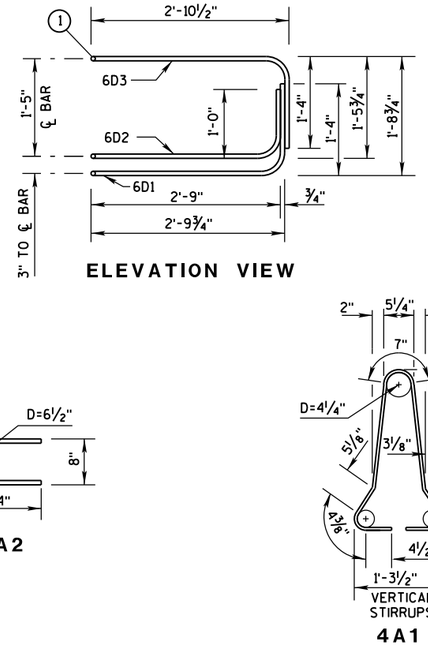
(PER 12'-6" BARRIER SECTION)

BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



PLAN VIEW
LOOP BAR ASSEMBLY
(MARKED END SHOWN, INVERT FOR OTHER END)

6A2



ELEVATION VIEW

4A1

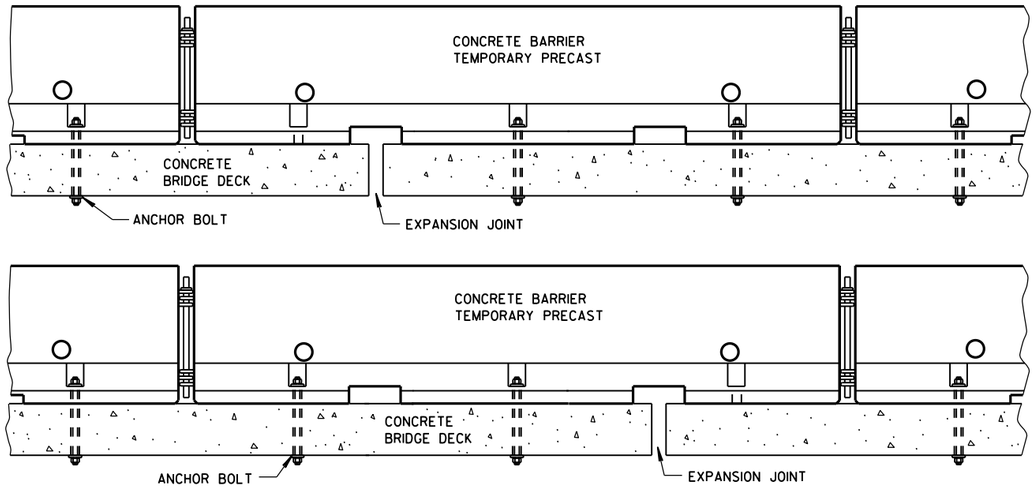
BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 7-15c



TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.)

GENERAL NOTES

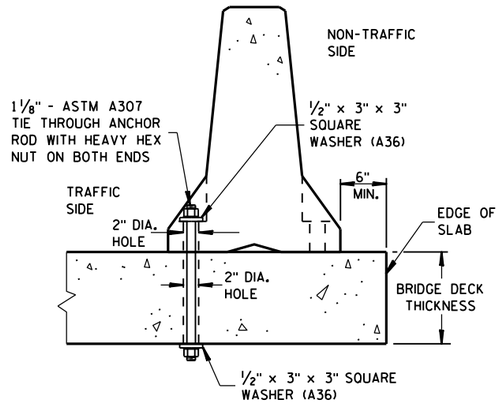
SEE SHEET E FOR WHEN TO ANCHOR. OTHER PARTS OF THE PLAN MAY SHOW ADDITIONAL LOCATIONS REQUIRING ANCHORING.

REMOVE ALL ANCHORS WHEN NO LONGER NEEDED. FILL CONCRETE PAVEMENTS, DECKS AND APPROACH SLABS WITH NON-SHRINK COMMERICAL GROUT FROM THE APPROVED PRODUCT LIST. FILL ASPHALT PAVEMENTS WITH ASTM D6690 TYPE II RUBBERIZED CRACK FILLER.

(1) 1⅛" DIAMENTER A307 THREADED ROD. ½" X 3" X 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL. ASTM A563A HEAVY HEX NUT.

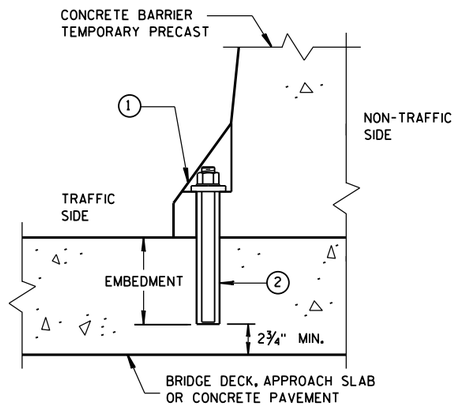
(2) ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5¼" EMBEDMENT. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.

(3) ASPHALT SURFACE SHOWN. CONTRACTOR MAY DRILL THROUGH CONCRETE PAVEMENT AND THAN DRIVE ASPHALT ANCHOR PIN.



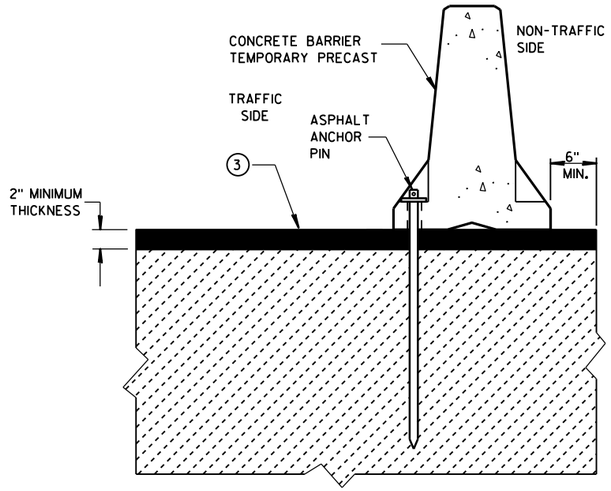
THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)

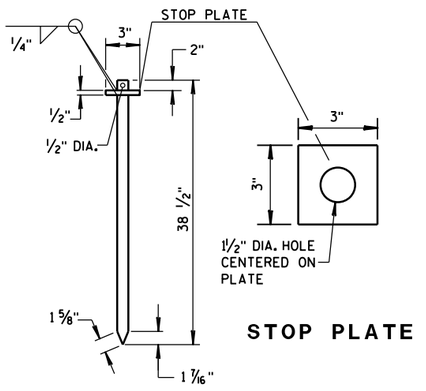


REMOVABLE ADHESIVE ANCHOR INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)



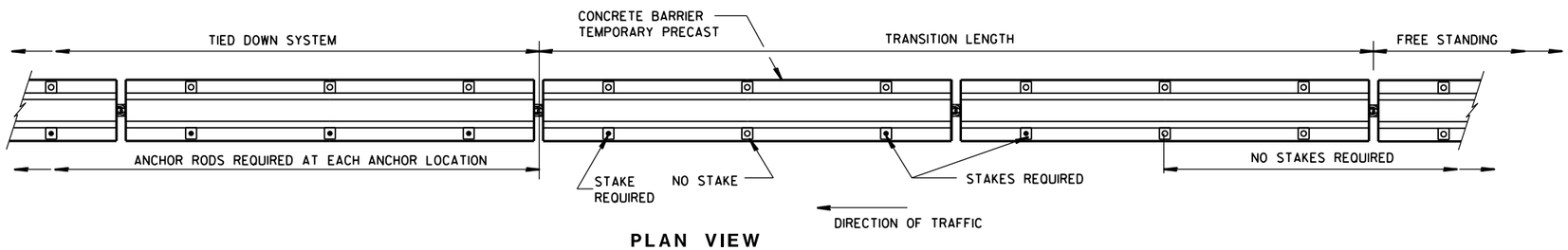
STAKE DOWN INSTALLATION FOR ASPHALTIC SURFACE



STOP PLATE

ASPHALT ANCHOR PIN

(ASTM A36 STEEL)



PLAN VIEW

FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

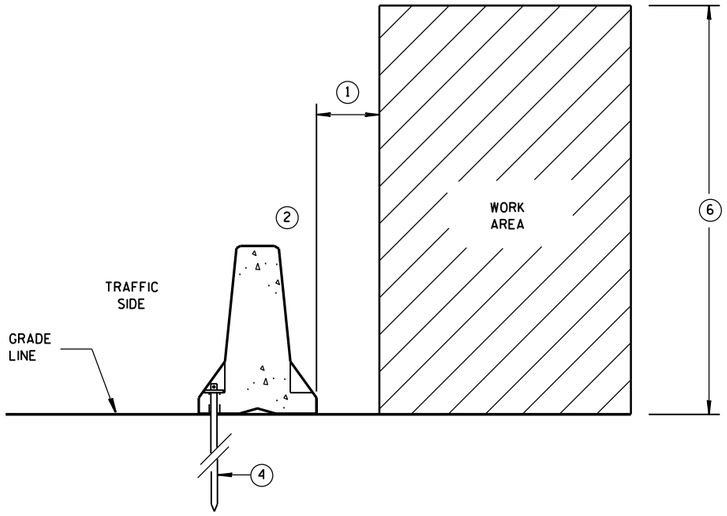
(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

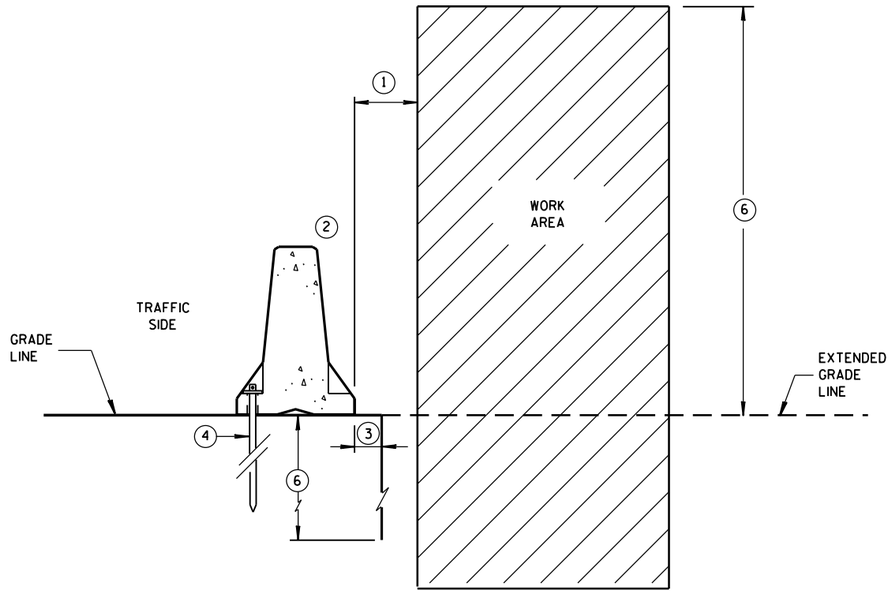
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 7-15d



ANCHORED BARRIER SPACE REQUIREMENTS FOR HAZARDS EXTENDED ABOVE THE GRADE LINE

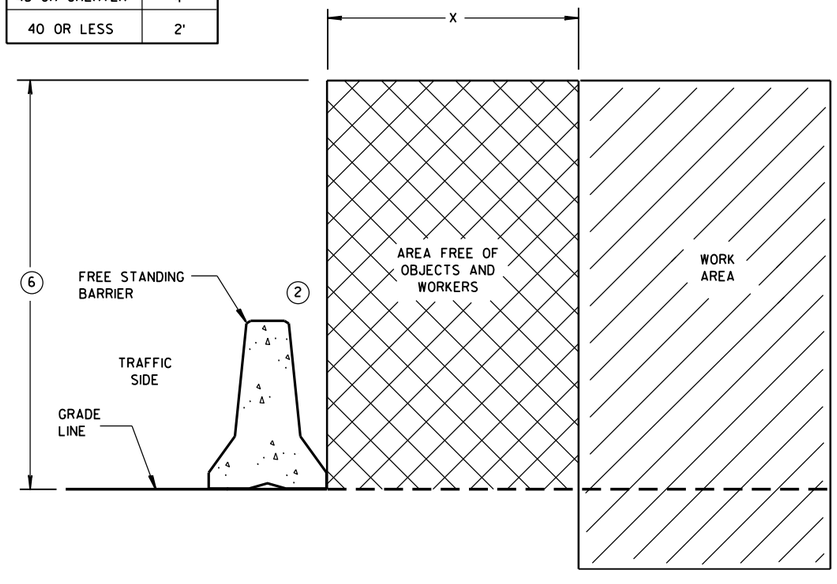


ANCHORED BARRIER SPACE REQUIREMENTS ON VERTICAL DROP OFFS

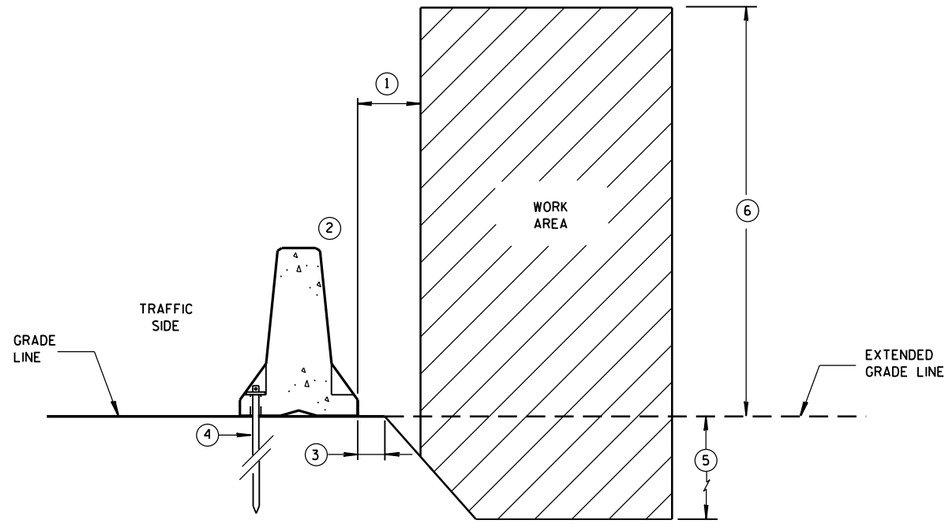
GENERAL NOTES

1. WHEN OBJECTS EXTEND ABOVE THE GRADE, A MINIMUM OF 1 FOOT IS REQUIRED FROM BACK OF BARRIER TO OBJECT. SEE OTHER DETAILS FOR FOR THE MINIMUM OFFSET FROM BACK OF BARRIER TO SLOPES OR VERTICAL DROPS.
2. OBJECTS ARE NOT TO BE PLACED ON, MOUNTED TO, OR LEANED AGAINST THE BARRIER WITHOUT PERMISSION OF THE PROJECT ENGINEER.
3. SEE OTHER DETAIL ON SHEET "D" FOR SPACE REQUIREMENTS.
4. SEE BOLT THROUGH DECK, REMOVABLE ADHESIVE ANCHOR, OR A STAKE DOWN FOR ASPHALTIC SURFACE TREATMENT DETAILS. ASPHALTIC ANCHOR SHOWN.
5. DEPTH OF 3 FEET OR MORE.
6. Y = 6'-6".

POSTED SPEED MPH	X
45 OR GREATER	4'
40 OR LESS	2'



FREE STANDING BARRIER SPACE REQUIREMENTS



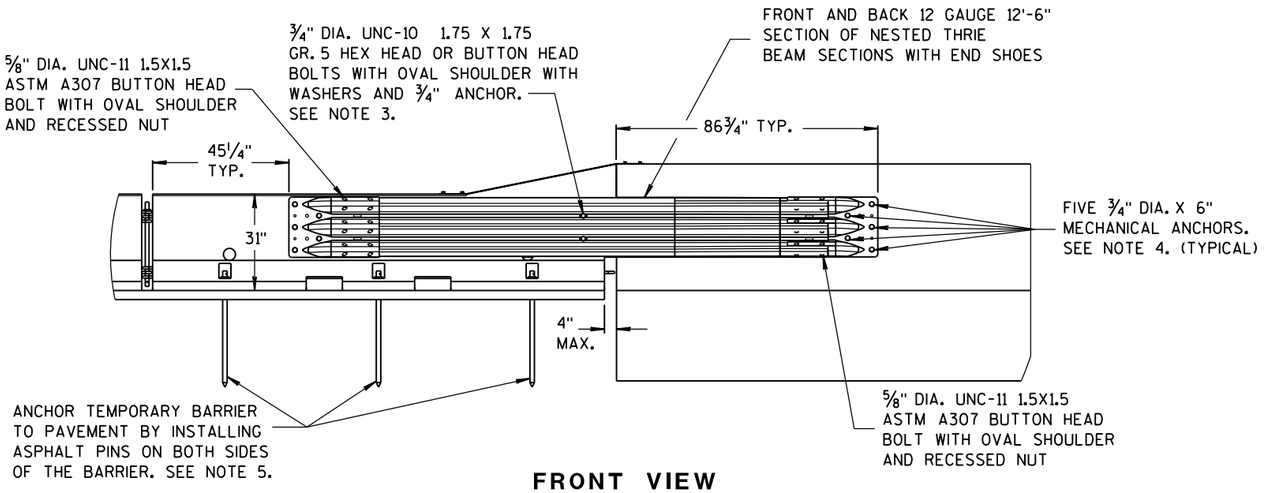
ANCHORED BARRIER SPACE REQUIREMENTS ON SLOPES

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

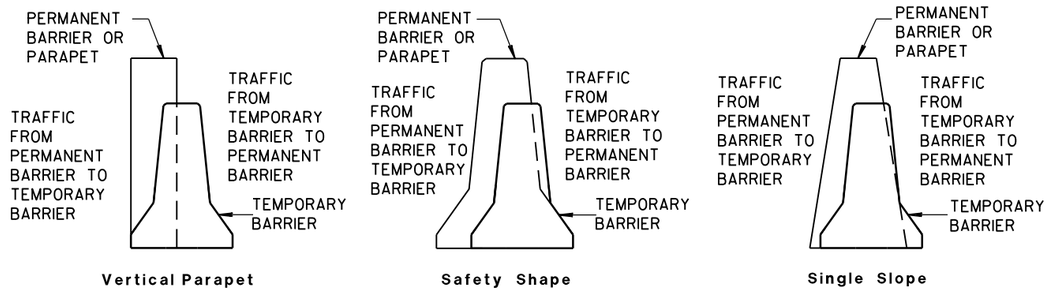
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 7-15e



FRONT VIEW

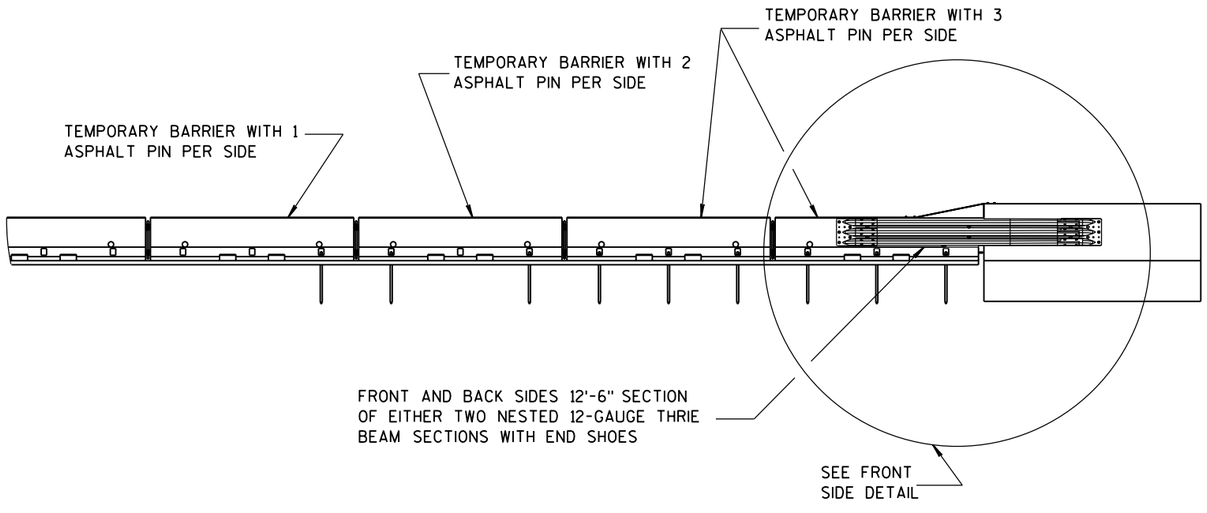


TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

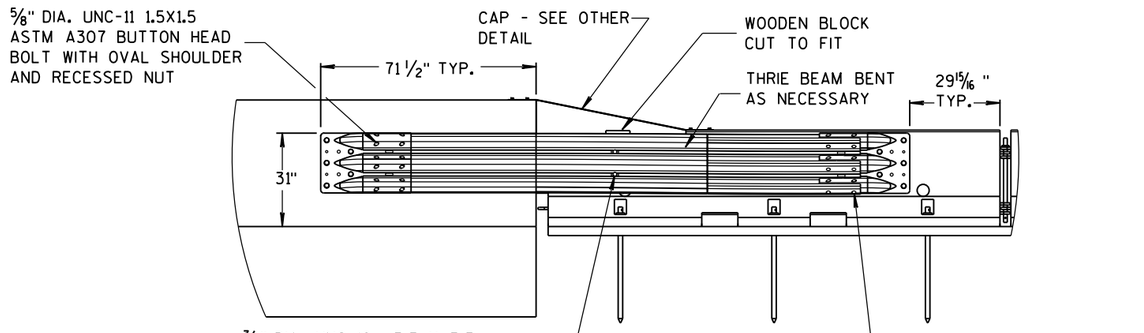
NOTES

NESTED THRIE BEAM IS REQUIRED ON BOTH SIDES OF THE TEMPORARY BARRIER FOR ALL INSTALLATIONS REGARDLESS OF TRAFFIC.

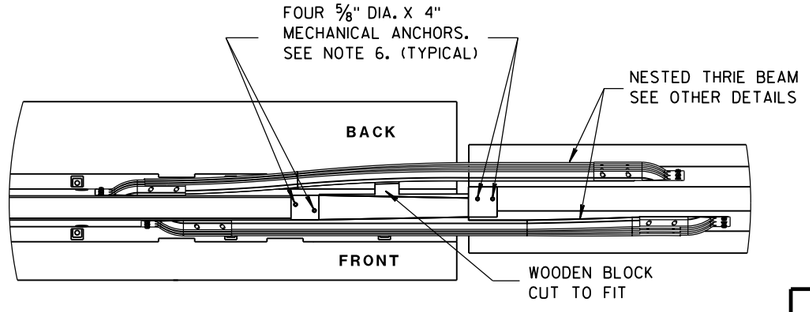
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS.
4. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS.
5. MAY BE USED ON CONCRETE OR ASPHALT PAVEMENTS. ASPHALT OPTION SHOWN. FOR CONCRETE OPTION SEE OTHER DETAILS.
6. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.



FRONT VIEW



BACK VIEW



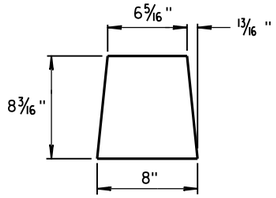
PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

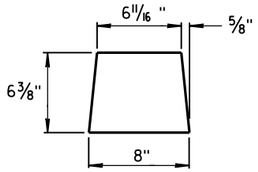
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

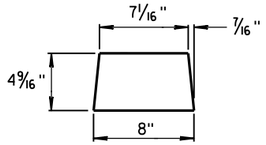
6
S.D.D. 14 B 7-15f



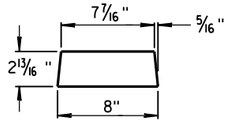
GUSSET 1



GUSSET 2

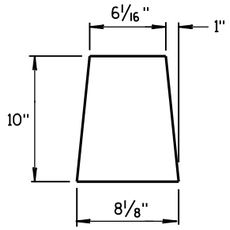


GUSSET 3

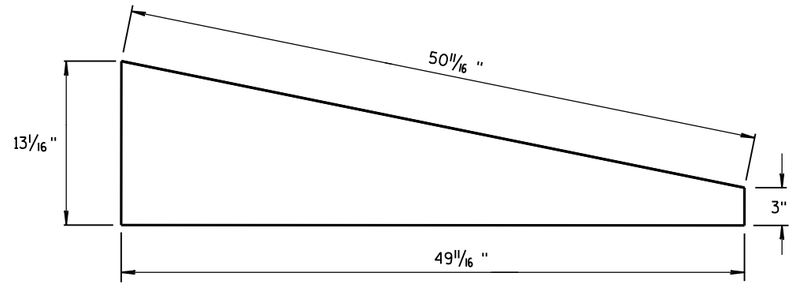


GUSSET 4

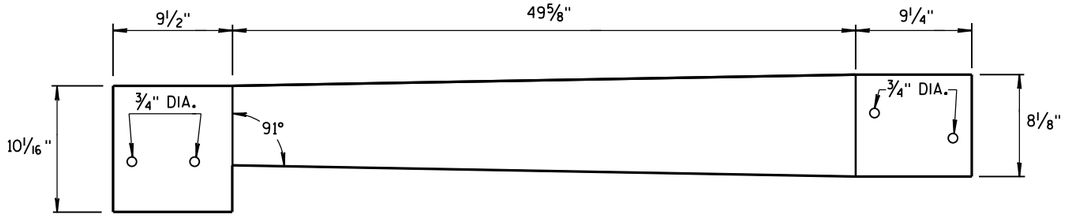
GUSSETS

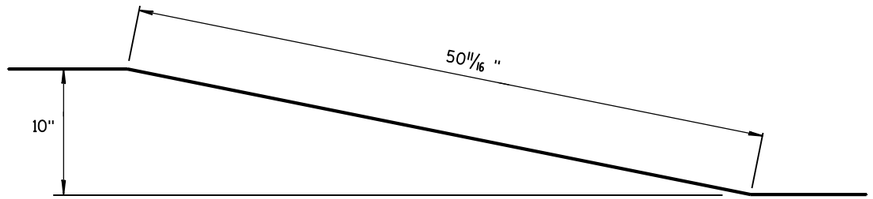


END PLATE



SIDE PLATE

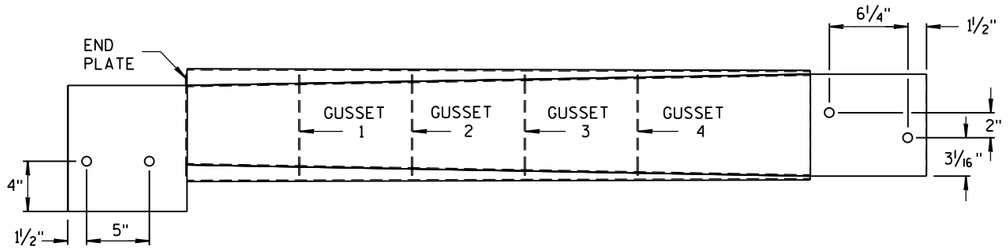


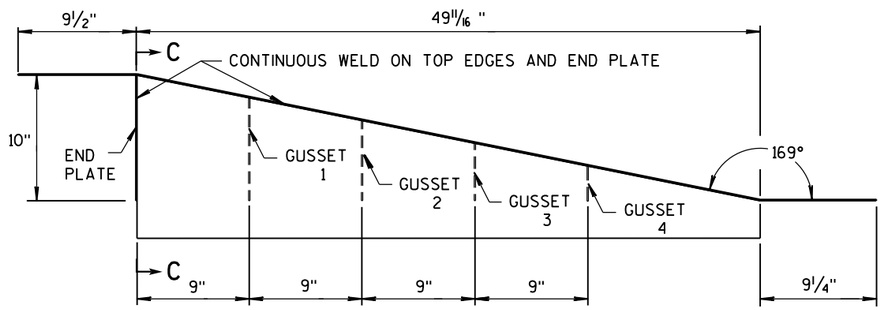


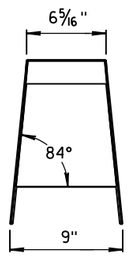
TOP PLATE

SIDE, TOP AND END PLATES FOR CAP FROM TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.







SECTION C-C

NOTES

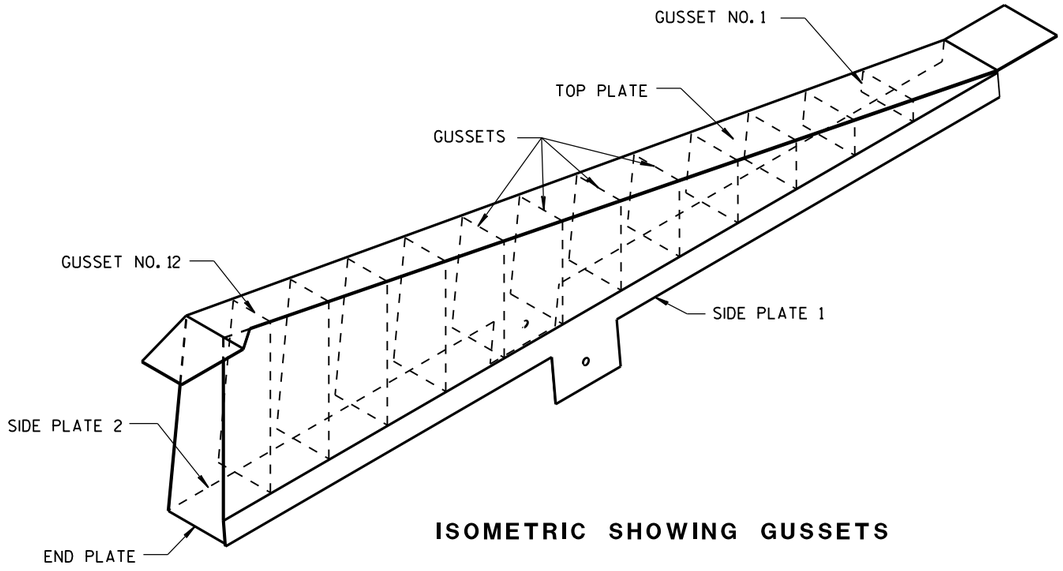
1. FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
2. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

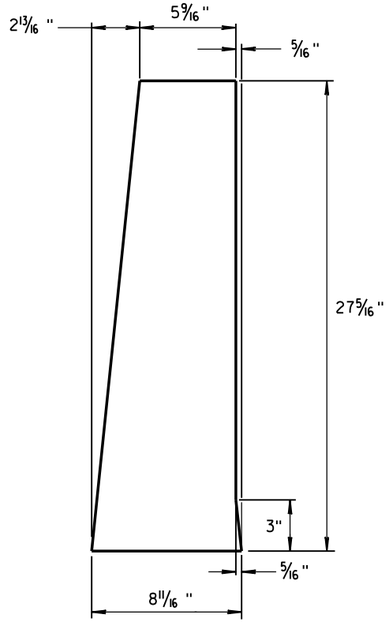
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 7-15g

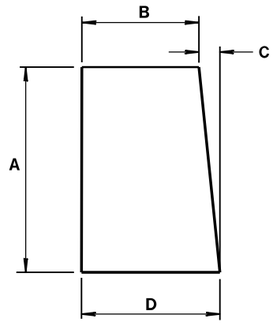


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



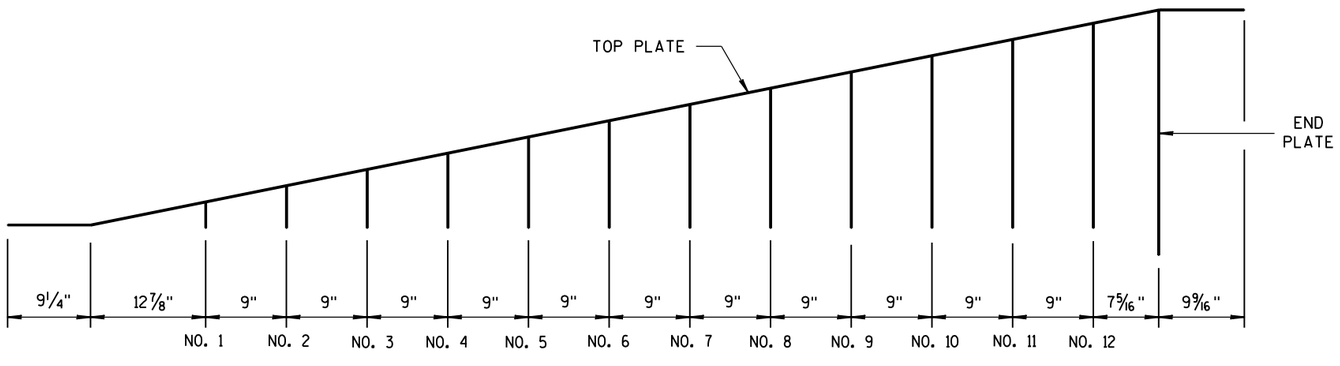
GUSSETS 1 - 12

ALL GUSSETS 1/8" STEEL PLATE

GUSSET DIMENSIONS				
GUSSET NO.	A	B	C	D
1	2 7/8"	7 3/4"	1/4"	8
2	4 11/16 "	7 9/16 "	1/2"	8
3	6 1/2"	7 3/8"	11/16 "	8 1/16 "
4	8 5/16 "	7 3/16 "	7/8"	8 1/16 "
5	10 1/8"	7"	1 1/16 "	8 1/16 "
6	11 15/16 "	6 13/16 "	1 1/4"	8 1/16 "
7	13 3/4"	6 5/8"	1 7/16 "	8 1/16 "
8	15 9/16 "	6 7/16 "	1 9/16 "	8 1/16 "
9	17 3/8"	6 1/4"	1 13/16 "	8 1/16 "
10	19 3/16 "	6 1/16 "	1 15/16 "	8 1/16 "
11	21"	5 7/8"	2 3/16 "	8 1/16 "
12	22 13/16 "	5 11/16 "	2 5/16 "	8 1/16 "

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 STEEL AND GALVANIZED.

GUSSETS AND END PLATE ARE STITCH WELDED ON 3 SIDES. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE AND GUSSETS.



GUSSET LOCATION

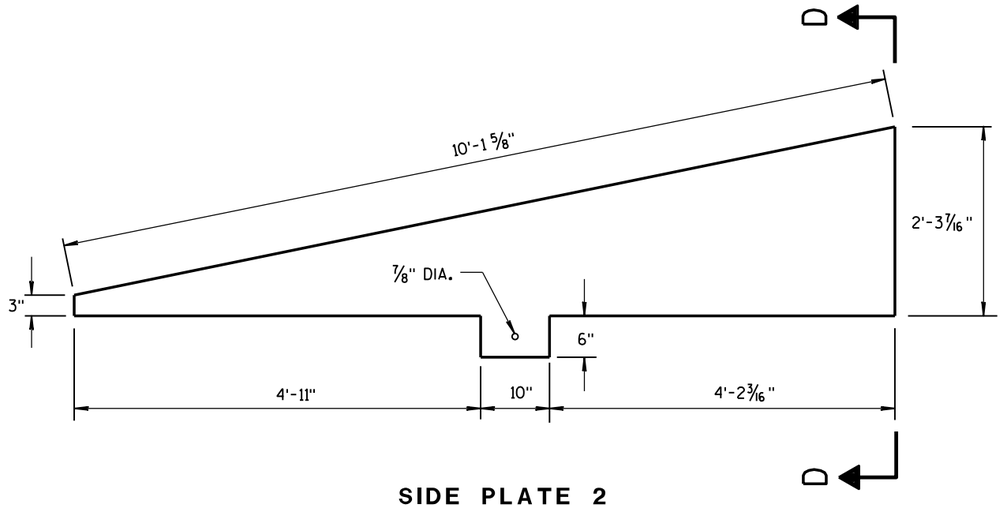
CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

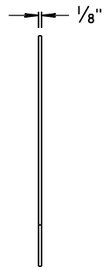
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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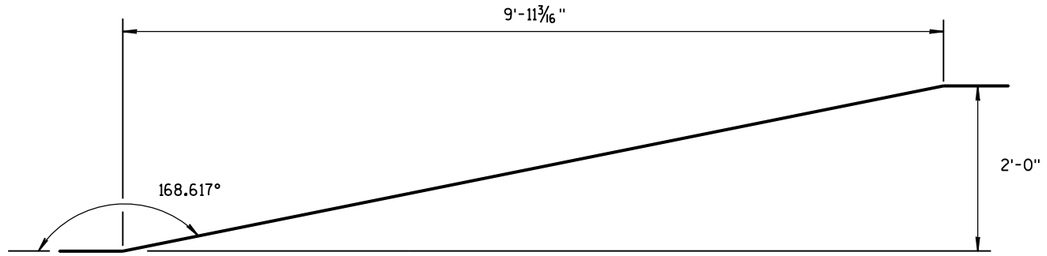
S.D.D. 14 B 7-15h



SIDE PLATE 2

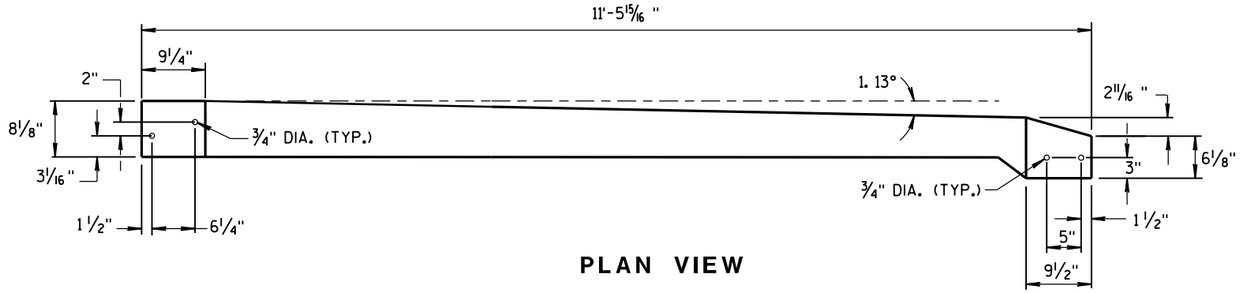


END VIEW



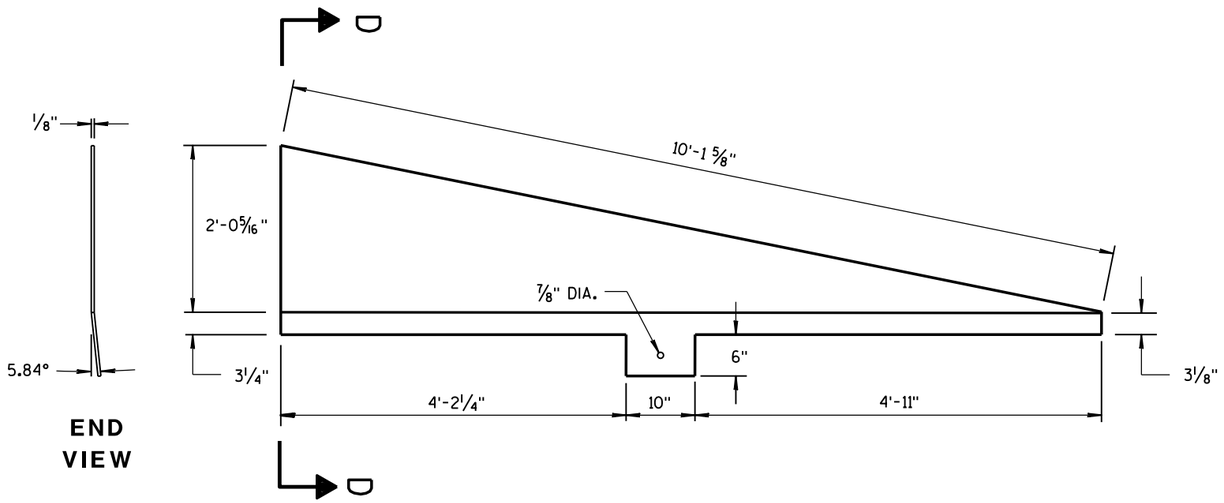
SIDE VIEW

TOP PLATE



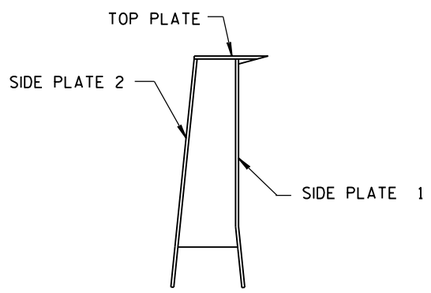
PLAN VIEW

TOP PLATE



END VIEW

SIDE PLATE 1



SECTION D-D

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

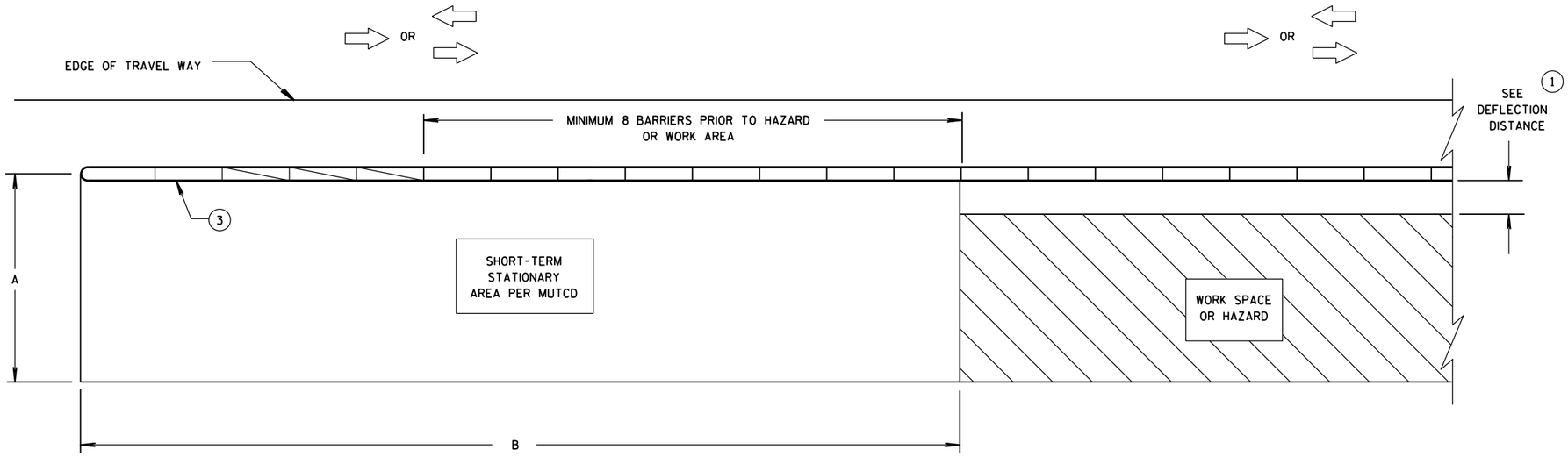
APPROVED
June 2017 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS UNIT SUPERV
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S.D.D. 14 B 7-15i

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S.D.D. 14 B 7-15i



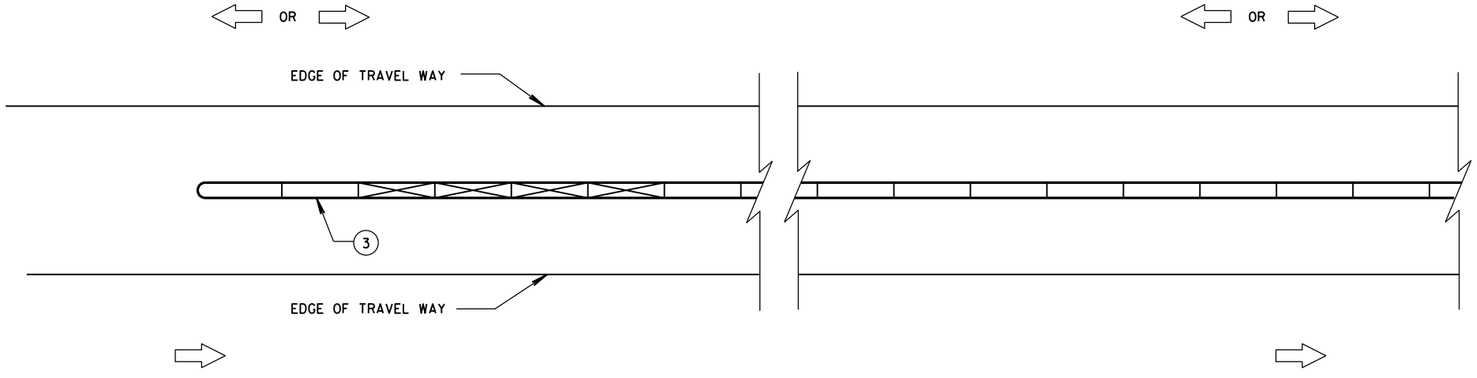
CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER

DIMENSION A TABLE (2)

FACILITY	POSTED SPEED MPH	DIMENSION A	
		MIN. FT	MAX. FT
FREEWAY/EXPRESSWAY	ALL	15	20
NON-FREEWAY/EXPRESSWAY	GREATER THAN OR EQUAL TO 45	10	15
NON-FREEWAY/EXPRESSWAY	LESS THAN 45	8	10
AADT LESS THAN 1,500	ALL	8	10

DIMENSION B TABLE (2)

POSTED SPEEDS MPH	DIMENSION B FT
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON BOTH SIDES OF BARRIER

LEGEND

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

GENERAL NOTES

SEE STANDARD DETAIL DRAWING 14B7 FOR MORE INFORMATION.

DETAILS PROVIDE A GENERAL LAYOUT OF TEMPORARY CONCRETE BARRIER, CRASH CUSHIONS, SAND BARREL ARRAYS AND TIE DOWN TRANSITIONS. DETAILS PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

ADDITIONAL TEMPORARY BARRIER MAY BE REQUIRED TO PROTECT TRAVELING PUBLIC FROM HAZARDS, CONTRACTOR'S OPERATIONS OR TO CONTROL TRAFFIC.

TEMPORARY BARRIER MAY BE REQUIRED TO BE ANCHORED TO PAVEMENT OR BRIDGE DECK.

FOR DETAILS ON CRASH CUSHION OR SAND BARREL ARRAYS SEE OTHER SECTIONS OF THE PLAN AND MANUFACTURE'S DETAILS.

SLOPES LEADING TO TEMPORARY BARRIER, CRASH CUSHION OR SAND BARREL ARRAY ARE 10:1 OR LESS.

(1) FOR DEFLECTION INFORMATION SEE STANDARD DETAIL DRAWING 14B7.

(2) VALUES PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

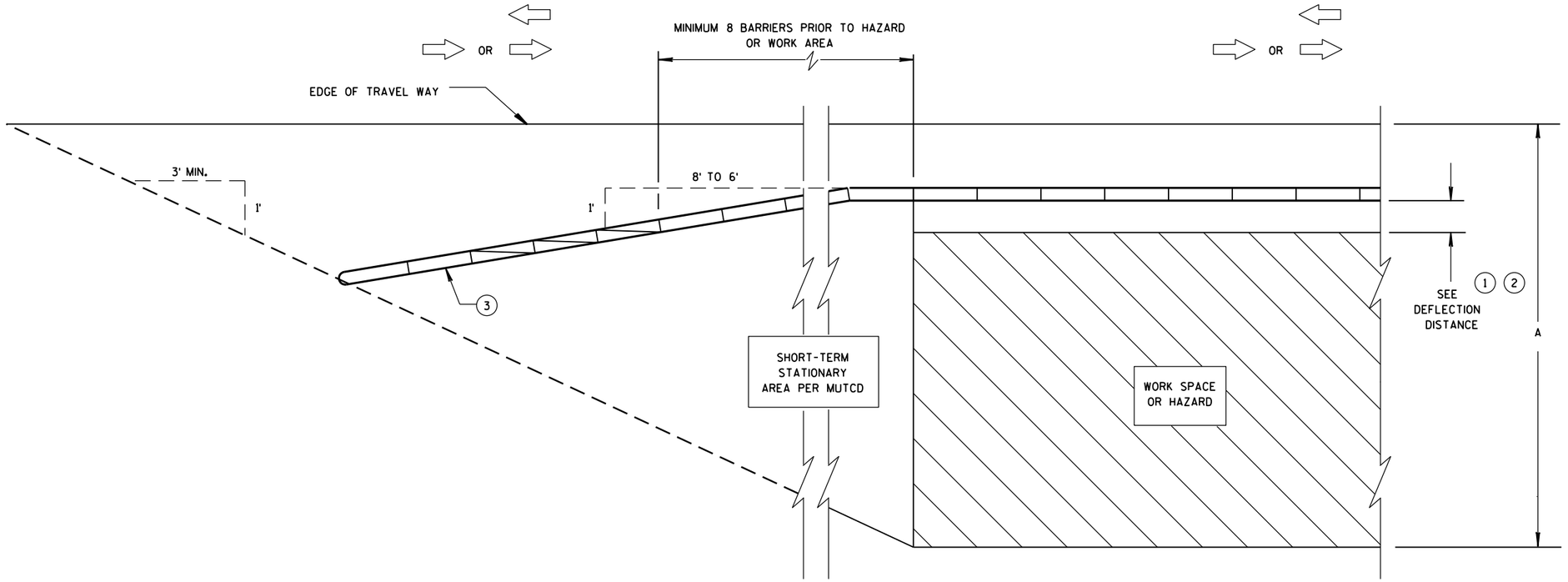
(3) ANCHOR TEMPORARY BARRIER ACCORDING TO CRASH CUSHION OR SAND BARREL MANUFACTURER'S RECOMMENDATIONS. IF MANUFACTURER'S RECOMMENDATIONS ARE NOT PROVIDED, ANCHOR 3 PINS ON TRAFFIC SIDE.

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

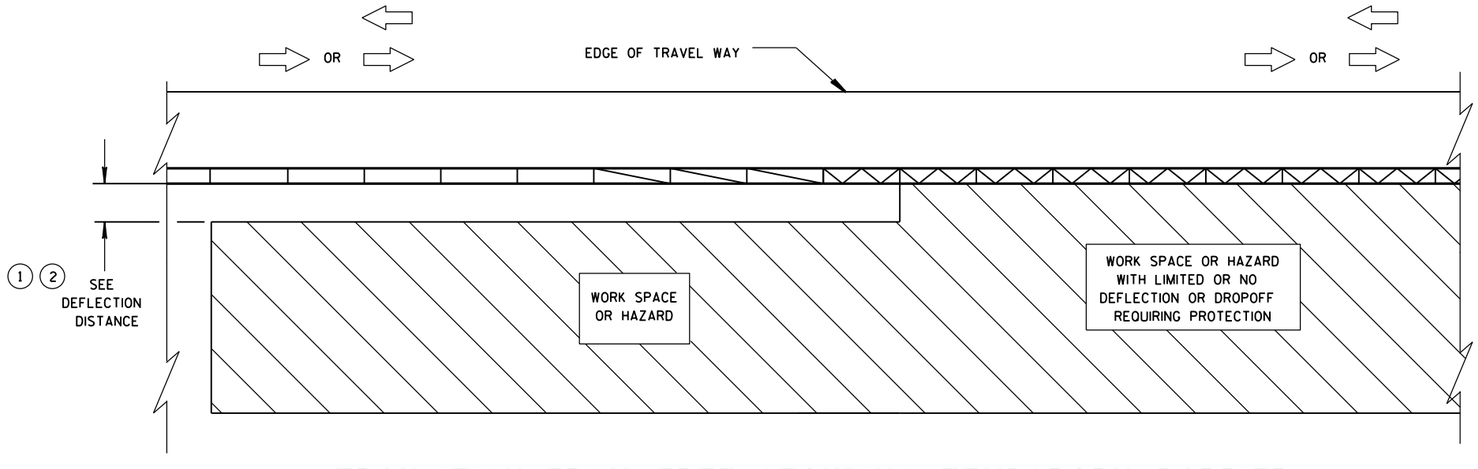
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 8-2a
S.D.D. 14 B 8-2a



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE - FLARED INSTALLATION



TRANSITION FROM FREE STANDING TEMPORARY BARRIER TO ANCHORED BARRIER

LEGEND

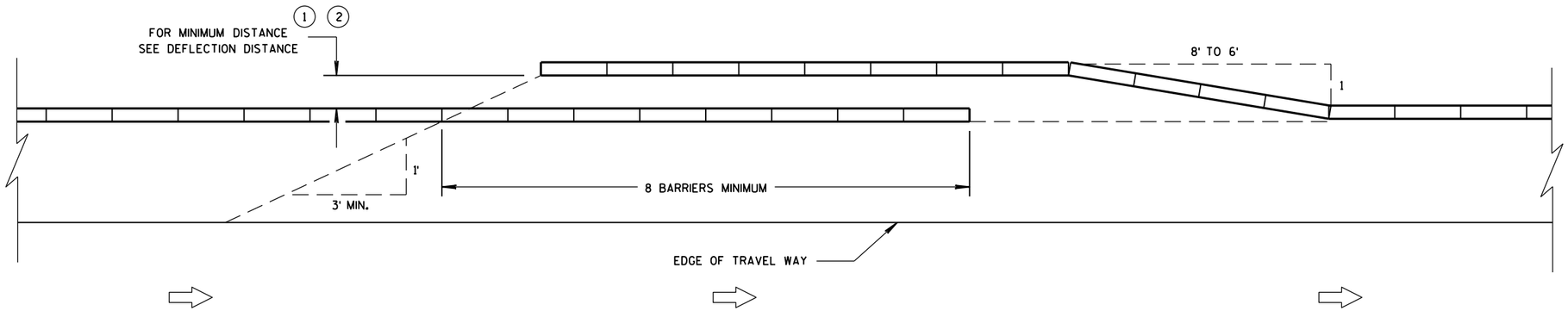
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

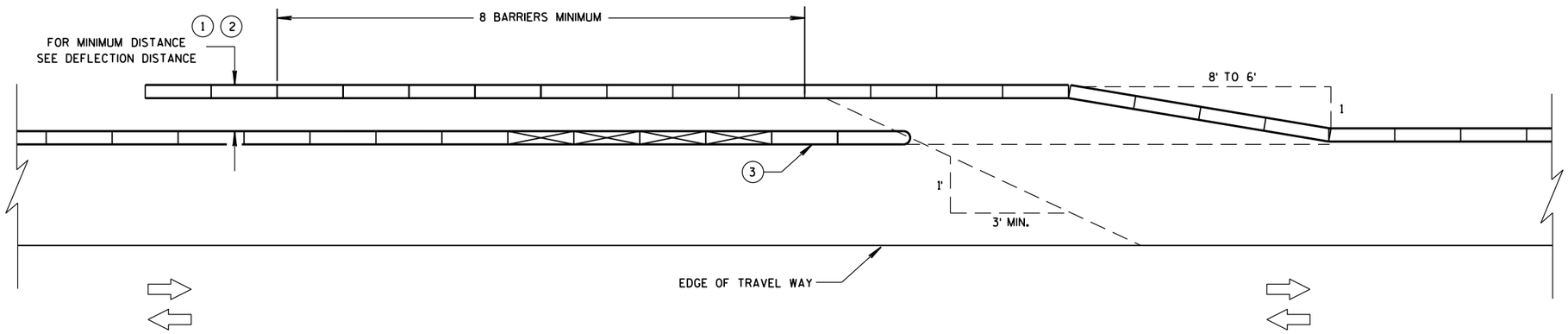
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

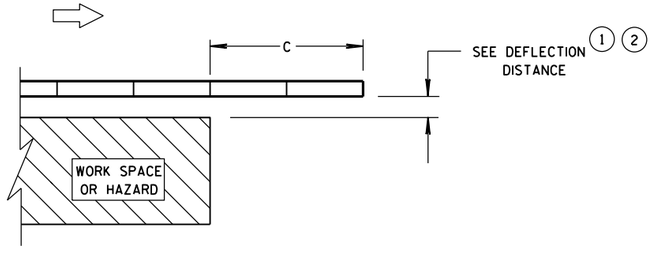
S.D.D. 14 B 8-2b



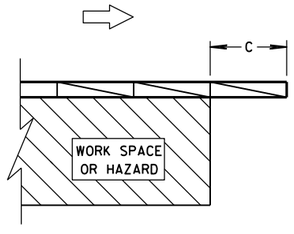
TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC



TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC



ENDING TEMPORARY BARRIER DOWNSTREAM - UNANCHORED



ENDING TEMPORARY BARRIER DOWNSTREAM - ANCHORED

LEGEND

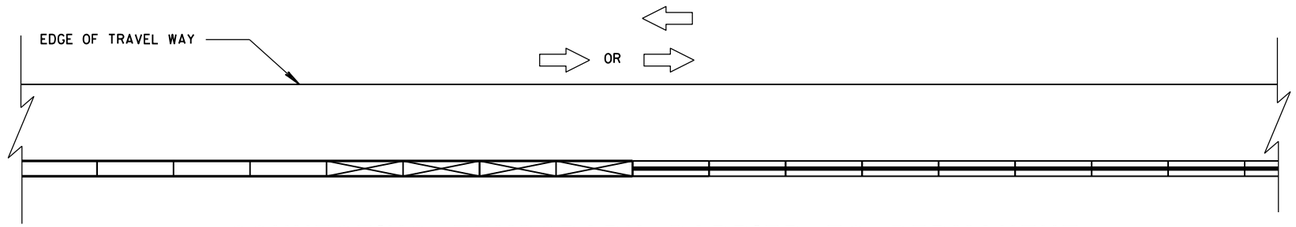
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

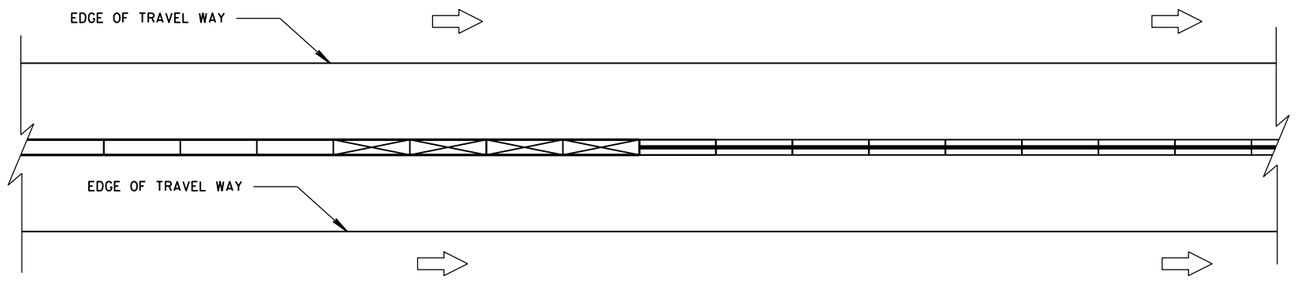
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 8-2c



CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON ONE SIDE



CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON BOTH SIDES

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR
SAND BARREL ARRAY

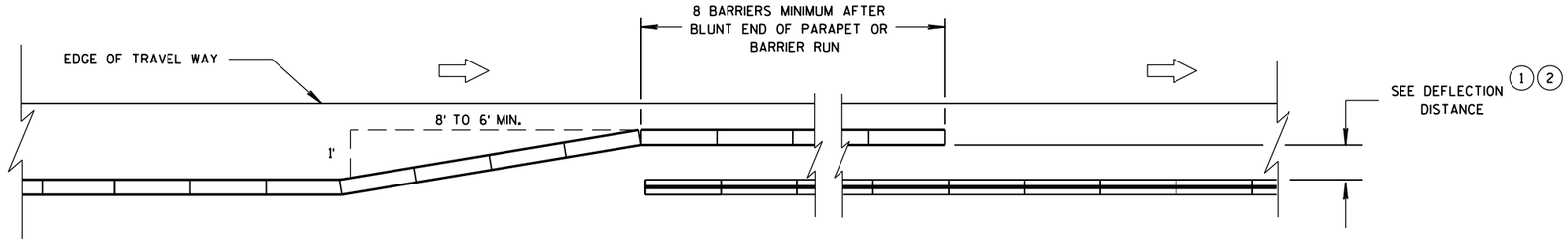
SEE FREE STANDING TRANSITION
TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION
TO TIED-DOWN SYSTEM DETAILS

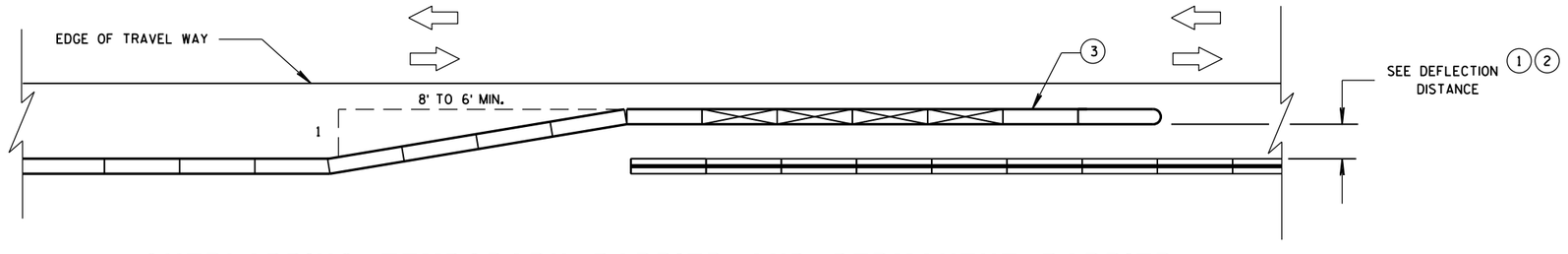
3 PINS PLACED ON
TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER
OR CONCRETE PARAPET

FREE STANDING TEMPORARY
BARRIER



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
ONE WAY TRAFFIC



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
TWO WAY TRAFFIC

CRASH CUSHION/SAND BARREL
ARRAY AND OTHER TEMPORARY
BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 8-2d

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR SAND BARREL ARRAY

SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS

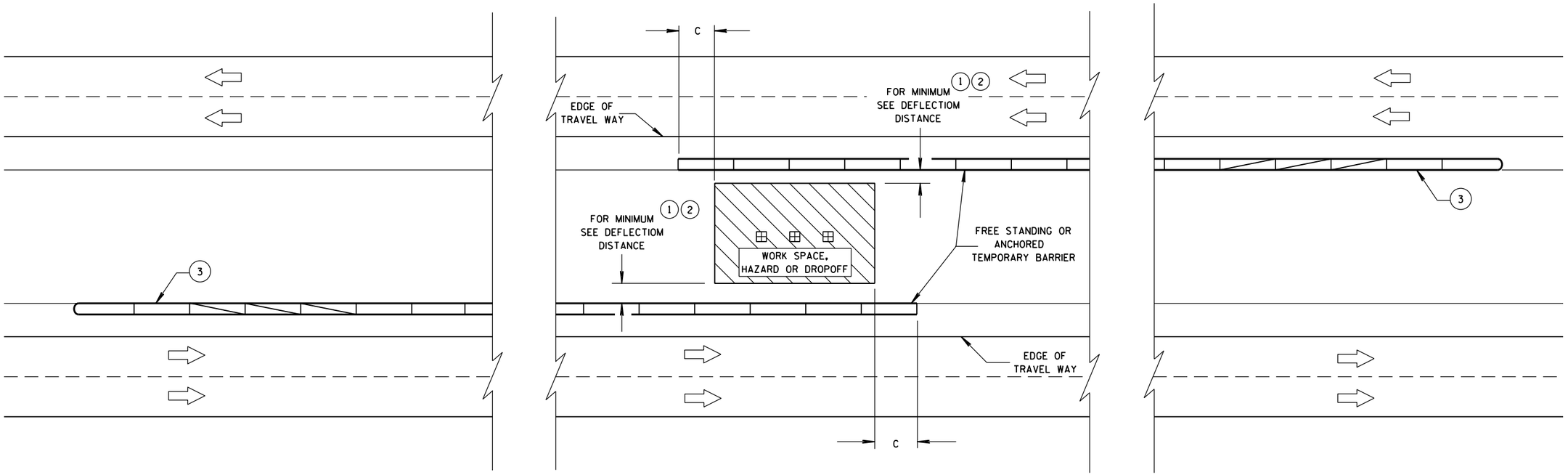
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET

FREE STANDING TEMPORARY BARRIER

DIMENSION C TABLE (2)

AVAILABLE DEFLECTION DISTANCE	MINIMUM LENGTH OF BARRIER BEYOND HAZARD FT
GREATER THAN 8'	12.5
LESS THAN OR EQUAL TO 8' BUT GREATER THAN 4'	50
LESS THAN OR EQUAL TO 4'	100



CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

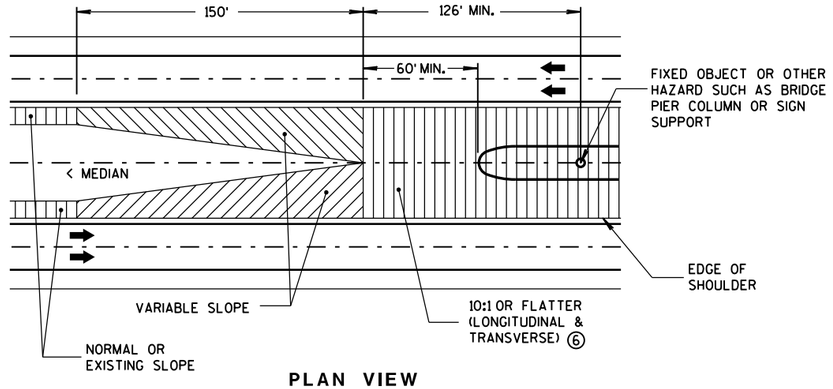
APPROVED
June, 2015
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINNER
ENT
FHWA

6

S.D.D. 14 B 8-2e

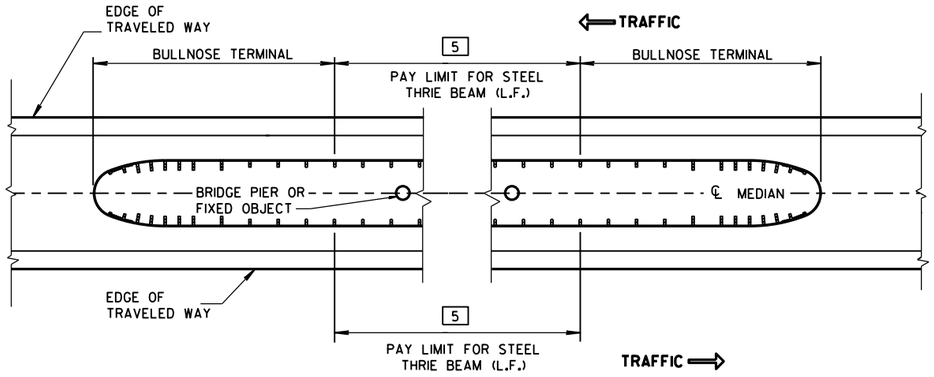
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S.D.D. 14 B 8-2e

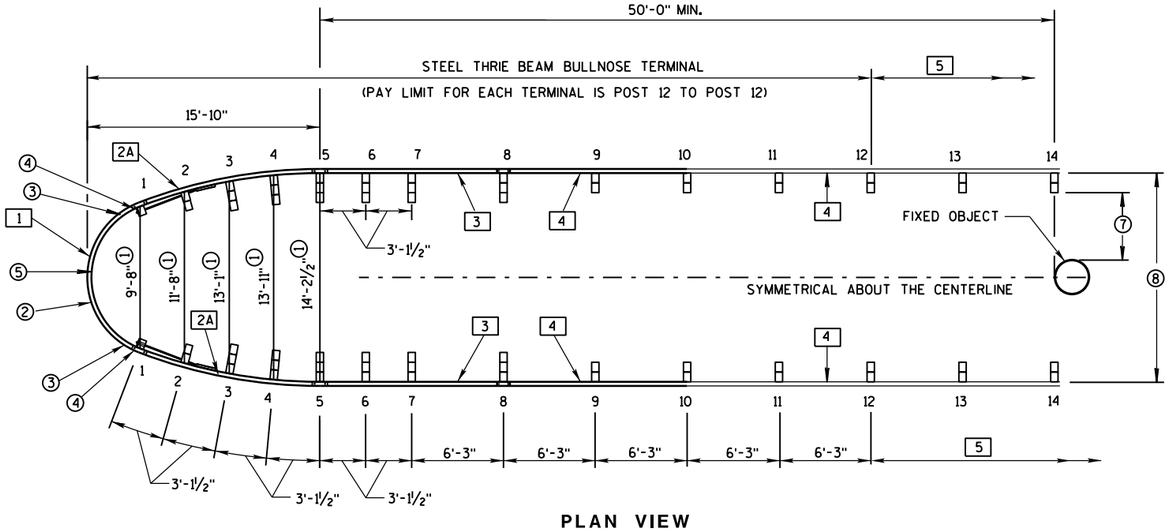


PLAN VIEW

GRADING AT BULLNOSE
(ALL INSTALLATIONS)

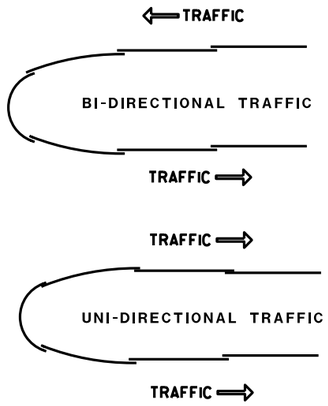


MEDIAN HAZARD PROTECTION PAY LIMITS



PLAN VIEW

TYPICAL BULLNOSE LAYOUT



LAPPING DETAIL
(ALL INSTALLATIONS)

GENERAL NOTES

SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.

PUNCHING, DRILLING, CUTTING OR WELDING IS NOT PERMITTED ON ANY GALVANIZED THRIE BEAM ACCESSORY OR TERMINAL ACCESSORY.

OTHER ANCHOR CABLE ASSEMBLIES HAVING 40,000 LBS. MIN. BREAKING STRENGTH MAY BE USED.

FOR POSTS 2 THROUGH 14, IF POST CANNOT BE INSTALLED AT SPECIFIED LOCATION 1 EXTRA STANDARD WOOD BLOCK MAY BE ADDED.

THE USE OF STEEL POSTS ON THE BULLNOSE IS NOT ALLOWED.

BOLTS AND ALL NECESSARY HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 153.

ALL THRIE BEAM SHALL BE 12-GAUGE.

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½" AND 12" DIAMETER AROUND POST. SEE SDD 14B15 OR SDD 14B42 FOR MORE INFORMATION.

[1] SLOTTED THRIE BEAM RAIL NO. 1. (POST 1 TO POST 1)

[2A] SLOTTED THRIE BEAM RAIL NO. 2A. (POST 1 TO POST 5)

[3] SLOTTED THRIE BEAM RAIL NO. 3. (POST 5 TO POST 8)

[4] UNBENT STANDARD THRIE-BEAM RAIL NO.4. (POST 8 TO POST 10 & POST 10 TO POST 12)

[5] BEYOND POST 12: CONSTRUCT STEEL THRIE BEAM - USE UNBENT STANDARD THRIE BEAM RAIL NO. 5.

① DIMENSIONS ARE FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO POST OR BLOCK.

② U-BOLT CABLE CLIPS (3 PER CABLE) SPACED OUT ON NOSE, TO HOLD CABLE TO BACKSIDE OF THE RAIL.

③ NOSE CABLE W/SWAGGED END BUTTONS.

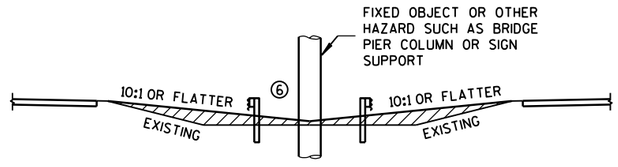
④ NOSE CABLE ANCHOR PLATE (BACKSIDE OF SPLICE).

⑤ THE SLACK IN THE NOSE CABLES SHALL BE EVENLY DISTRIBUTED BETWEEN THE CABLE CLIP FASTENERS AND POST NO. 1 ON EITHER SIDE OF THE NOSE.

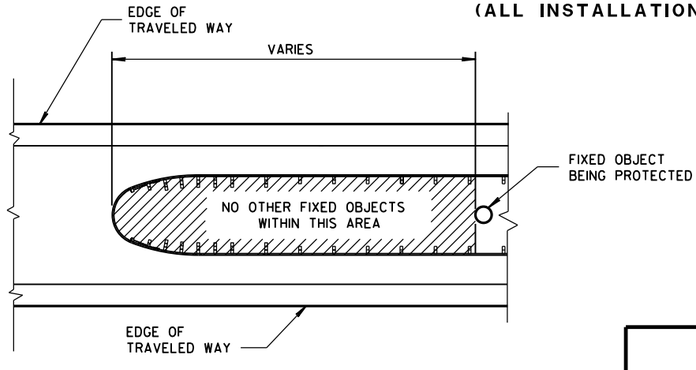
⑥ PROVIDE SUITABLE DRAINAGE WHEN MEDIAN GRADING IMPEDES NORMAL FLOW.

⑦ 2'-6" MINIMUM LATERAL DISTANCE BETWEEN BACK OF POST AND FACE OF FIXED OBJECT.

⑧ MAXIMUM WIDTH OF SYSTEM IS 14'-2½" MEASURED FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO A POST OR BLOCK.



MEDIAN GRADING SECTION
(ALL INSTALLATIONS)

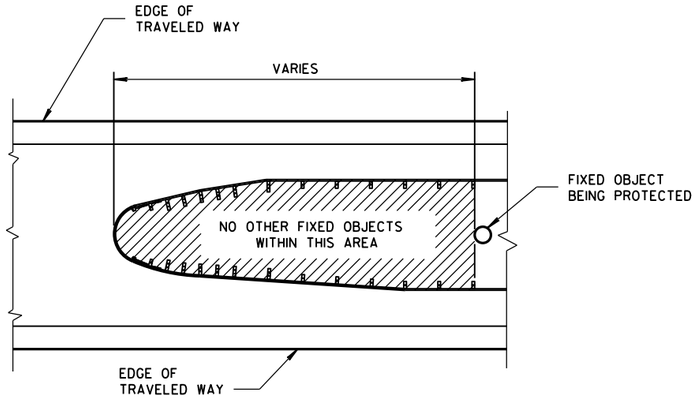


HAZARD FREE AREA INSIDE BULLNOSE

STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6
S.D.D. 14 B 26-3a



HAZARD FREE
AREA INSIDE BULLNOSE

GENERAL NOTES

SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.

FOR POSTS 2 THROUGH 14, IF POST CANNOT BE INSTALLED AT SPECIFIED LOCATION 1 EXTRA STANDARD WOOD BLOCK MAY BE ADDED.

[1] SLOTTED THRIE BEAM RAIL NO. 1. (POST 1 TO POST 1)

[2A] SLOTTED THRIE BEAM RAIL NO. 2A, (POST 1 TO POST 5)

[2B] SLOTTED THRIE BEAM RAIL NO. 2B, (POST 1 TO POST 5)

[3] SLOTTED THRIE BEAM RAIL NO. 3. (POST 5 TO POST 8)

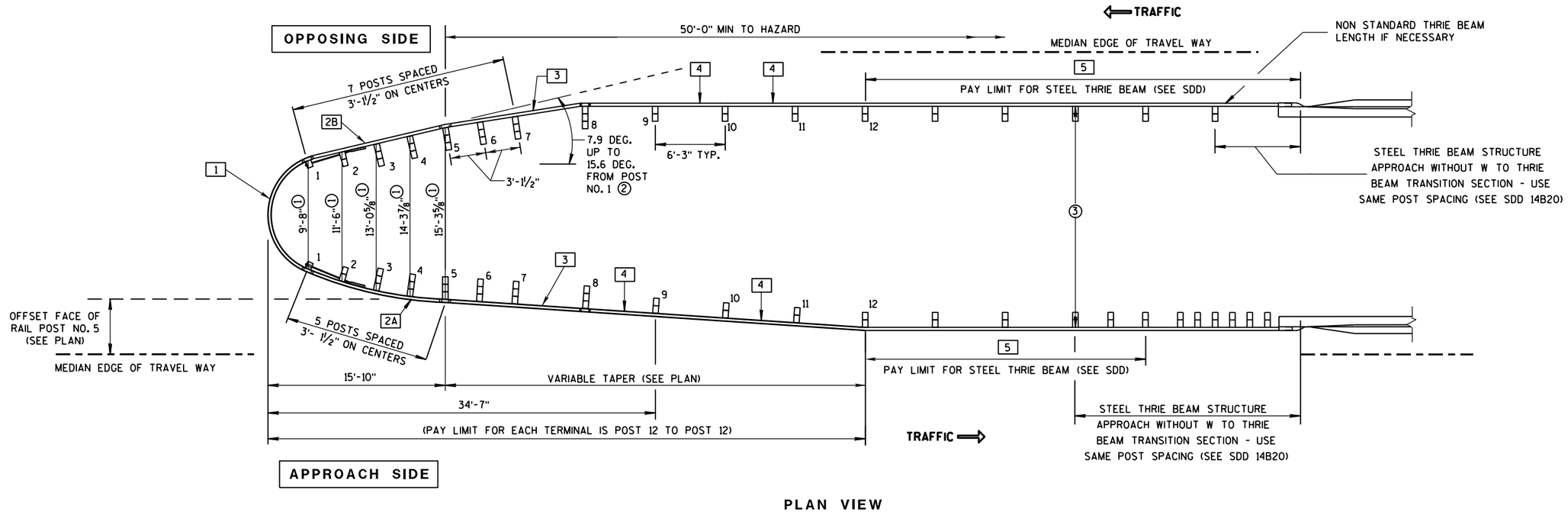
[4] UNBENT STANDARD THRIE-BEAM RAIL NO. 4, (POST 8 TO POST 10 & POST 10 TO POST 12)

[5] BEYOND POST 12: CONSTRUCT STEEL THRIE BEAM - USE UNBENT STANDARD THRIE BEAM RAIL NO. 5.

① DIMENSIONS ARE FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO POST.

② TAPER BEGINNING AT POST NO. 1 MUST CONTINUE TO POST NO. 5. PAST POST NO. 5 TAPER MAY END OR BE EXTENDED UP TO 15.6 DEGREES TO FIT VARIABLE MEDIAN WIDTHS. (SEE PLAN)

③ FOR MEDIANS WIDER THAN 14'-2½" MEASURED FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO A POST OR BLOCK.



PLAN VIEW

WIDENED BULLNOSE DESIGN

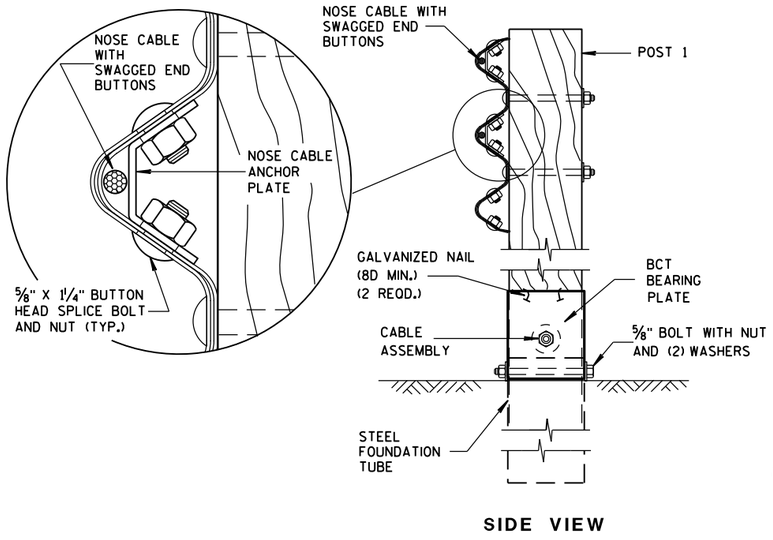
(INSTALLATION AT TWIN BRIDGES WITH BI-DIRECTIONAL TRAFFIC SHOWN)

STEEL THRIE BEAM
BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

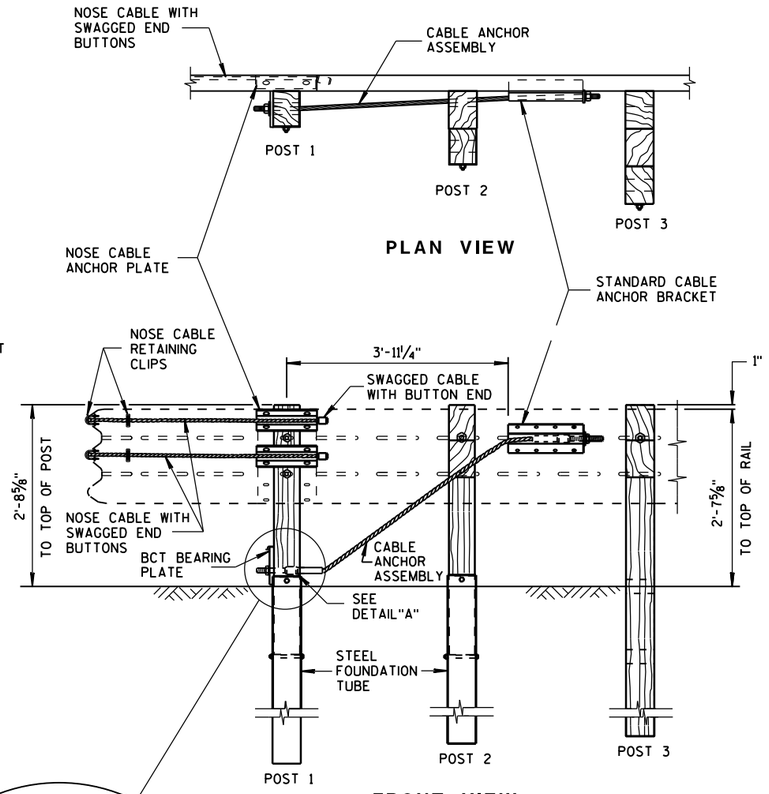
6

S.D.D. 14 B 26-3b



SIDE VIEW

NOSE CABLE ASSEMBLY AT POST NO. 1



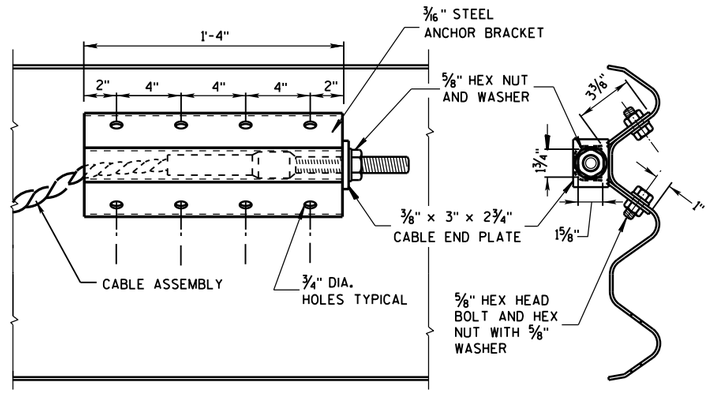
PLAN VIEW

FRONT VIEW

NOSE CABLE ANCHOR AND STANDARD BRACKET ASSEMBLY

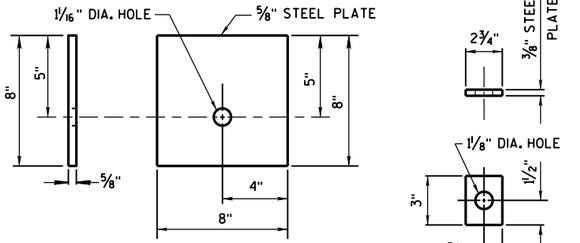
GENERAL NOTES

SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.



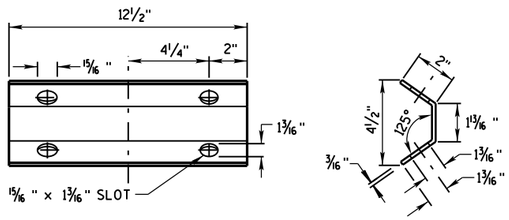
FRONT VIEW END VIEW

DETAILS OF CABLE ANCHOR BRACKET



BCT BEARING PLATE

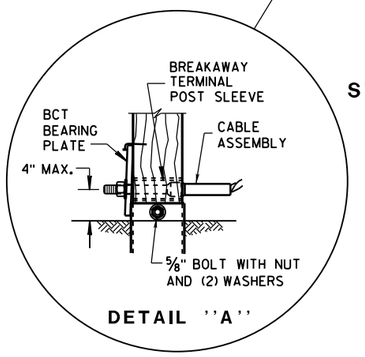
CABLE END PLATE



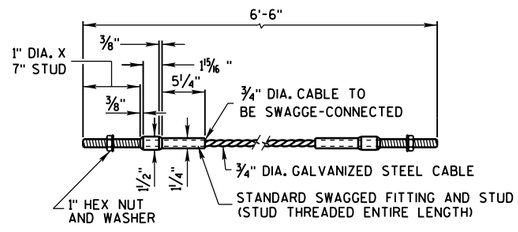
ELEVATION VIEW END VIEW

NOSE CABLE ANCHOR PLATE

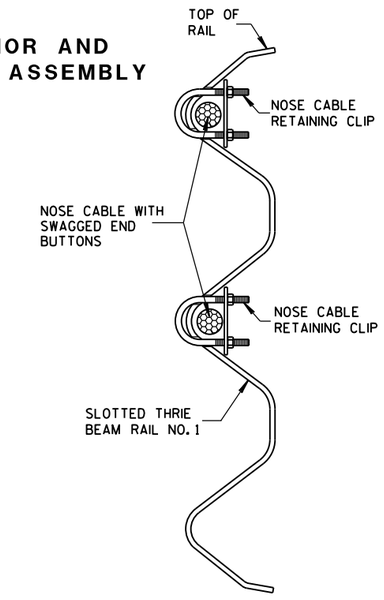
NOTE: 12 1/2" x 5 13/16" x 3/16" STEEL PLATE (A306)



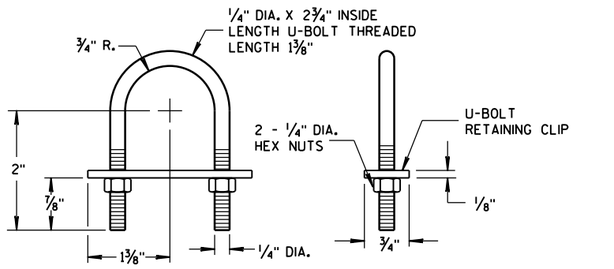
DETAIL ''A''



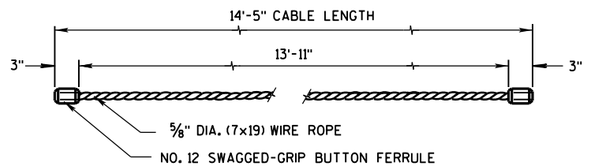
DETAILS OF CABLE ANCHOR ASSEMBLY



PLACEMENT OF NOSE CABLE RETAINING CLIP



NOSE CABLE RETAINING CLIP



NOSE CABLE WITH SWAGGED END BUTTONS

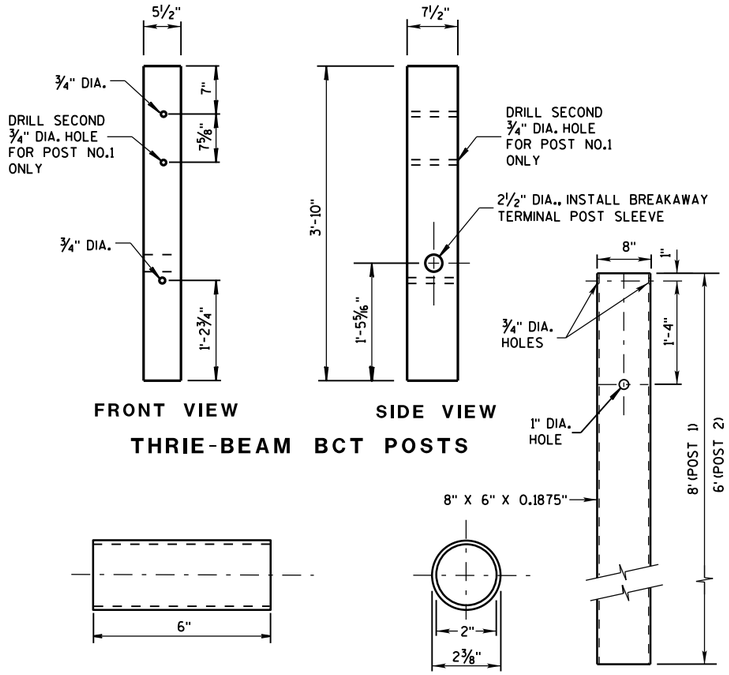
TO PULL OFF SWAGGED GRIP BUTTON FERRULE FROM WIRE ROPE REQUIRES A FORCE EQUAL TO 98% OF THE WIRE ROPE'S BREAKING STRENGHT.

STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 26-3c

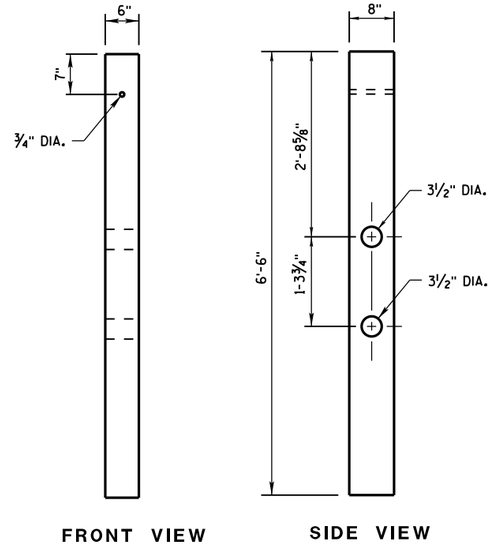


FRONT VIEW SIDE VIEW

THRIE-BEAM BCT POSTS

BREAKAWAY TERMINAL POST SLEEVE

STEEL FOUNDATION TUBE

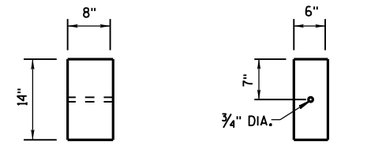


FRONT VIEW SIDE VIEW

THRIE-BEAM CRT WOOD POSTS

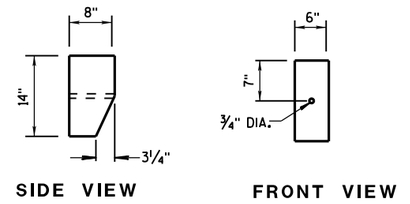
GENERAL NOTES

SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.



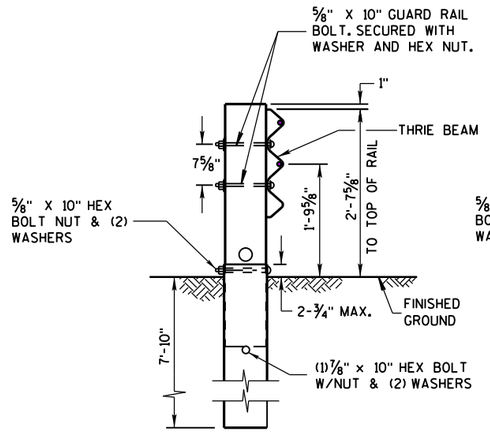
SIDE VIEW FRONT VIEW

STANDARD WOOD BLOCK



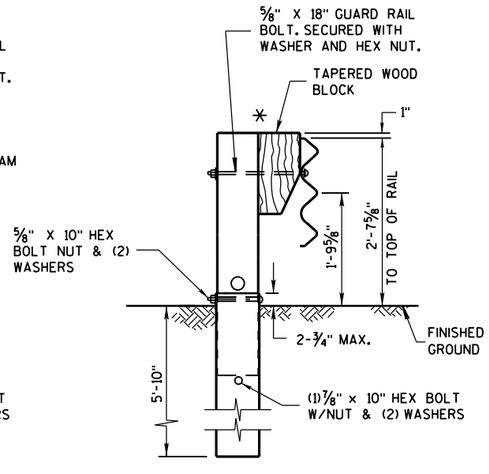
SIDE VIEW FRONT VIEW

TAPERED WOOD BLOCK



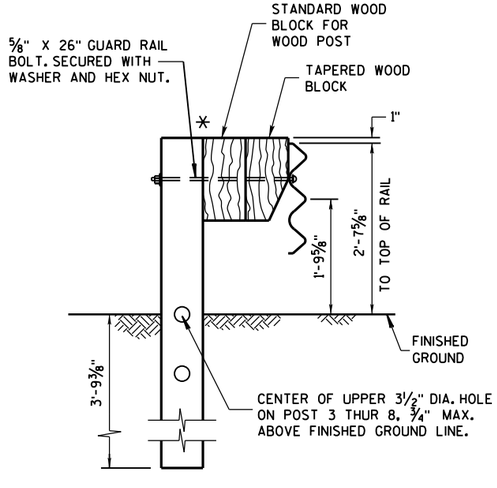
THRIE-BEAM BCT POST
(WITH 8'-0" FOUNDATION TUBE)

POST NO. 1



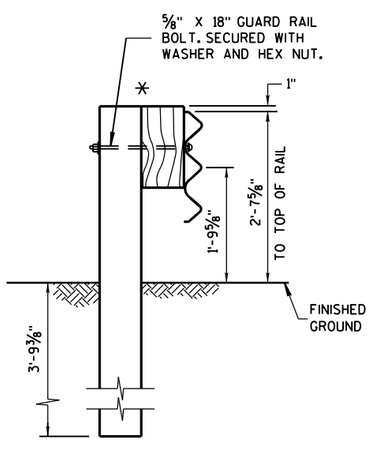
THRIE-BEAM BCT POST
(WITH 6'-0" FOUNDATION TUBE AND 1'-2" TAPERED BLOCK)

POST NO. 2



THRIE-BEAM CRT POST
(6'-6" LONG POST WITH 1'-2" BLOCK AND 1'-2" TAPERED BLOCK)

POST NO. 3,4,5,6,7, & 8



THRIE-BEAM POST
(6'-6" LONG POST WITH 1'-2" BLOCK)

POST NO. 9,10,11,& 12

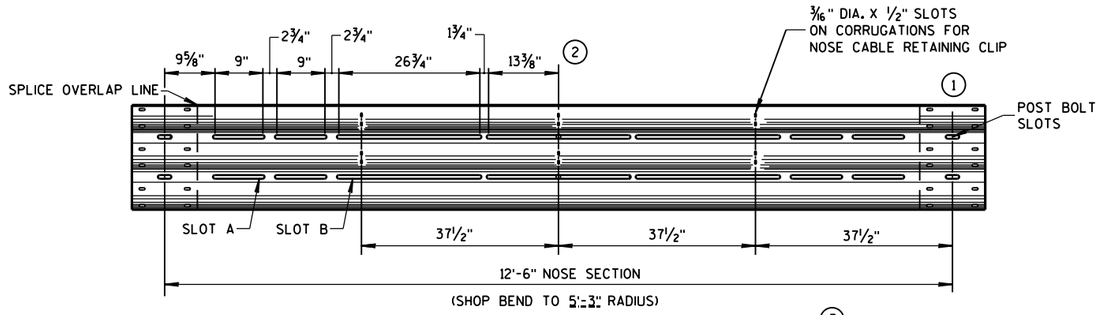
(ALSO USE FOR STEEL THRIE BEAM BEYOND POST 12)

* IF NEEDED DUE TO AN UNDERGROUND OBSTACLE ADD 1 ADDITIONAL STANDARD BLOCKOUT TO POST.

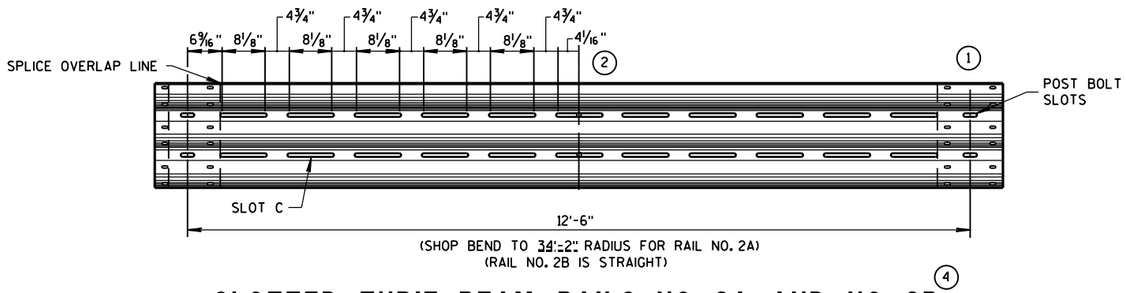
STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

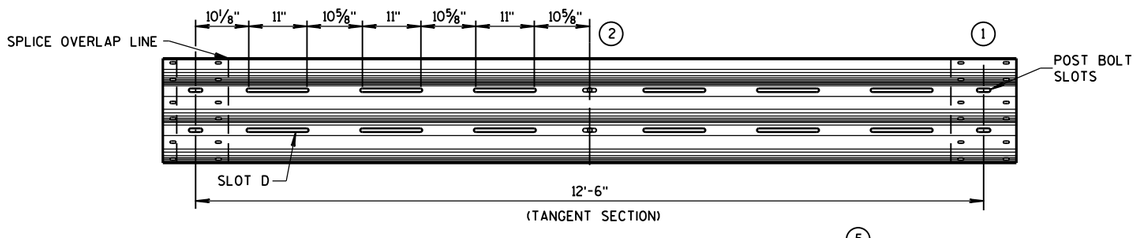
6
S.D.D. 14 B 26-3d



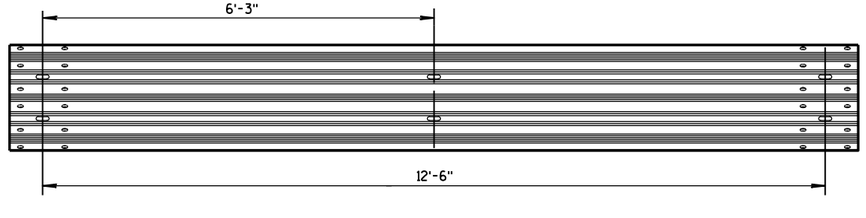
SLOTTED THRIE BEAM RAIL NO. 1 (3)



SLOTTED THRIE BEAM RAILS NO. 2A AND NO. 2B (4)



SLOTTED THRIE BEAM RAIL NO. 3 (5)



UNBENT STANDARD THRIE BEAM RAIL NO. 4 AND NO. 5

GENERAL NOTES

SEE STANADRD DETAIL DRAWINGS 14 B 26a-e.

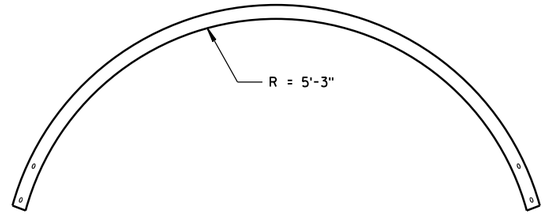
(1) SLOTTED THRIE BEAM RAIL DIMENSIONS SHOWN ARE BEFORE BENDING TO THE RADIUS SHOWN.

(2) SLOT SIZE AND SPACING SYMMETRIC.

(3) SLOTTED THRIE BEAM RAIL NO. 1, 12'-6", SHOP BEND TO R=5'-3".

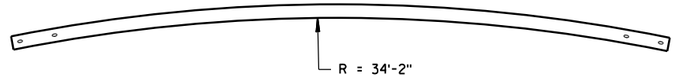
(4) SLOTTED THRIE BEAM RAIL NO. 2A, 12'-6", SHOP BEND TO R=34'-2".
SLOTTED THRIE BEAM RAIL NO. 2B, 12'-6", RAIL IS STRAIGHT.

(5) SLOTTED THRIE BEAM RAIL NO. 3, 12'-6", TANGENT.



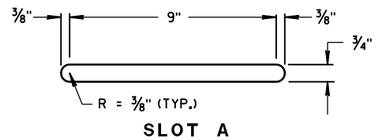
PLAN VIEW

SLOTTED THRIE BEAM RAIL NO. 1

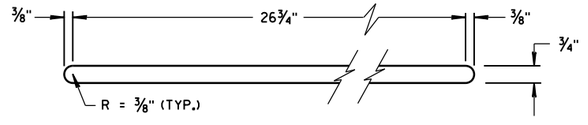


PLAN VIEW

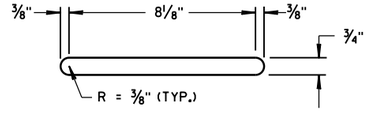
SLOTTED THRIE BEAM RAIL NO. 2A



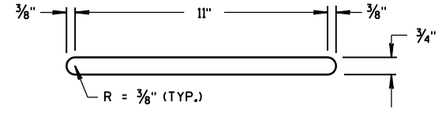
SLOT A



SLOT B



SLOT C



SLOT D

SLOT DETAILS

STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2014 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

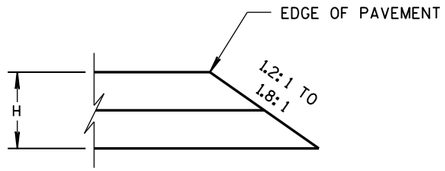
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S.D.D. 14 B 26-3e

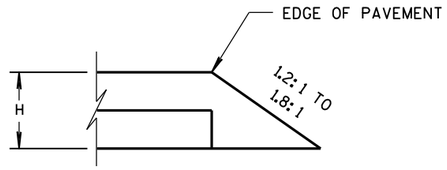
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S.D.D. 14 B 26-3e



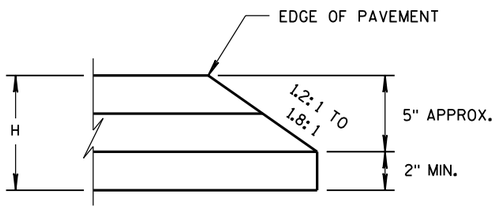
CONSTRUCTED WITH FINAL TWO LAYERS

FOR H 5" OR LESS



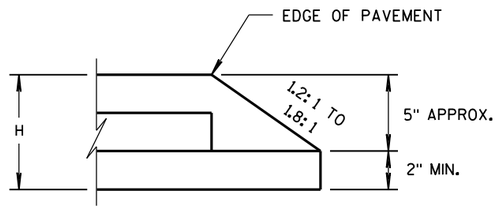
CONSTRUCTED WITH FINAL LAYER

FOR H 5" OR LESS



CONSTRUCTED WITH FINAL TWO LAYERS

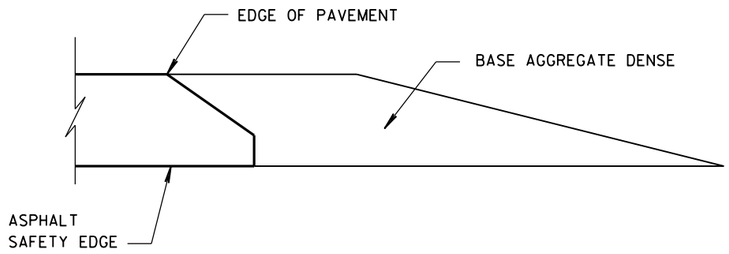
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER

FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS



FINISHED SHOULDER AGGREGATE PLACEMENT

6

6

S.D.D. 14 B 29-1

S.D.D. 14 B 29-1

SAFETY EDGE SM

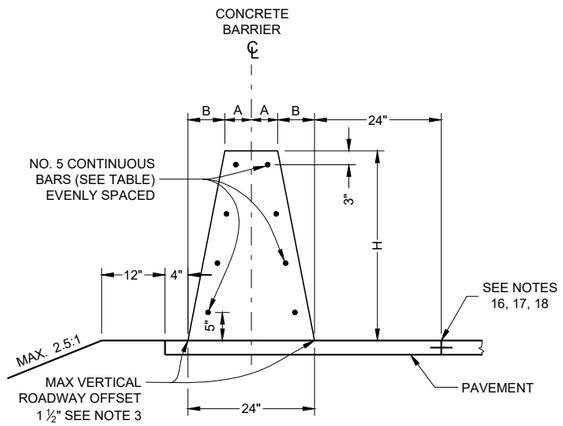
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/30/2012
DATE

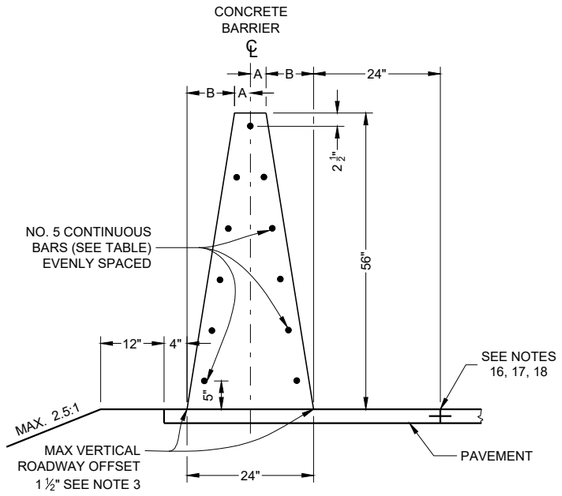
/S/ Jerry H. Zoda
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA



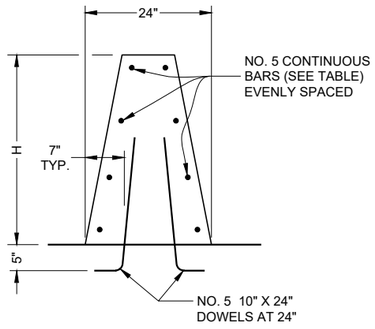
32 - INCH, 36 - INCH OR 42 - INCH
SINGLE SLOPE CONCRETE BARRIER

□T□□E S□□□T□□E S□□□T□□E S□□□



56 - INCH SINGLE
SLOPE CONCRETE BARRIER

□T□□E S□□□

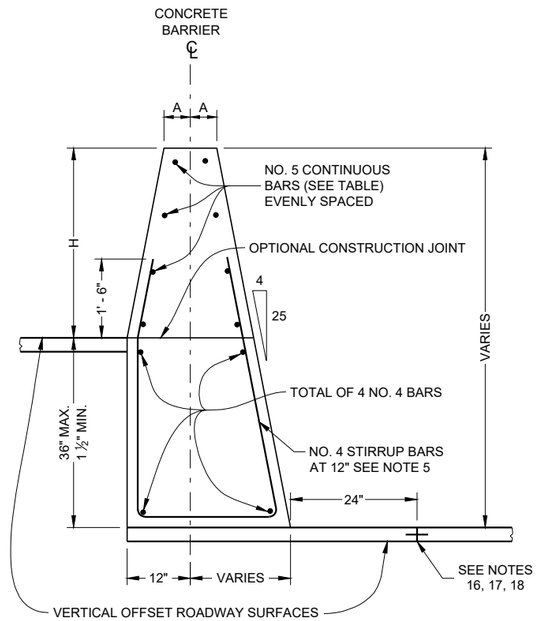


SINGLE SLOPE
CONCRETE BARRIER
ON BRIDGE

□NON O□TER □ARA□ET A□□L□AT□ON□

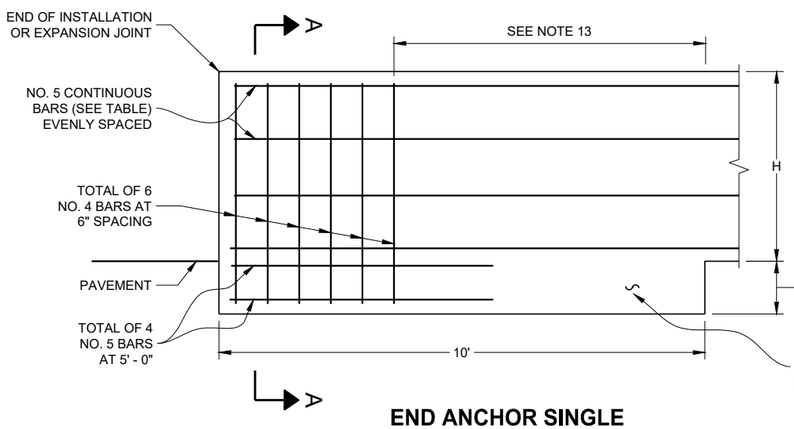
GENERAL NOTES

1. WHERE THE CONCRETE BARRIER IS ADDED TO THE FACE OF EXISTING CONCRETE STRUCTURE, MATCH EXISTING WEEP HOLES.
2. EXPANSION JOINTS IN CONCRETE BARRIER SHALL BE LOCATED AT ALL DECK AND PRINCIPAL WALL JOINTS. EXPANSION JOINT FILLER MATERIAL SHALL BE THE SAME SIZE AS JOINT OF ½" MINIMUM.
3. WHERE VERTICAL ROADWAY OFFSET IS GREATER THAT 1", USE TYPE A.
4. PLACE BARRIER PERPENDICULAR TO SHOULDER GRADE, UNLESS INDICATED IN PLAN.
5. EXCEPT IN ANCHORS, VERTICAL REINFORCING STIRRUP NOT REQUIRED FOR ROADWAY OFFSETS LESS THAN 1' - 0".
6. FOR TYPE S32, TYPE S36, TYPE S42 AND TYPE S56 MONLITHIC FOOTING OR DOWELED FOOTING 2 - #8 X 8" @ 2'- 0".
7. STAGGER LAPPING OF LONGITUDINAL STEEL. MINIMUM OVERLAP OF STEEL 2 FEET. BARS AT LAPS TO BE FIRMLY TIED OR CONNECTED.
8. 4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATION 501.
9. WHEN SWITCHING BETWEEN SLIP FORM AND CAST - IN - PLACE OPERATIONS, EXTEND LONGITUDINAL STEEL 3 FEET BEYOND SLIP FORMING CUT - OFF POINT. EXPOSED STEEL INTO NEXT POURS REINFORCEMENT. LAPS TO BE FIRMLY TIED.
10. USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS OTHERWISE NOTED.
11. 2" CLEAR COVER TYPICAL
12. COLD-JOINTS MAY BE USED BETWEEN ANCHOR INSTALLATIONS. WHEN A COLD JOINT IS NEEDED, 3 FEET OF LAP OF LONGITUDINAL STEEL IS REQUIRED. LAPS TO BE FIRMLY TIED.
13. IN TYPE S32, TYPE S36, TYPE S42 AND TYPE S56 NO ADDITIONAL VERTICAL STEEL IS NEEDED. IN TYPE S32A, TYPE S36A, TYPE S42A AND TYPE S56A REQUIRES VERTICAL STEEL. SEE OTHER DETAIL.
14. IN TYPE S32, TYPE S36, TYPE S42 AND TYPE S56 DEPTH OF FOOTING 10". IN TYPE S32A, TYPE S36A, TYPE S42A AND TYPE S56A MATCH TOTAL HEIGHT OF SINGLE SLOPE BARRIER RETAINING WALL.
15. FOR ALL BARRIER TYPES SHOWN, ANCHOR IS REQUIRED AT CONCRETE BARRIER ENDS AND AT INTERRUPTIONS IN CONCRETE BARRIER. ANCHOR MAY BE AS SHOWN ON DRAWING OR DETAILS SHOWN ON S.D.D. 14B33. ANCHORS INCIDENTAL TO CBSS.
16. CONCRETE PAD UNDER CBSS MAY BE PLACED INTEGRAL WITH BARRIER, PLACED SEPARATELY OR PLACED WITH CONCRETE SHOULDER AND SAWED FULL DEPTH. SAWING OF CONCRETE SHOULDER IS INCIDENTAL TO CONCRETE BARRIER BID ITEM. CONCRETE PAD MINIMUM DEPTH IS 6 INCHES, OR EQUAL TO THE DEPTH OF THE CONCRETE SHOULDER.
17. CONSTRUCTION JOINTS MAY BE ELIMINATED WHEN CONCRETE SHOULDER IS LESS THAN 10'.
18. SEE SDD 13C1 FOR DETAILS TYING BARRIER FOOTING TO ADJACENT CONCRETE.
19. PROVIDE A 1" DEEP, ," WIDE CONTRACTION JOINT IN BARRIER FOOTING AND BARRIER. JOINT IS TO MATCH ADJACENT CONCRETE JOINTS. IF ADJACENT TO ASPHALT CONTRACTION JOINT IS REQUIRED EVERY 15'.

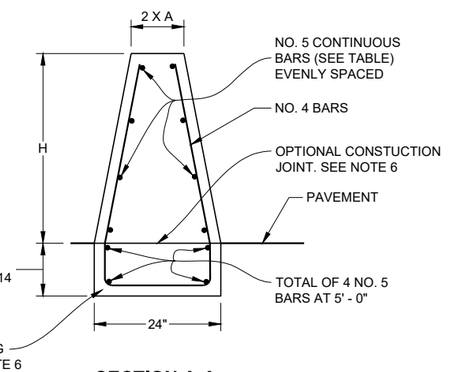


SINGLE SLOPE CONCRETE
BARRIER AND RETAINING WALL
(TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)
(BETWEEN ADJACENT ROADWAYS)

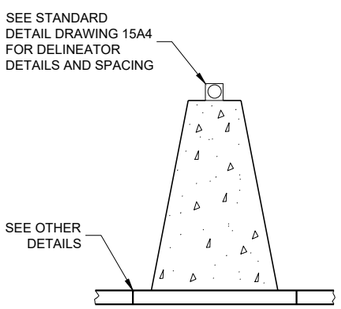
BARRIER HEIGHT H INCHES	A INCHES	B INCHES	NUMBER OF NO. 5 BARS EACH
32	7	5	8
36	6 ¼	5 ¾	8
42	5 ¼	6 ¾	10
56	3	9	11



END ANCHOR SINGLE
SLOPE CONCRETE BARRIER
(AT CONSTRUCTION JOINT)



SECTION A-A



DELINEATION

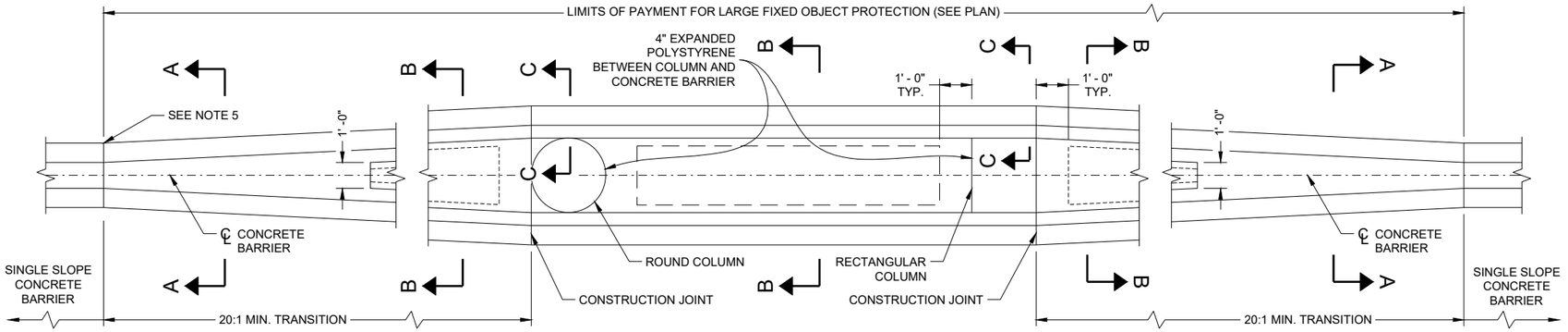
CONCRETE BARRIER SINGLE SLOPE
□CBSS□

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA□ 101

SDD 1□B□2 - 06□

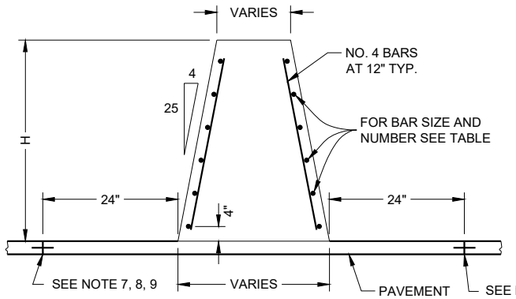
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SDD 1□B□2 - 06□

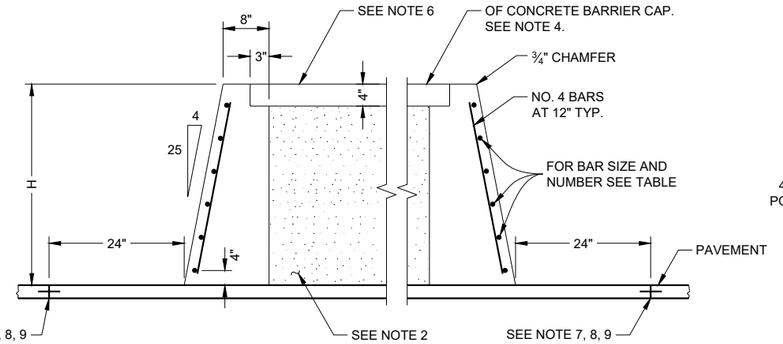


BARRIER HEIGHT H INCHES	BAR SIZE	NUMBER OF BARS EACH
32	4	6
36	4	6
42	5	6
56	5	6

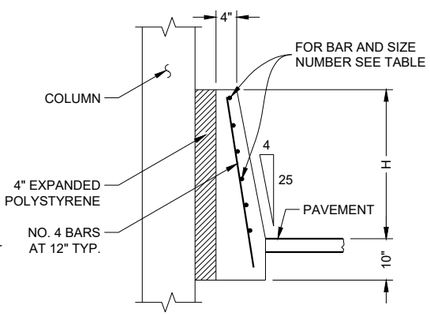
LARGE FIXED OBJECTS PROTECTION
(TYPE S32, TYPE S36, TYPE S42, TYPE S56)



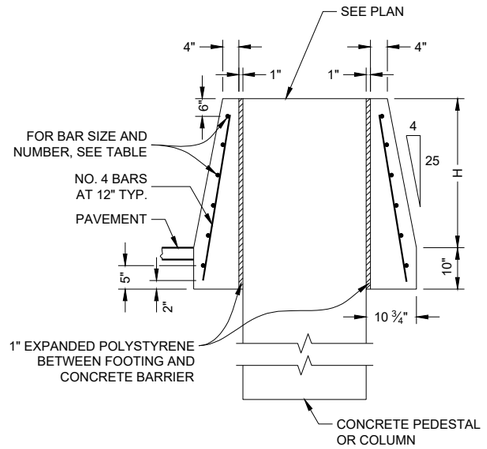
SECTION A - A



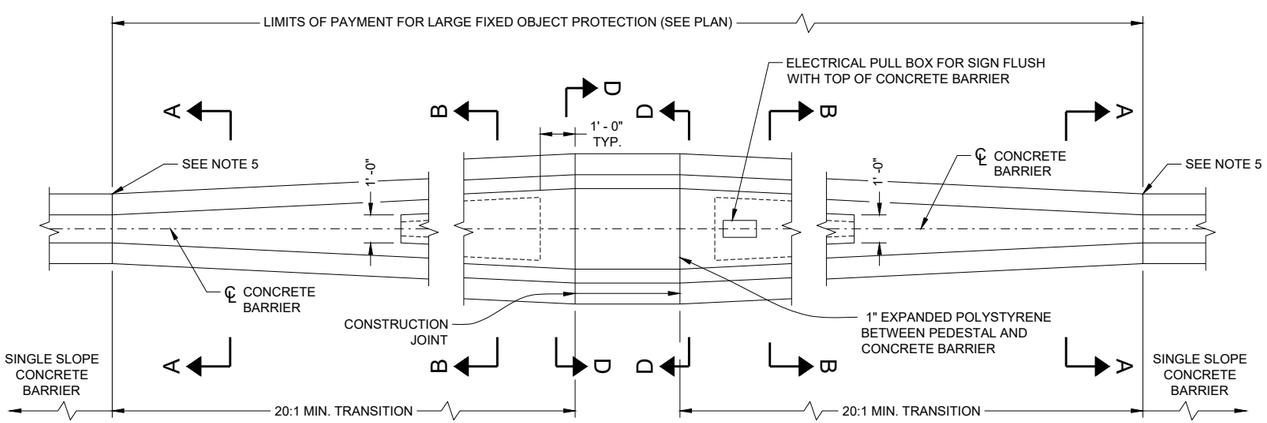
SECTION B - B



SECTION C - C



SECTION D - D



SMALL FIXED OBJECTS PROTECTION
(TYPE S32, TYPE S36, TYPE S42, TYPE S56)

GENERAL NOTES

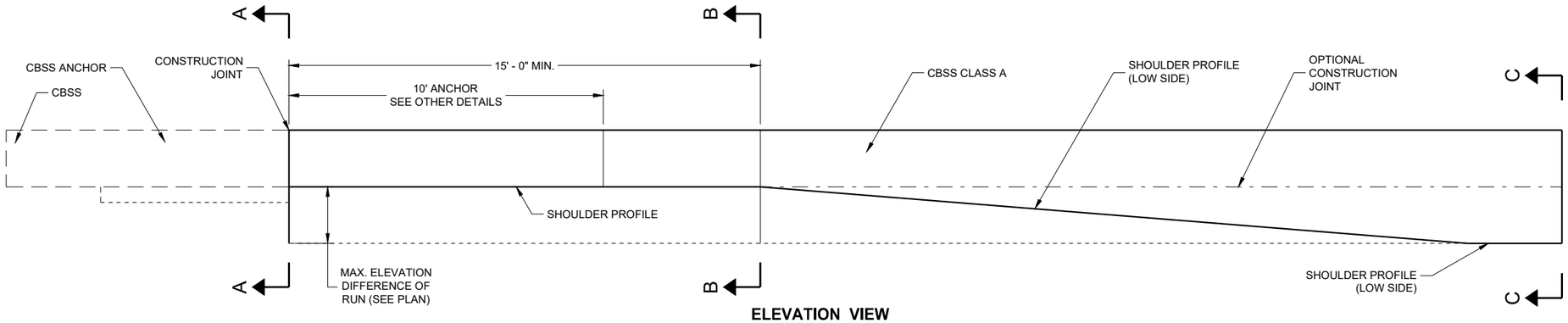
1. INSTALL 1 INCH DIAMETER DRAIN PIPE EVERY 20 FEET OF CROSS SECTION B -B. MINIMUM ONE DRAIN CAVITY.
2. BETWEEN CONCRETE BARRIER WALLS FILL WITH FOUNDATION BACKFILL.
3. REINFORCING STEEL SHALL EXTEND CONTINUOUS THROUGH CONSTRUCTION JOINTS.
4. ADJUST HEIGHT OF CONCRETE BARRIER WALL ON LOW SIDE OF OFFSET OR SUPERELEVATED ROADWAYS TO PROVIDE LEVEL GRADE ACROSS TOP OF CONCRETE CAP.
5. IF FIXED OBJECT PROTECTION IS INSTALLED FIRST, USE COLD JOINTS. IF CBSS PLACED FIRST, USE EXPANSION JOINT.
6. USE NO. 3 BAR SPACED 12 INCHES CENTER TO CENTER (PLACED IN EACH DIRECTION) OR EQUIVALENT WIRE MESH.
7. CONCRETE PAD UNDER CBSS MAY BE PLACED INTEGRAL WITH BARRIER, PLACED SEPARATELY OR PLACED ITH CONCRETE SHOULDER AND SAWED FULL DEPTH. SAWING OF CONCRETE SHOULDER IS INCIDENTAL TO CONCRETE BARRIER BID ITEM. CONCRETE PAD MINIMUM DEPTH IS 6 INCHES, OR EQUAL TO THE DEPTH OF THE CONCRETE SHOULDER.
8. CONSTRUCTION JOINTS MAY BE ELIMINATED WHEN CONCRETE SHOULDER IS LESS THAN 10',
9. SEE SDD 13C1 FOR DETAILS TYING BARRIER FOOTING TO ADJACENT CONCRETE.

CONCRETE BARRIER SINGLE SLOPE
□CBSS□

SDD 1□B□2 - 06b
6

GENERAL NOTES

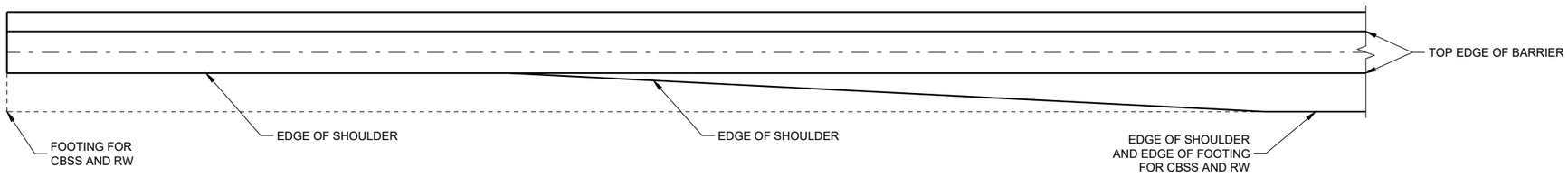
1. SAWING OF CONCRETE SHOULDER IS INCIDENTAL TO CONCRETE BARRIER BID ITEM. SEE SDD 13C18 FOR JOINT DEPTH AND WIDTH. CONCRETE PAD MINIMUM DEPTH IS 6 INCHES, OR EQUAL TO THE DEPTH OF THE CONCRETE SHOULDER.
2. CONSTRUCTION JOINTS MAY BE ELIMINATED WHEN CONCRETE SHOULDER IS LESS THAN 10',
3. SEE SDD 13C1 FOR DETAILS TYING BARRIER FOOTING TO ADJACENT CONCRETE.



ELEVATION VIEW

TRANSITION TO CBSS CLASS A

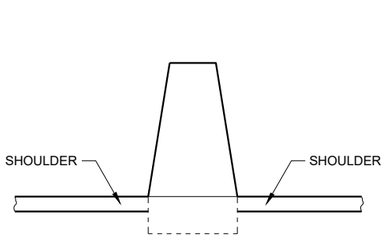
(TYPE S32A, TYPE S36A TYPE S42A TYPE S56A)



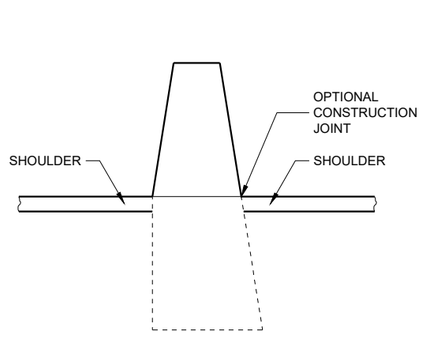
PLAN VIEW

TRANSITION TO CBSS CLASS A

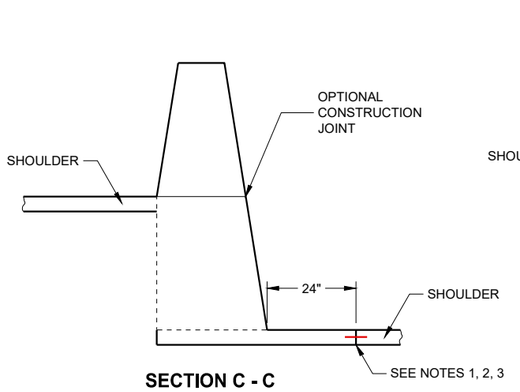
(TYPE S32A, TYPE S36A TYPE S42A TYPE S56A)



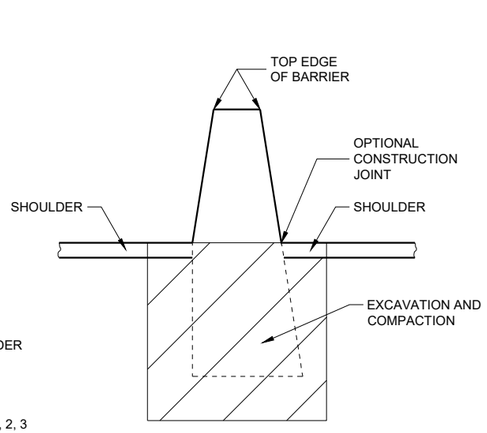
SECTION A - A



SECTION B - B



SECTION C - C



CONCRETE BARRIER SINGLE SLOPE

CBSS

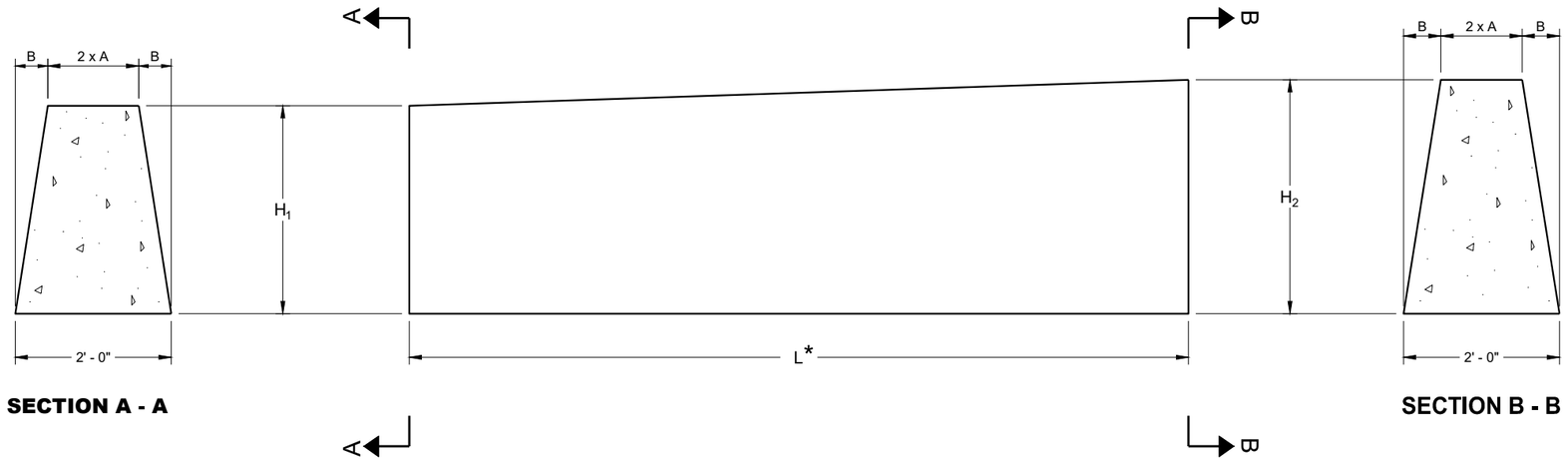
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 1□B□2 - 06□

6

SDD 1□B□2 - 06□



DOUBLE COLD JOINT HEIGHT TRANSITION

BARRIER DIMENSIONS

BARRIER HEIGHT INCHES	A INCHES	B INCHES
32	7	5
36	6 ¼	5 ¾
42	5 ¼	6 ¾
56	3	9

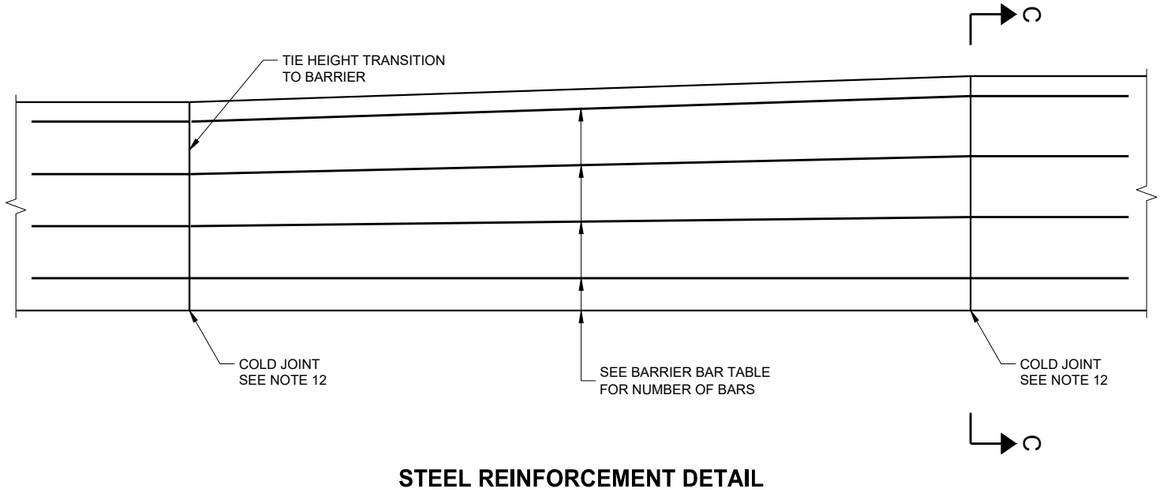
MULTIPLE HEIGHT TRANSITIONS MAY BE USED IN SEQUENCE TO GET TO APPROPRIATE HEIGHT.

USE COLD JOINT TO CONNECT MULTIPLE HEIGHT TRANSITIONS.

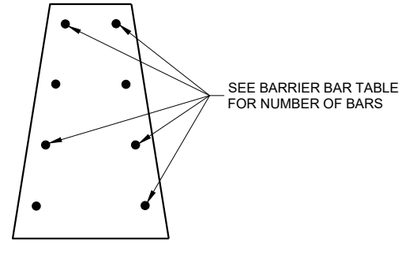
BARRIER BARS

H_1	H_2	L*	NUMBER OF NO. 5 BARS
32"	36"	10' - 0"	8
36"	42"	10' - 6"	10
42"	56"	24' - 6"	11

* LENGTH OF DOUBLE COLD JOINT INCLUDED IN THE TOTAL LENGTH OF CBSS.



STEEL REINFORCEMENT DETAIL



SECTION C-C

CONCRETE BARRIER SIN□ LE SLOPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
UNIT SUPERVISOR

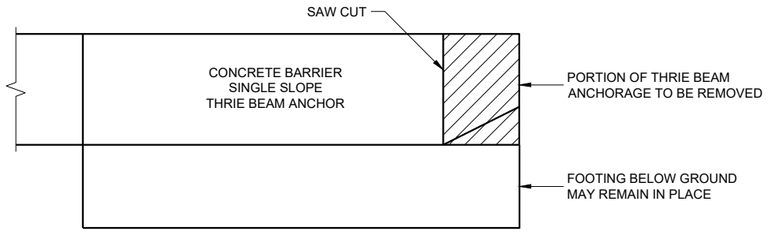
FHWA

6

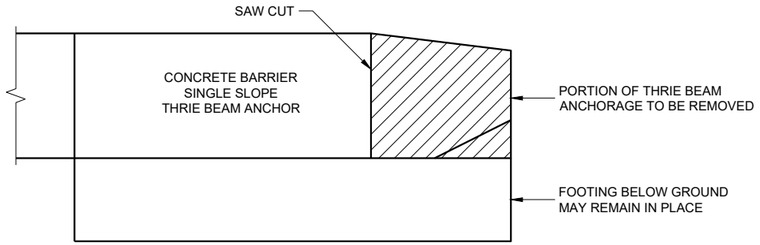
SDD 1□B□2 - 06d

6

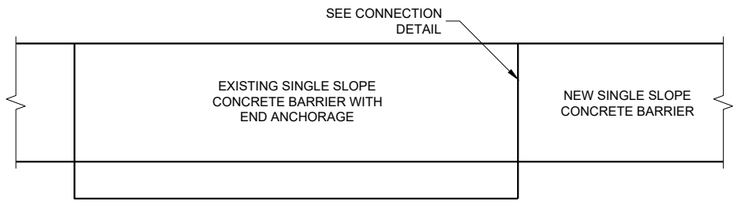
SDD 1□B□2 - 06d



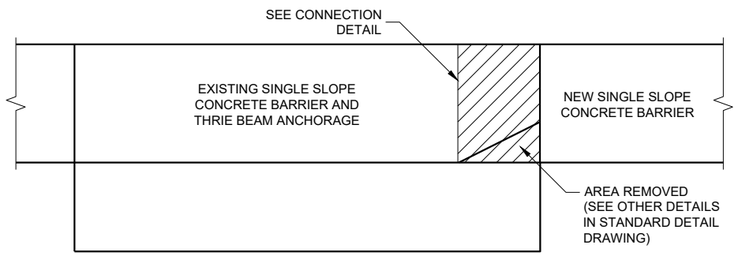
REMOVAL AREA OF
32" CONCRETE THRIE BEAM ANCHORAGE



REMOVAL AREA OF CONCRETE THRIE BEAM
ANCHORAGE WITH HEIGHT GREATER THAN 32"



ELEVATION VIEW OF CONCRETE
BARRIER EXTENSION NEAR END ANCHORAGE



ELEVATION VIEW OF CONCRETE
BARRIER EXTENSION NEAR THRIE BEAM TERMINAL

GENERAL NOTES

1 THE NUMBER OF DRILL HOLES IS EQUAL TO THE NUMBER OF REBAR IN BARRIER (SEE OTHER DETAILS).

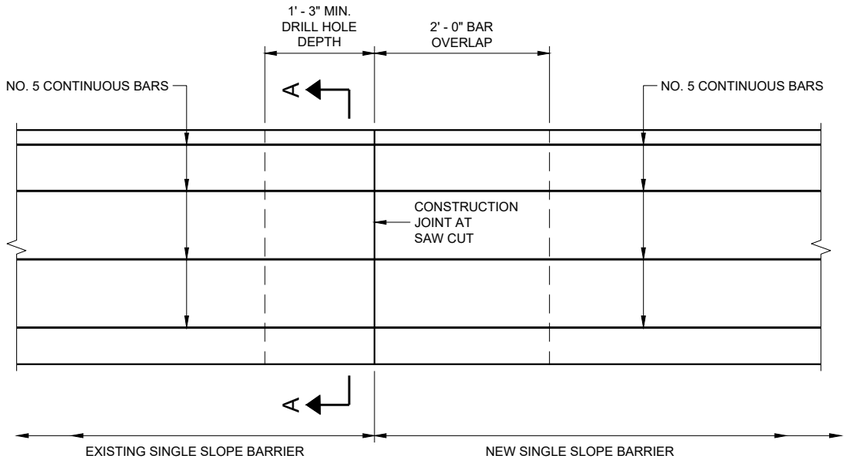
2. MINIMUM DEPTH OF DRILL HOLES IS 1' - 3".

3. DRILL HOLES TO BE A MINIMUM OF 4 INCHES FROM THE EDGE OF CONCRETE

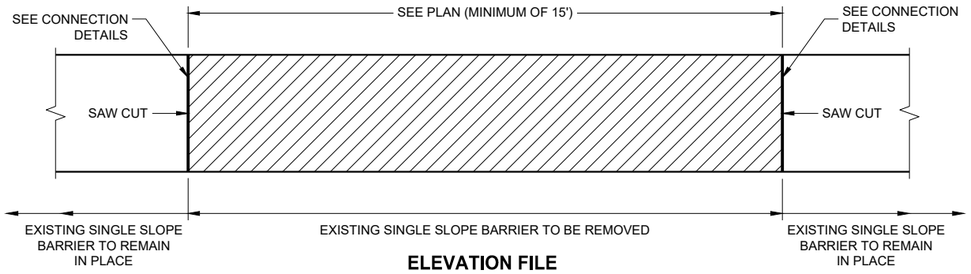
4. INSTALL EPOXY COATED NO. 5 BARS IN DRILL HOLES.

5. END ANCHORAGE MAY OR MAY NOT BE PRESENT ON EXISTING BARRIERS.

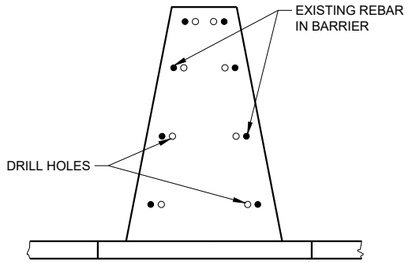
6. REMOVE THRIE BEAM ANCHORAGE AS SHOWN.



CONNECTION OF EXISTING SINGLE SLOPE CONCRETE BARRIER TO
NEW SINGLE SLOPE CONCRETE BARRIER



ELEVATION FILE
BARRIER REMOVAL AND REPLACEMENT



SECTION A-A

RETROFIT OR REPAIR SIN□ LE SLOPE CONCRETE BARRIER

CONCRETE BARRIER
SIN□ LE SLOPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
UNIT SUPERVISOR

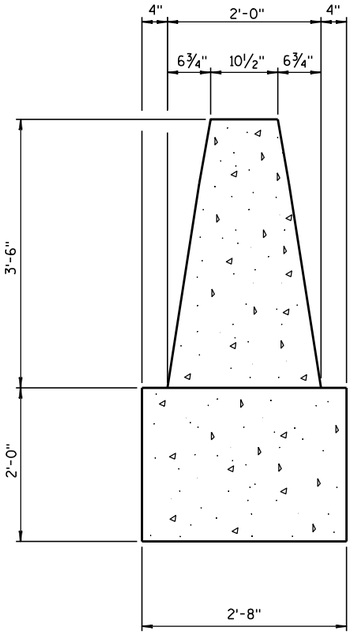
FHWA

6

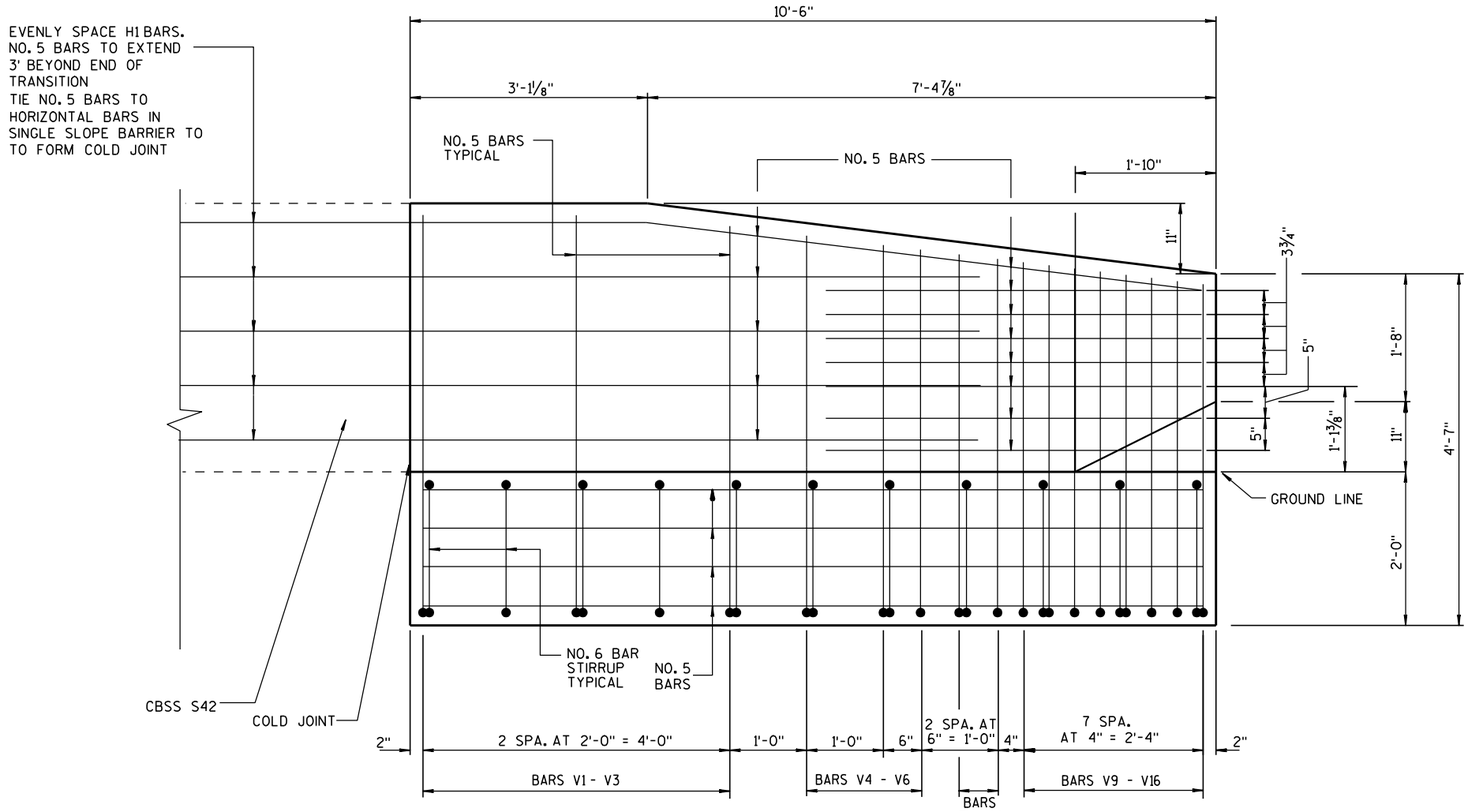
SDD1□B□2 - 06□

6

SDD1□B□2 - 06□

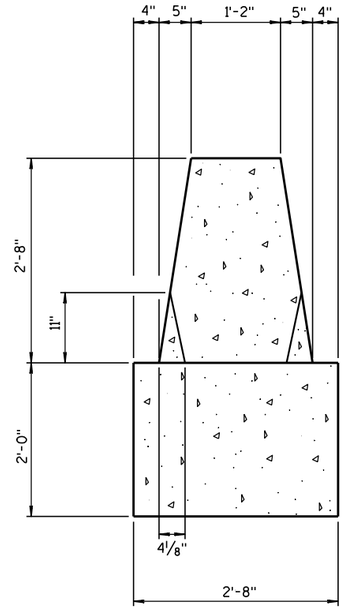


SECTION A-A

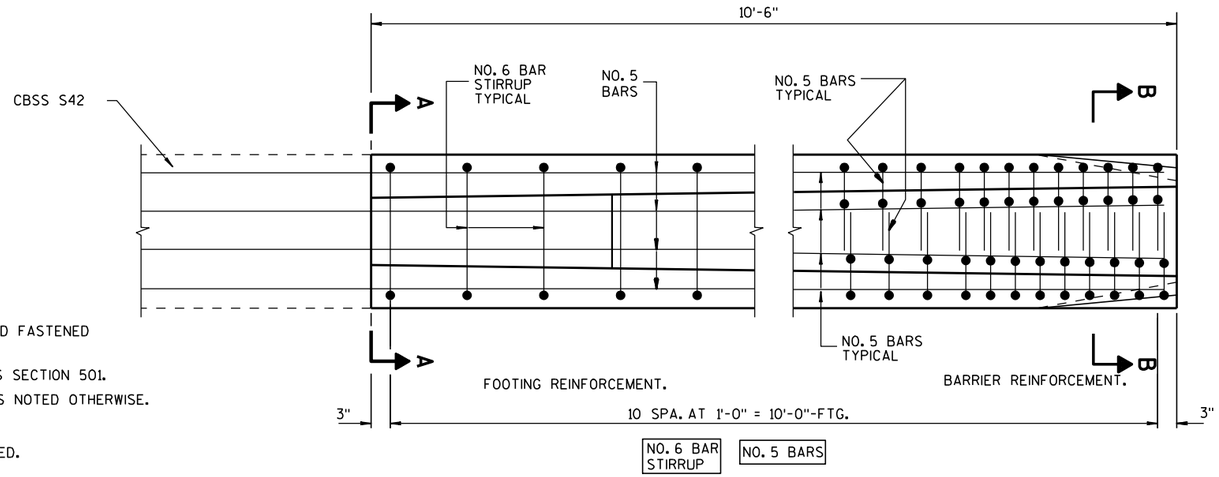


SEE SECTIONS ① THRU ⑯

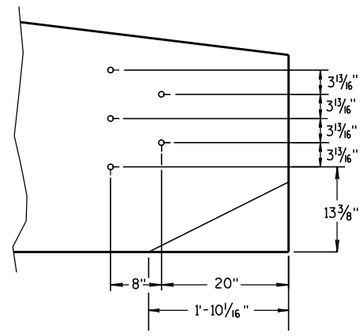
ELEVATION VIEW



SECTION B-B



PLAN VIEW



PVC PIPE LOCATIONS

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

SPLICES OF LONGITUDINAL BARS TO BE 2'LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS NOTED OTHERWISE.

4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS SECTION 501.

USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.

THRIE BEAM ANCHOR INCIDENTAL TO CONCRETE BARRIER ITEM.

INSTALL SCHEDULE 40 PVC PIPE 1" DIAMETER AT LOCATIONS INDICATED.

EXTEND PVC PIPE COMPLETELY THROUGH BARRIER.

CUT ENDS OF PVC PIPE FLUSH WITH FINISHED FACE of BARRIER.

THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

2" CLEAR COVER TYPICAL.

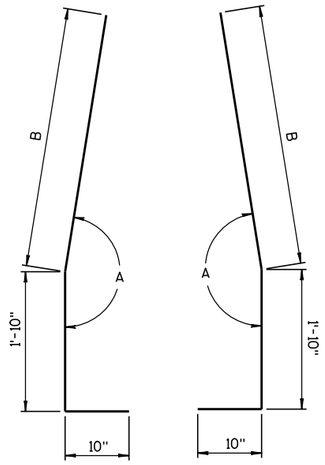
CONCRETE BARRIER SINGLE SLOPE 42" THRIE BEAM ANCHOR

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 33-1g

BAR CHART
SECTIONS V1 - V11

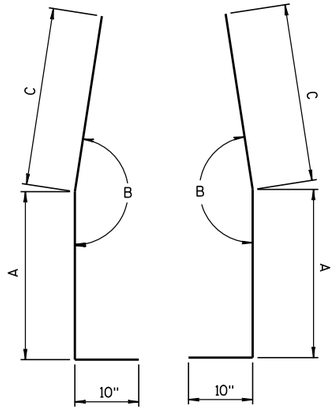
BAR	A	B
V1	170°-50'	3'-4½"
V2	171°-20'	3'-4½"
V3	171°-30'	3'-2½"
V4	171°-25'	3'-1½"
V5	171°-15'	3'-0"
V6	171°-15'	2'-11"
V7	171°-20'	2'-10½"
V8	171°-10'	2'-9½"
V9	171°-10'	2'-9"
V10	171°-05'	2'-8½"
V11	171°-10'	2'-8"



BAR BENDING DETAIL
FOR BARS V1 - V11

BAR CHART
SECTIONS V12 - V13

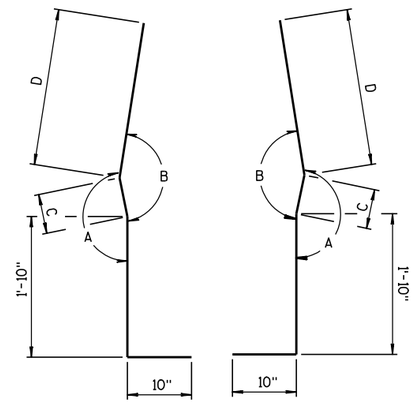
BAR	A	B	C
V12	2'-2"	171°-15'	2'-3½"
V13	2'-7"	171°-05'	1'-10"



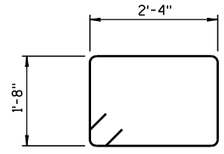
BAR BENDING DETAIL
FOR BARS V12 - V13

BAR CHART
SECTIONS V14 - V16

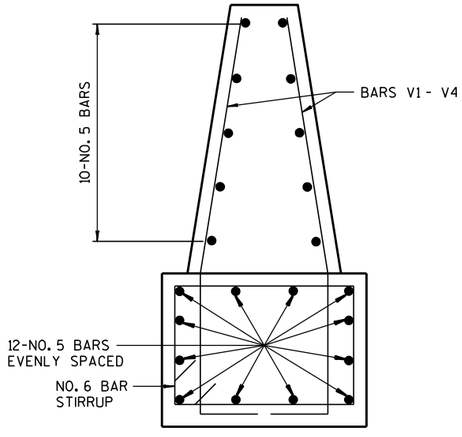
BAR	A	B	C	D
V14	168°-15'	159°-15'	6"	2'-0"
V15	169°-20'	161°-00'	8"	1'-10"
V16	168°-40'	160°-10'	10"	1'-8"



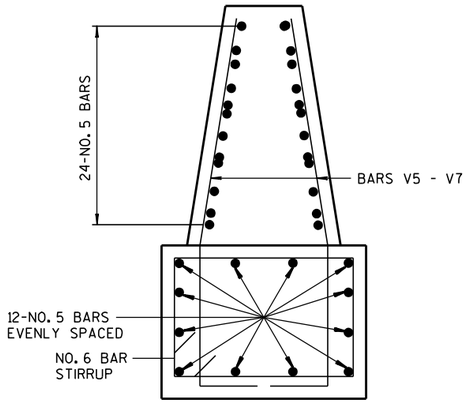
BAR BENDING DETAIL
FOR BARS V14 - V16



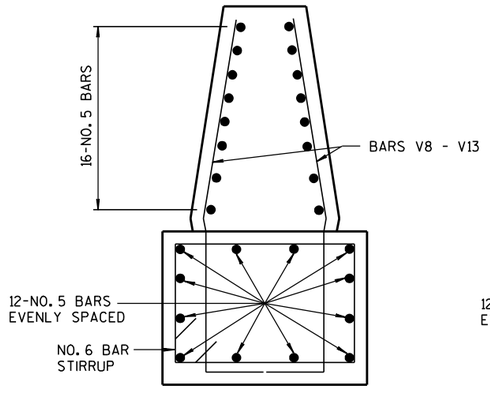
STIRRUP BAR
BENDING DETAIL



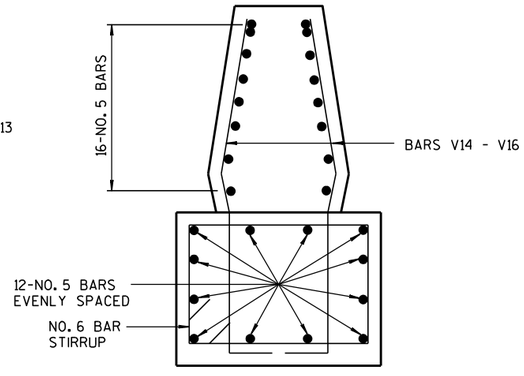
BAR DETAIL
SECTIONS V1 - V4



BAR DETAIL
SECTIONS V5 - V7



BAR DETAIL
SECTIONS V8 - V13



BAR DETAIL
SECTIONS V14 - V16

CONCRETE BARRIER
SINGLE SLOPE 42"
THRIE BEAM ANCHOR

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6-3-2010 DATE
/S/ Jerry H. Z--- ROADWAY STANDARDS ENGINEER
FHWA

6
S.D.D. 14 B 33-1h

(1) WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

(2) USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

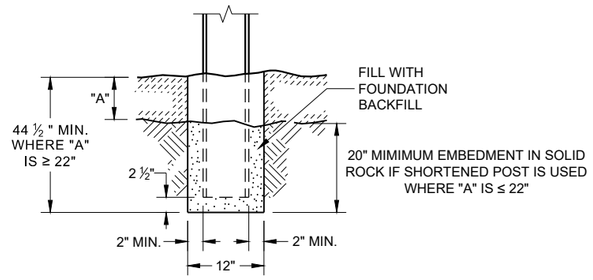
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

(4) WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

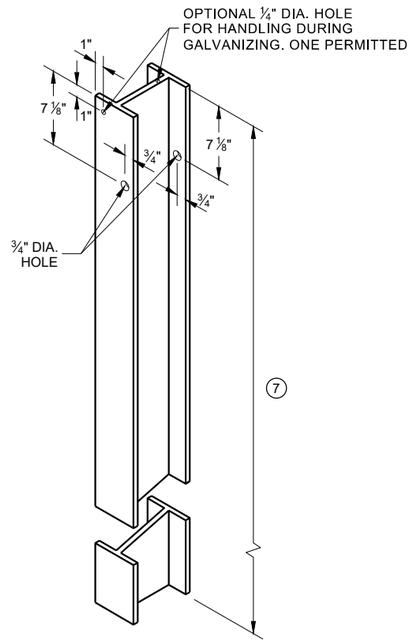
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS +1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

(6) WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

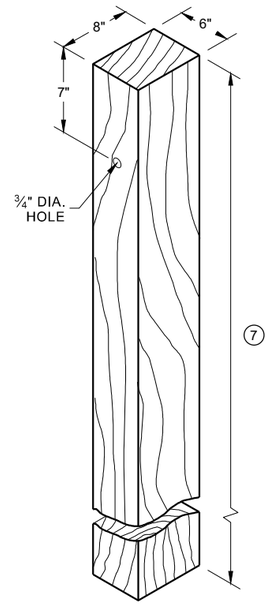
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



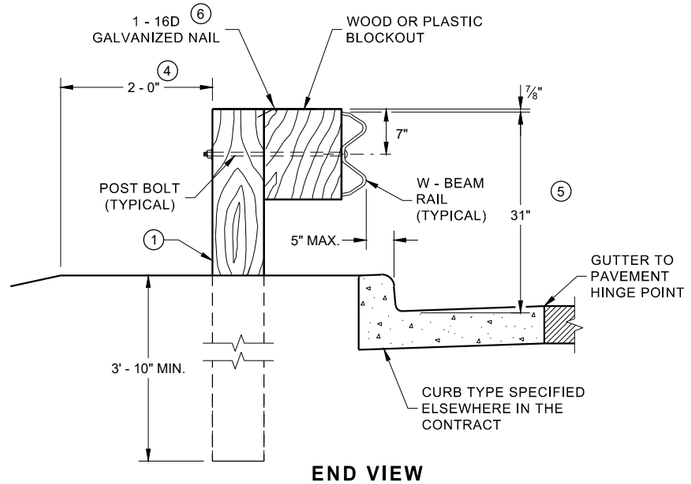
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



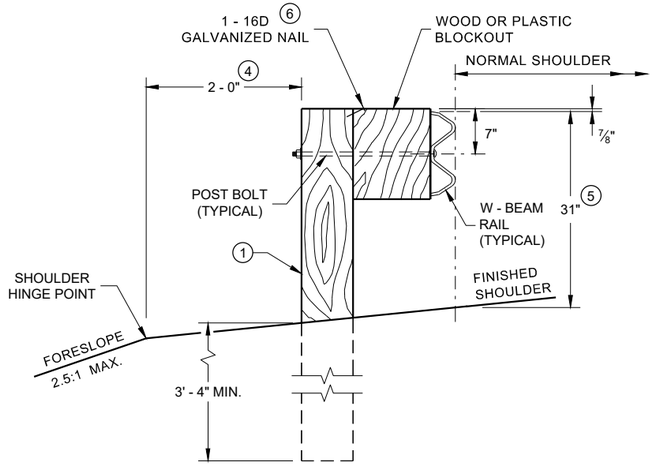
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



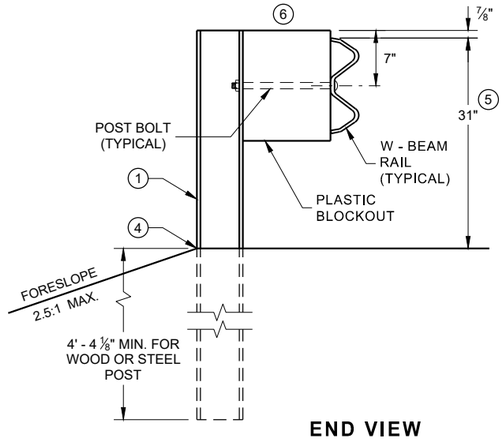
WOOD POST (6" X 8") NOMINAL (1)



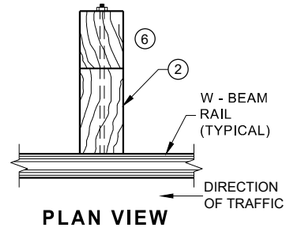
END VIEW
LOCATED ALONG A CURBED ROADWAY



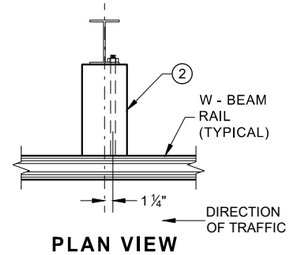
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



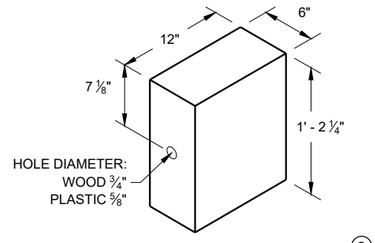
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM



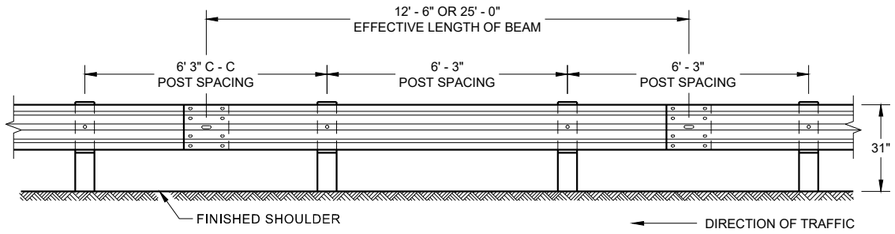
WOOD OR PLASTIC BLOCKOUT (2)

MID EST UARDRAIL S STEM
M S UARDRAIL

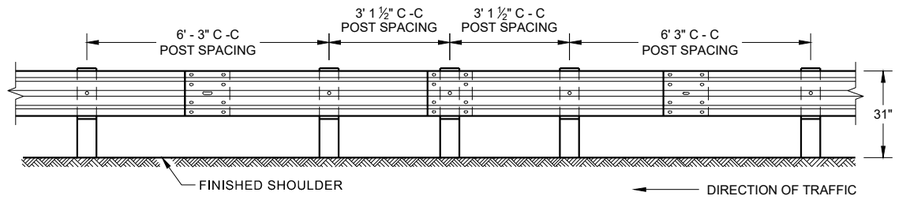
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA 108

SDD1 B 2 - 06

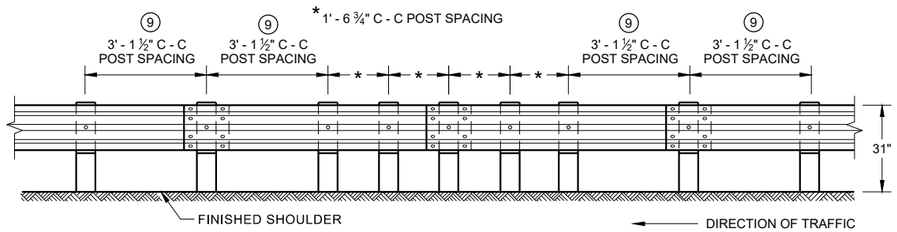
SDD1 B 2 - 06



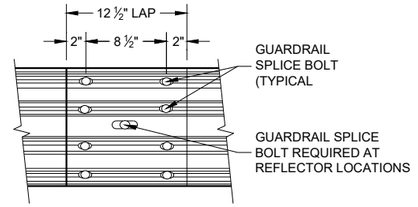
FRONT VIEW
POST SPACING STANDARD INSTALLATION



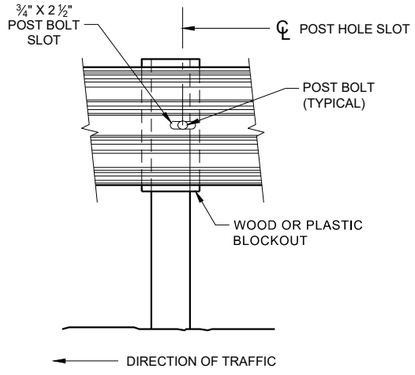
FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)



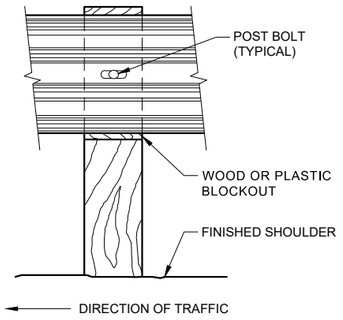
FRONT VIEW
QUARTER POST SPACING (QS)



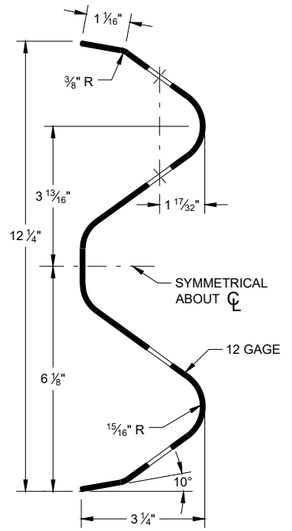
FRONT VIEW
MID-SPAN BEAM SPLICE



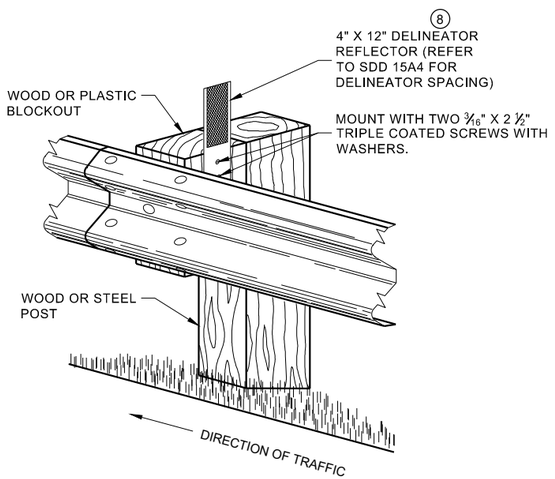
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION

GENERAL NOTES

⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.

⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A ¾" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

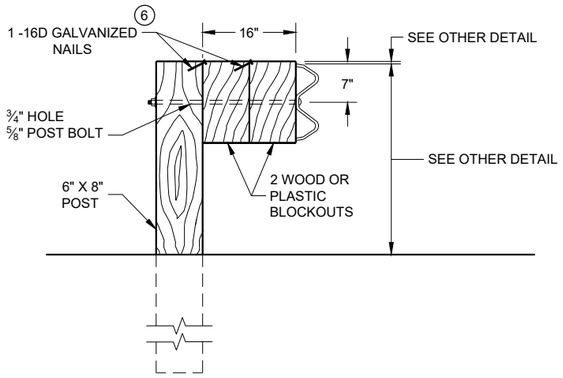
GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

MID□ EST □ UARDRAIL S□ STEM
□M□ S□□ UARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA 109

SDD 1□B□2 - 06b

SDD 1□B□2 - 06b

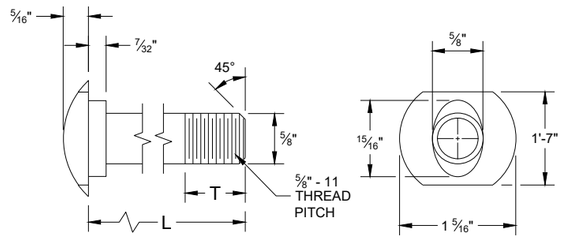


DETAIL FOR 16" BLOCKOUT DEPTH

IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.

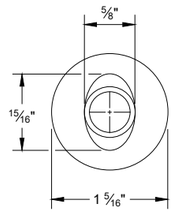
NOTE:

1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3⁄16".
2. IF THE BOLT EXTENDS MORE THAN ¼" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

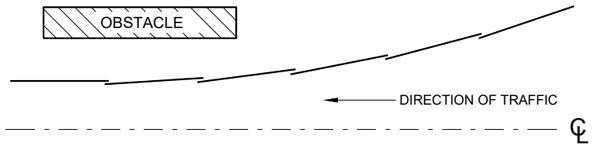


POST BOLT TABLE

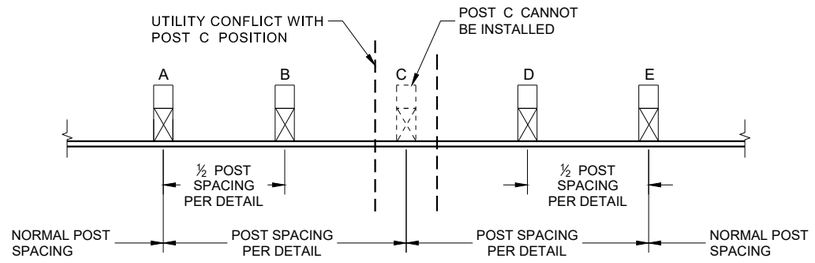
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1⁄16"
18"	4"
21"	4 1⁄16"
25"	4"



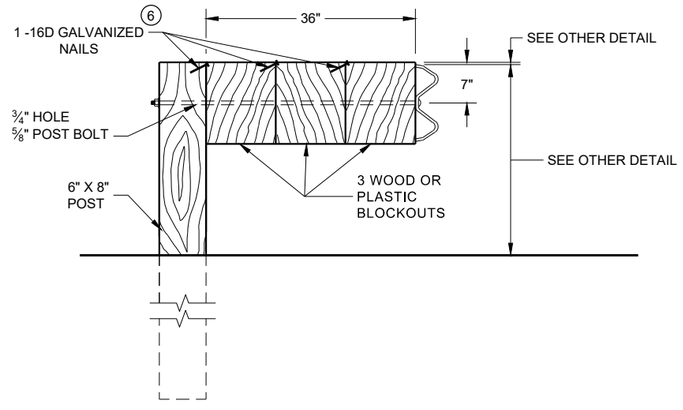
ALTERNATE BOLT HEAD



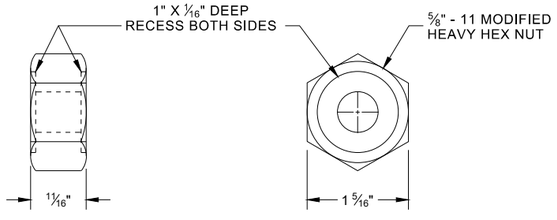
PLAN VIEW
BEAM LAPPING DETAIL



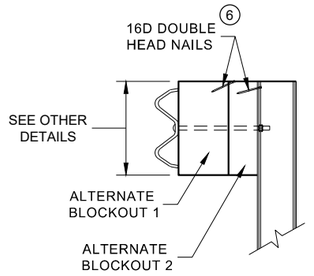
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



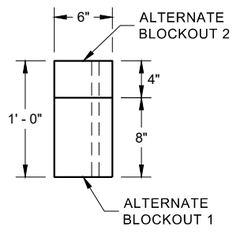
DETAIL FOR 36" BLOCKOUT DEPTH



POST BOLT, SPLICE BOLT AND RECESS NUT



SIDE VIEW



PLAN VIEW

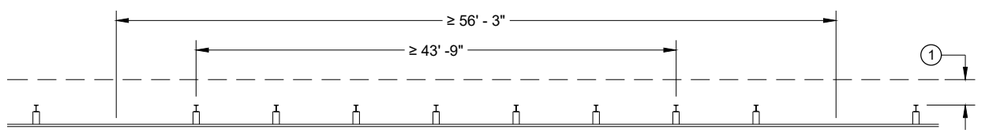
ALTERNATE WOOD BLOCKOUT DETAIL

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

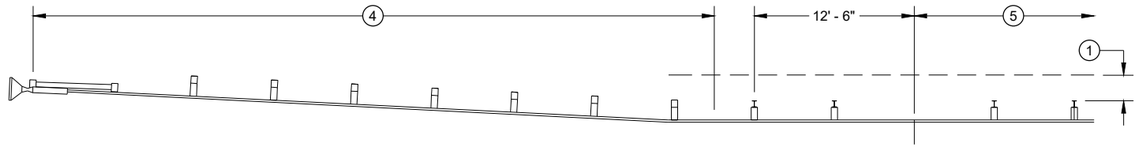
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

(6) WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

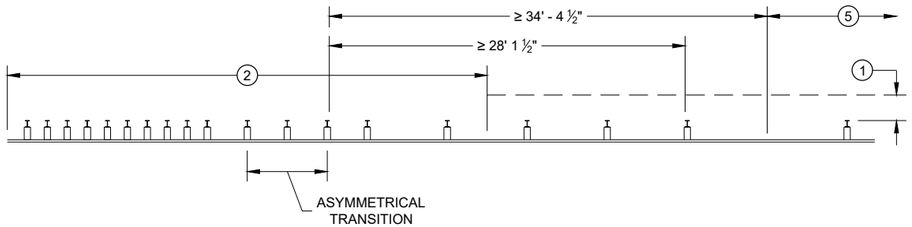
MID□ EST □ UARDRAIL S□ STEM
□M□ S□□ UARDRAIL



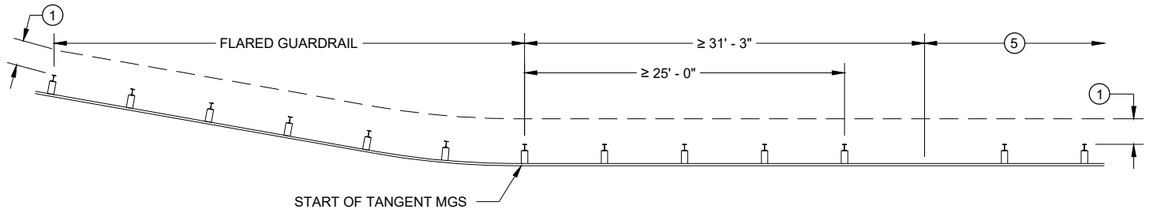
MISSING POST IN NORMAL BEAM GUARD RUN



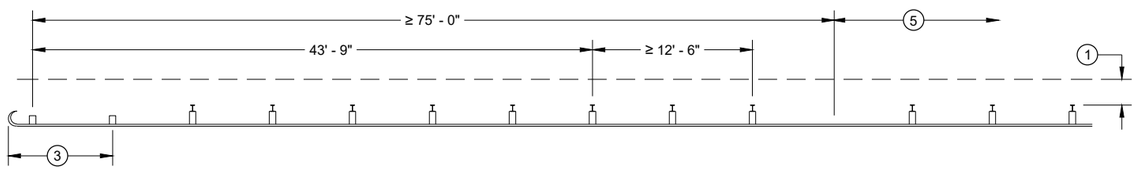
MISSING POST IN NORMAL BEAM GUARD RUN NEAR EAT



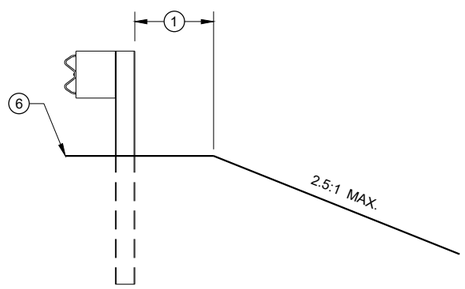
MISSING POST NEAR APPROACH THRIE BEAM TRANSITION



MISSING POST IN NORMAL BEAM GUARD RUN NEAR FLARED BEAM GUARD



MISSING POST IN NORMAL BEAM GUARD RUN NEAR TYPE 2 TERMINAL



CROSS SECTION VIEW

1. MINIMUM OF 2 FEET OF GRADING BEHIND POST.
2. SEE SDD 14B45 FOR MORE DETAILS.
3. SEE SDD 14B47 FOR MORE DETAILS.
4. SEE SDD 14B44 FOR MORE DETAILS.
5. SEE MISSING POST IN NORMAL BEAM GUARD RUN FOR DISTANCE TO NEXT MISSING POST AND AREA FOR WELL DRAINED, COMPACTED SOILS.
6. SEE PLAN FOR SHOULDER DESIGN.

MID□ EST □UARDRAIL S□STEM
□M□ S□□UARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
UNIT SUPERVISOR

FHWA

6

SDD 1□B□2 - 06d

GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL) AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

(B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED

(C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.

(D) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF - TAPPING SCREWS. ONE SCREW PER CORNER.

(E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

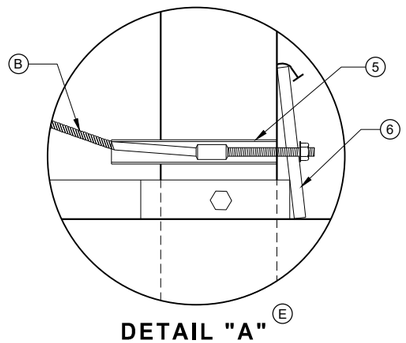
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

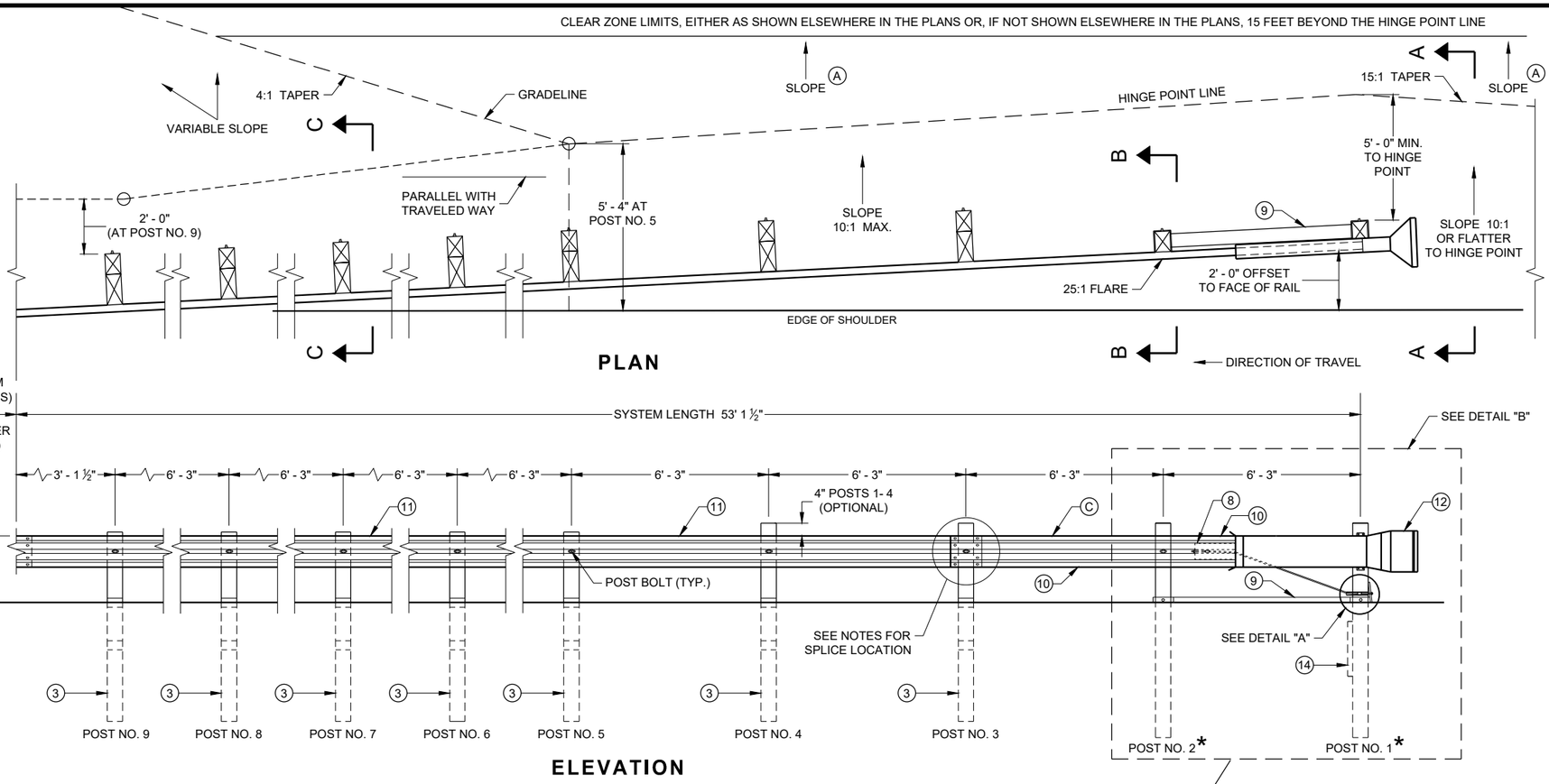
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

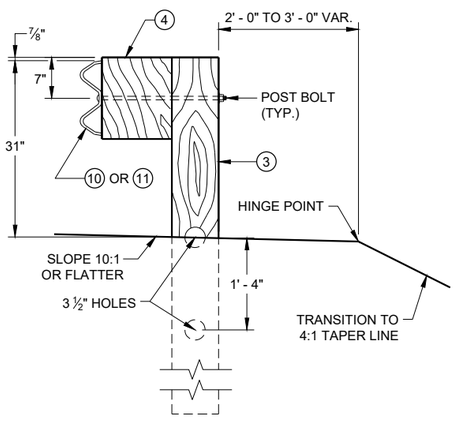
SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.

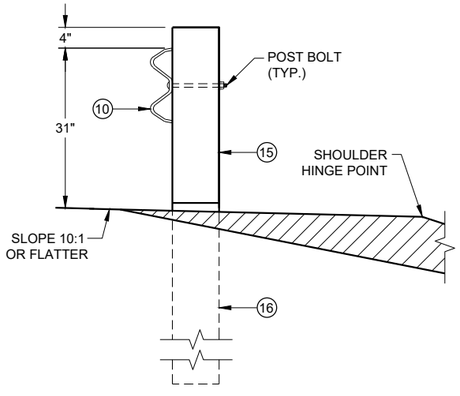


DETAIL "A" (E)

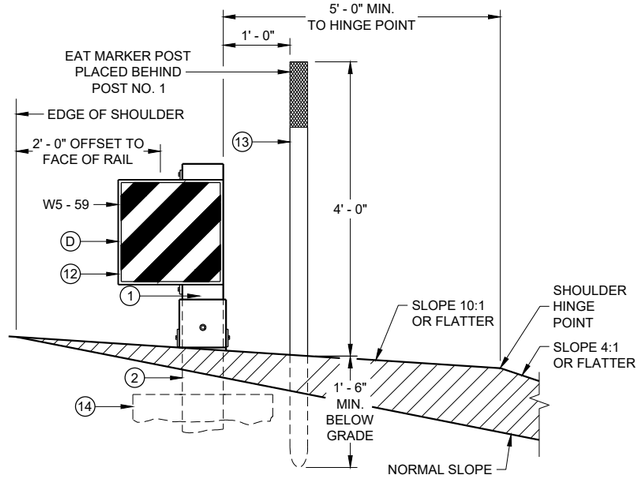




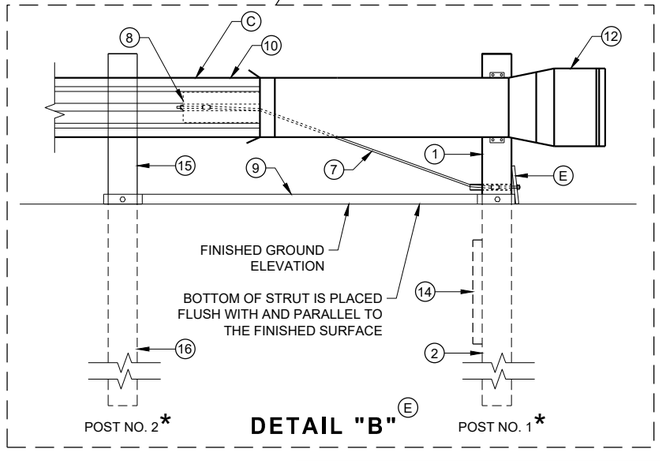
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*



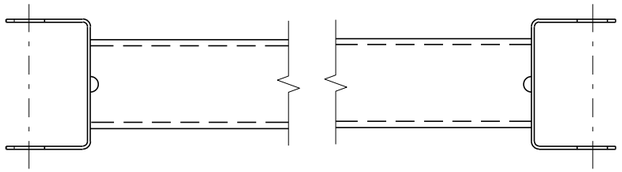
DETAIL "B" (E)

MID EST UARDRAIL S STEM
ENERGY ABSORBING TERMINAL
M S

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

SDD 1 B - 0

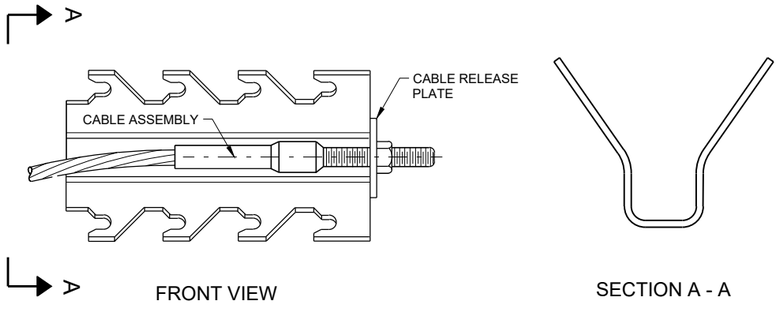
6



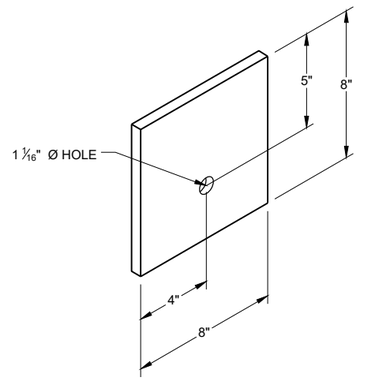
GENERIC GROUND STRUT ⑨ Ⓔ

BILL OF MATERIALS

PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUGACTURER'S DETAILS FOR MORE INFORMATION.
①	UPPER POST NO. 1 6" X 6" TUBE
②	LOWER POST NO. 1
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
⑪	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
⑫	IMPACT HEAD
⑬	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)
⑭	SOIL PLATE
⑮	UPPER POST NO. 2
⑯	LOWER POST NO. 2



GENERIC ANCHOR CABLE BOX ⑨ Ⓔ



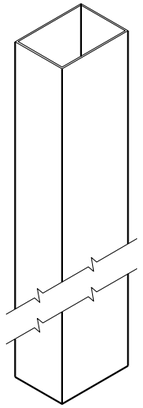
BEARING PLATE ⑥ Ⓔ

MID□ EST □ UARDRAIL S□ STEM
ENERGY ABSORBING TERMINAL
□M□ S□

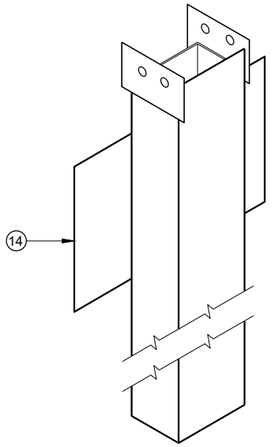
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

6

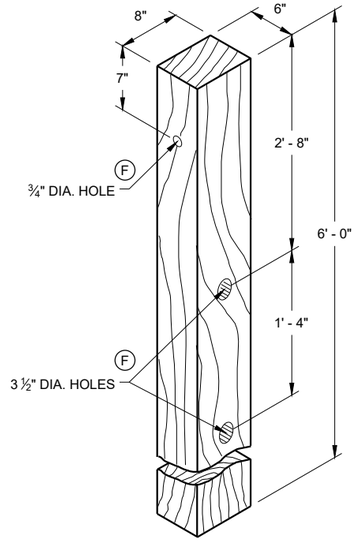
SDD1□B□□ - 0□b



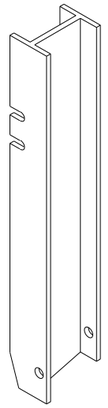
UPPER POST NO. 1 ① Ⓔ



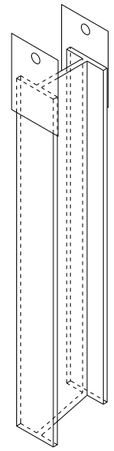
LOWER POST NO. 1 ② Ⓔ



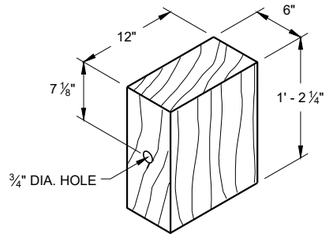
WOOD CRT POST ③ Ⓔ
POSTS NUMBER 3-9



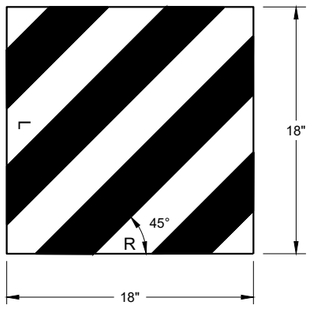
UPPER POST NO. 2 ⑮ Ⓔ



LOWER POST NO. 2 ⑯ Ⓔ

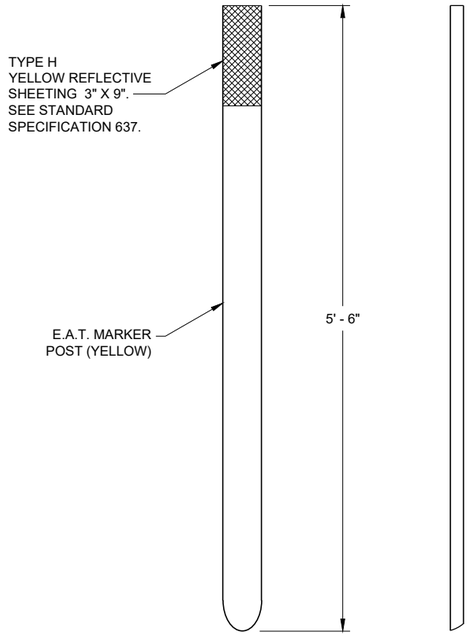


WOOD BLOCKOUT ④
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



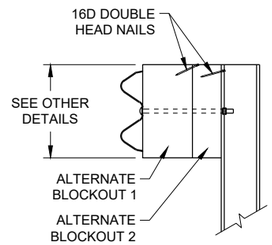
W5 - 59

REFLECTIVE SHEETING DETAIL Ⓔ

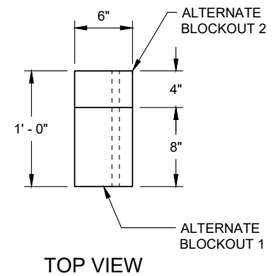


FRONT VIEW SIDE VIEW

E.A.T. MARKER POST ⑬



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MID EST UARDRAIL S STEM
ENERGY ABSORBING TERMINAL
M S

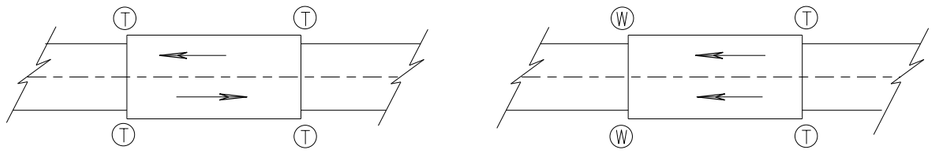
STATE OF WISCONSIN
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UNIT SUPERVISOR

FHWA

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SDD1 B - 0



TWO WAY TRAFFIC

ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

GENERAL NOTES

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

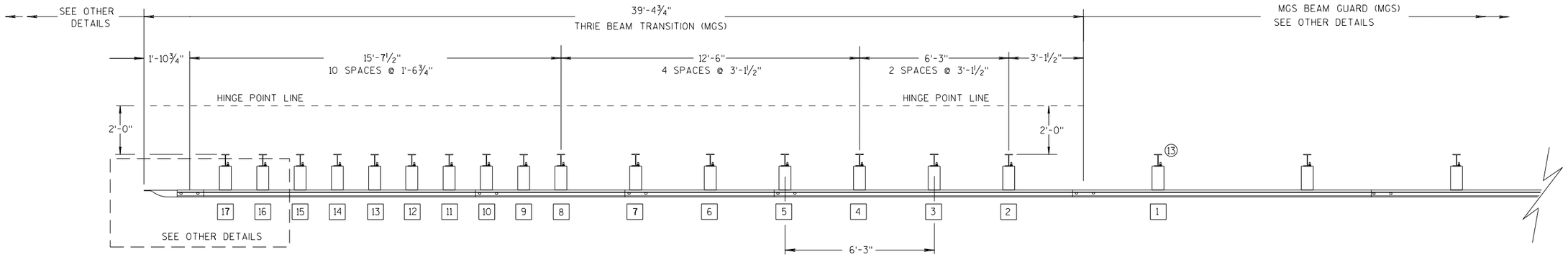
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

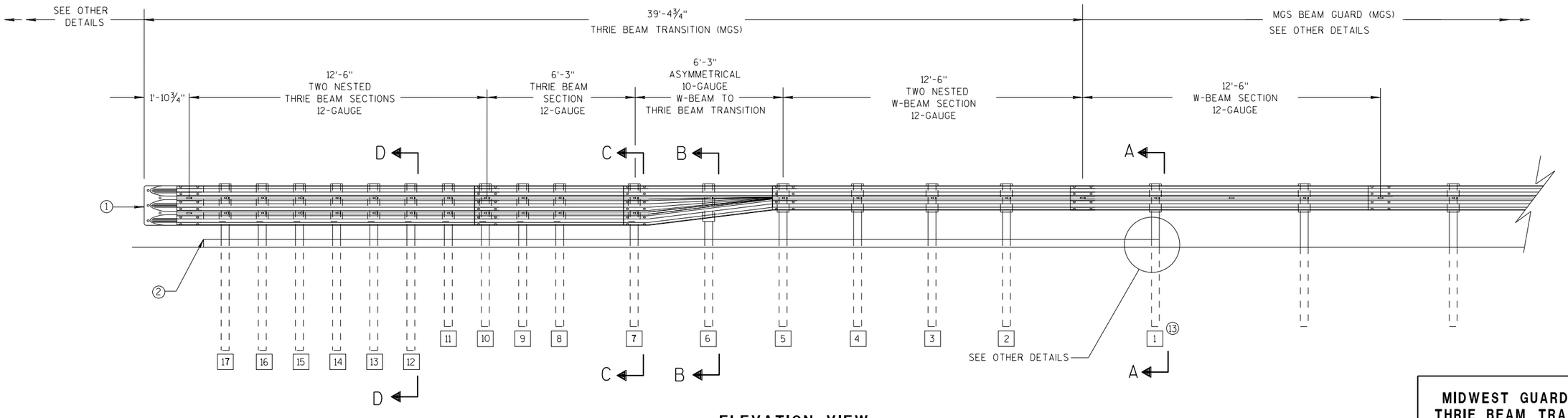
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD14B42



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 45-5a

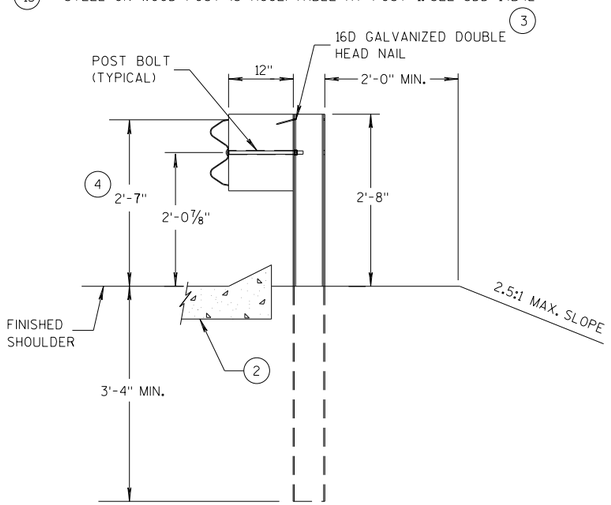
GENERAL NOTES

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

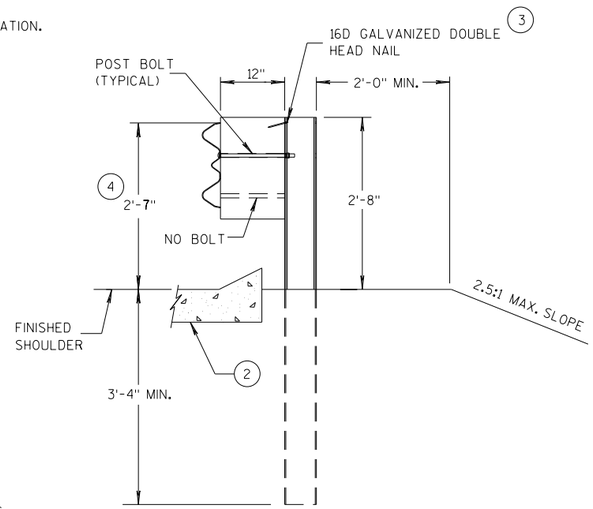
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42



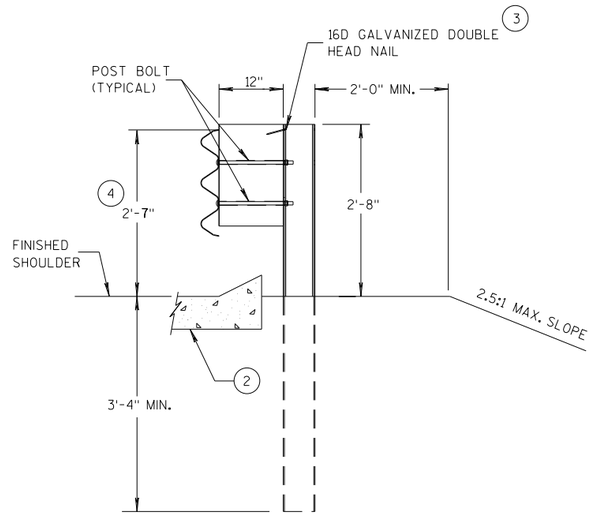
SECTION A-A (13)

POSTS 1-5



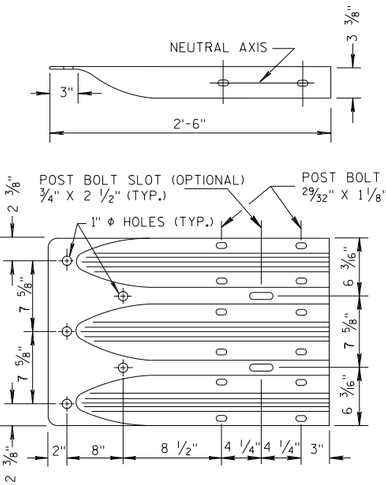
SECTION B-B

POST 6

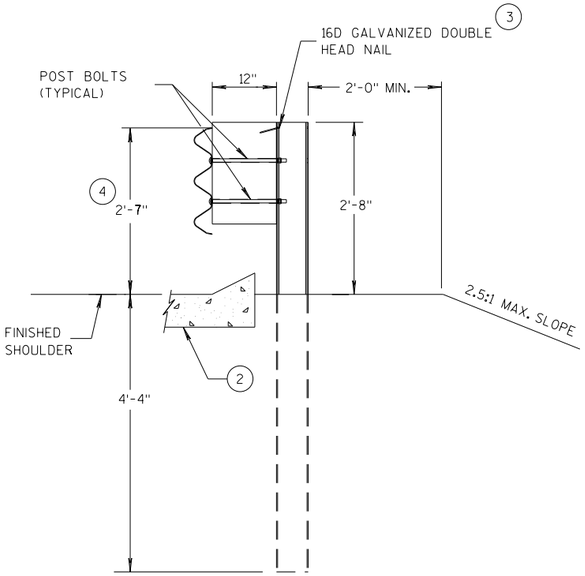


SECTION C-C

POSTS 7-11

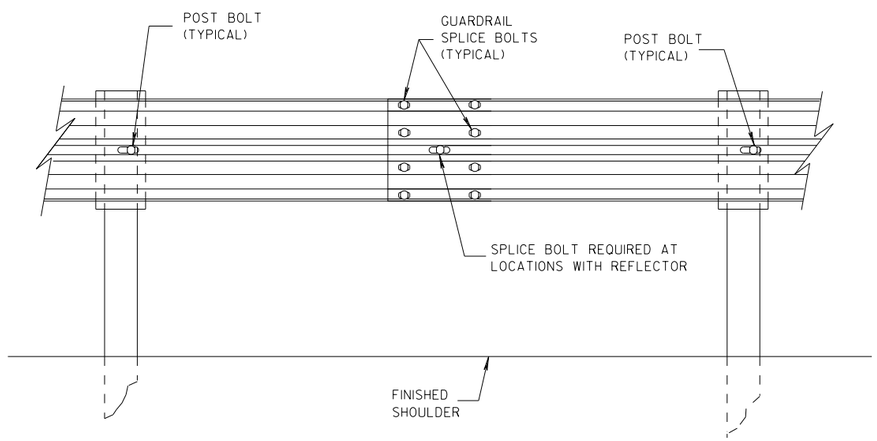


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-17



SPLICE DETAIL

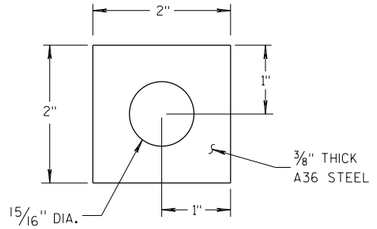
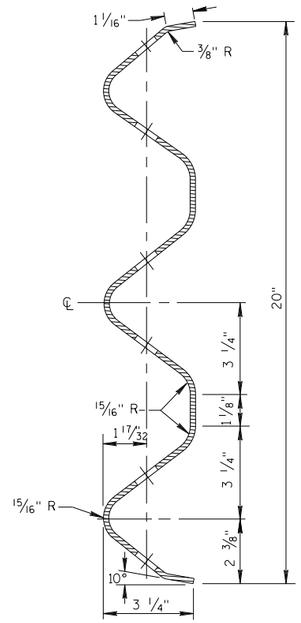


PLATE WASHER DETAIL



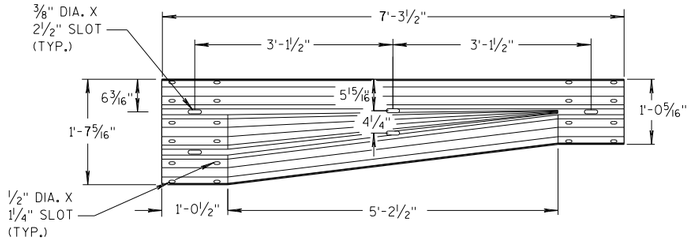
SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

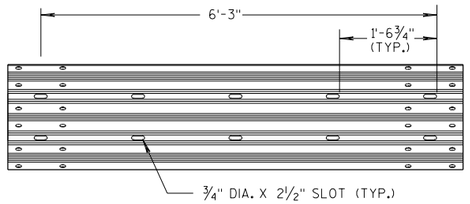
STATE OF WISCONSIN
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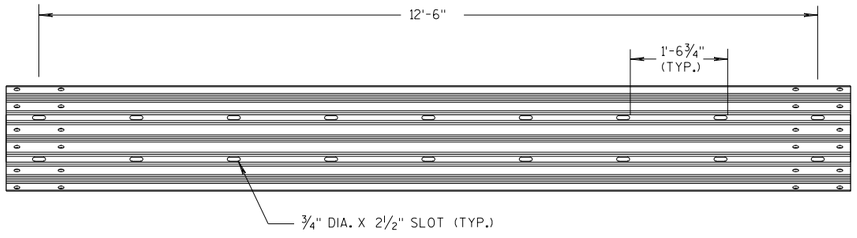
S.D.D. 14 B 45-5b



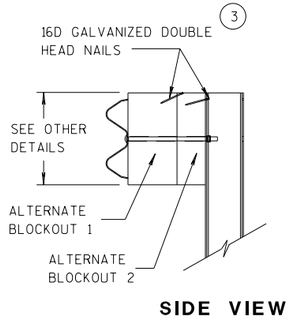
W-BEAM TO THRIE BEAM TRANSITION SECTION



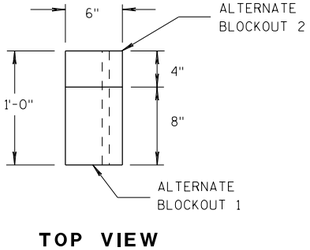
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

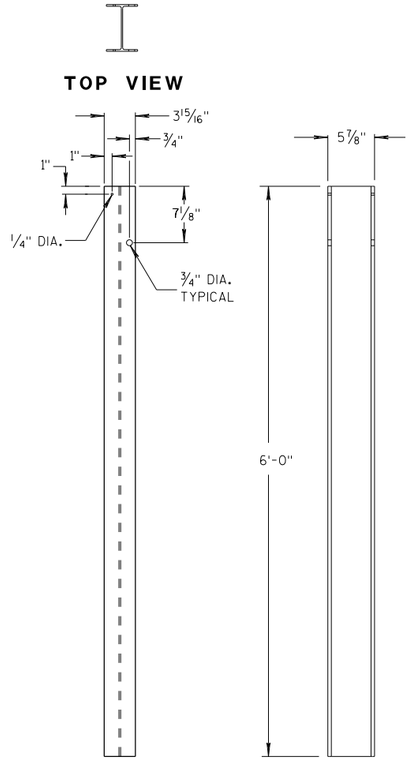


SIDE VIEW



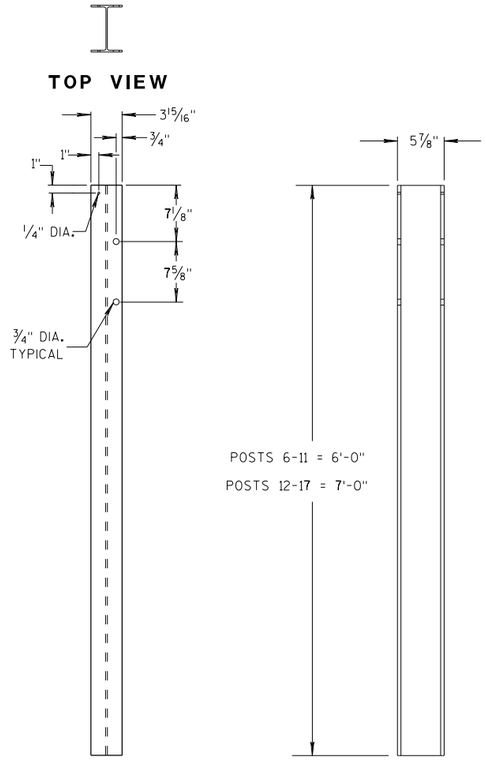
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



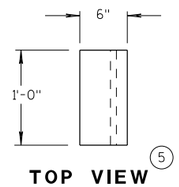
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

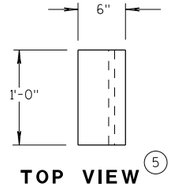


FRONT VIEW SIDE VIEW

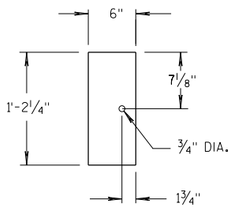
STEEL POSTS 6-17



TOP VIEW (5)

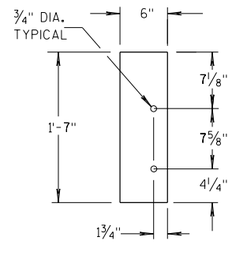


TOP VIEW (5)



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

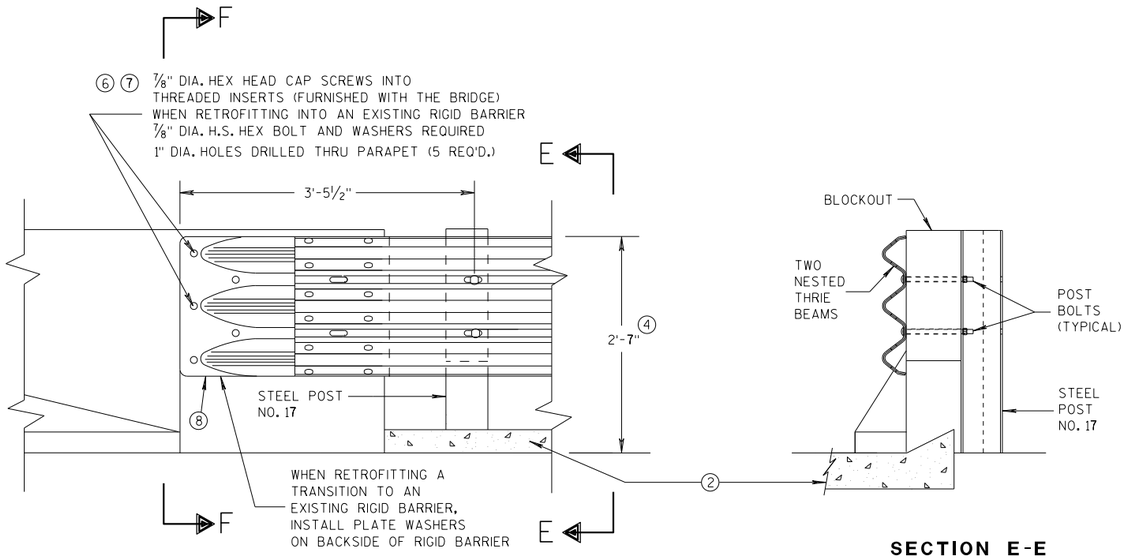
(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOF

6

S.D.D. 14 B 45-5c



FRONT VIEW

SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

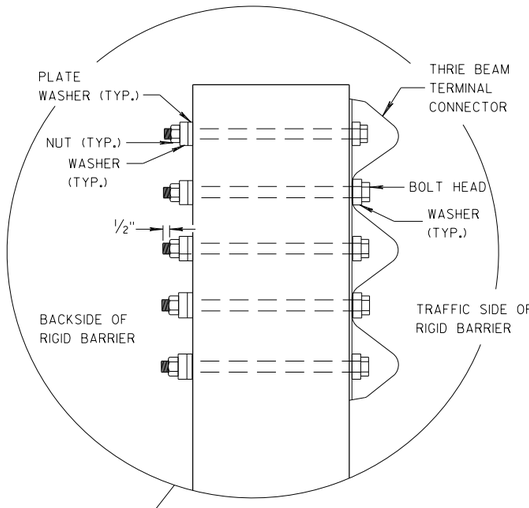
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

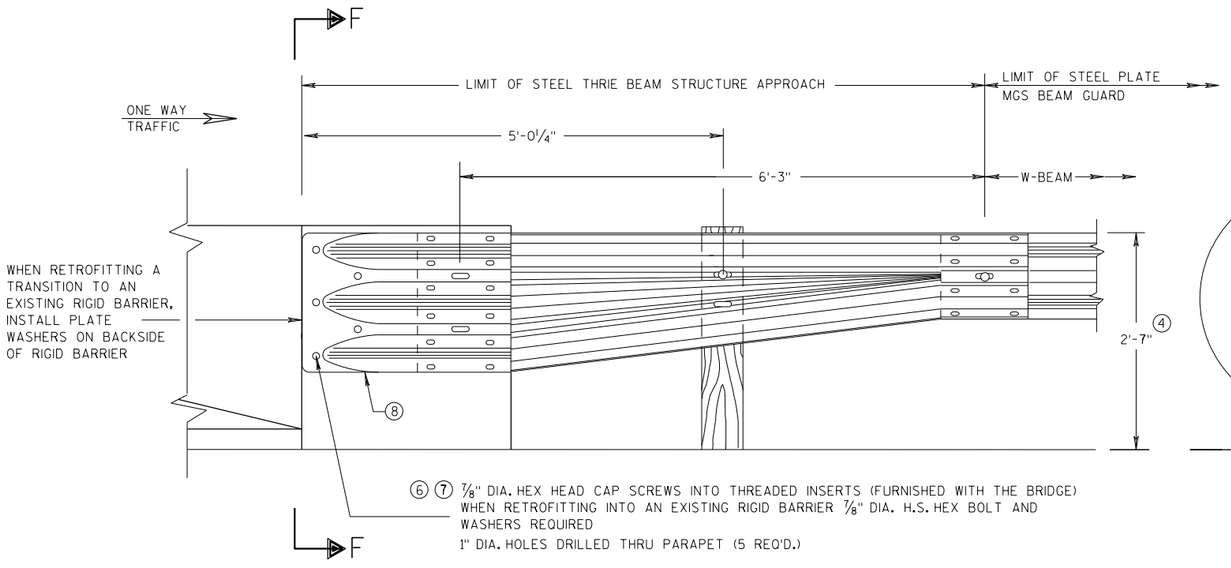
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

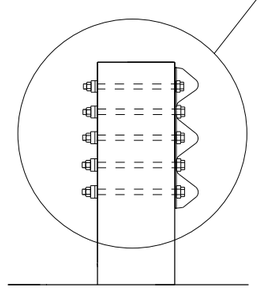
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

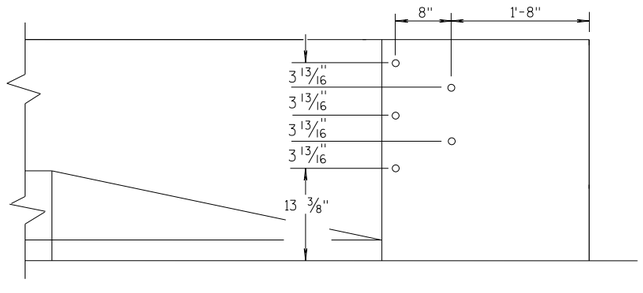




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

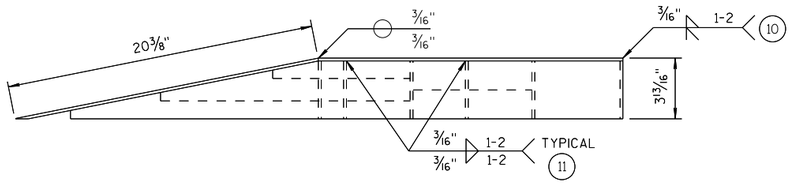
APPROVED
07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS D[illegible] UNIT SUPERVIS[illegible]NT
FHWA

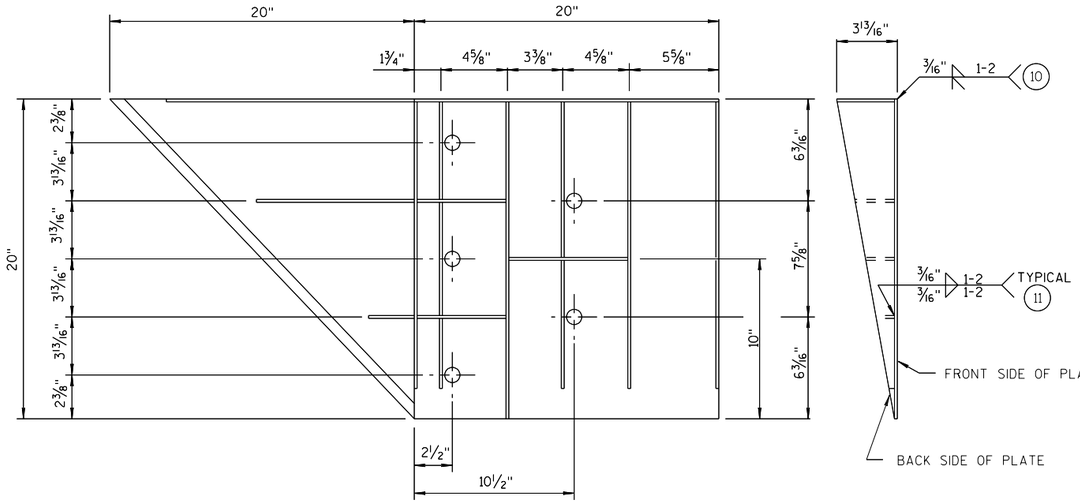
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S.D.D. 14 B 45-5d

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S.D.D. 14 B 45-5d





WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

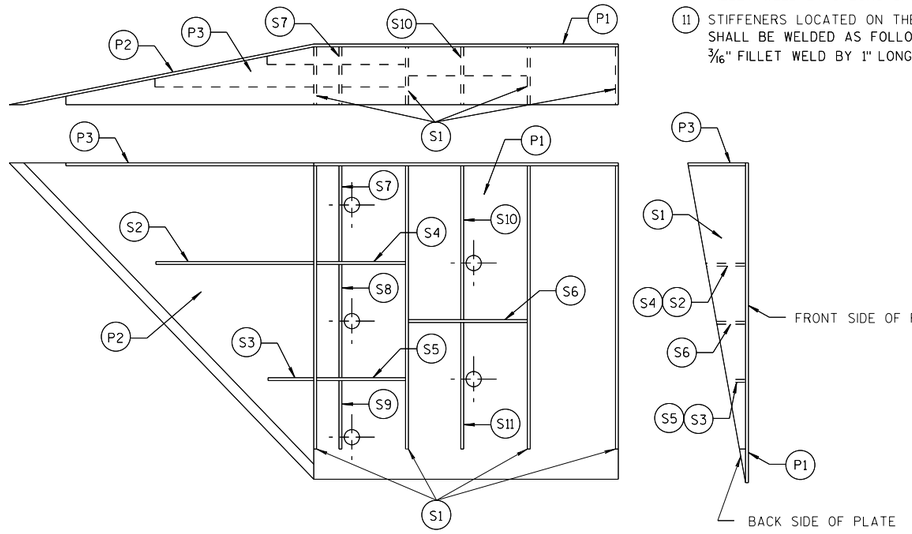


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.

FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

(10) STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.

(11) STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 9/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 5/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 7/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 1/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 7/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 9/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 5/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 3/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 11/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 13/16"	1/4"

SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
FHWA

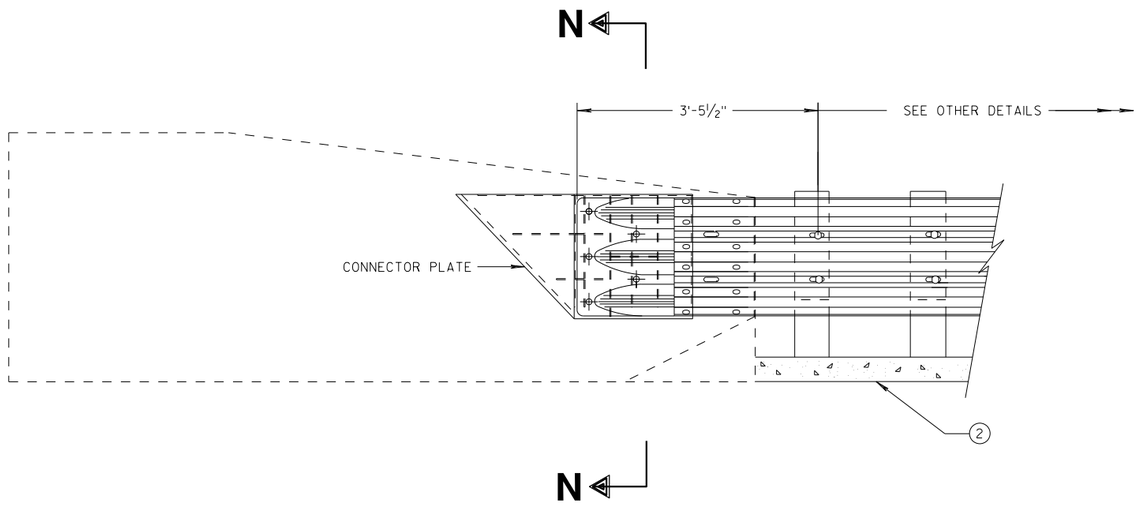
/S/ Rodney Taylor
ROADWAY STANDARDS I
UNIT SUPERVI

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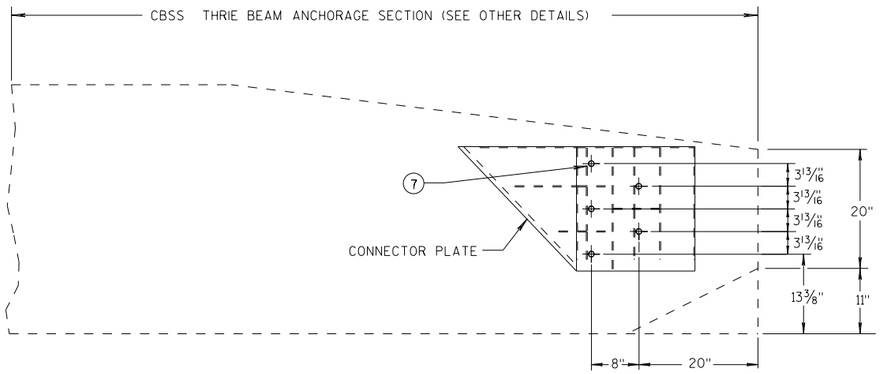
S.D.D. 14 B 45-5i

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S.D.D. 14 B 45-5i



THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



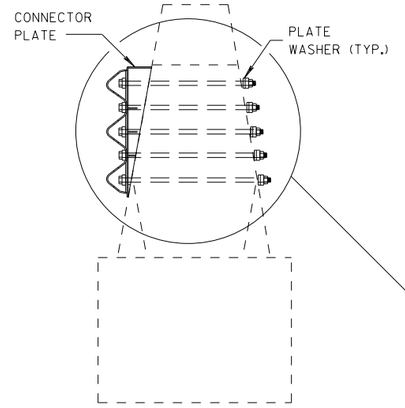
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

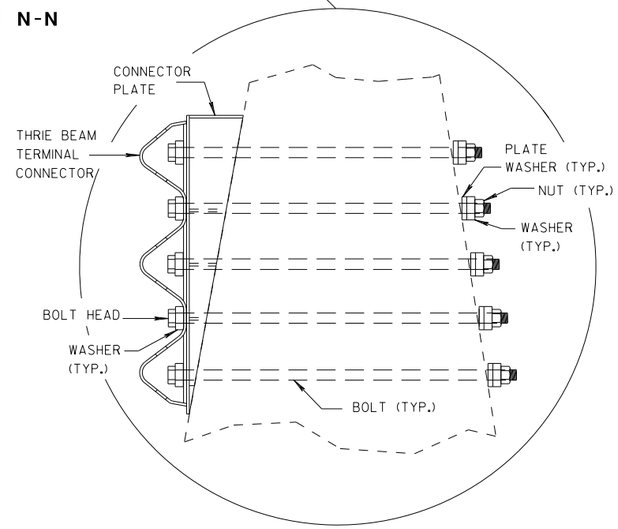
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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DATE
FHWA

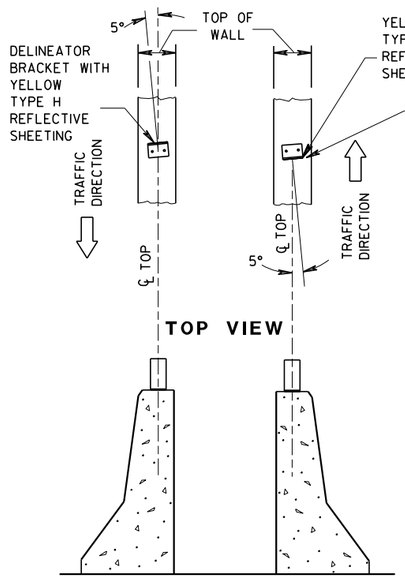
/S/ Rodney Taylor
ROADWAY STANDARDS DI
UNIT SUPERVIS

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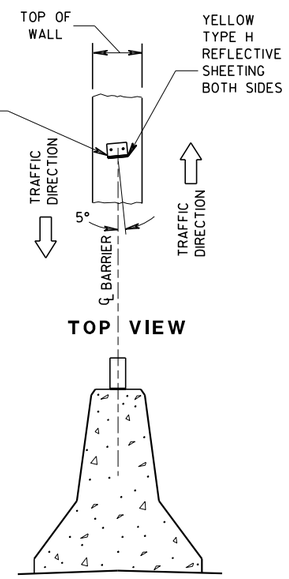
S.D.D. 14 B 45-5j

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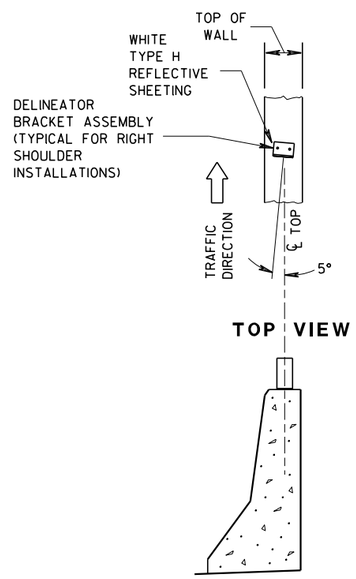
S.D.D. 14 B 45-5j



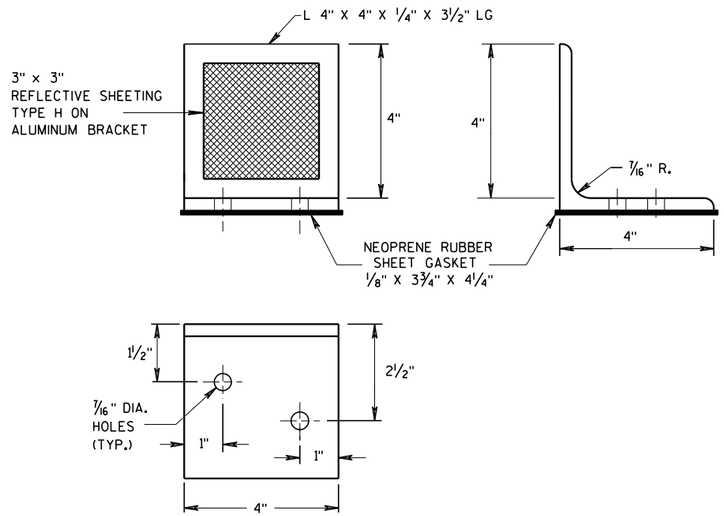
DOUBLE BARRIERS IN MEDIAN



MEDIAN BARRIER

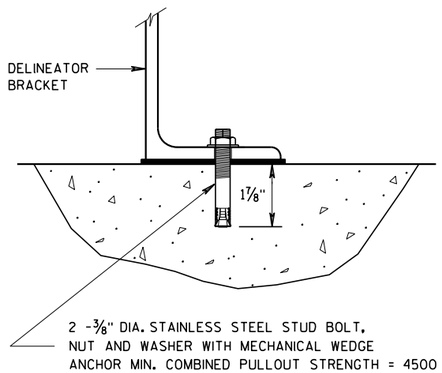


BARRIER LOCATED
TO RT. OF TRAFFIC FLOW



DELINEATOR BRACKET

LOCATION AND AIMING DETAILS FOR DELINEATOR BRACKETS MOUNTED ON CONCRETE BARRIERS



DELINEATOR BRACKET
MOUNTING DETAIL

REFLECTOR SPACING TABLE

REFLECTOR SPACING	MINIMUM NUMBER OF REFLECTORS
100' C-C	3

DELINEATOR BRACKET
WITH REFLECTIVE SHEETING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

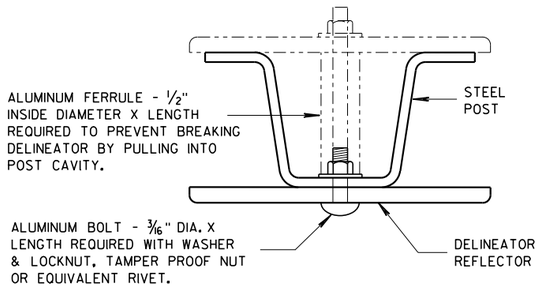
APPROVED
March 2018 /S/ Matthew P. Rauch
DATE STATE SIGNING AND M. ENGINEER
FHWA

6

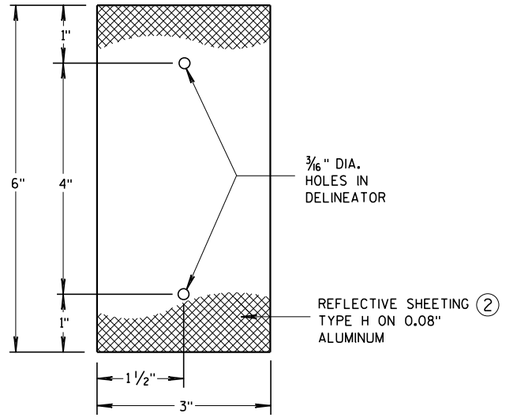
S.D.D. 15 A 4-4b

6

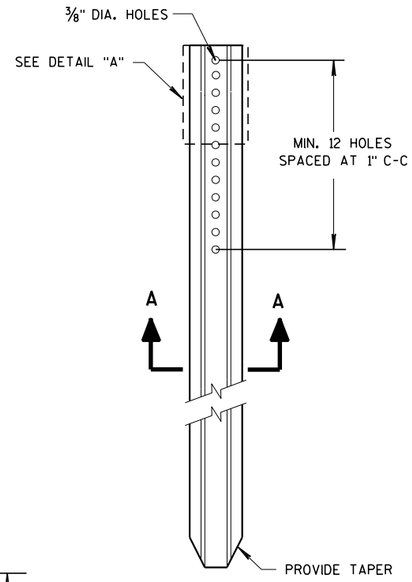
S.D.D. 15 A 4-4b



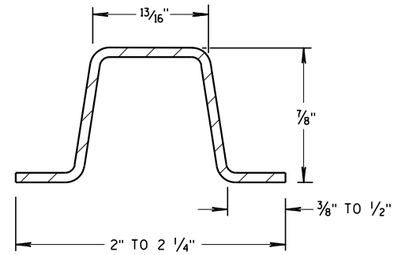
MOUNTING DETAIL
FOR DELINEATOR REFLECTOR



DETAIL "A"
3" X 6" DELINEATOR REFLECTOR



DELINEATOR POST



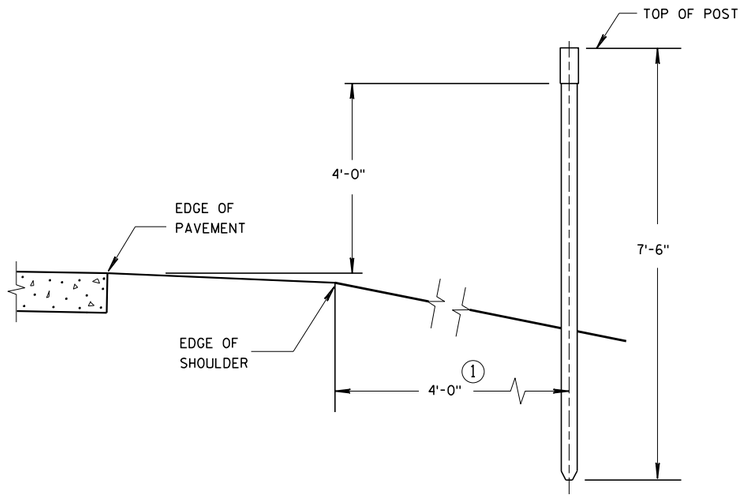
SECTION A-A

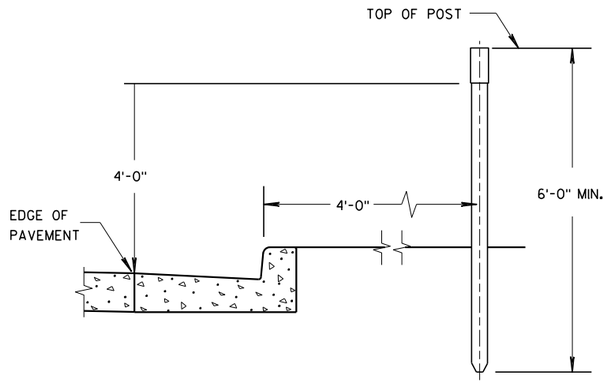
WEIGHT 1.12 LBS PER FT. ± 0.1 LB.

REFLECTOR SPACING TABLE

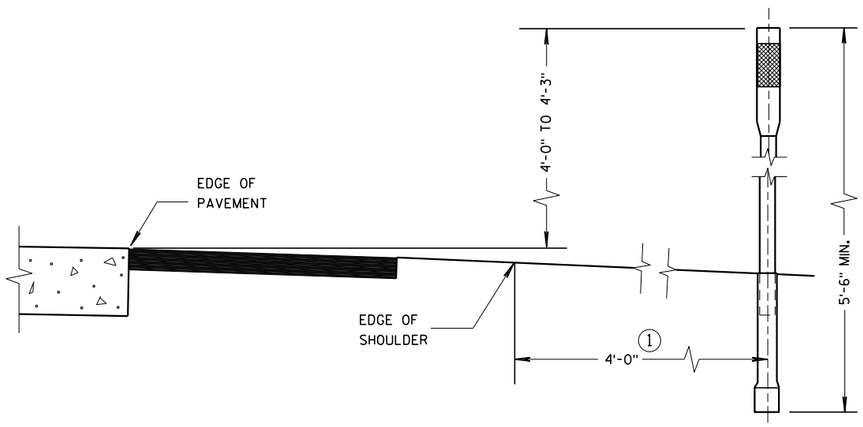
REFLECTOR SPACING	LOCATION
400'	MAINLINE
100'	RAMPS *

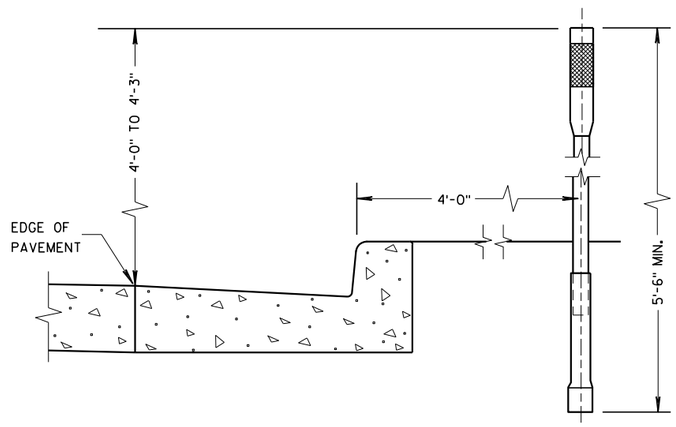
* START AT BEGINNING OF RAMP TAPER AND END AT END OF RAMP TAPER.





TYPICAL INSTALLATIONS OF DELINEATOR POSTS





TYPICAL INSTALLATIONS OF FLEXIBLE DELINEATOR POSTS

GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(1) DELINEATORS SHALL BE PLACED AT A CONSTANT DISTANCE FROM THE EDGE OF THE SHOULDER FOR THE LENGTH OF THE INSTALLATION.

(2) FURNISH TYPE H SHEETING FROM THE APPROVED PRODUCTS LIST.

DELINEATOR POST
WITH REFLECTIVE SHEETING

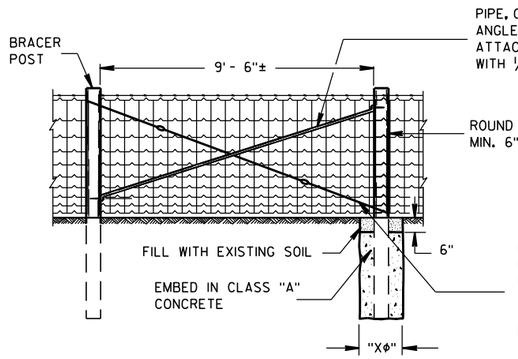
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 /S/ Matthew P Rauch
DATE STATE SIGNING AND M[illegible] NGINEER
FHWA

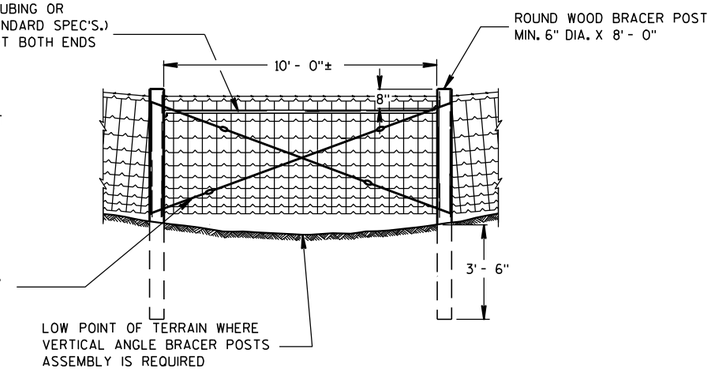
6
S.D.D. 15 A 4-4c

NOTE: PULL OR STRETCHER POST ASSEMBLIES SHALL BE PLACED MIDWAY BETWEEN END POSTS AND CORNER POSTS WHERE A RUN OF FENCE EXCEEDS 660' BUT IS LESS THAN 1,320'. FOR RUNS OF FENCE IN EXCESS OF 1,320' MAXIMUM SPACING OF PULL OR STRETCHER POST ASSEMBLIES SHALL BE 660'± C-C.

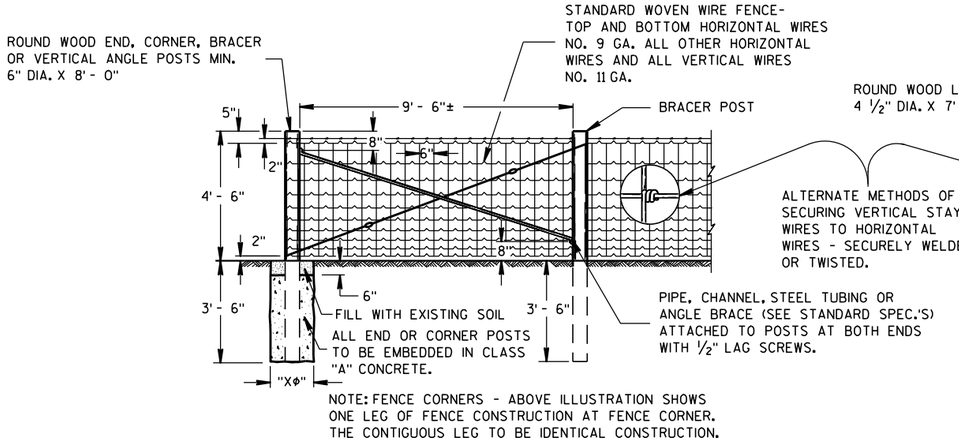
ILLUSTRATION SHOWS POSITION OF STANDARD STEEL BRACE, DOUBLE STRAND GALVANIZED WIRE, AND THE POST TO BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM LEFT TO RIGHT. THE BRACES SHALL BE POSITIONED ON THE OPPOSITE DIAGONALS AND THE OPPOSITE POST SHALL BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM RIGHT TO LEFT.



PULL OR STRETCHER POSTS ASSEMBLY

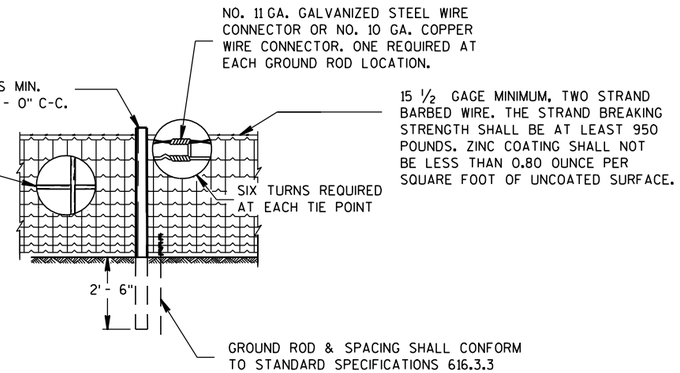


VERTICAL ANGLE BRACER POSTS ASSEMBLY



NOTE: FENCE CORNERS - ABOVE ILLUSTRATION SHOWS ONE LEG OF FENCE CONSTRUCTION AT FENCE CORNER. THE CONTIGUOUS LEG TO BE IDENTICAL CONSTRUCTION.

END OR CORNER POSTS ASSEMBLY



LINE FENCE CONSTRUCTION

GENERAL NOTES

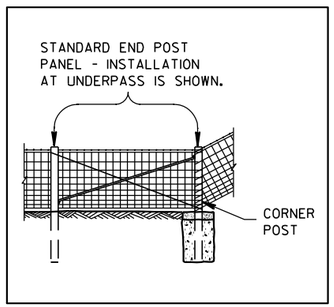
"XΦ" = DIAMETER OF THE POST PLUS 12".

FENCE STAPLES SHOULD NEVER BE DRIVEN VERTICALLY INTO WOOD POSTS (WITH BOTH LEGS PARALLEL WITH THE WOOD GRAIN). DOING SO CAN SEPARATE THE GRAIN AND SIGNIFICANTLY REDUCE THE HOLDING POWER. ROTATING THE STAPLES SLIGHTLY OFF VERTICAL STRADDLES THE GRAIN AND PROVIDES MORE RESISTANCE TO PULL-OUT.

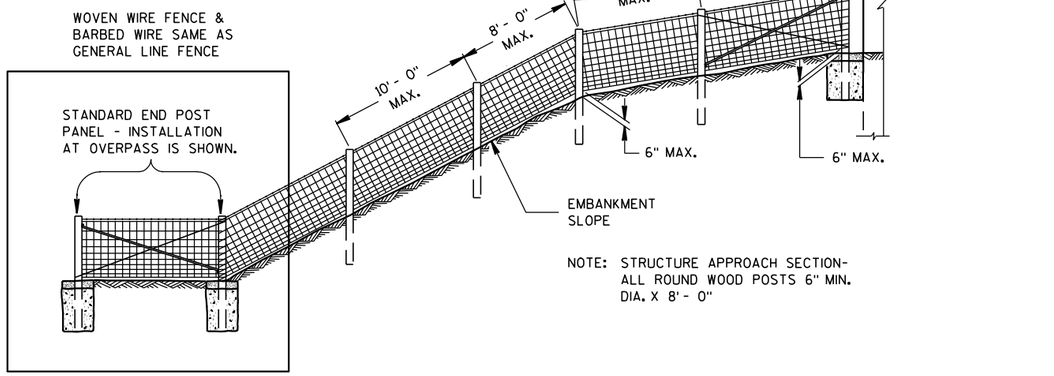
DO NOT STAPLE WIRE TIGHT TO THE LINE POSTS. ALLOW MOVEMENT OF WIRE FOR EXPANSION AND CONTRACTION. STAPLE ARRANGEMENT SHALL BE THE SAME FOR ALL OTHER POSTS EXCEPT THAT THEY SHALL BE DRIVEN TIGHT TO POSTS. ALL STAPLES SHALL BE 2" X 9 GAGE AND SHALL BE MANUFACTURED FROM GALVANIZED WIRE OR HOT DIP GALVANIZED AFTER FORMING. STAPLES SHALL HAVE SLASH-CUT POINTS.

FENCE SHALL BE LOCATED 3'-0" INSIDE THE RIGHT OF WAY LINE UNLESS OTHERWISE INDICATED ON THE PLANS.

GENERAL ROADSIDE VIEW OF WOVEN WIRE FENCE



ALTERNATE FENCE DESIGN AT STRUCTURE



NOTE: STRUCTURE APPROACH SECTION- ALL ROUND WOOD POSTS 6" MIN. DIA. X 8' - 0"

FENCE DESIGN AT STRUCTURE APPROACH

FENCE WOVEN WIRE

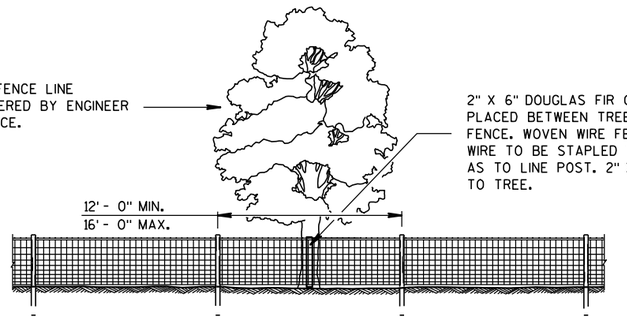
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

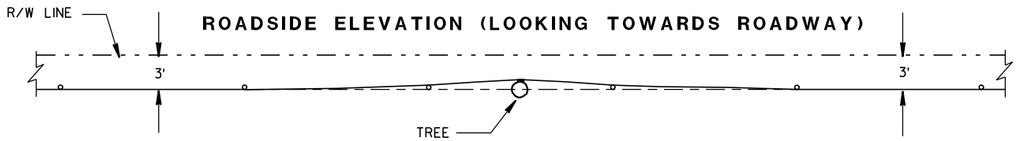
S.D.D. 15 B 1-8a

NOTE: TREE IN NORMAL FENCE LINE SPECIFICALLY ORDERED BY ENGINEER TO REMAIN IN PLACE.

2" X 6" DOUGLAS FIR OR SO. YELLOW PINE PLACED BETWEEN TREE AND WOVEN WIRE FENCE. WOVEN WIRE FENCE AND BARBED WIRE TO BE STAPLED TO 2" X 6" LIKE AS TO LINE POST. 2" X 6" NOT FASTENED TO TREE.

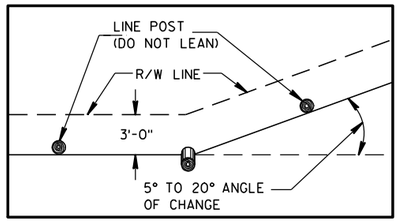


ROADSIDE ELEVATION (LOOKING TOWARDS ROADWAY)

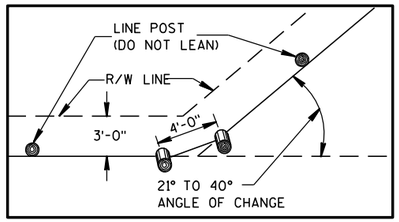


PLAN VIEW

FENCE DESIGN AT TREES REMAINING IN NORMAL FENCE LINE



PLAN VIEW
SINGLE POST CORNER

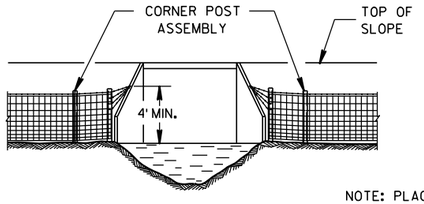


PLAN VIEW
DOUBLE POST CORNER

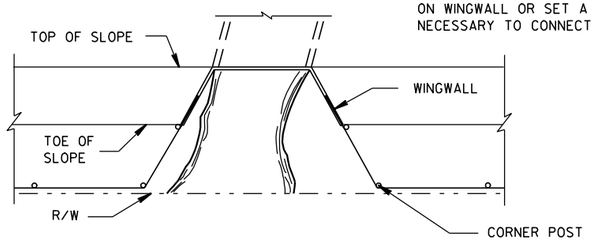
RIGHT OF WAY LINE CHANGE 40° AND LESS

NOTE: SINGLE AND DOUBLE POSTS SHALL BE A MIN. 6" DIA. X 8'-0" WITH A LEAN OF 4" TOWARD THE OUTSIDE OF THE CURVE.

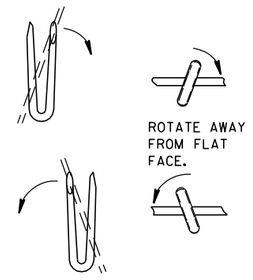
WHEN THE RIGHT OF WAY LINE CHANGE IS MORE THAN 40° USE THE CORNER OR STRETCHER POSTS ASSEMBLY.



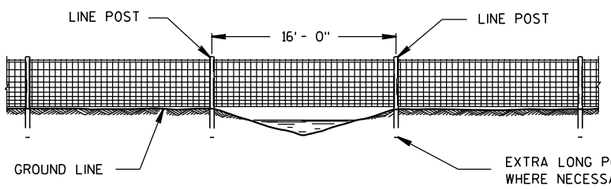
NOTE: PLACE A MINIMUM OF 4 STRANDS OF BARBED WIRE, 6" MAXIMUM CENTERS IN FAN SHAPE CONNECTED TO AN EYE BOLT ON WINGWALL OR SET A LONE POST WHEN NECESSARY TO CONNECT BARBED WIRE.



FENCE INSTALLATION TO WINGWALLS

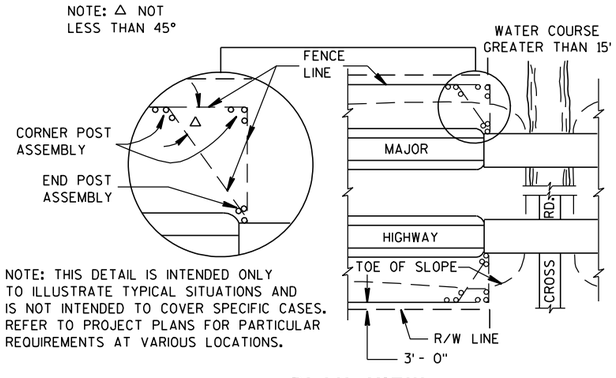


LINE POST



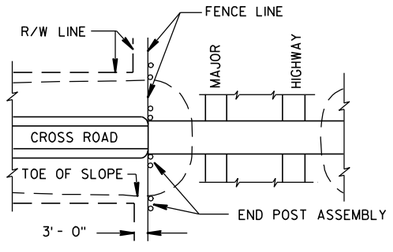
FENCE CONSTRUCTION OVER STREAM COURSES OF 15 FT. OR LESS IN WIDTH

NOTE: △ NOT LESS THAN 45°



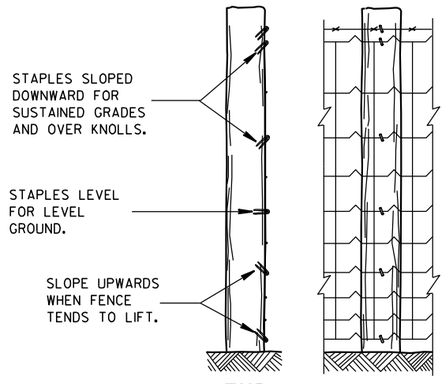
NOTE: THIS DETAIL IS INTENDED ONLY TO ILLUSTRATE TYPICAL SITUATIONS AND IS NOT INTENDED TO COVER SPECIFIC CASES. REFER TO PROJECT PLANS FOR PARTICULAR REQUIREMENTS AT VARIOUS LOCATIONS.

PLAN VIEW
MAJOR HIGHWAY OVERPASS OR STREAM COURSE CROSSING OF GREATER THAN 15 FT. IN WIDTH



PLAN VIEW
MAJOR HIGHWAY UNDERPASS

NOTE: WHEN POSTS ARE DRIVEN THE SMALL END SHALL BE DOWN.



END ELEVATION

FARM SIDE ELEVATION

FENCE MOUNTING DETAIL

FENCE LOCATION AT STRUCTURES

FENCE WOVEN WIRE

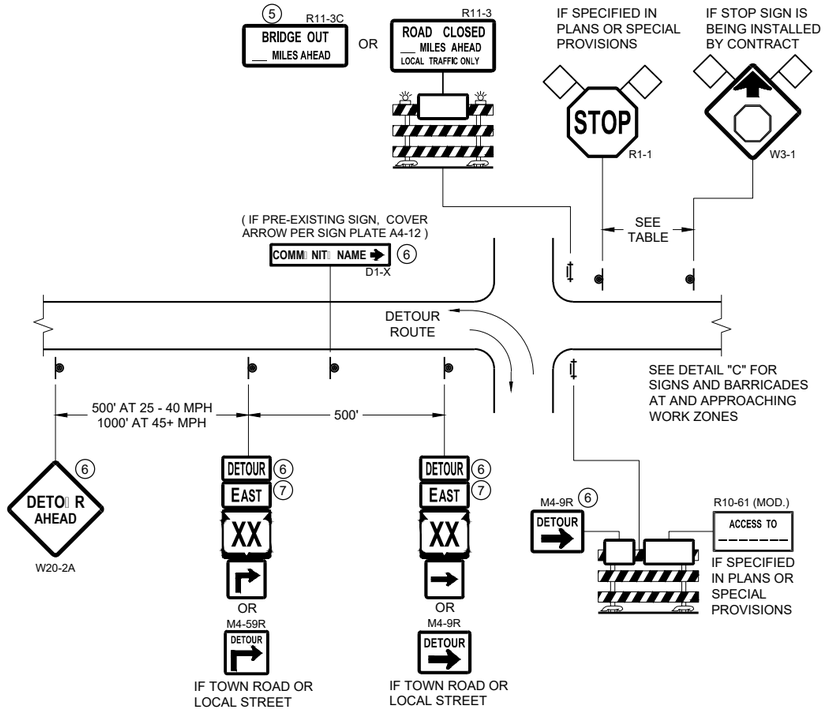
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

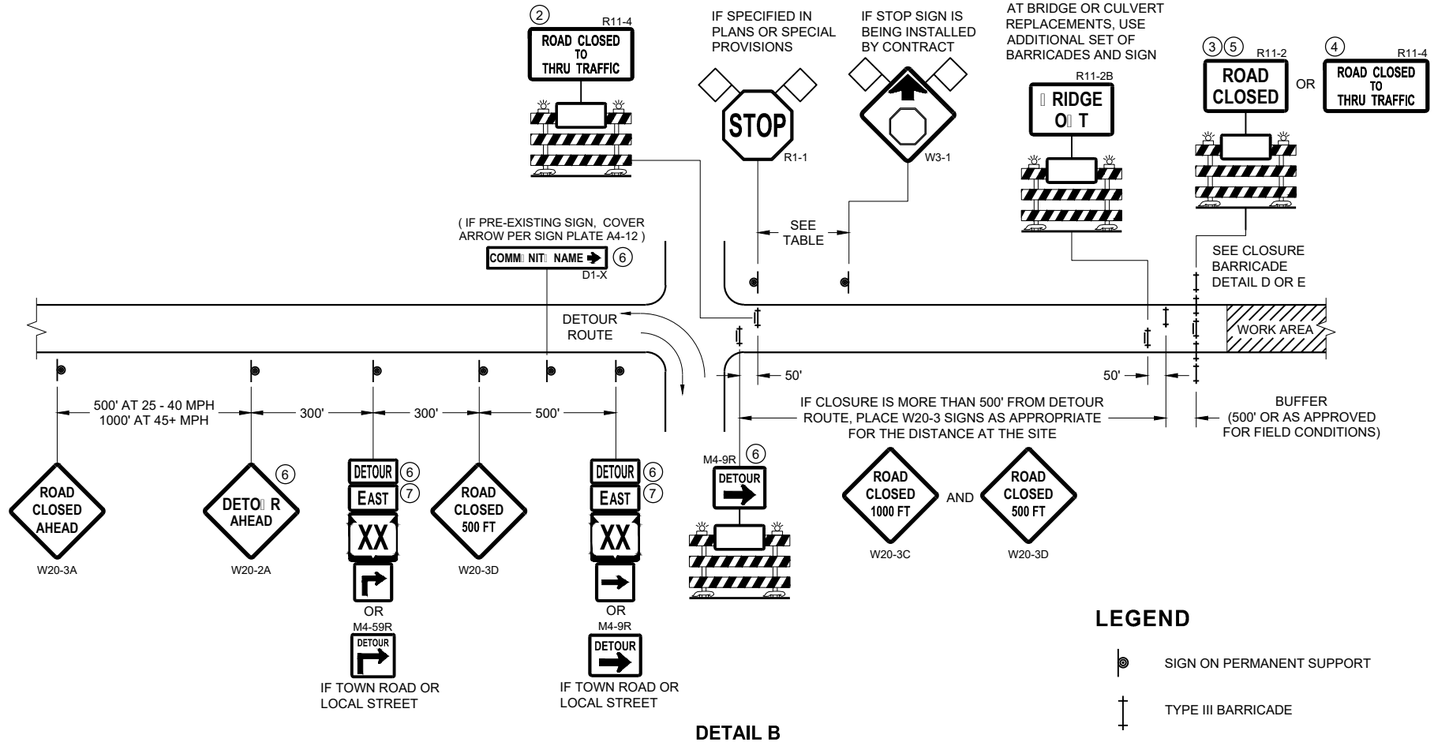
APPROVED
4/4/2008
DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS [illegible]
ENGINEER

FHWA

6

S.D.D. 15 B 1-8b





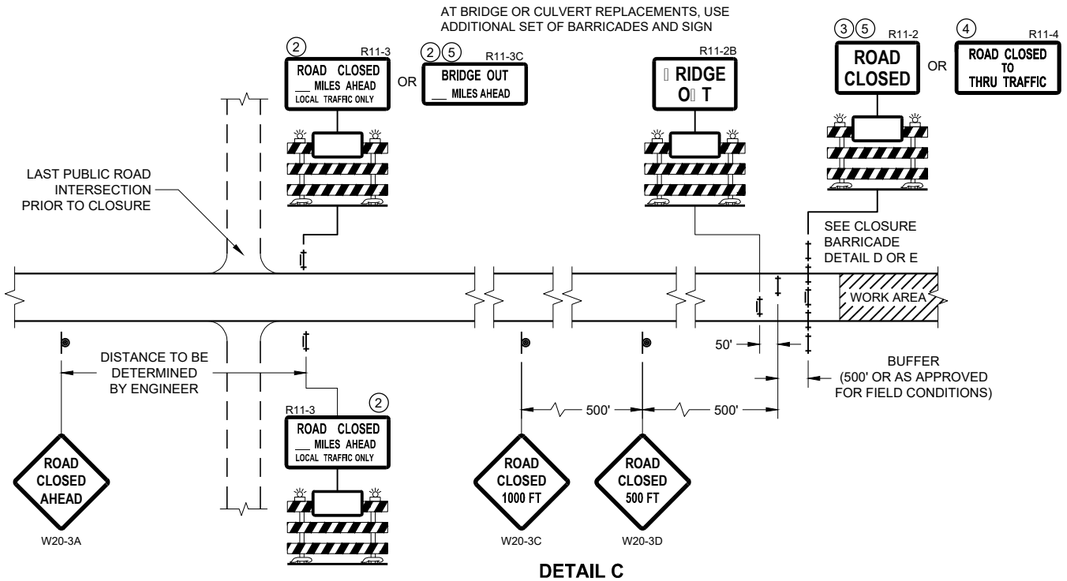
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)

DETOUR M4 - 8
EAST M3 - X
XX M1 - 4 OR XX M1 - 6 OR COUNTY X M1 - 5A
M05 - 1 OR M06 - 1



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

SEE SDD 15C2-SHEET "b"
FOR GENERAL NOTES
AND FOOTNOTES ① THROUGH ⑦

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

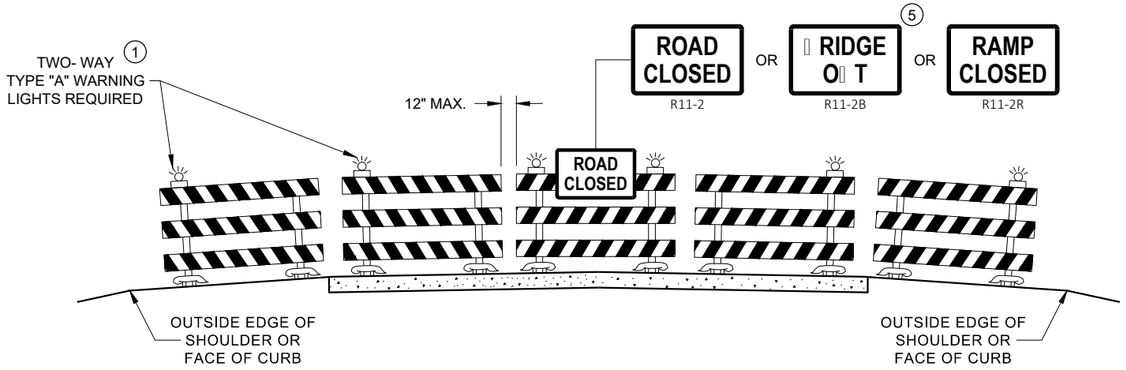
APPROVED
November 2018
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

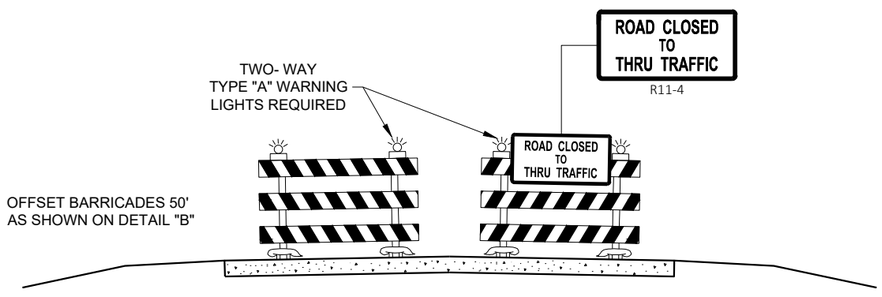
6

SDD 15C02 - 07

SDD 15C02 - 07



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND BARRICADES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE", SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.

TYPE "A" LOW - INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11 - 2, R11 - 3, M4 - 9, R11 - 4, AND R10 - 61 SIGNS PLACED ON THE BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE RAIL OR BOTTOM RAILS.

"WO" AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60 " X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

(1) TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING.

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER
FHWA

6

SDD 15C02 - 07b

THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL DETOUR SIGN LAYOUT AND SPACING. SEE PROJECT DETOUR SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.

LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DETOUR — M4 - 8
- EAST — M3 - X
- XX — M1 - 4 OR XX — M1 - 6 OR COUNTY X — M1 - 5A
- M05 - 1 OR M06 - 1 OR M06 - 1

GENERAL NOTES

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

THE SPACING BETWEEN TRAFFIC CONTROL AND DETOUR SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

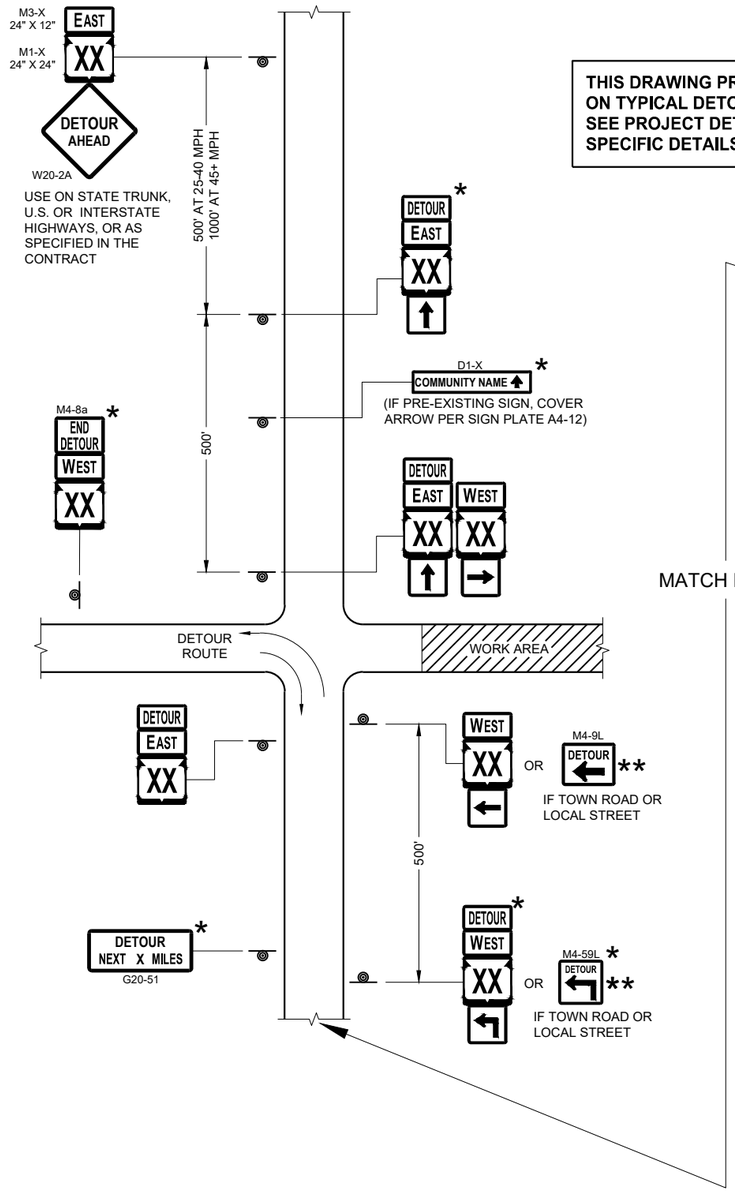
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

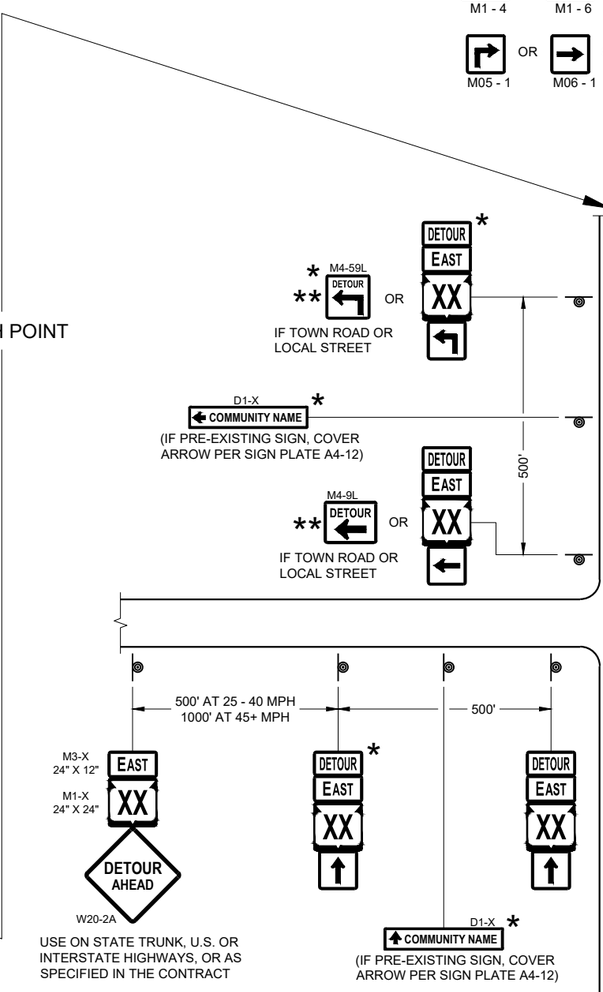
- M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-9 AND M4-59 SHALL BE 30" X 24"
- M4-8a SHALL BE 24" X 18"
- G20-51 SHALL BE 60" X 24"
- W20-2A SHALL BE 48" X 48"
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

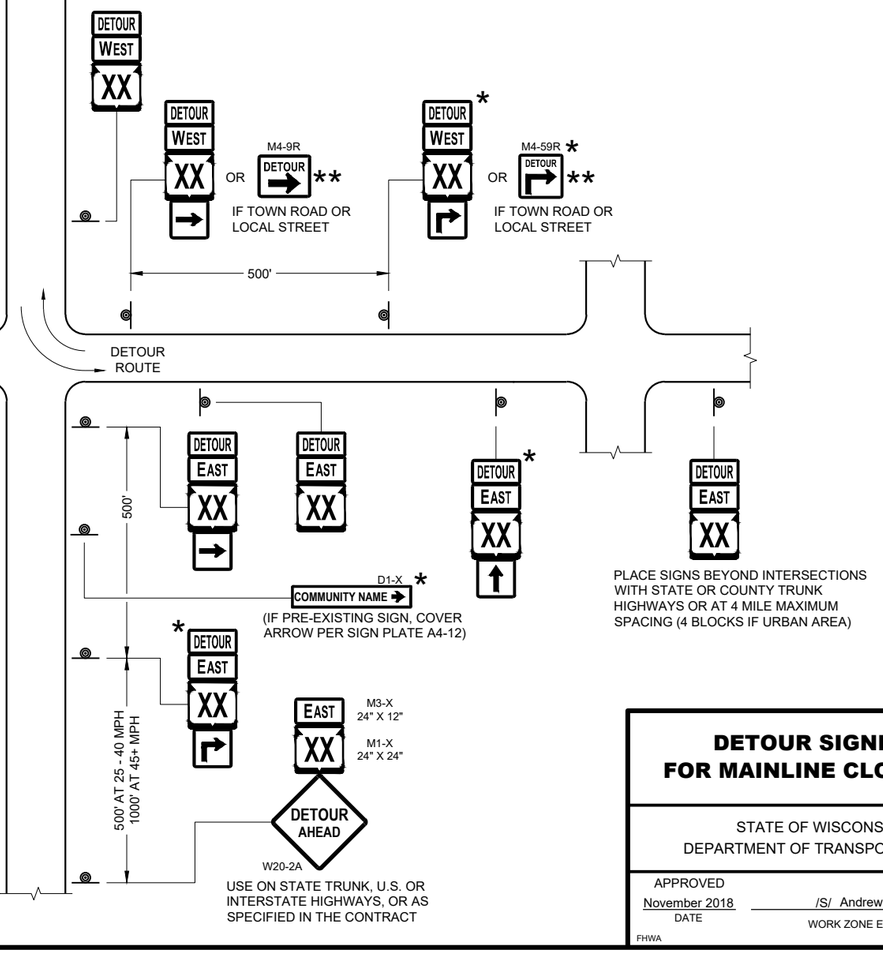
* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.



MATCH POINT





SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS AND DETAIL A OR B ON SDD SHEET 15C02 - SHEET "a"

DETAIL F
DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

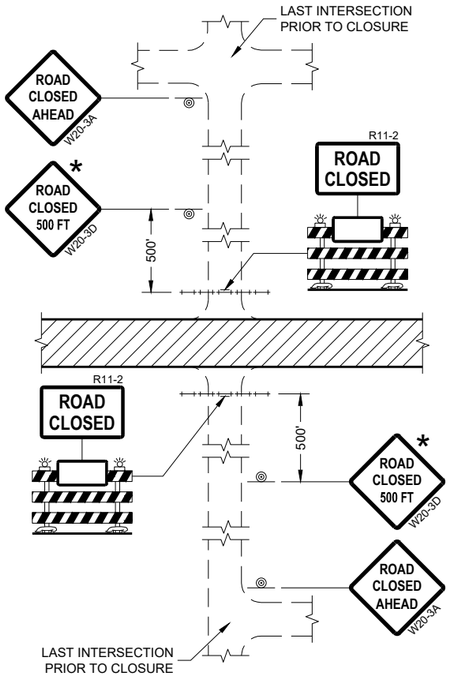
APPROVED
November 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

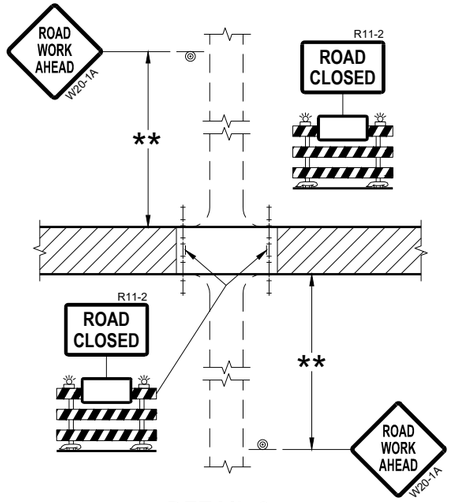
FHWA

SDD 15C02 - 07c

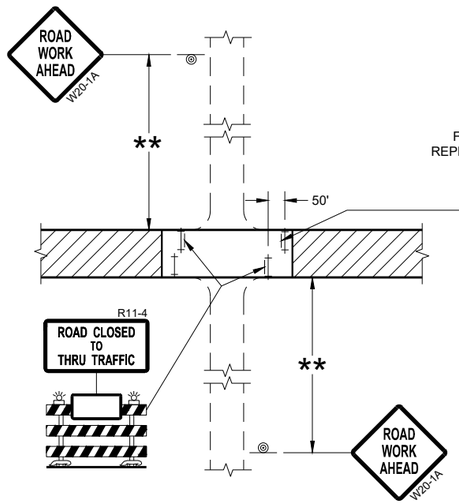
6



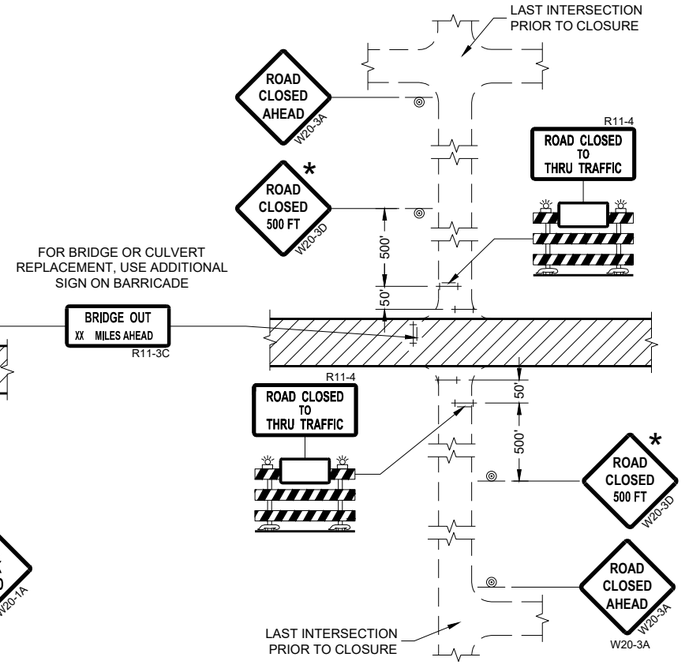
DETAIL 1
(NO ACCESS TO PROJECT)



DETAIL 2
(PUBLIC CROSS-TRAFFIC MAINTAINED.
NO ACCESS TO PROJECT)



DETAIL 3
(PUBLIC CROSS-TRAFFIC MAINTAINED.
CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)



DETAIL 4
(CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND BARRICADES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE (500 FEET DESIRABLE) TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS REESTABLISHED.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.

TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11-2, R11-3, AND R11-4 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

* OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FEET OR LESS FROM THE WORK ZONE.

** 500' MAX. OR AT LAST INTERSECTION, WHICHEVER IS CLOSEST.

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

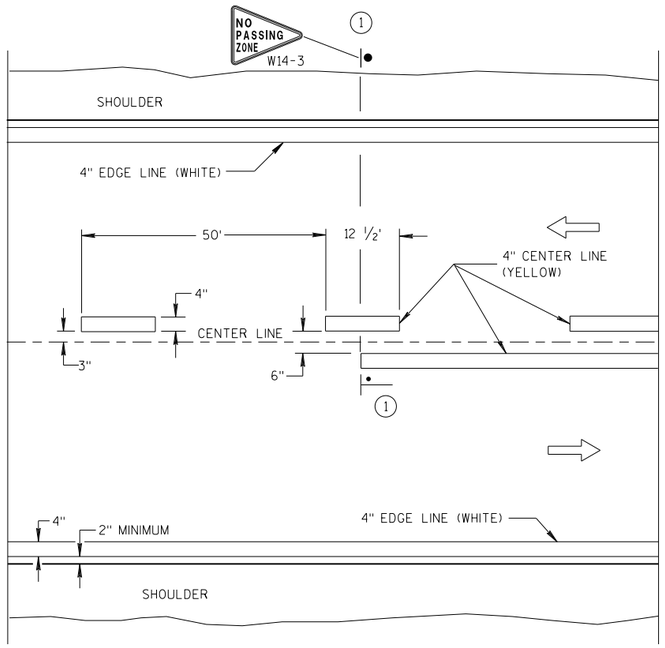
APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

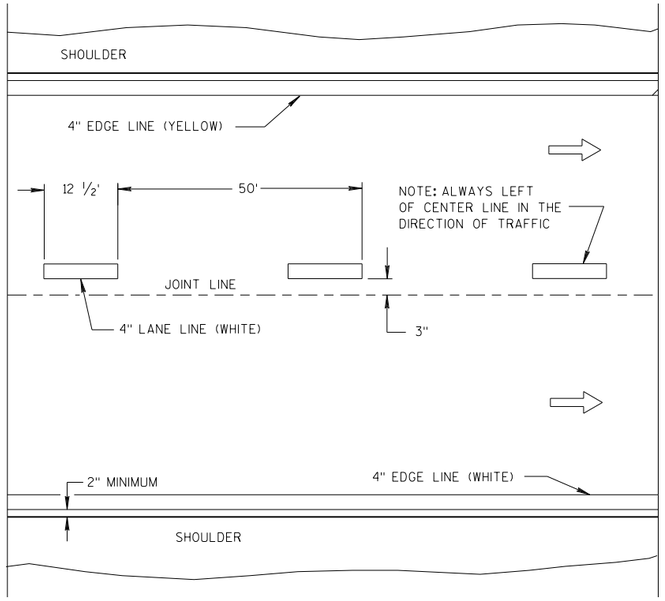
FHWA

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SDD 15C03 - 05



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

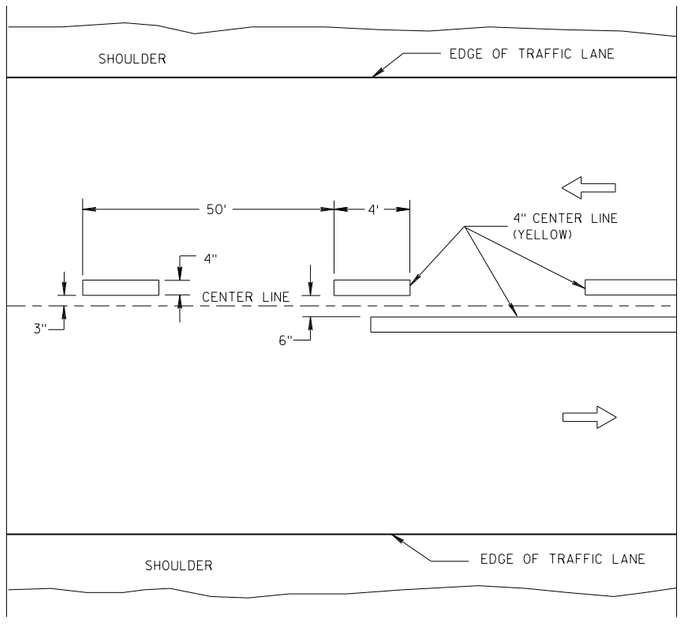
GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

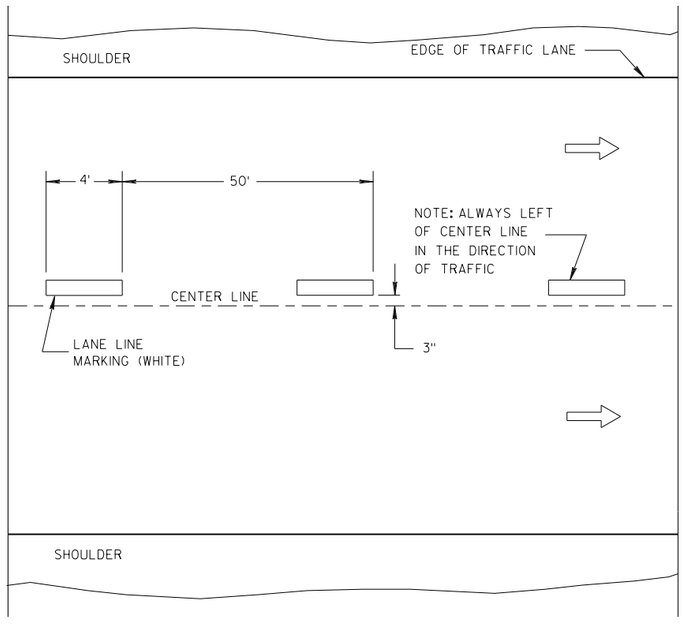
(1) LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING.

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

LEGEND

"T" MARKING

POST MOUNTED SIGN

LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/2018 DATE

/S/ Matthew R. Rauch
STATE SIGNING AND MARKING ENGINEER

FHWA

6

S.D.D. 15 C 8-19a

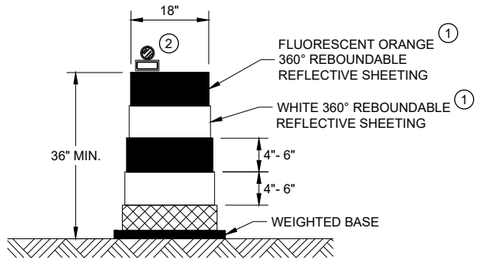
6

S.D.D. 15 C 8-19a

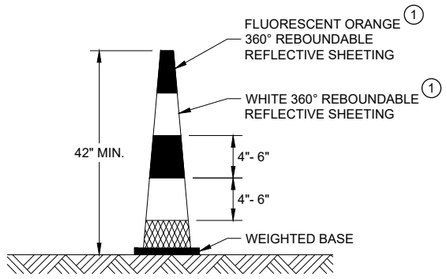
GENERAL NOTES

(1) REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

(2) LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.

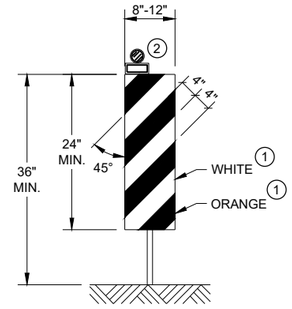


DRUM



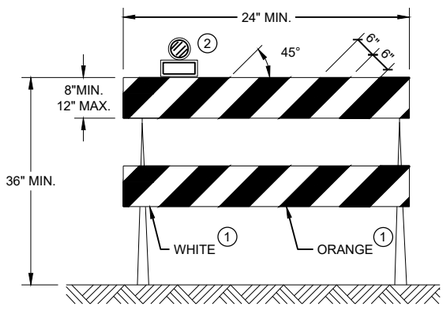
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



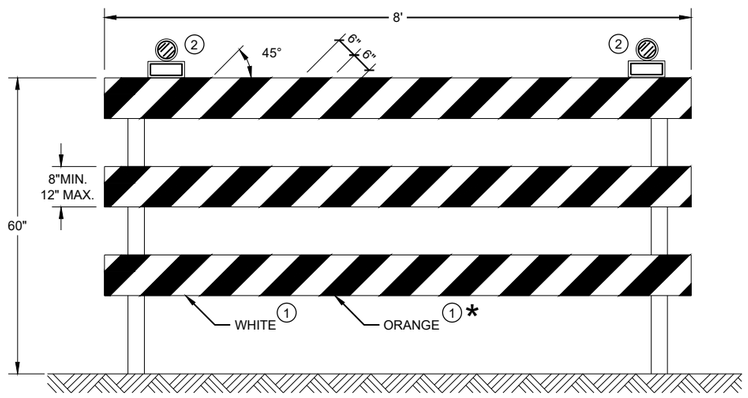
VERTICAL PANEL

THE STRIPES SHALL SLOPE DOWNWARD TO
THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE II BARRICADE

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES
MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD
TO THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE III BARRICADE

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP
TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

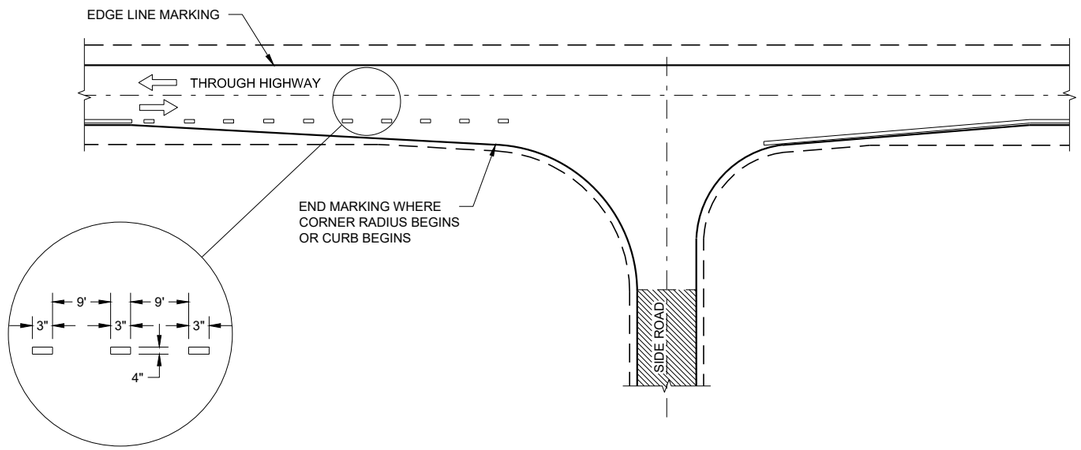
FHWA

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SDD 15C11 - 07b

6

SDD 15C11 - 07b



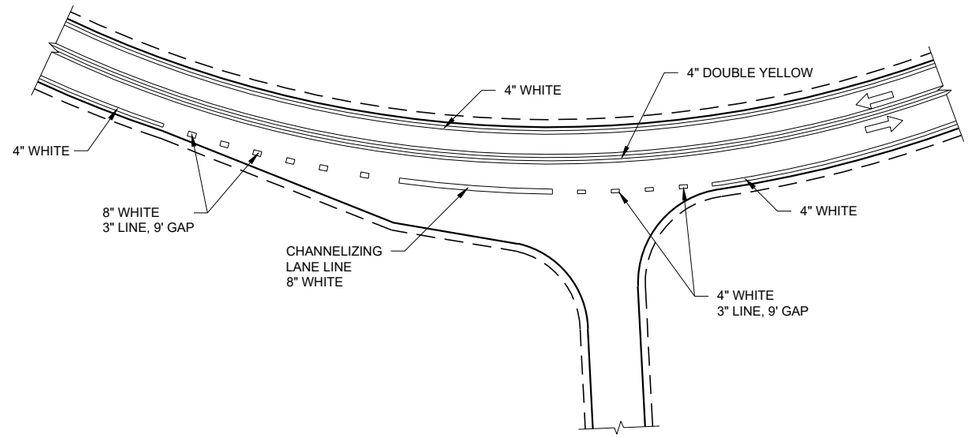
MINOR INTERSECTION

□ENERAL NOTES

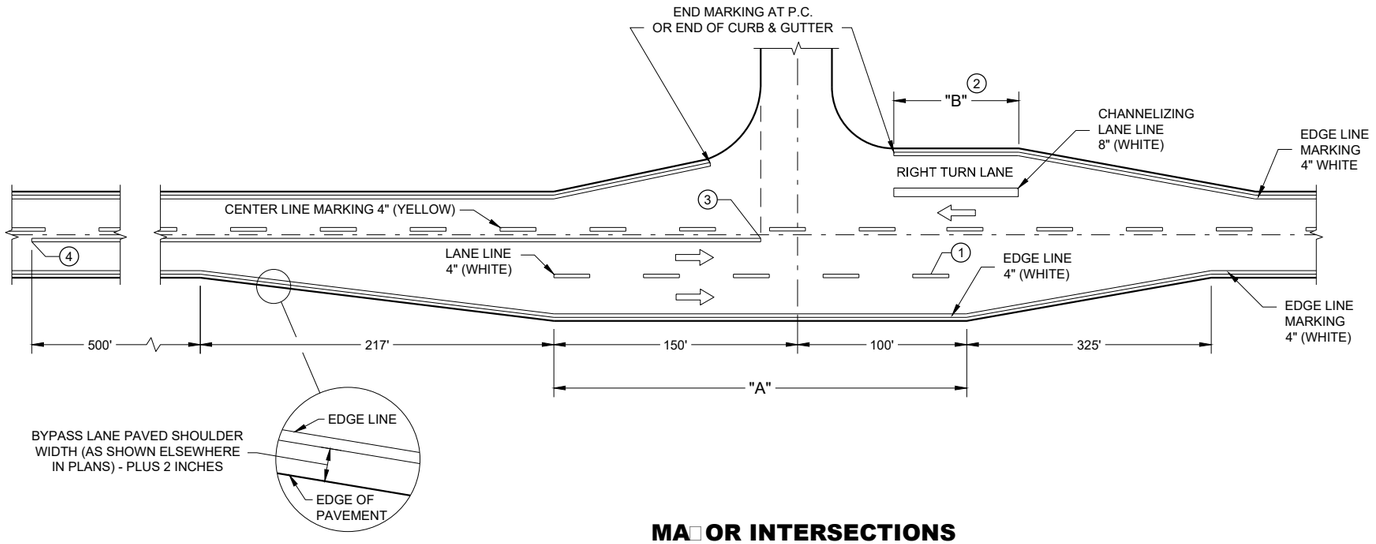
OMIT EDGE LINES THROUGH INTERSECTIONS. CONTINUE EDGE LINES THROUGH DRIVEWAYS.

1. WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
2. WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
3. BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.
4. BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



INTERSECTION ON OUTSIDE OF CUR□E



MA□OR INTERSECTIONS

□INTERSECTION □ IT□ FULL RI□ □T TURN LANE OR B□PASS LANE□

PA□EMENT MAR□ IN□
□INTERSECTIONS□

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

ALL SIGNS ARE 48" x 48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED OR AS APPROVED BY THE ENGINEER.

CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

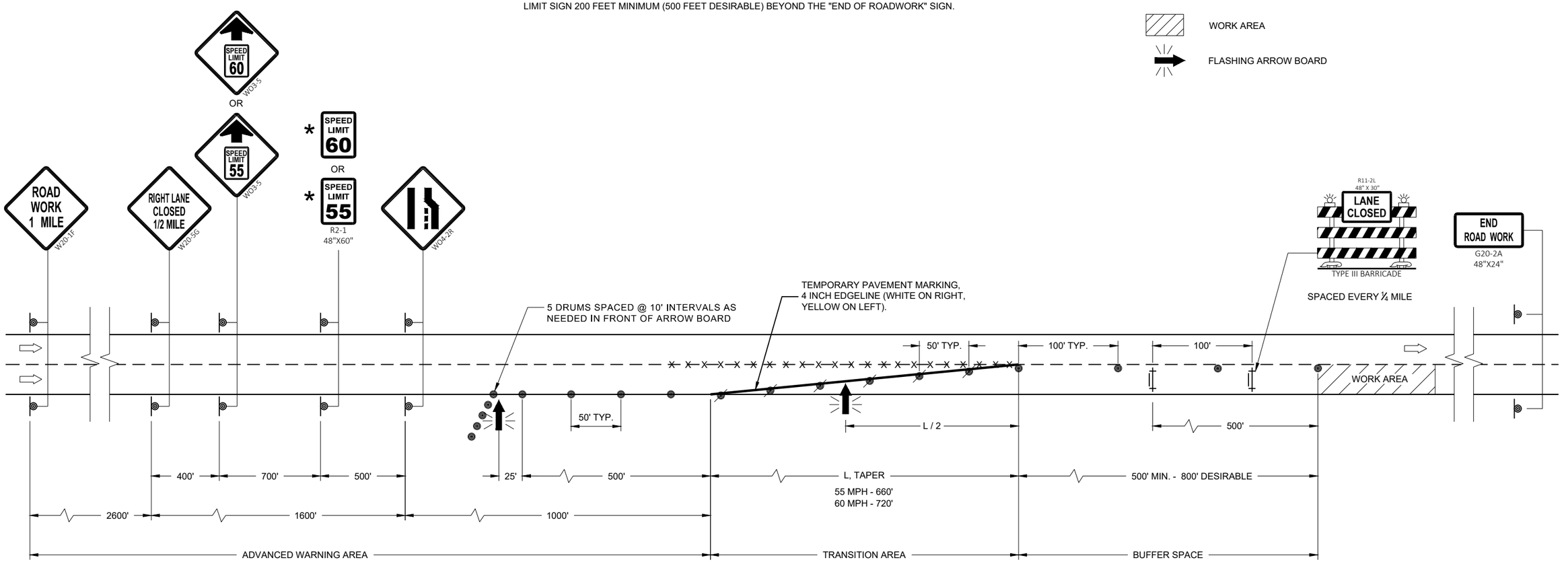
IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE ONE HALF THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

* A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. PLACE A SPEED LIMIT SIGN A MINIMUM OF EVERY 3 MILES. INCLUDE A RESUME SPEED LIMIT SIGN 200 FEET MINIMUM (500 FEET DESIRABLE) BEYOND THE "END OF ROADWORK" SIGN.

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC
- WORK AREA
- FLASHING ARROW BOARD



TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION

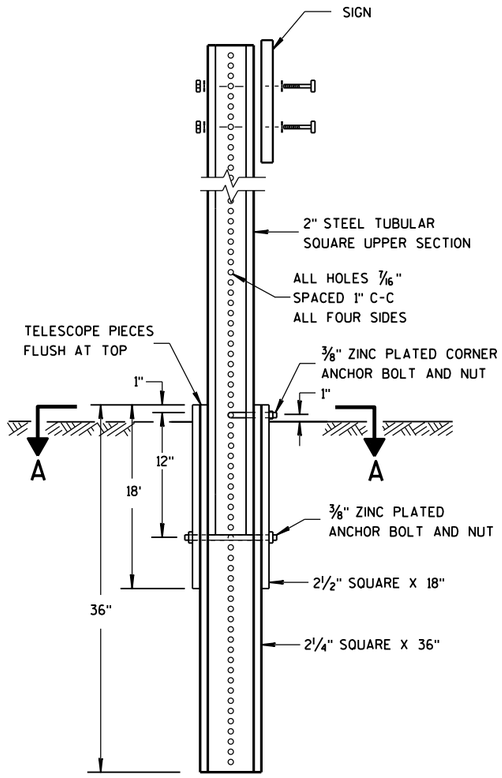
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

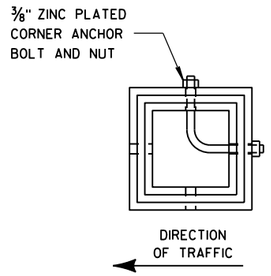
FHWA

SDD 15D12 - 07b

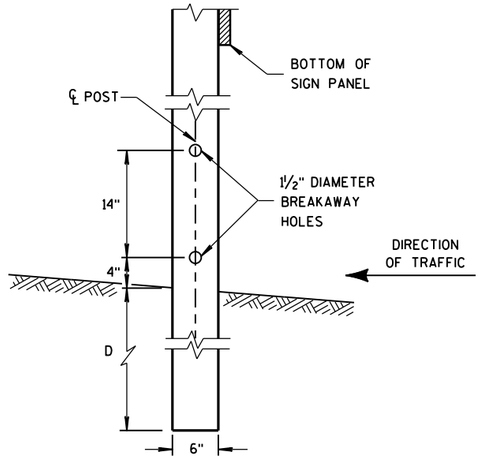
6
SDD 15D12 - 07b



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



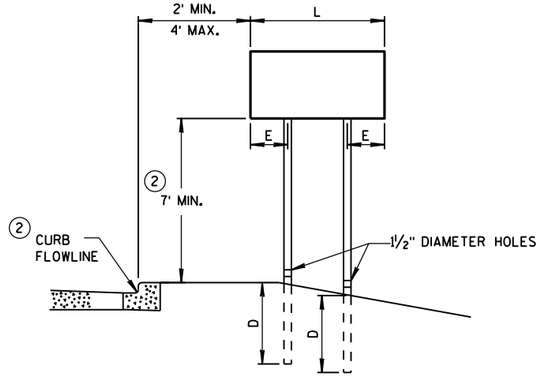
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

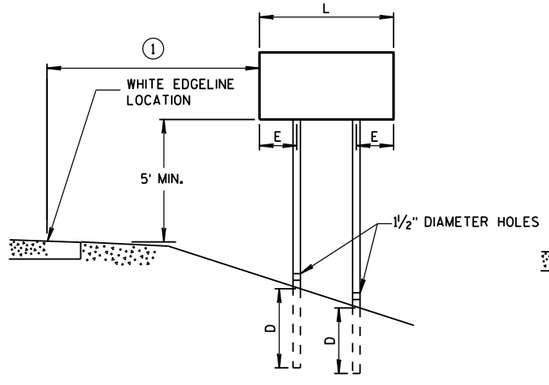
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

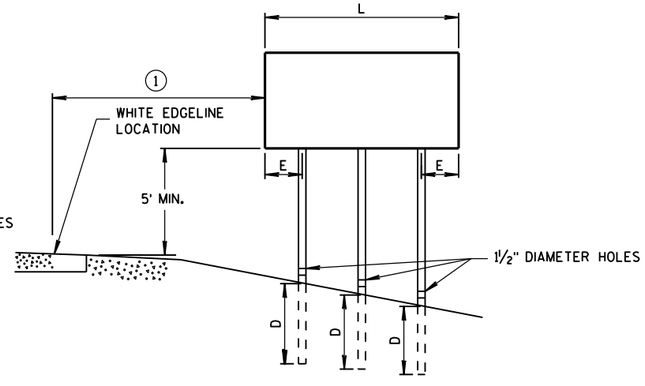
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.

(3) FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL POSTS
9 OR LESS	1
GREATER THAN 9 LESS THAN OR EQUAL TO 18	2
GREATER THAN 18 LESS THAN OR EQUAL TO 27	3

SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).

SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.

WOOD POST EMBEDMENT DEPTH

AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'

4" X 6" WOOD POST

POST SPACING REQUIREMENTS		NUMBER OF WOOD POSTS REQUIRED
L	E	
48" OR LESS AND LESS THAN 20 SQ. FT.	-	1
LESS THAN 60"	12"	2
60" TO 120"	L/5	2
GREATER THAN 120" LESS THAN 168"	12"	3
168" AND GREATER	12"	4

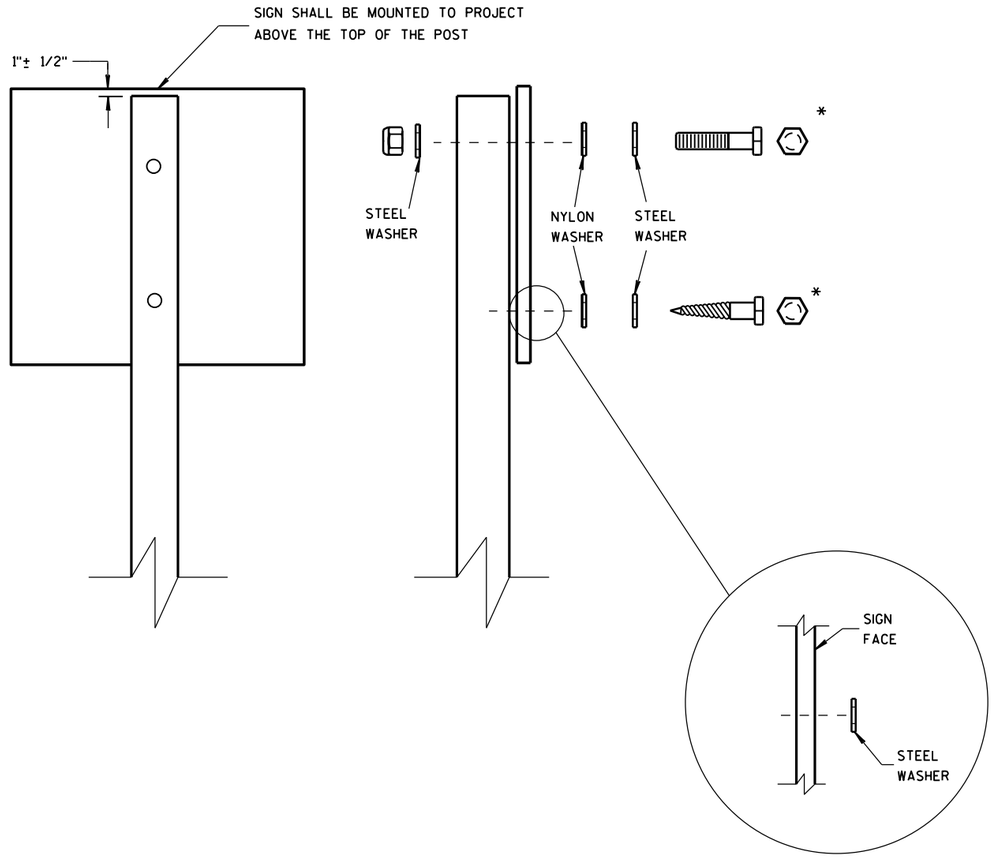
SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 15 D 38-2a



WASHER PLACEMENT WHEN SIGN HAS OTHER THAN TYPE H OR TYPE F FACE

NUTS, BOLTS AND LAGS USED FOR MOUNTING SIGNS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3

B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

WOOD POSTS (4" x 4" or 4" x 6")

LAG SCREWS - 3/8" X 3"

MACHINE BOLTS - 5/16" X 6-1/2" OR 7" LENGTH W/ NUTS

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" LENGTH W/ NUTS

RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL

1-1/4" O.D. X 3/8" I.D. X .080 NYLON FOR ALL TYPE H SIGNS

* TWO DIFFERENT FASTENING SYSTEMS ARE SHOWN FOR ILLUSTRATION PURPOSES. ON ANY INDIVIDUAL SIGN, EITHER ONE OR THE OTHER SYSTEM SHALL BE USED. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

6

6

S.D.D. 15 D 38-2b

S.D.D. 15 D 38-2b

ATTACHMENT OF SIGNS TO POSTS

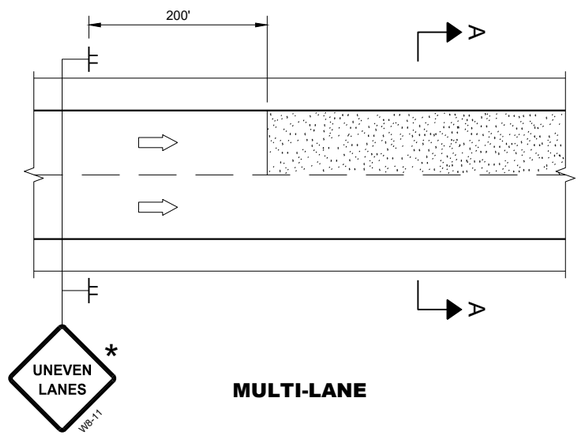
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

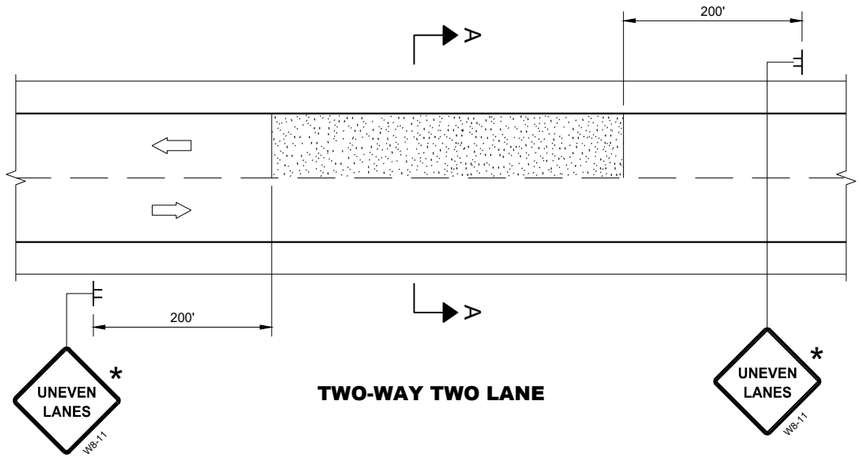
June 2017
DATE

/S/ Andrew Heldtke
WORK ZONE ENG

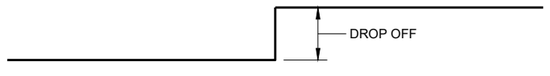
FHWA



MULTI-LANE

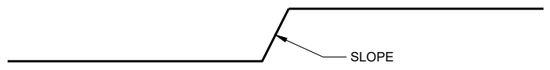


TWO-WAY TWO LANE

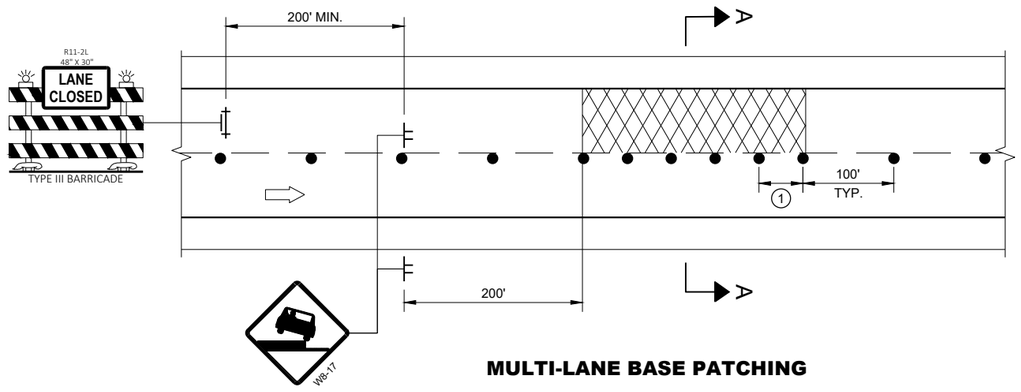


SECTION A - A

OR

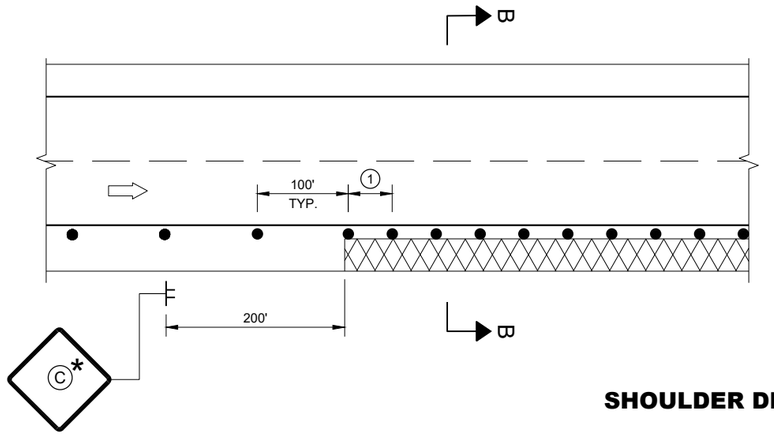


SECTION A - A

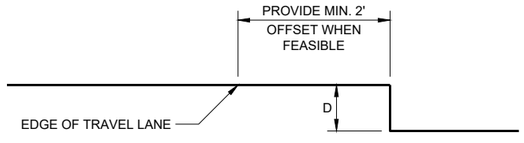


MULTI-LANE BASE PATCHING

ADJACENT LANE DROP-OFFS



SHOULDER DROP-OFFS



SECTION B - B

D	SIGN (C)
< 2" WITH A SLOPE STEEPER THAN 3:1	LOW SHOULDER WO8-9
2" < 6" WITH A SLOPE STEEPER THAN 3:1	SHOULDER DROP - OFF W8-9A PROVIDE A 3:1 OR FLATTER SLOPE OF MATERIAL ADJACENT TO THE PAVEMENT

GENERAL NOTES

FOR SPOT LOCATIONS USE ENGINEERING JUDGEMENT WHEN PLACING ADDITIONAL SIGNS.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

* IF THE DROP-OFF IS CONTINUOUS ALONG THE PROJECT, PLACE ADDITIONAL SIGNS EVERY 1 MILE AND AFTER EVERY ENTRANCE RAMP.

(1) USE CLOSER SPACING WHEN DELINEATING DROP-OFF.

LEGEND

- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA WITH DROP-OFF
- MILLED SURFACE

TRAFFIC CONTROL, DROP-OFF SIGNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

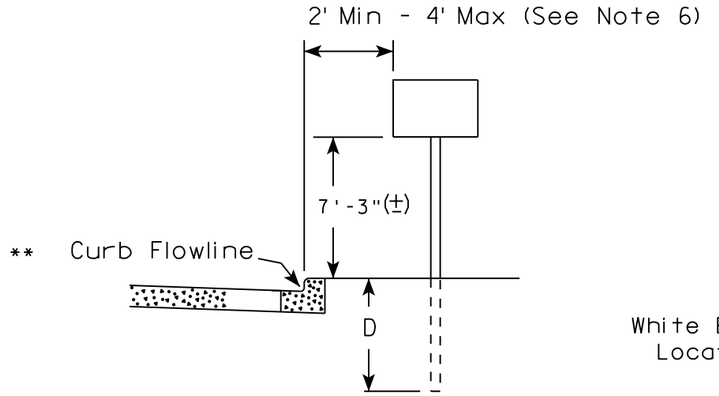
SDD 15D39 - 02

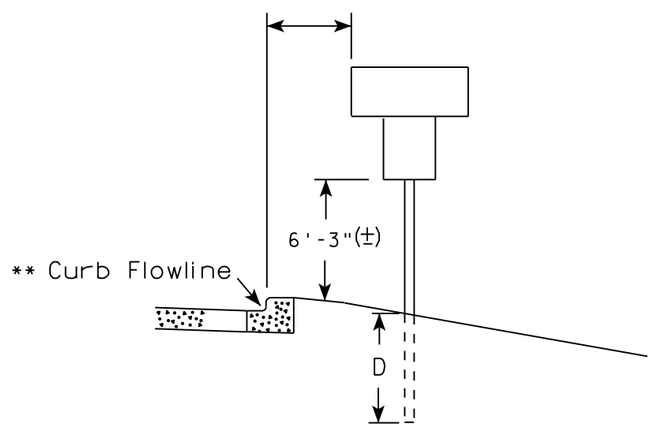
SDD 15D39 - 02

6

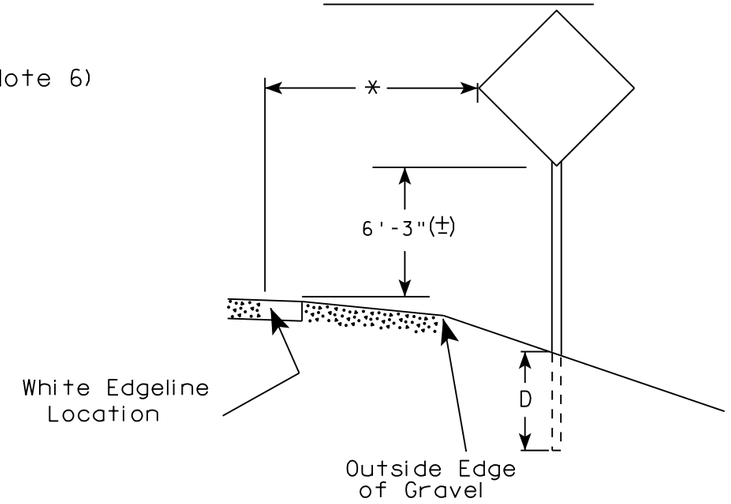
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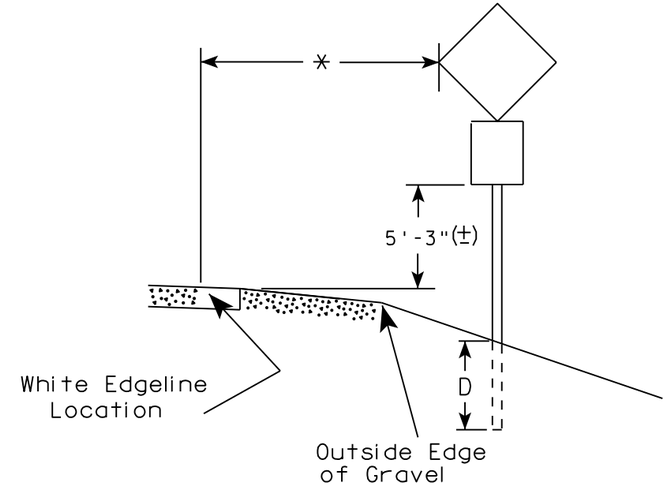
URBAN AREA





RURAL AREA (See Note 2)





GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. J-Assemblies are considered to be one sign for mounting height.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

POST EMBEDMENT DEPTH

Area of Sign Installation (Sq.Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

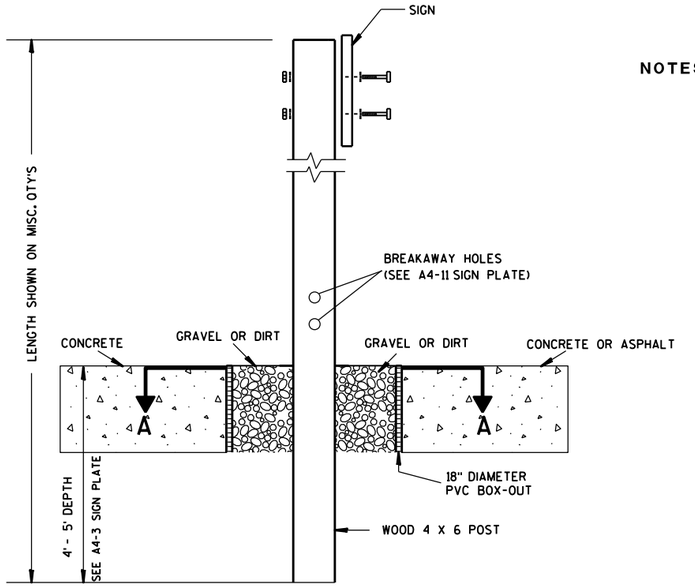
APPROVED Matthew R Rauch for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-3.21

7

7

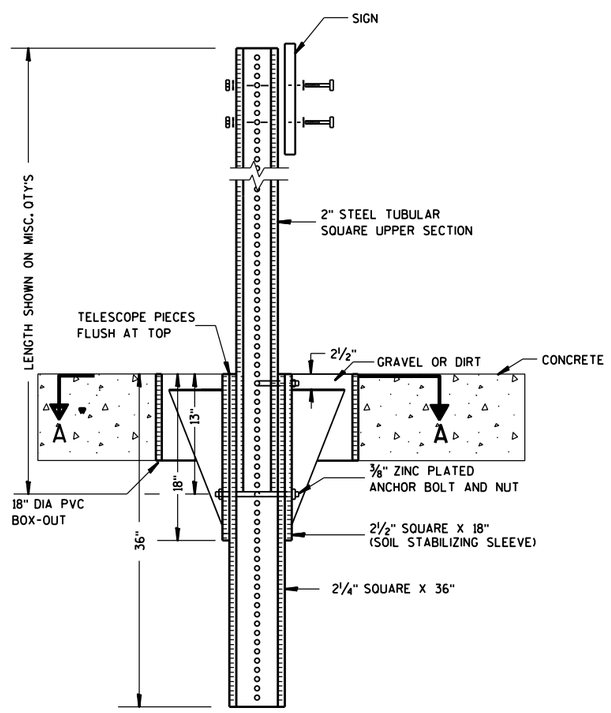
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 136	E



ELEVATION VIEW

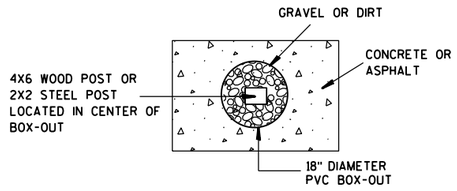
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

NOTES:
1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

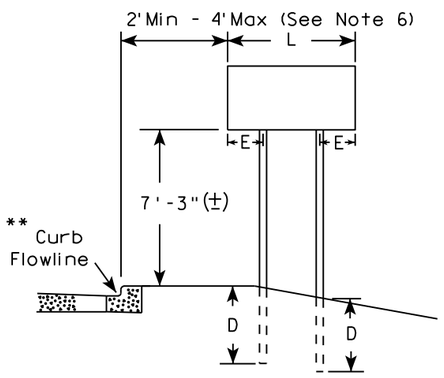
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

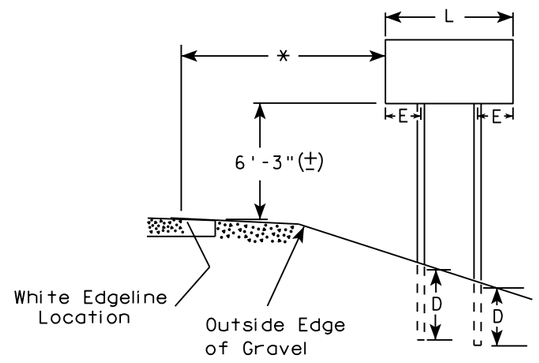
DATE 1/27/14 PLATE NO. A4-3B.1

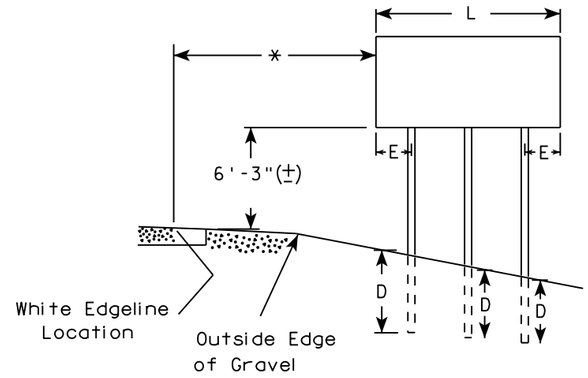
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

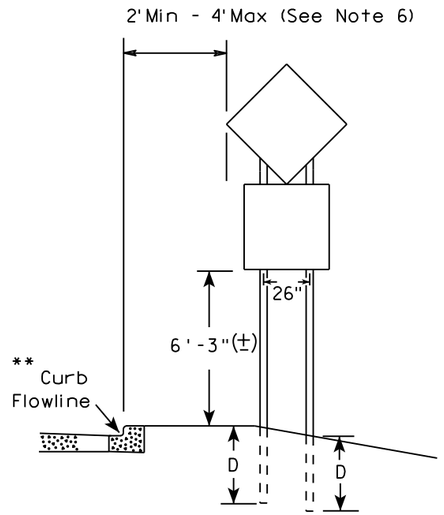
URBAN AREA



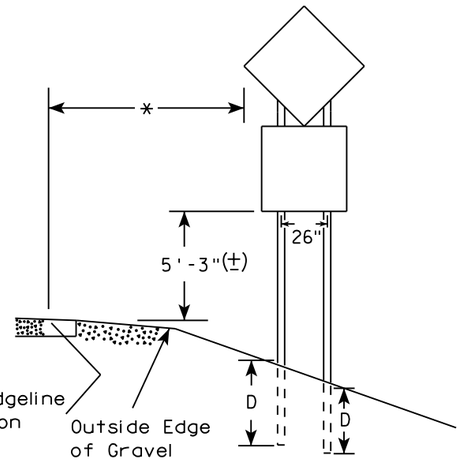
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

***	SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
	L	E
	Greater than 48" Less than 60"	12"
	60" to 108"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. J-Assemblies are considered to be one sign for mounting height.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4"-3" (±).

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

*** See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.

POST EMBEDMENT DEPTH

Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

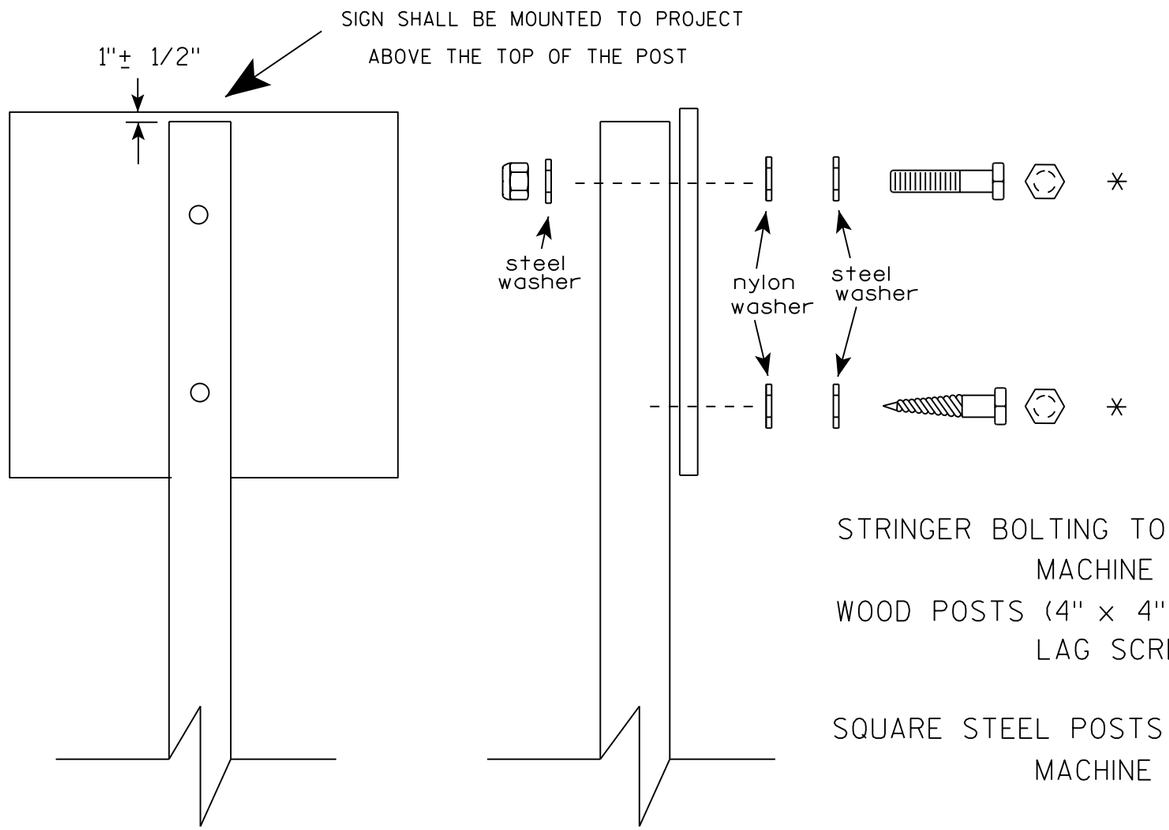
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-4.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 138	E



Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts
WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
3/8" X 4" (STRINGERS ON BACK OF SIGN)
SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON

* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

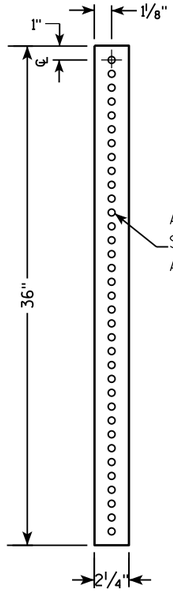
DATE 8/11/16 PLATE NO. A4-8.8

PROJECT NO: SHEET NO: E

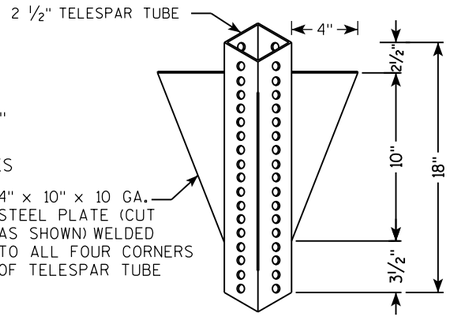
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TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

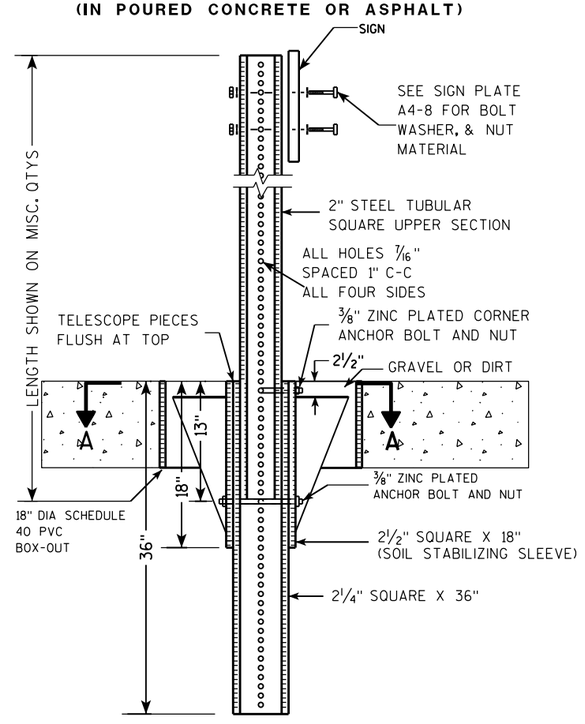
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



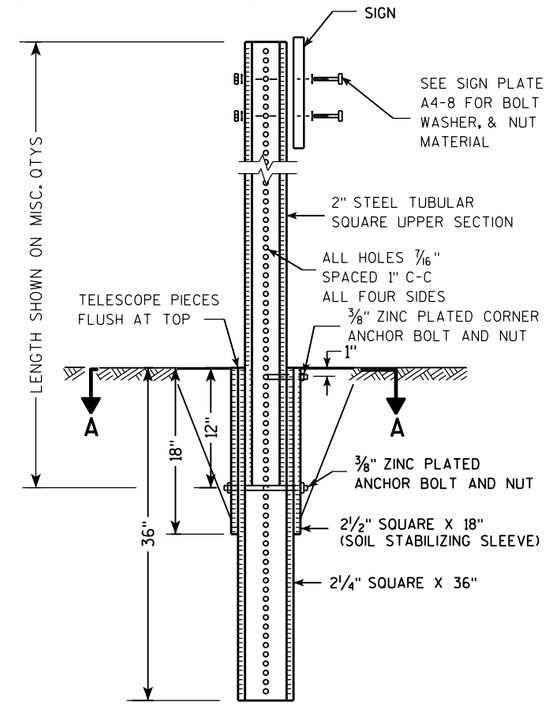
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

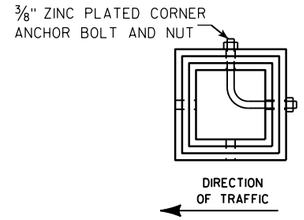


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



DETAIL OF TUBULAR STEEL SIGN POST
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)





SECTION A-A

Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

TUBULAR STEEL
SIGN POST
A4-9

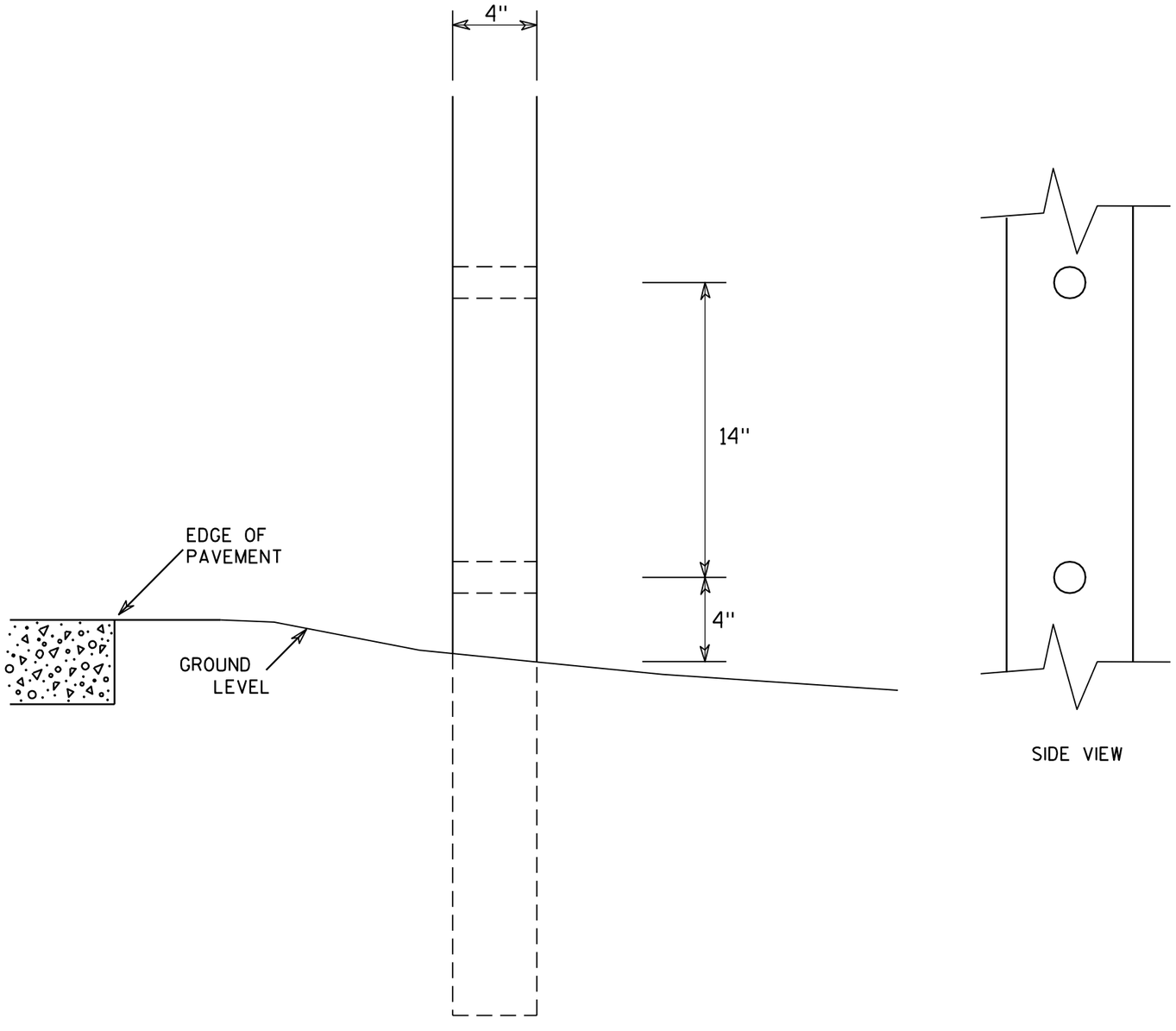
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A49.DGN PLOT DATE : 05-FEB-2015 17:09 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000
WISDOT/CADDS SHEET 42



SIDE VIEW

GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

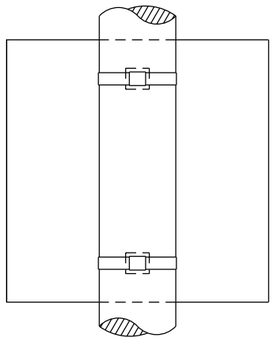
APPROVED Chester J Spang for State Traffic Engineer

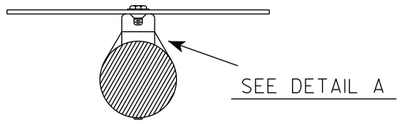
DATE 3/27/97 PLATE NO. A4-11.2

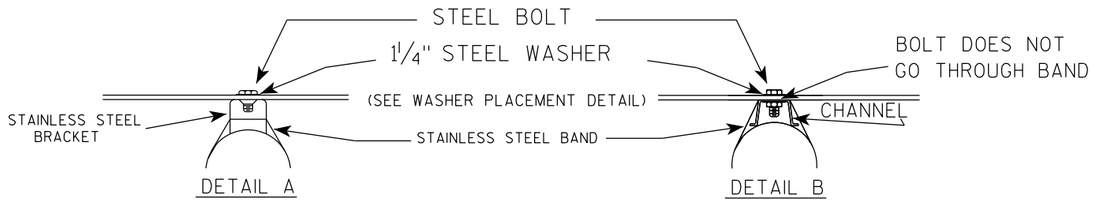
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 141	E

BANDING

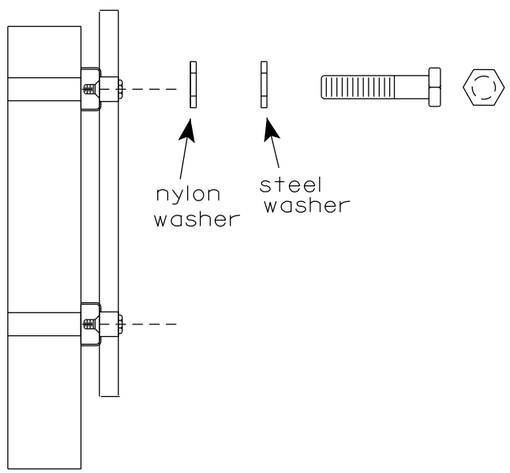
SINGLE SIGN







WASHER PLACEMENT

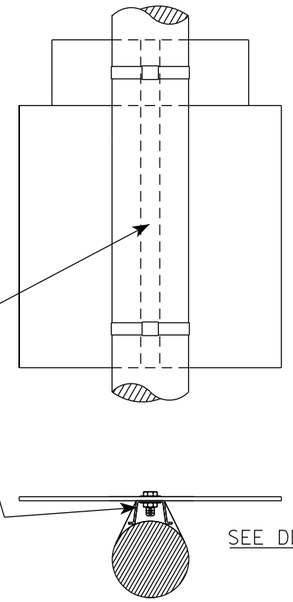


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be ¾" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

"J" ASSEMBLY



STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

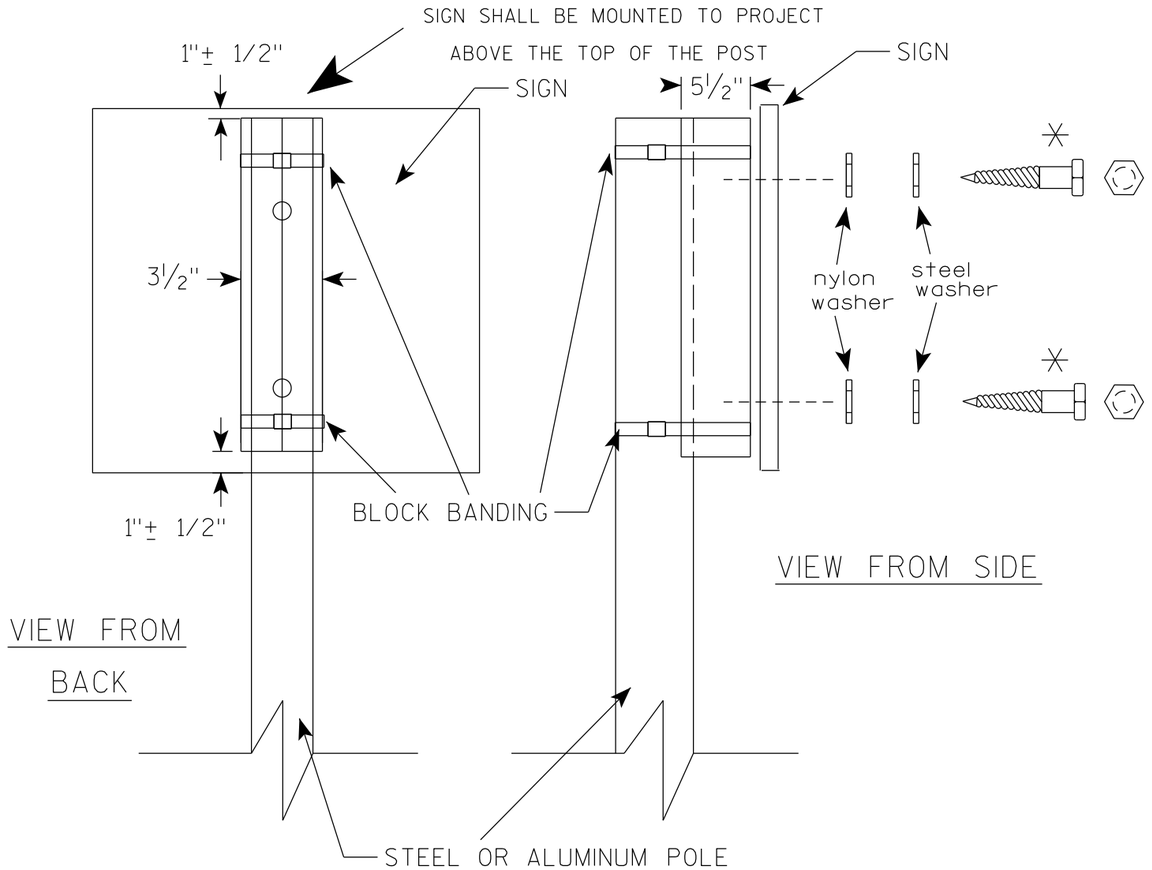
DATE 6/10/19 PLATE NO. A5-9.4

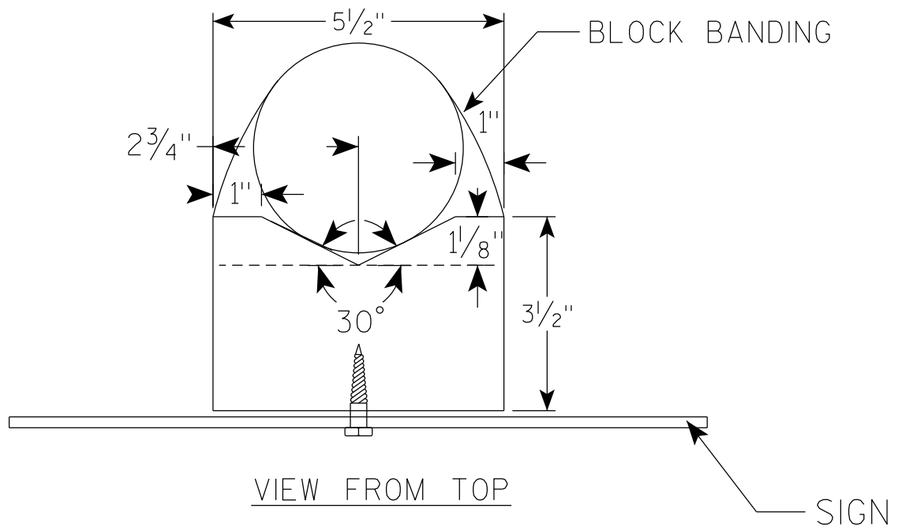
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 142	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A59.dgn PLOT DATE : 10-JUN 2019 4:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

7

7





GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

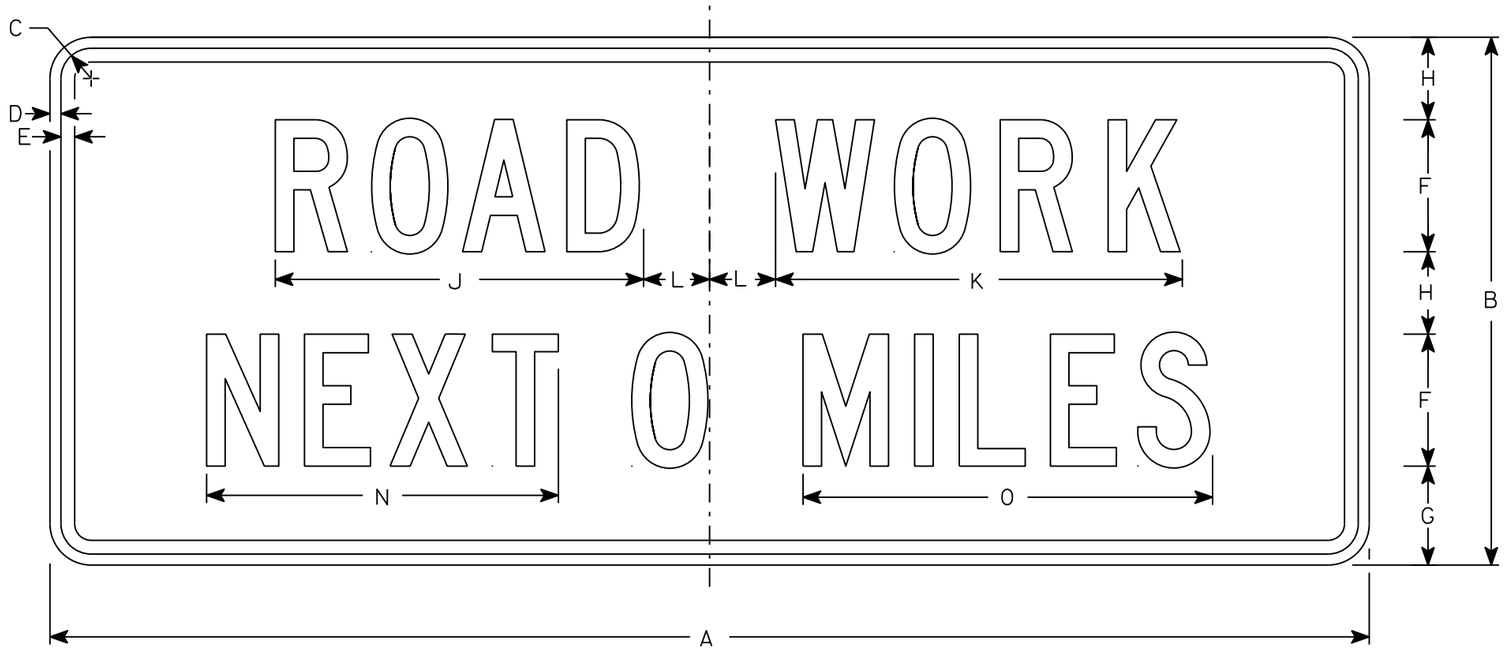
BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 6/10/19 PLATE NO. A5-10.2

PROJECT NO: | SHEET NO: 143 | E



G20-1

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Round distance to nearest whole Mile and substitute appropriate numerals and optically adjust spacing to achieve proper balance

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	60	24	1 3/8	1/2	5/8	6	4 1/2	3 3/4		16 3/4	18 1/2	3		16	18 5/8												10
3																											
4	60	24	1 3/8	1/2	5/8	6	4 1/2	3 3/4		16 3/4	18 1/2	3		16	18 5/8												10
5																											

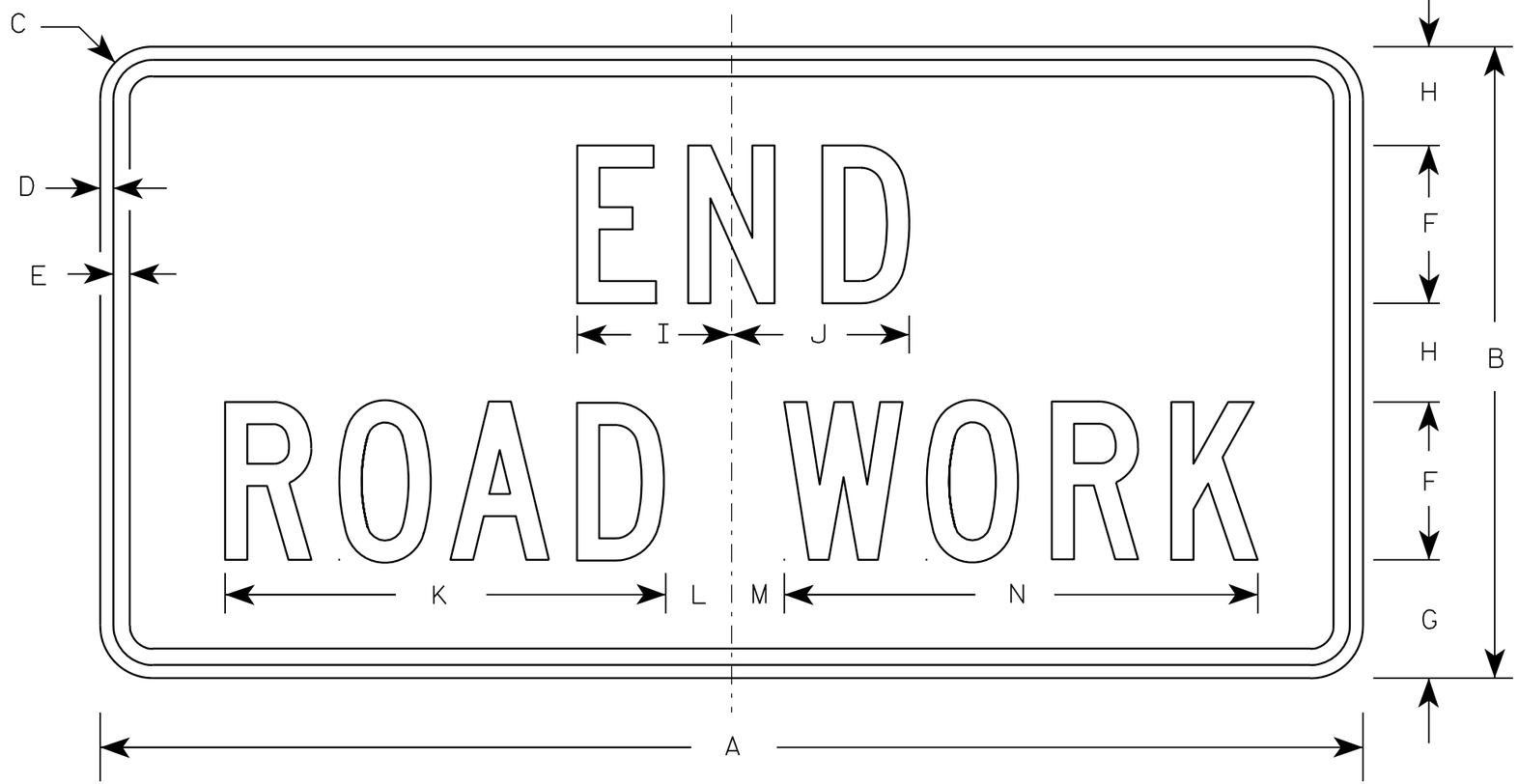
STANDARD SIGN
G20-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/14/17 PLATE NO. G20-1.8

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 144 | E



G20-2A

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

Metric equivalent for this sign is:

SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

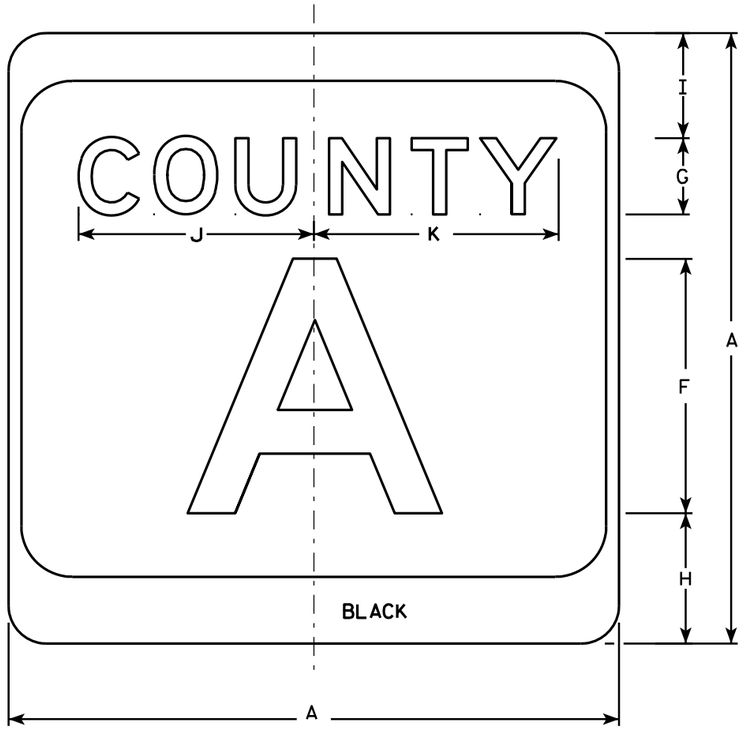
STANDARD SIGN
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

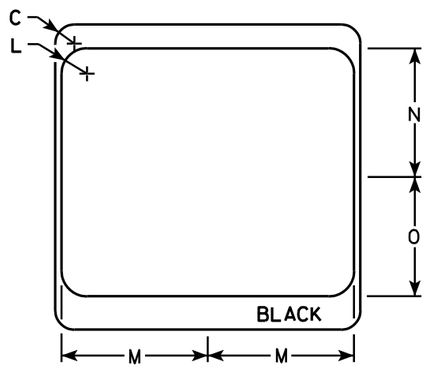
APPROVED Matthew R Rauch
for State Traffic Engineer

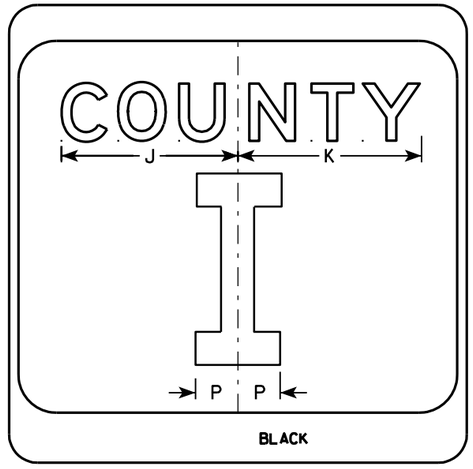
DATE 9/30/09 PLATE NO. G20-2A.8

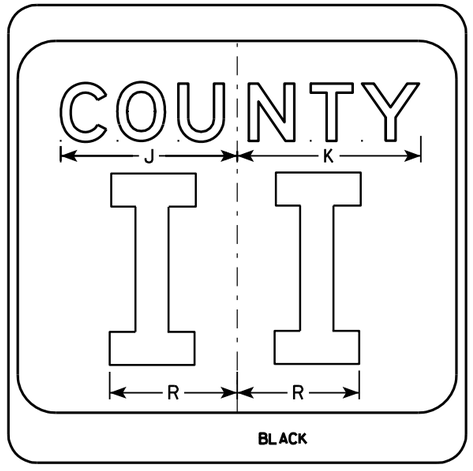
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 145	E



M1-5A







NOTES

1. Sign is Type II - see Note 7 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 7
   Message - Black
3. Message Series - see Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Message Series E for 1 letter.
   Message Series D for 2 letters unless message is too big then Series C.
   Message Series C for 3 letters unless message is too big then Series B.
6. Substitute appropriate letters & optically center to achieve proper balance.
7. Permanent Signs
   Background - Type H Reflective
   Detour or temporary Signs
   Background - Reflective

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
3	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
4	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
5	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0

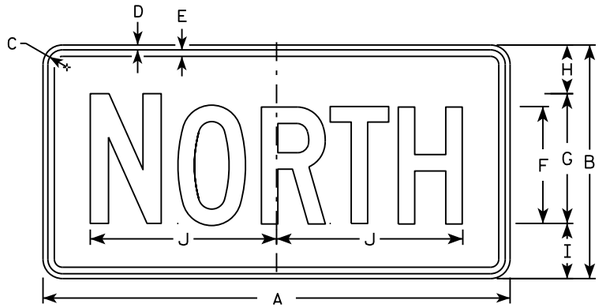
CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

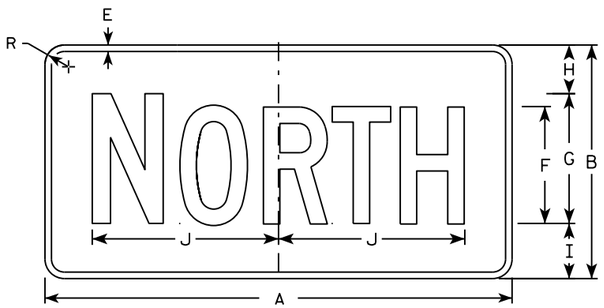
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/27/11 PLATE NO. M1-5A.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 146	E



M3-1
MM3-1
MP3-1



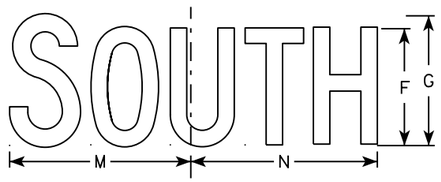
MB3-1
MK3-1
MN3-1



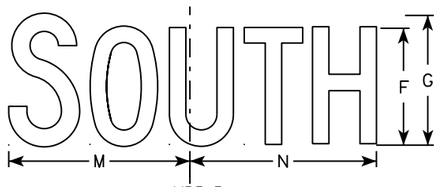
M3-2
MM3-2
MP3-2



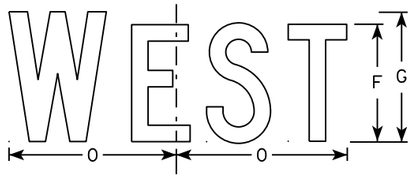
MB3-2
MK3-2
MN3-2



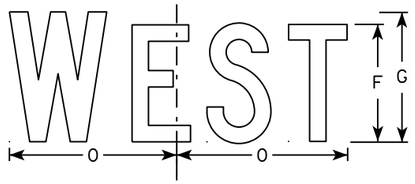
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

NOTES

1. All Signs Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M3-1 thru M3-4 Background - White
   Message - Black
   MB3-1 thru MB3-4 Background - Blue
   Message - White
   MK3-1 thru MK3-4 Background - Green
   Message - White
   MM3-1 thru MM3-4 Background - White
   Message - Green
   MN3-1 thru MN3-4 Background - Brown
   Message - White
   MP3-1 thru MP3-4 Background - White
   Message - Blue
6. Note the first letter of each direction is larger than the remainder of the message.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

STANDARD SIGNS
M3-1 thur M3-4
SERIES

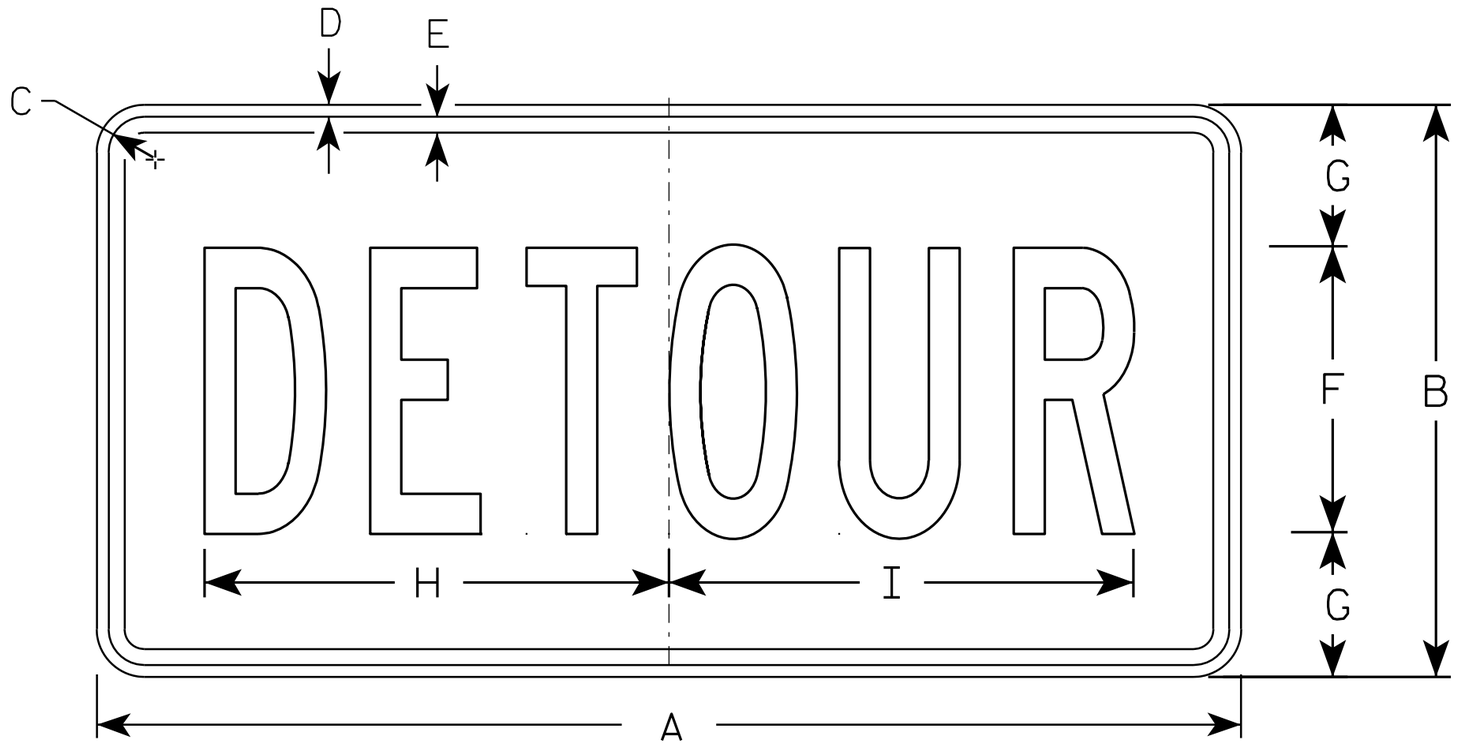
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew P Rauch for State Traffic Engineer

DATE 10/15/15 PLATE NO M3-1.14

PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M31.DGN PLOT DATE : 01-DEC-2015 17:54 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



M4-8

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - B
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/8	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4																											
5																											

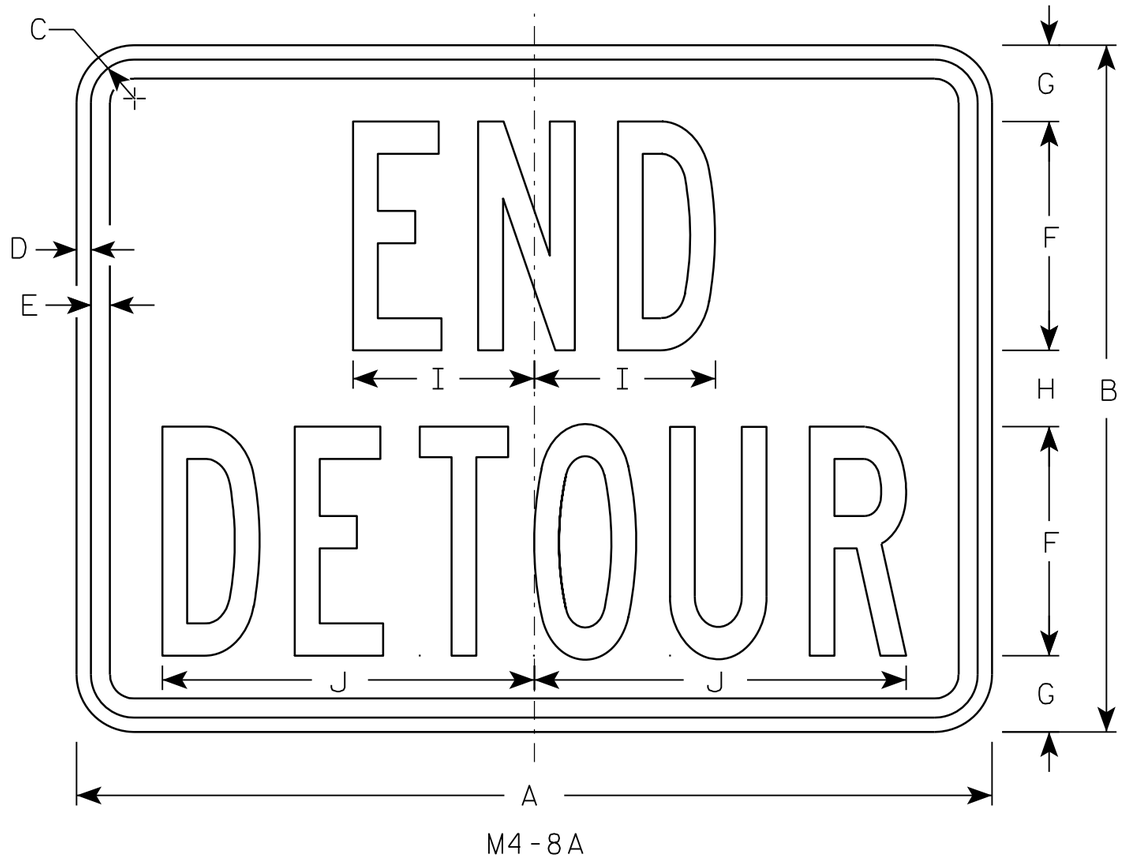
STANDARD SIGN
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M4-8.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 148	E



M4-8A

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - B
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	18	1 1/8	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
3	30	24	1 1/8	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
4																											
5																											

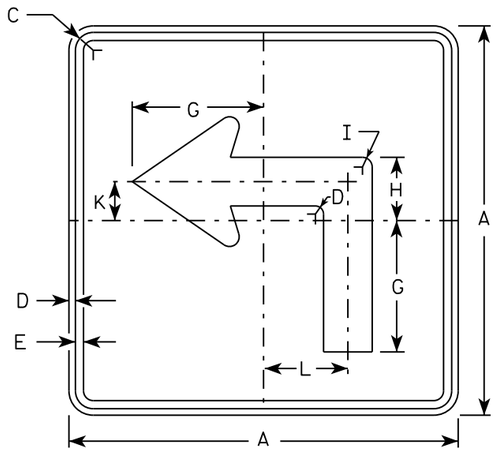
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

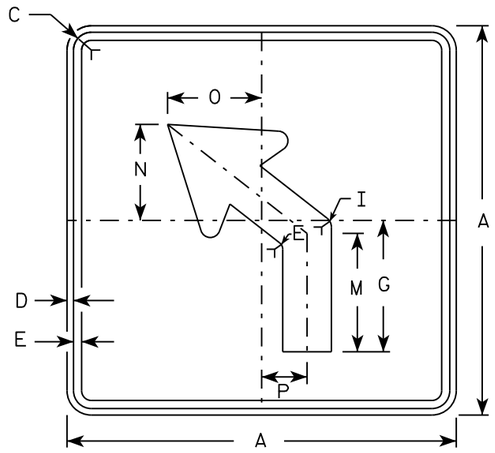
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-8A.2

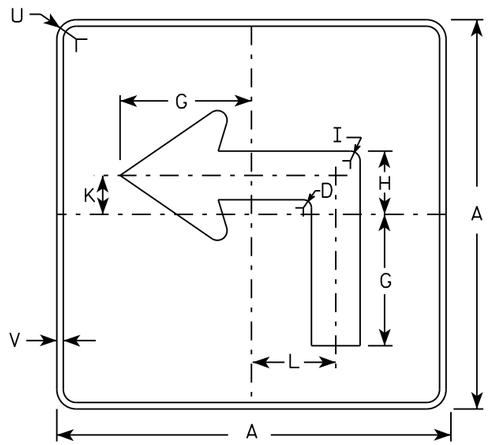
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 149	E



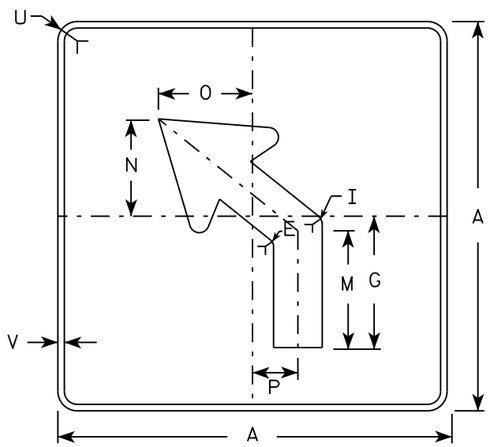
M5-1L
MM5-1L
MO5-1L
MP5-1L



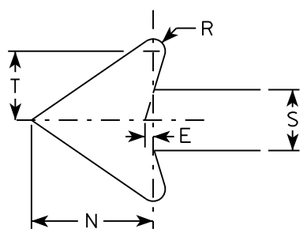
M5-2L
MM5-2L
MO5-2L
MP5-2L



MB5-1L
MK5-1L
MN5-1L
MR5-1L



MB5-2L
MK5-2L
MN5-2L
MR5-2L



NOTES

1. Signs are Type II - Type H reflective except as shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M5-1 and M5-2 Background - White
   Message - Black
   MB5-1 and MB5-2 Background - Blue
   Message - White
   MK5-1 and MK5-2 Background - Green
   Message - White
   MM5-1 and MM5-2 Background - White
   Message - Green
   MN5-1 and MN5-2 Background - Brown
   Message - White
   MO5-1 and MO5-2 Background - Orange - Type F Reflective
   Message - Black
   MP5-1 and MP5-2 Background - White - Type H Reflective
   Message - Blue
   MR5-1 and MR5-2 Background - Brown
   Message - Yellow
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts right.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25

STANDARD SIGN
M5-1 & M5-2

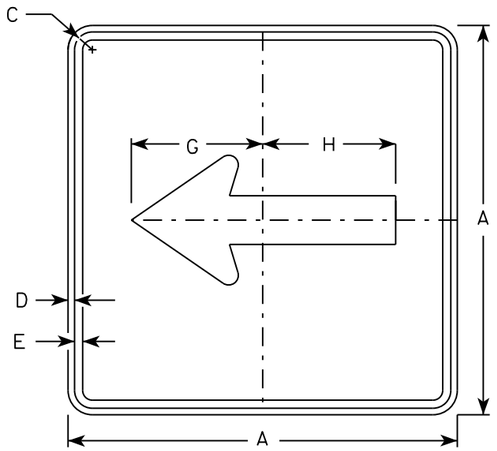
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

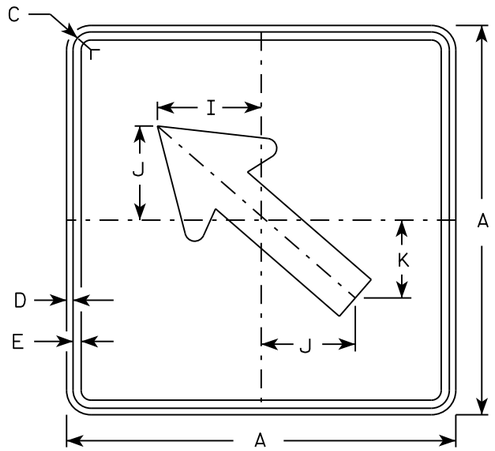
DATE 10/15/15 PLATE NO. M5-1.13

PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M51.DGN PLOT DATE : 01-DEC-2015 18:07 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



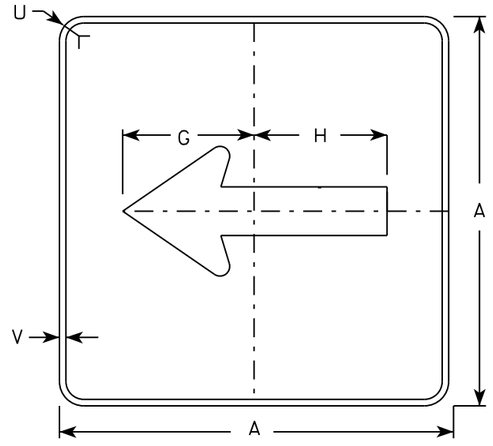
M6-1
MM6-1
MO6-1
MP6-1



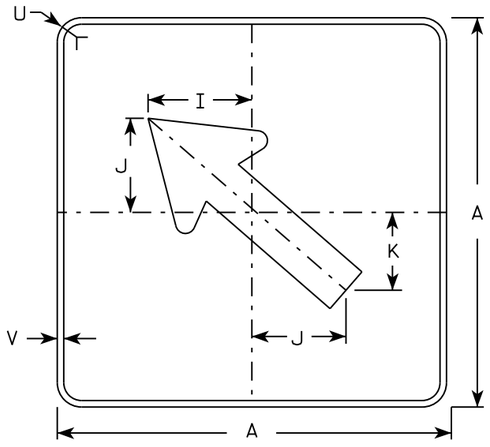
M6-2
MM6-2
MO6-2
MP6-2

NOTES

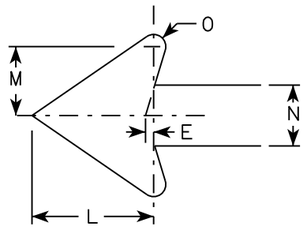
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White
   Message - Black
   MB6-1 and MB6-2 Background - Blue
   Message - White
   MK6-1 and MK6-2 Background - Green
   Message - White
   MM6-1 and MM6-2 Background - White
   Message - Green
   MN6-1 and MN6-2 Background - Brown
   Message - White
   MO6-1 and MO6-2 Background - Orange - Type F Reflective
   Message - Black
   MP6-1 and MP6-2 Background - White
   Message - Blue
   MR6-1 and MR6-2 Background - Brown
   Message - Yellow



MB6-1
MK6-1
MN6-1
MR6-1



MB6-2
MK6-2
MN6-2
MR6-2



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2						3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25

STANDARD SIGN
M6-1 & M6-2
SERIES

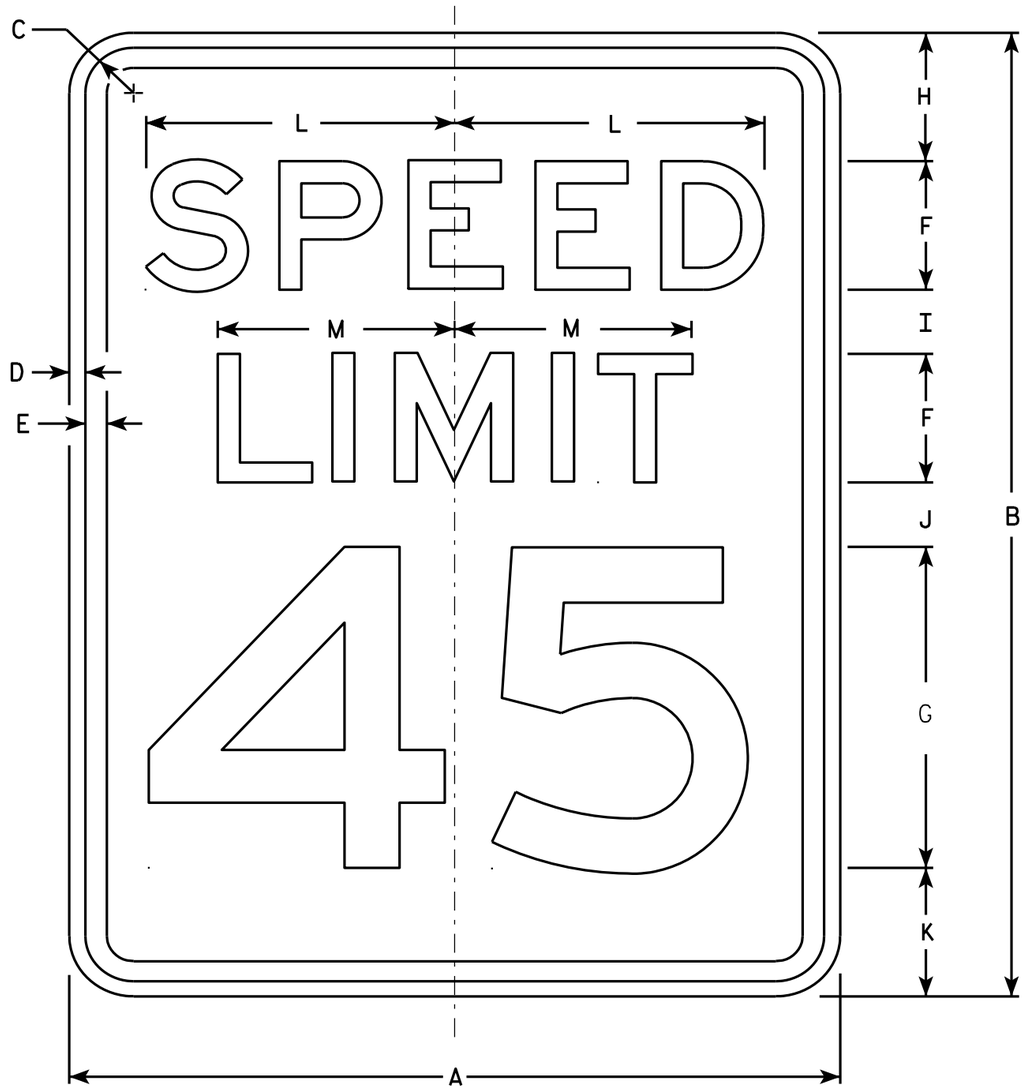
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE 151 M6-1.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M61.DGN PLOT DATE : 01-DEC-2015 17:57 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



R2-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/8	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 3/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	2 1/4	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

STANDARD SIGN
R2-1

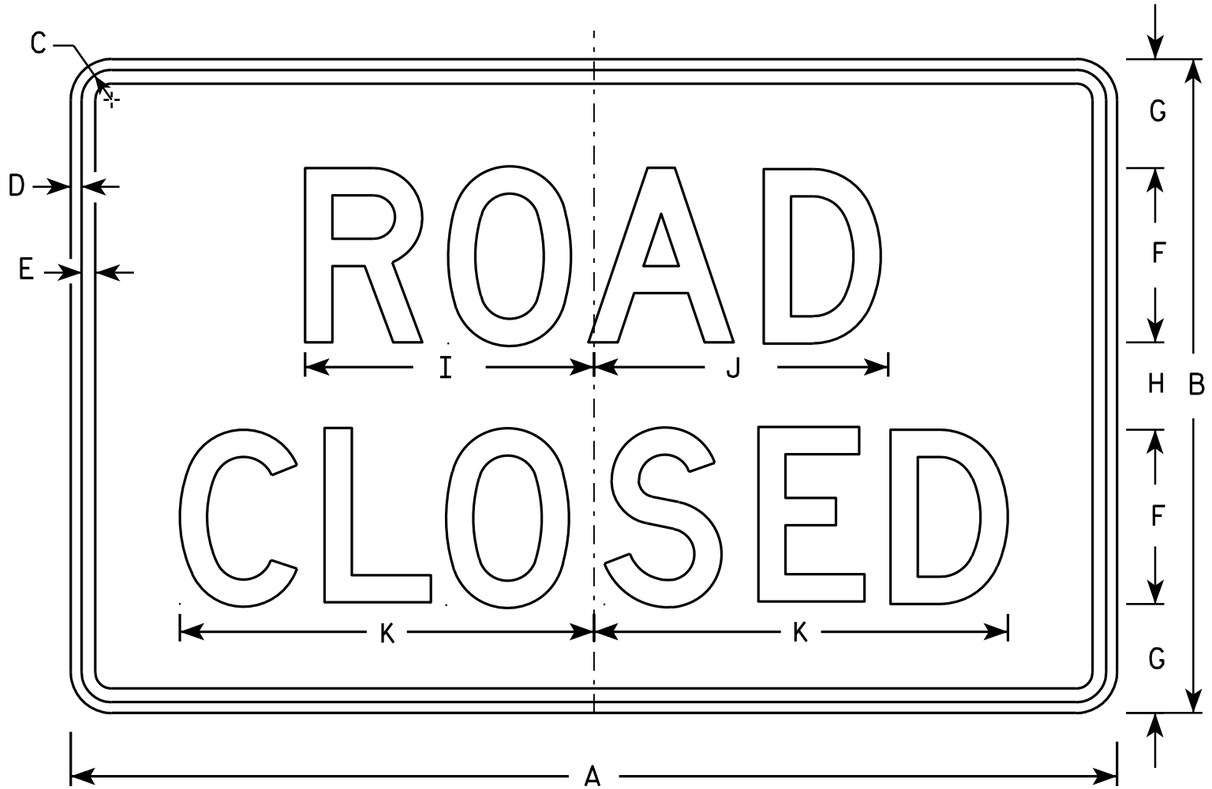
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/26/10 PLATE NO. R2-1.13

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 152 | E

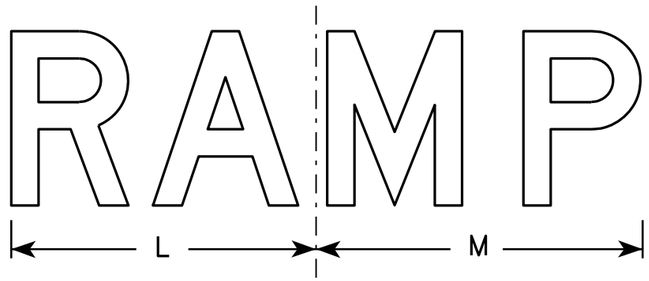
FILE NAME : C:\Users\PROJECTS\tr_stdplate\R21.DGN PLOT DATE : 28-MAY-2010 08:32 PLOT BY : ditjph PLOT NAME : PLOT SCALE : 4.717577:1.000000
WISDOT/CADDS SHEET 42



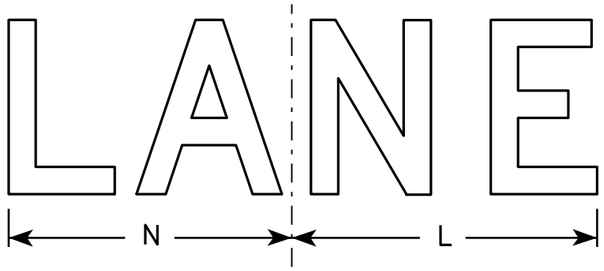
R11-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Modify the message as required.



R11-2R



R11-2L

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0

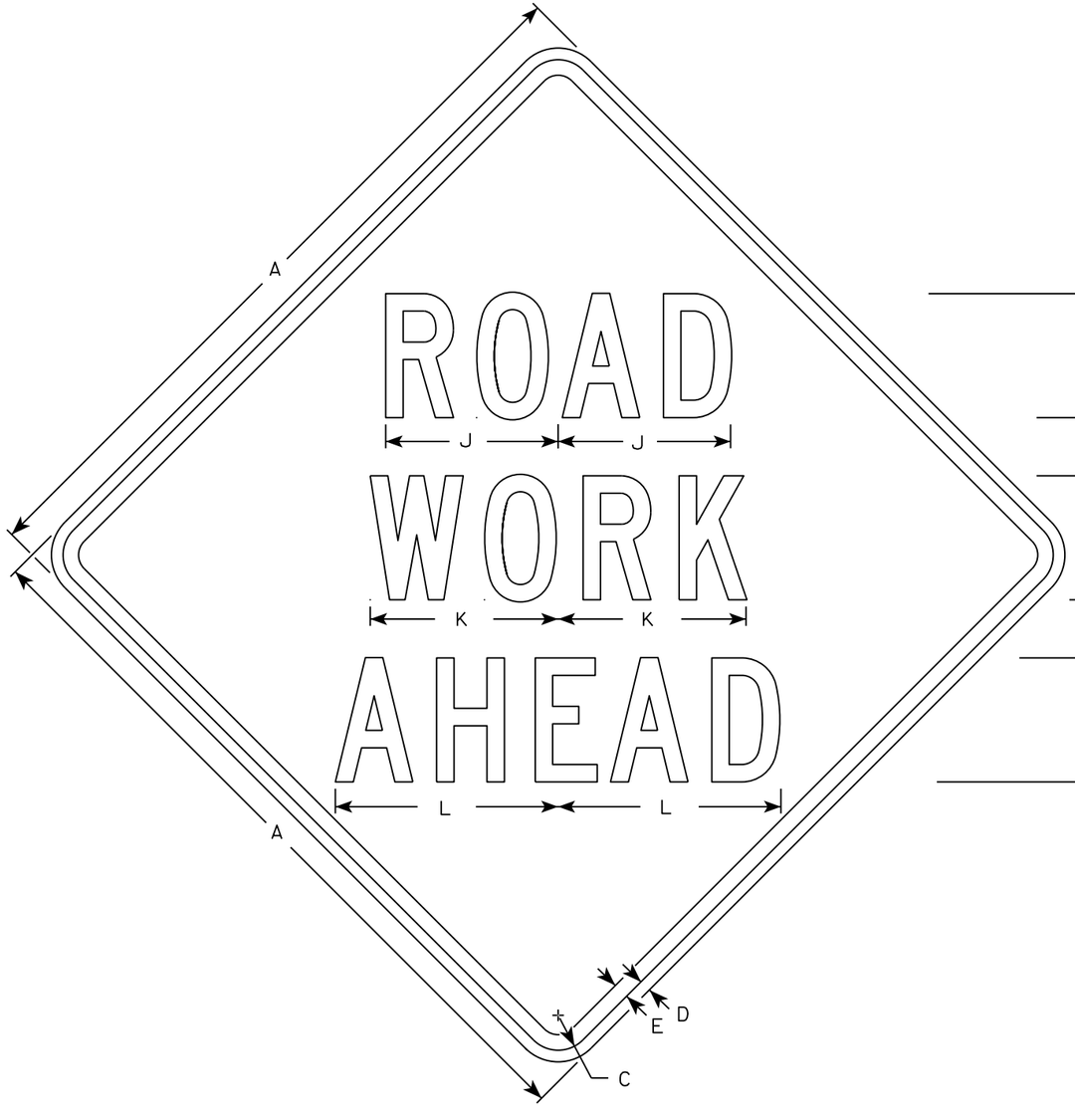
STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

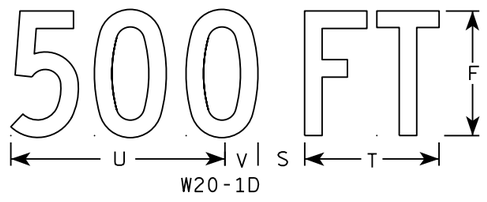
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2.10

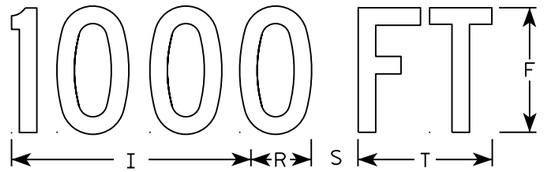
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 153	E



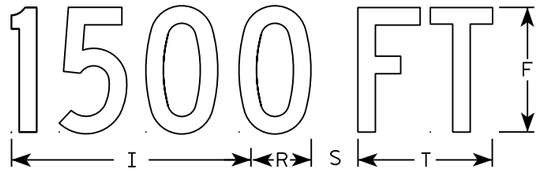
W20-1A



W20-1D



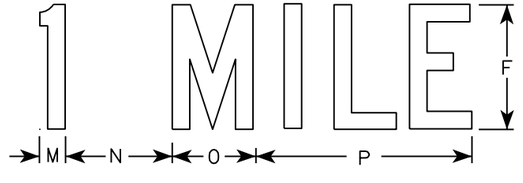
W20-1C



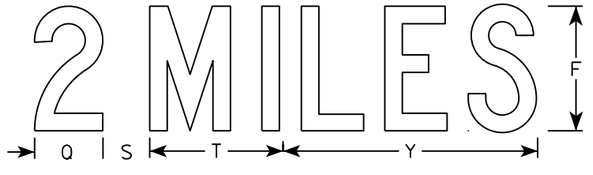
W20-1B



W20-1G



W20-1F



W20-1E

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	1/2	5/8	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9		2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

STANDARD SIGN
W20-1A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

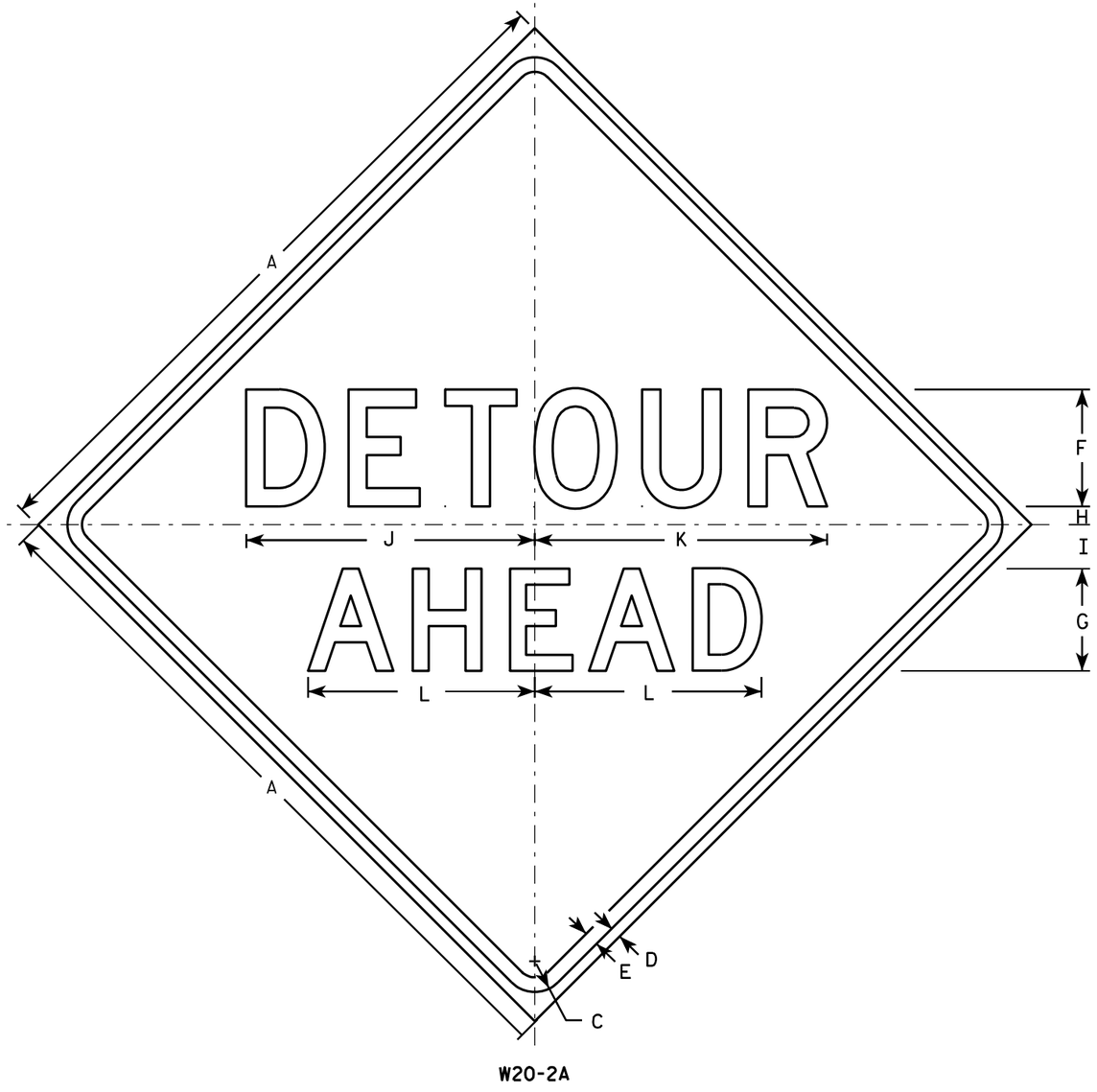
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/07/15 PLATE NO. W20-1.10

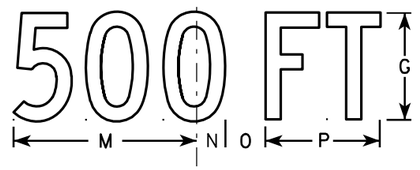
PROJECT NO:

SHEET NO: E

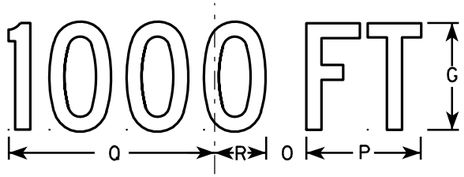
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W201.DGN PLOT DATE : 01-DEC-2015 18:24 PLOT BY : $$ plotuser $$



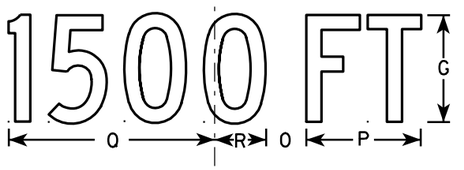
W20-2A



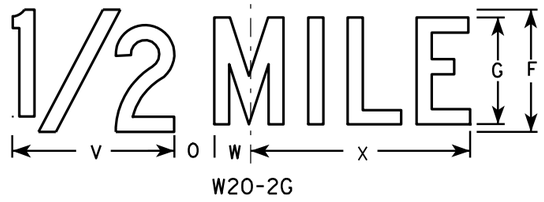
W20-2D



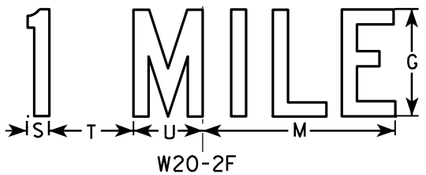
W20-2C



W20-2B



W20-2G



W20-2F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series D.
   Line 2 is Series D for AHEAD and Series C for all other distances.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

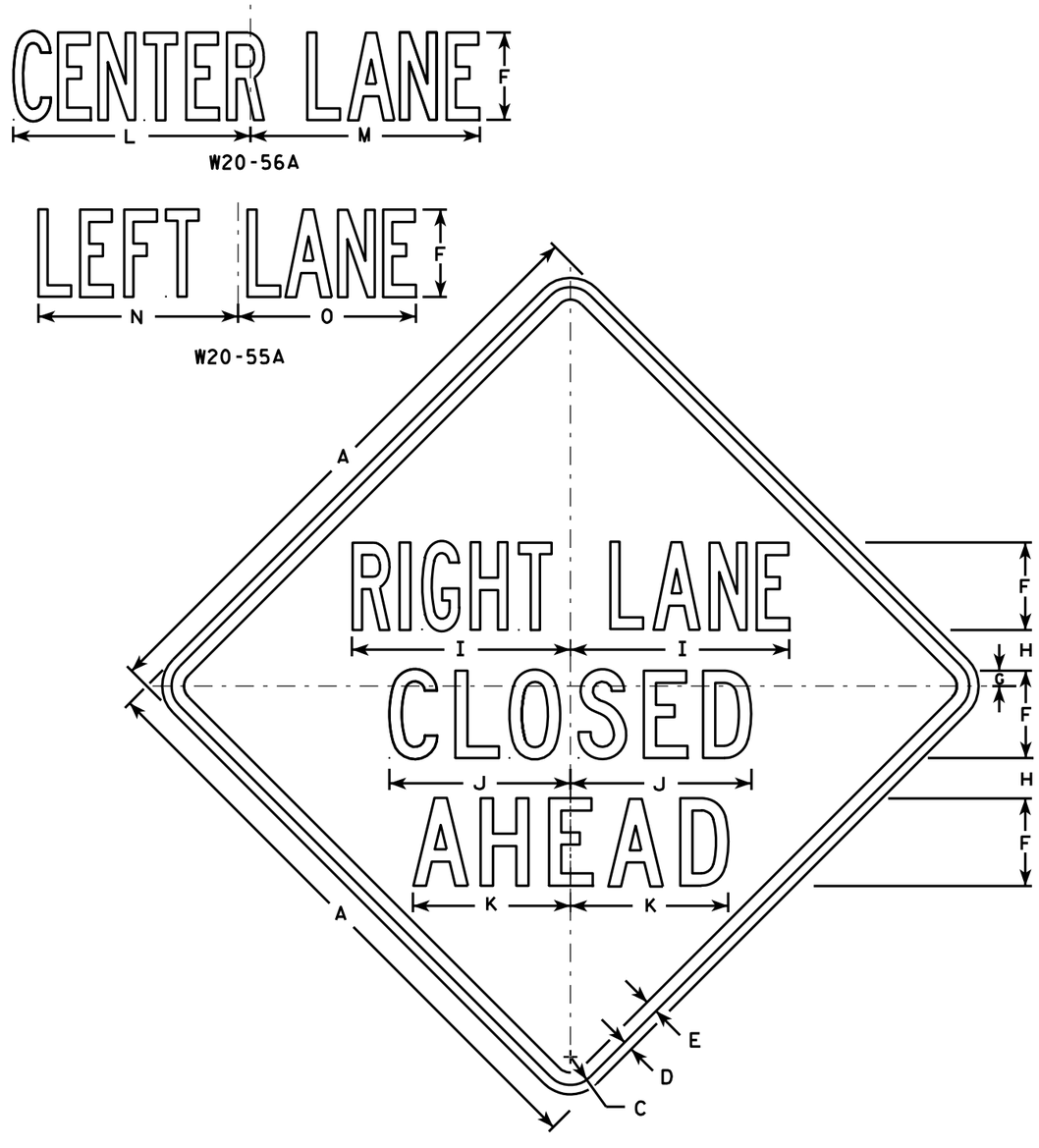
STANDARD SIGN
W20-2A,B,C,D,F & G

WISCONSIN DEPT OF TRANSPORTATION

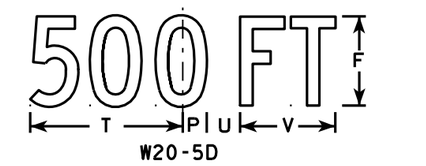
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-2.6

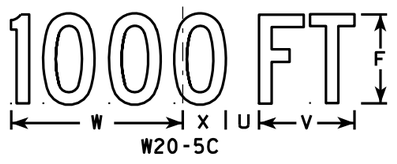
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 155	E



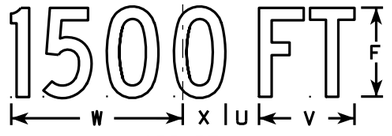
W20-5A



W20-5D



W20-5C



W20-5B



W20-5G



W20-5F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. " _____ LANE" is Series B.
   All other copy is Series C.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	6	1 5/8	5/8	3/4	5	1/8	2 1/2	13 1/8	10 3/4	9 1/2	14 1/4	13 5/8	12	12	1 3/8	1 1/8	4 1/2	3 1/2	9	1 1/8	5 5/8	10 1/8	2 1/2	1 3/4	8	9.0
2S	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
2M	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
3	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
4	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
5	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0

STANDARD SIGN
W20-5A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

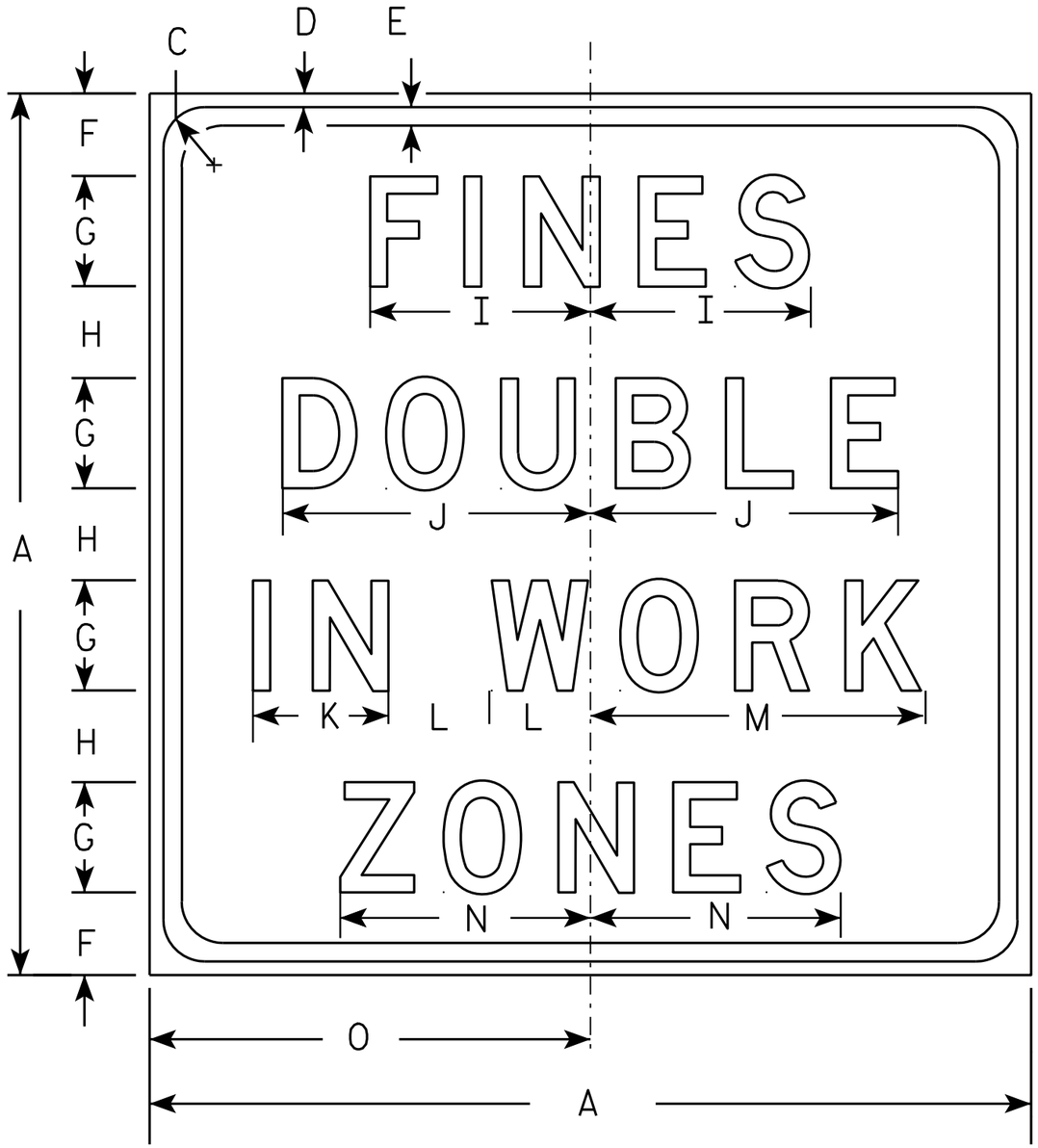
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-5.11

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 156	E

7

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W205.DGN PLOT DATE : 18-MAR-2011 12:15 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 11.918087:1.000000
WISDOT/CADDS SHEET 42



W21-61

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	2 1/4	3	2 1/2	6	8 3/8	3 3/4	2 3/4	9 1/8	6 7/8	12												4.0
2S	36		1 5/8	5/8	3/4	3 3/8	4 1/2	3 3/4	9	12 5/8	5 1/2	4 1/8	13 3/4	10 1/4	18												9.0
2M	36		1 5/8	5/8	3/4	3 3/8	4 1/2	3 3/4	9	12 5/8	5 1/2	4 1/8	13 3/4	10 1/4	18												9.0
3	48		2 1/4	3/4	1	4 1/2	6	5	12	16 3/4	7 3/8	5 1/2	18 1/4	13 5/8	24												16.0
4																											
5																											

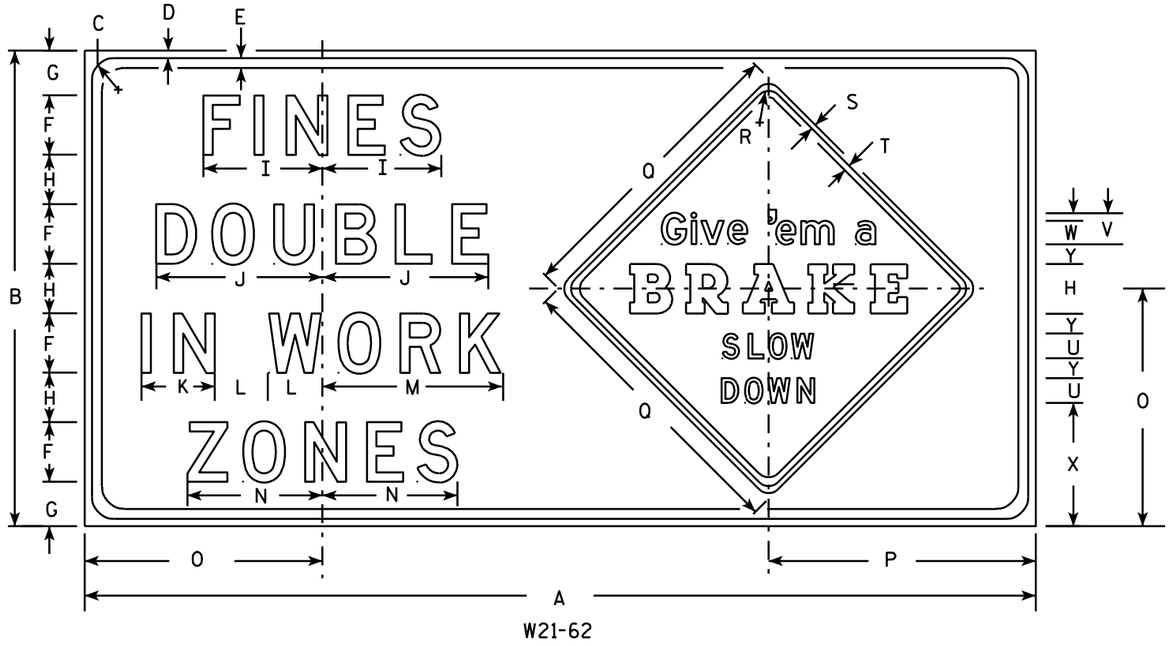
STANDARD SIGN
W21-61

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/11 PLATE NO. W21-61.4

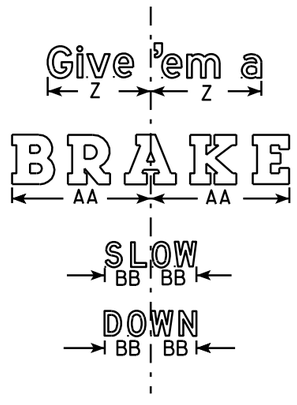
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 157	E

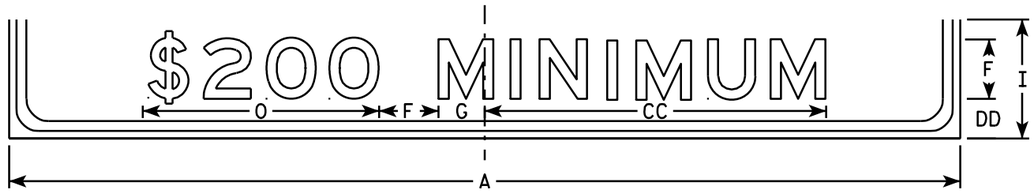


W21-62

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White - (See Note 5)
   Message - Black
3. Message Series -
   Fines Double Message - All lines are Series D
   Give 'em a Brake -
   Line one is Series E, line two is a Special Graphic Series and lines three and four are Series D.
4. The base material shall be plywood. Corners may be square or rounded, but borders shall be rounded as shown. The base material for Give 'em a Brake sign can be a seperate sheet of aluminum with the corners and borders rounded as shown. This seperate panel shall then be attached to the plywood with aluminum or stainless steel sheet metal screws.
5. Background for the Give 'em a Brake sign shall be Type F reflective orange.





W21-62P

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	BB	CC	DD	Area sq. ft.
1																															
2S																															
2M																															
3	96	48	2 1/4	3/4	1	6	4 1/2	5	12	16 3/4	7 3/8	5 1/2	18 1/4	13 5/8	24	27	30	1 3/8	1/2	5/8	2 1/2	3 1/8	2 3/8	12 1/2	2	10 3/4	14	4 5/8	34 1/2	4	32.0
4																															
5																															

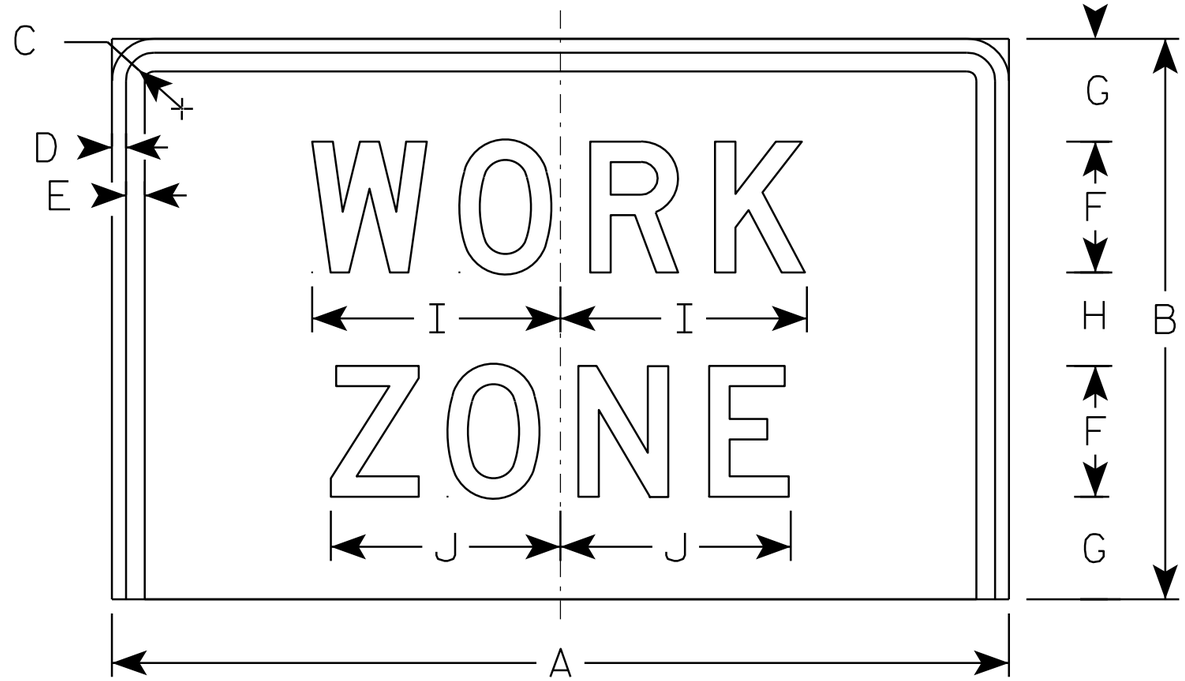
STANDARD SIGN
W21-62

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/11 PLATE NO. W21-62.5

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 158	E



W21-620

NOTES

1. Sign is Type II - Type F - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	2 1/4	3/4	1	7	5 1/2	5	13 1/4	12 1/4																	10.0
2M	48	30	2 1/4	3/4	1	7	5 1/2	5	13 1/4	12 1/4																	10.0
3																											
4																											
5																											

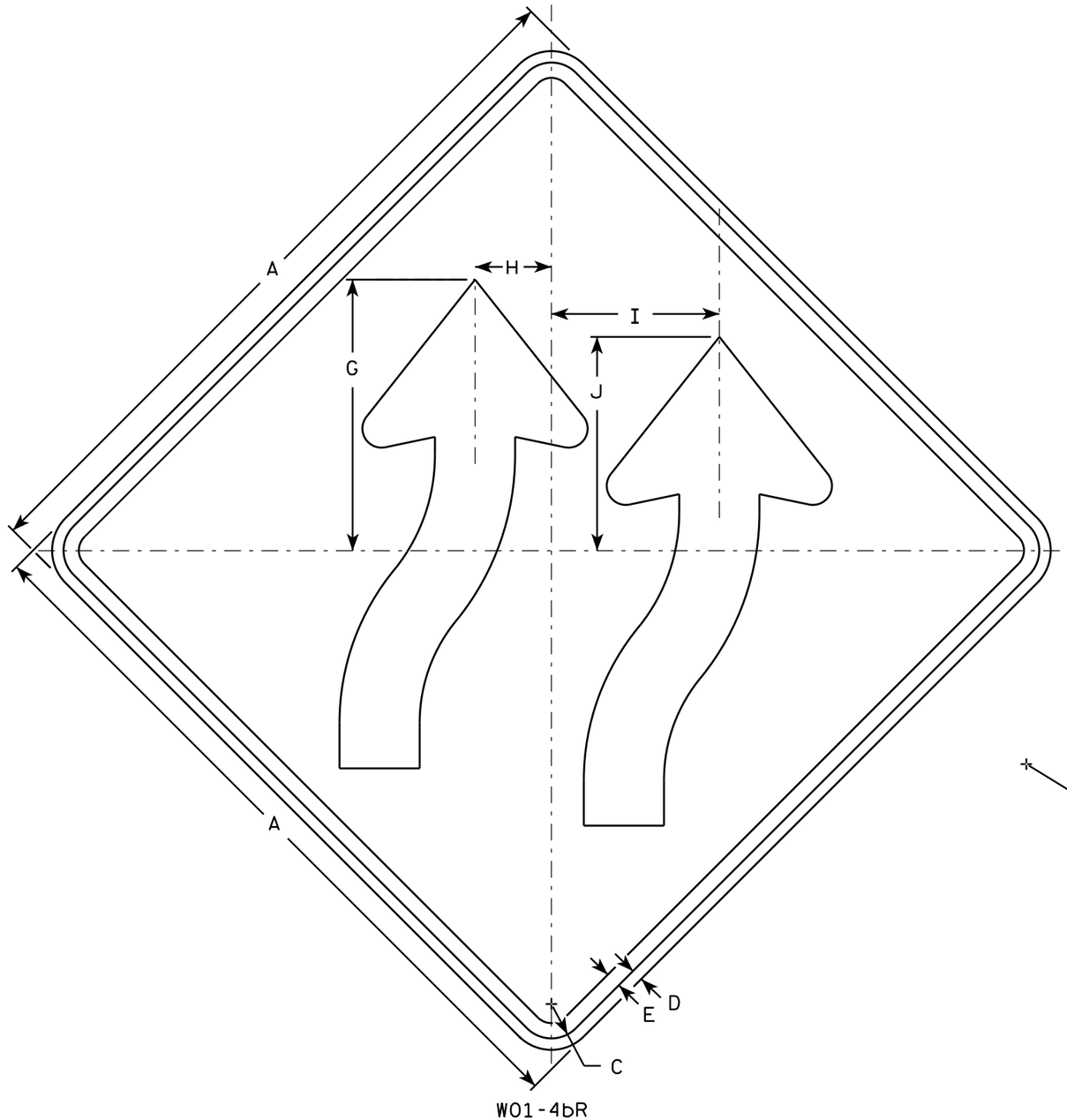
STANDARD SIGN
W21-620

WISCONSIN DEPT OF TRANSPORTATION

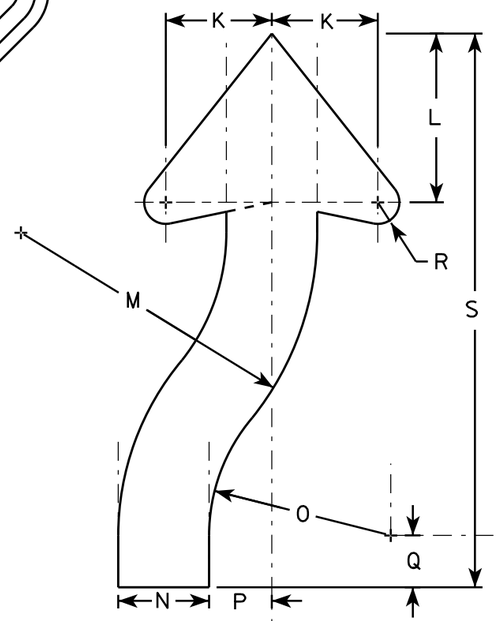
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/11 PLATE NO. W21-620.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 159	E



W01-4bR



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W01-4bL is the same as W014-bR exept arrows are reversed along the vertical centerline

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4		13 3/8	3 3/4	8 1/4	10 1/2	4 5/8	7 3/8	12 7/8	3 7/8	7 7/8	2 3/4	2 1/4	7/8	24								9.0
2S	48		2 1/4	3/4	1		17 3/4	5	11	14	6 1/8	9 3/4	17 1/8	5 1/4	10 1/2	3 5/8	3	1 1/4	32								16.0
2M	48		2 1/4	3/4	1		17 3/4	5	11	14	6 1/8	9 3/4	17 1/8	5 1/4	10 1/2	3 5/8	3	1 1/4	32								16.0
3	48		2 1/4	3/4	1		17 3/4	5	11	14	6 1/8	9 3/4	17 1/8	5 1/4	10 1/2	3 5/8	3	1 1/4	32								16.0
4	48		2 1/4	3/4	1		17 3/4	5	11	14	6 1/8	9 3/4	17 1/8	5 1/4	10 1/2	3 5/8	3	1 1/4	32								16.0
5	48		2 1/4	3/4	1		17 3/4	5	11	14	6 1/8	9 3/4	17 1/8	5 1/4	10 1/2	3 5/8	3	1 1/4	32								16.0

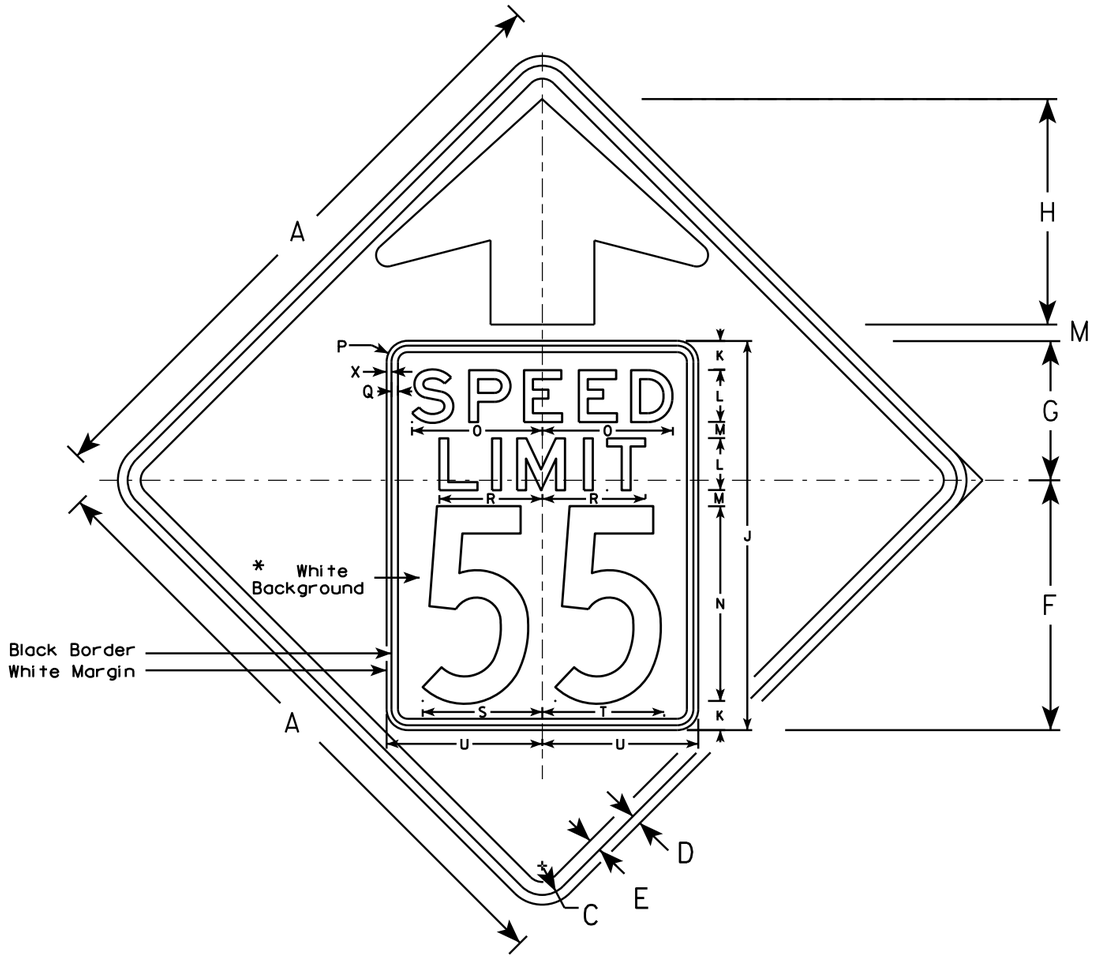
STANDARD SIGN
W01-4b

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE NO. W01-4b.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

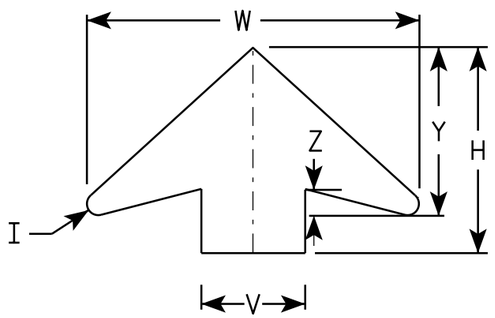


W03-5

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color: *
   Background - ORANGE*
   Message - BLACK
3. Message Series - C for numbers Series E for wording
4. Substitute appropriate numerals and optically adjust spacing to achieve proper balance

*Speed Limit Sign shall have a White Background



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
2S	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
2M	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
3	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
4	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
5	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0

STANDARD SIGN
W03-5

WISCONSIN DEPT OF TRANSPORTATION

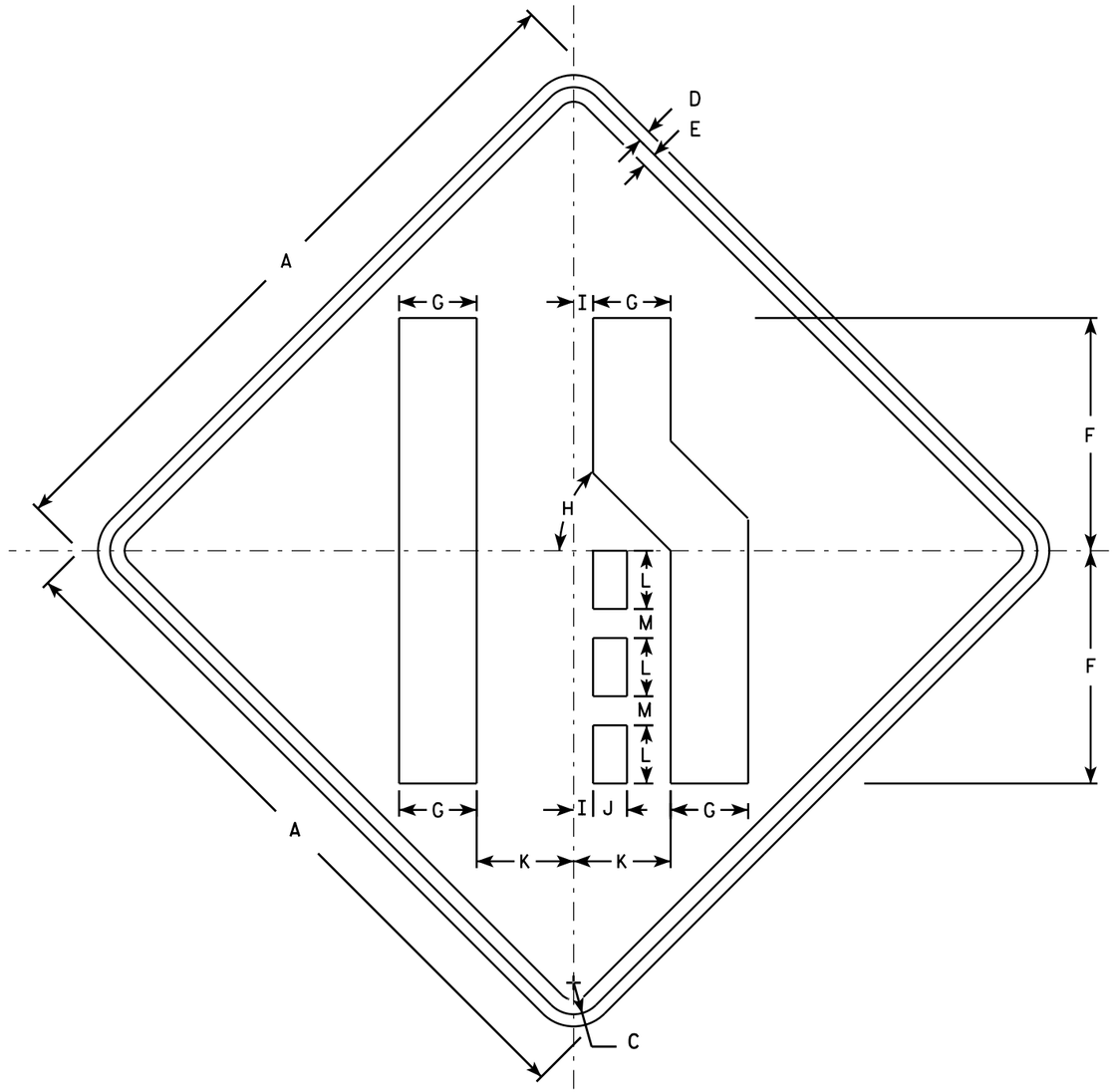
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE W03-5.1

PROJECT NO: SHEET NO: E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W035.DGN PLOT DATE : 20-NOV-2013 11:32 PLOT BY : mscsja

WISDOT/CADDS SHEET 42



W04-2R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W04-2L is the same as W04-2R except the symbol is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
2S	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
2M	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
3	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
4	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
5	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0

STANDARD SIGN
W04-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

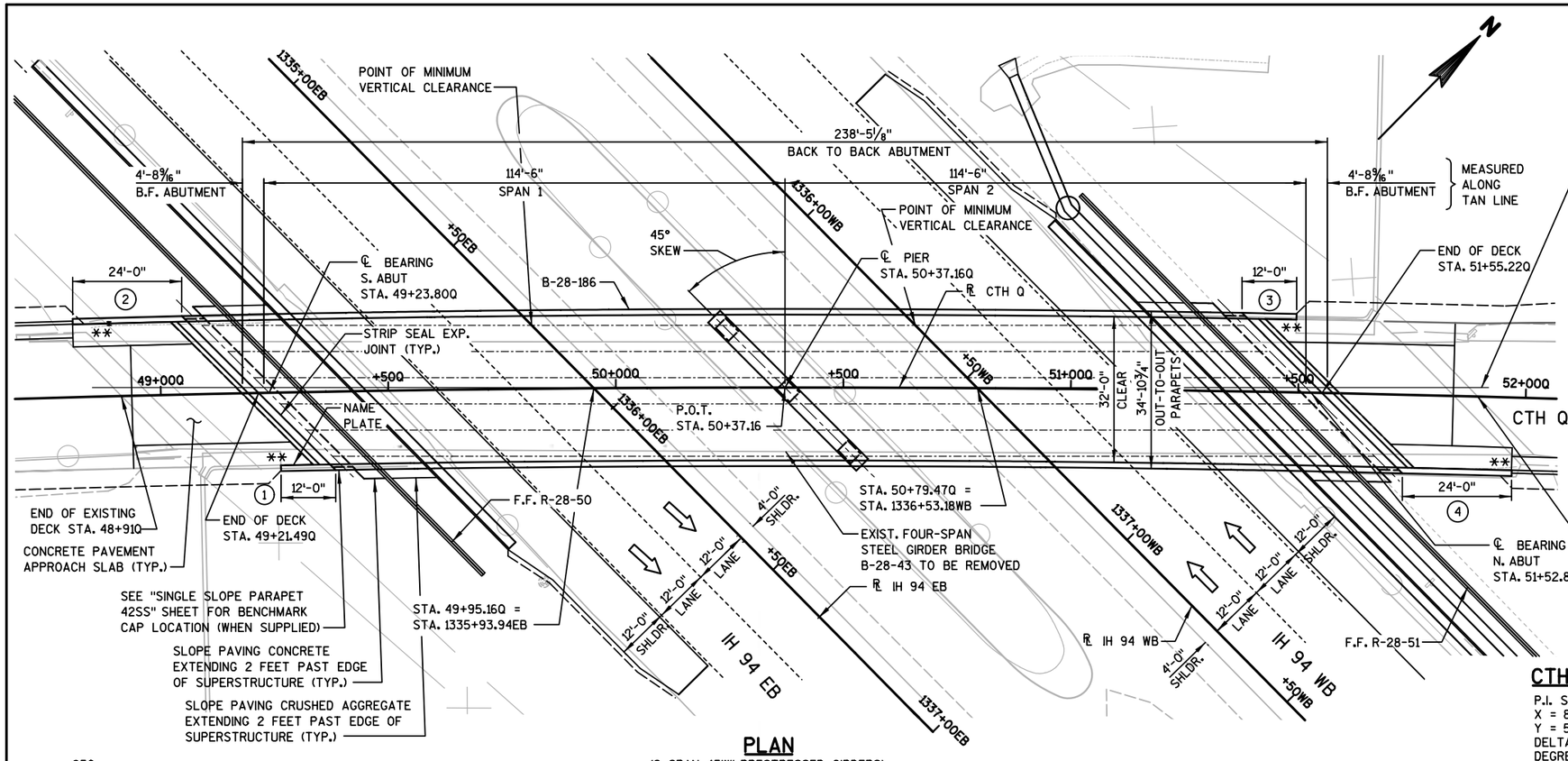
DATE 11/20/13 PLATE 162 W04-2.1

PROJECT NO: | SHEET NO: E

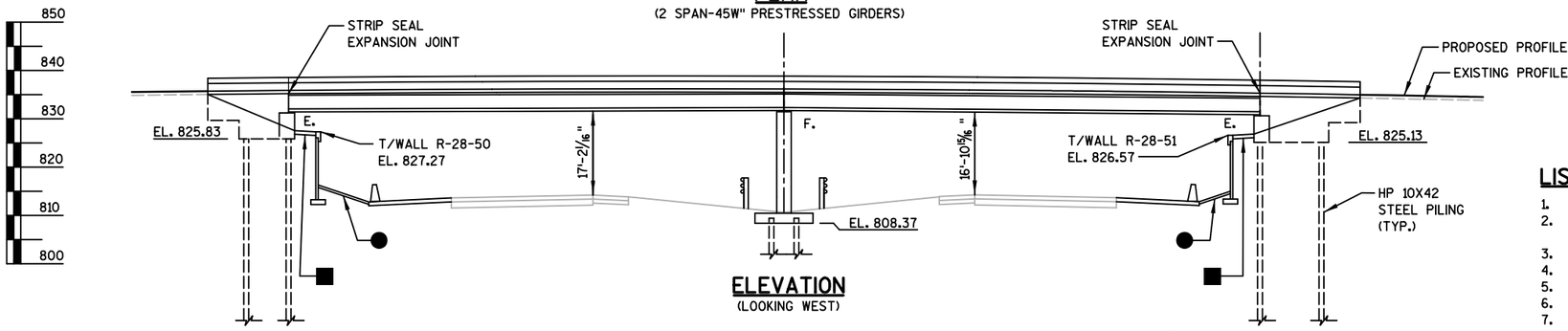
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W042.DGN PLOT DATE : 20-NOV-2013 11:43 PLOT BY : mscsja

STATE PROJECT NUMBER

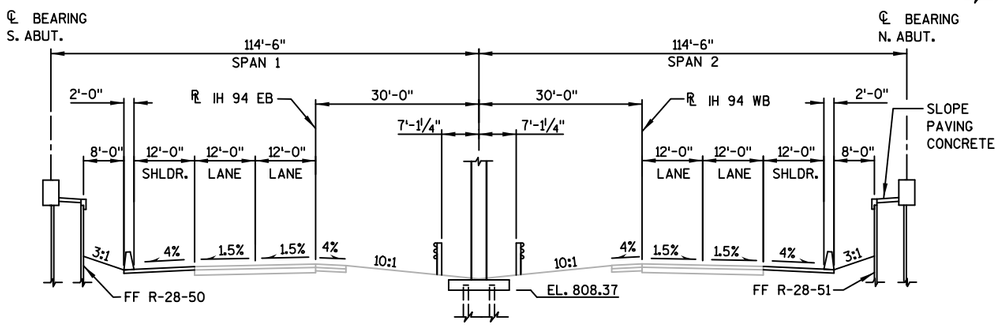
1066-06-72



PLAN
(2 SPAN-45W" PRESTRESSED GIRDERS)



ELEVATION
(LOOKING WEST)



PROPOSED TYPICAL SECTION IH 94
(LOOKING WEST)

DESIGN DATA

STRUCTURE DESIGNED FOR A FUTURE WEARING SURFACE OF 20 PSF

LIVE LOAD:

DESIGN LOAD	HL-93
INVENTORY RATING FACTOR	RF = 1.07
OPERATING RATING FACTOR	RF = 1.61
MAX. STD. PERMIT VEHICLE LOAD (WIS-SPV)	250 KIPS

MATERIAL PROPERTIES:

CONCRETE SUPERSTRUCTURE	f'c = 4,000 PSI
CONCRETE SUBSTRUCTURE	f'c = 3,500 PSI
HIGH STRENGTH BAR STEEL REINFORCEMENT	Fy = 60,000 PSI
45W-INCH PRESTRESSED GIRDER CONCRETE MASONRY	f'c = 8,000 PSI

PRESTRESSING STRANDS = 0.6" DIA. WITH ULTIMATE TENSILE STRENGTH OF 270,000 PSI.

TRAFFIC DATA

CTH Q OVER IH 94	IH 94
A.D.T. (2018) =840	A.D.T. (2018) = 35,800
A.D.T. (2038) = 930	A.D.T. (2038) = 44,300
DESIGN SPEED: 40 MPH	DESIGN SPEED: 70 MPH

FOUNDATION DATA

ABUTMENTS AND PIER TO BE SUPPORTED ON HP 10X42 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180* TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ATTACH PILE POINTS TO THE TIP OF EACH PILE.

*THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

ESTIMATED PILE LENGTHS:

SOUTH ABUTMENT	85 LF
PIER	65 LF
NORTH ABUTMENT	95 LF

CTH Q CURVE DATA

P.I. STA. 50+48.91Q
X = 841,371.17
Y = 588,561.19
DELTA = 6° 57'37.25" (RT)
DEGREE = 1° 00'00"
T = 348.45'
L = 696.03'
R = 5,729.58'
P.C. STA. 47+00.46Q
X = 841,137.65
Y = 588,302.57
P.T. STA. 53+96.50Q
X = 841,137.65
Y = 588,789.60

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION, QUANTITIES, AND NOTES
3. SUBSURFACE EXPLORATION
4. SOUTH ABUTMENT
5. SOUTH ABUTMENT DETAILS
6. SOUTH ABUTMENT WING 1 DETAILS
7. SOUTH ABUTMENT WING 2 DETAILS
8. NORTH ABUTMENT
9. NORTH ABUTMENT DETAILS
10. NORTH ABUTMENT WING 3 DETAILS
11. NORTH ABUTMENT WING 4 DETAILS
12. PIER
13. PIER DETAILS
14. 45W" PRESTRESSED GIRDER
15. 45W" PRESTRESSED GIRDER DETAILS
16. BEARING DETAILS
17. STEEL DIAPHRAGMS
18. SUPERSTRUCTURE PLAN
19. SUPERSTRUCTURE REINFORCING PLAN
20. SUPERSTRUCTURE SECTION
21. SUPERSTRUCTURE DETAILS - 1
22. SUPERSTRUCTURE DETAILS - 2
23. STRIP SEAL EXPANSION JOINT DETALS - 1
24. STRIP SEAL EXPANSION JOINT DETAILS - 2
25. SINGLE SLOPE PARAPET 42SS

LEGEND

℄	CENTERLINE
℞	REFERENCE LINE
(#)	INDICATES WING NUMBER
**	PROVIDE FOR THRIE BEAM GUARD RAIL ATTACHMENT
●	SLOPE PAVING CRUSHED AGGREGATE
■	SLOPE PAVING CONCRETE

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
BM 604	40+86.39Q	RAILROAD SPIKE IN POWER POLE	814.94
BM 300	49+80.22Q	WHITE PAINT MTL PLATE GRB WOOD POST	815.89

STRUCTURE DESIGN CONTACTS

BRIDGE OFFICE CONTACT:
WILLIAM DREHER (608) 266-8489

DESIGN CONSULTANT CONTACT:
BRETT OFTEDAHL (608) 251-4843

WISCONSIN
KEITH R. BEHREND
E-42073
MADISON
WI
PROFESSIONAL ENGINEER
Keith R. Behrend
7/29/2019

NO.	DATE	REVISION	BY

STRAND ASSOCIATES®
910 WEST WINGRA DRIVE
MADISON, WISCONSIN 53715
(608)-251-4843
(608) 251-8655 FAX
WWW.STRAND.COM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Ducker SDR 07/30/19
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-28-186

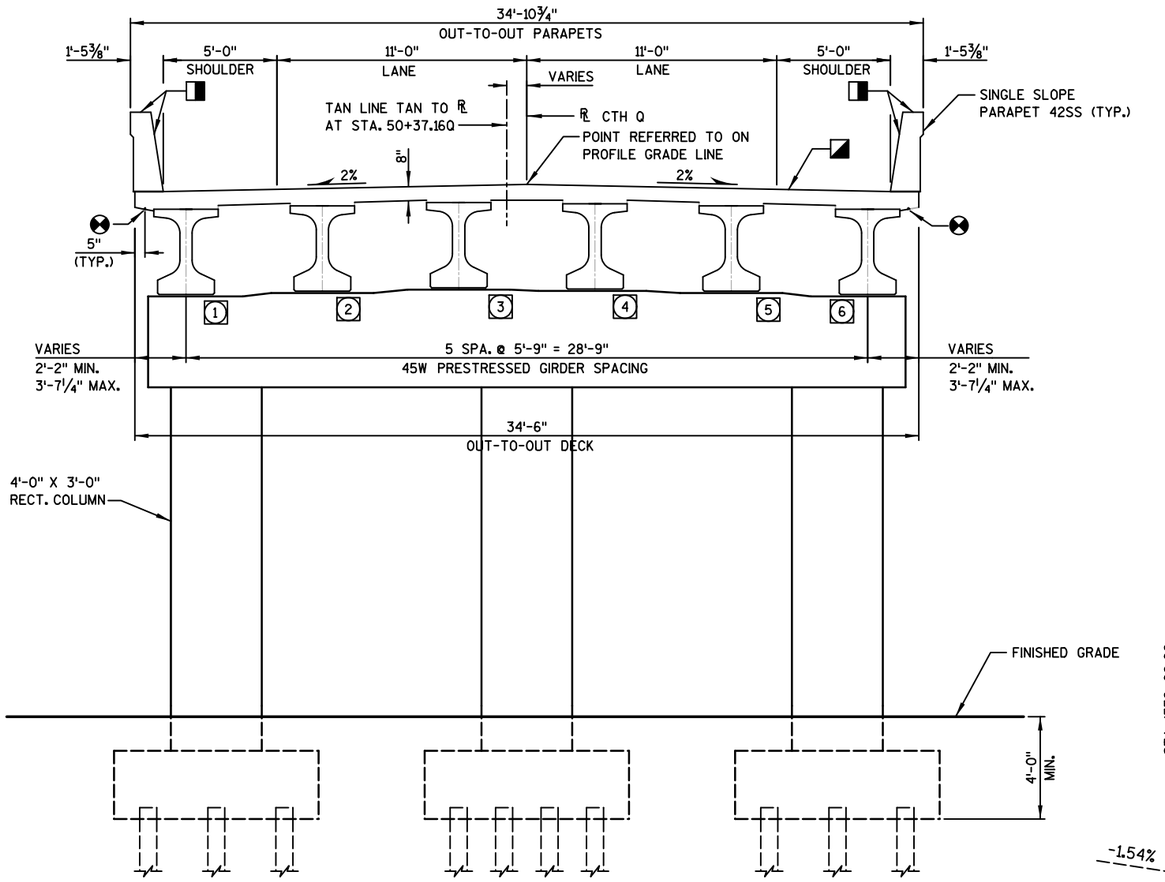
CTH Q OVER IH 94

COUNTY JEFFERSON	TOWN ~~CITY/VILLAGE~~ AZTALAN
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS	
DESIGNED BY EJC / DESIGN CK'D. KRB	DRAWN BY DTH / PLANS CK'D. DJW

GENERAL PLAN

SHEET 1 OF 25
163

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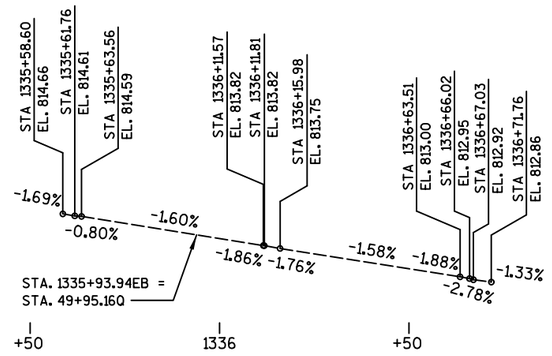


TYPICAL SECTION

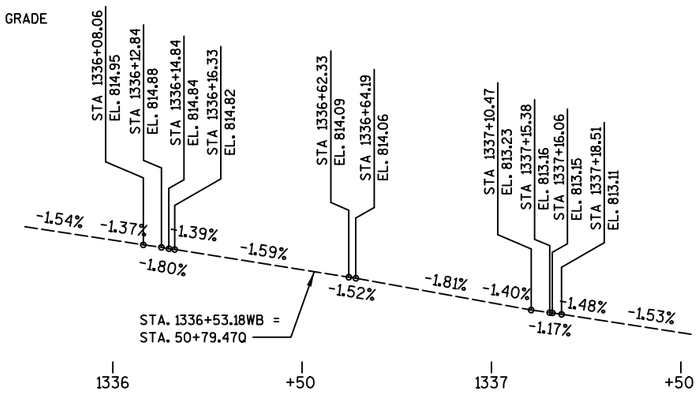
(LOOKING NORTH)

LEGEND

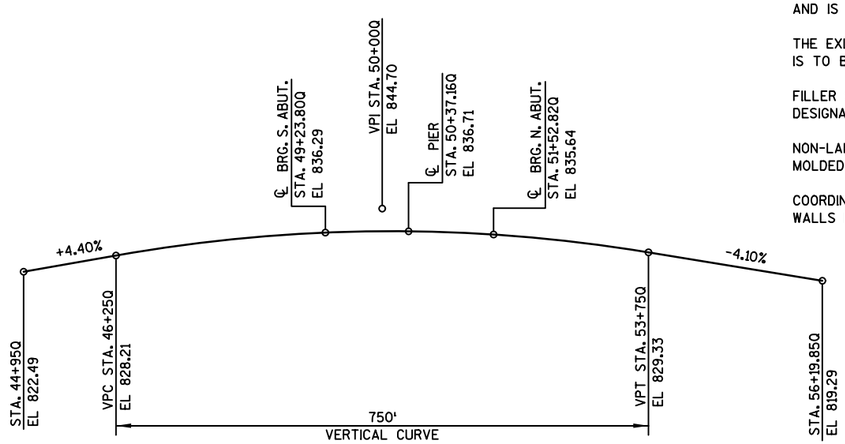
- ¾" V-GROOVE REQUIRED. EXTEND TO 2'-0" FROM FRONT FACE OF ABUTMENT.
- COAT WITH "PROTECTIVE SURFACE TREATMENT" AS PER THE STANDARD SPECIFICATION.
- COAT WITH "PIGMENTED SURFACE SEALER" AS PER THE STANDARD SPECIFICATIONS.
- (#) INDICATES GIRDER NUMBER



PROFILE GRADE IH 94 EB



PROFILE GRADE IH 94 WB



PROFILE GRADE CTH Q

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SOUTH ABUT.	PIER	NORTH ABUT.	SUPER.	TOTALS
203.0200	REMOVING OLD STRUCTURE STA 49+00 Q	LS	---	---	---	---	1
203.0210.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-28-43	LS	---	---	---	---	1
203.0225.S	DEBRIS CONTAINMENT B-28-43	LS	---	---	---	---	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-28-186	LS	---	---	---	---	1
502.0100	CONCRETE MASONRY BRIDGES	CY	96	109	99	303	607
502.3101	EXPANSION DEVICE B-28-186	LF	---	---	---	98	98
502.3200	PROTECTIVE SURFACE TREATMENT	SY	---	---	---	832	832
502.3210	PIGMENTED SURFACE SEALER	SY	18	---	18	231	267
503.0146	PRESTRESSED GIRDER TYPE I 45W-INCH	LF	---	---	---	1380	1380
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	3880	2760	4090	---	10730
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	5150	12820	5250	78160	101380
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	---	12	---	---	12
506.2610	BEARING PADS ELASTOMERIC LAMINATED	EACH	6	---	6	---	12
506.4000	STEEL DIAPHRAGMS B-28-186	EACH	---	---	---	20	20
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	12	---	12	---	24
550.0500	PILE POINTS	EACH	11	30	11	---	52
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	935	1950	1045	---	3930
604.0400	SLOPE PAVING CONCRETE	SY	21	---	22	---	43
604.0500	SLOPE PAVING CRUSHED AGGREGATE	SY	48	---	49	---	97
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	2	---	2	---	4
SPV.0165.03	ABUTMENT BACKWALL SOIL REINFORCEMENT	SF	370	---	390	---	760
	NON-BID ITEMS						
	FILLER	SIZE					1/2" & 3/4"

STATE PROJECT NUMBER

1066-06-72

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL DIMENSIONS ARE IN FEET AND INCHES.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE. DIMENSIONS FOR BENDING ARE OUT TO OUT OF BAR.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE TOP OF DECK SURFACE.

PIGMENTED SURFACE SEALER SHALL BE APPLIED TO THE FRONT FACE AND TOP OF PARAPETS.

SEE BACKFILL STRUCTURE LIMITS ON "SOUTH ABUTMENT" SHEET FOR BACKFILL DETAILS.

M.S.E. REINFORCEMENT STRIPS ATTACHED TO ABUTMENTS TO BE DESIGNED BY THE WALL MANUFACTURER.

BACKFILL TYPE A AT THE ABUTMENTS, M.S.E. REINFORCEMENT STRIPS, AND THE CONNECTION OF THE STRIPS TO THE ABUTMENTS ARE INCLUDED IN THE QUANTITIES FOR R-28-50 FOR THE SOUTH ABUTMENT AND R-28-51 FOR THE NORTH ABUTMENT.

AT ABUTMENTS, ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW BRIDGE OR RETAINING WALL REINFORCED ZONE, SHALL BE BACKFILLED AND PAID FOR IN THE CONSTRUCTION OF RETAINING WALLS R-28-50 AND R-28-51.

SEE ROADWAY PLANS FOR UTILITY INFORMATION IN THE VICINITY OF THE BRIDGE.

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE PRESTRESSED GIRDER DETAILS SHEET.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS AND BEHIND THE MSE RETAINING WALLS SHALL BE COVERED WITH SLOPE PAVING CONCRETE TO THE EXTENT SHOWN ON SHEET 1 AND ON THE ABUTMENT DETAILS.

THE SLOPE OF THE FILL IN FRONT OF THE MSE RETAINING WALLS AND BEHIND THE CONCRETE BARRIER SHALL BE COVERED WITH SLOPE PAVING CRUSHED AGGREGATE TO THE EXTENT SHOWN ON SHEET 1 AND ON THE ABUTMENT DETAILS.

THE EXISTING GROUND LINE SHALL THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

A GEOTECHINICAL REPORT HAS BEEN PREPARED FOR THIS STRUCTURE AND IS AVAILABLE UPON REQUEST FROM WISDOT'S SW REGION OFFICE.

THE EXISTING STRUCTURE B-28-43, A FOUR SPAN STEEL GIRDER BRIDGE, IS TO BE REMOVED.

FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M153 TYPES I, II, III OR AASHTO DESIGNATION M213.

NON-LAMINATED ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

COORDINATE CONSTRUCTION OF BRIDGE ABUTMENTS WITH RETAINING WALLS R-28-50 AND R-28-51.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-186

DRAWN BY DTH | PLANS CK'D. DJW

CROSS SECTION, QUANTITIES, AND NOTES

SHEET 2
164

8

8

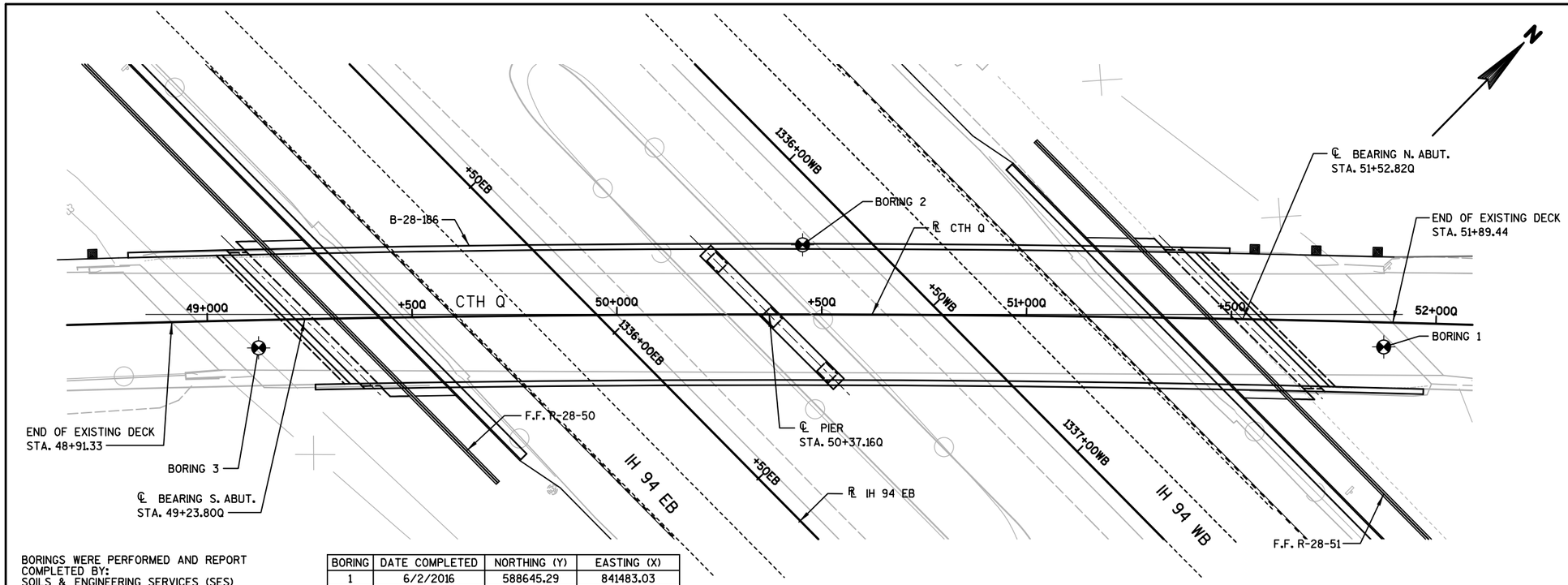
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STATE PROJECT NUMBER

1066-06-72

MATERIAL SYMBOLS

ASPHALT	TOPSOIL	PEAT
CONCRETE	FILL	GRAVEL
SAND	CLAY	SILT
BOULDERS OR COBBLES	LIMESTONE	BEDROCK (UNKNOWN)
SHALE	SANDSTONE	IGNEOUS/ META

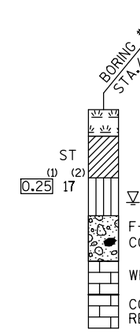


BORINGS WERE PERFORMED AND REPORT COMPLETED BY:
SOILS & ENGINEERING SERVICES (SES)
1102 STEWART STREET
MADISON, WI 53713

BORINGS WERE PERFORMED ON 5/26/2016 AND 5/31/2016 THROUGH 6/6/2016.

BORING	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	6/2/2016	588645.29	841483.03
2	5/26/2016	588563.55	841364.42
3	6/6/2016	588452.48	841287.41
BORINGS COMPLETED BY: SOILS & ENGINEERING SERVICES			
REPORT COMPLETED BY: SOILS & ENGINEERING SERVICES			
ALL COORDINATES REFERENCED TO MEAN SEA LEVEL (MSL)			

LEGEND OF BORING



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

▽ AT TIME OF DRILLING

▼ END OF DRILLING

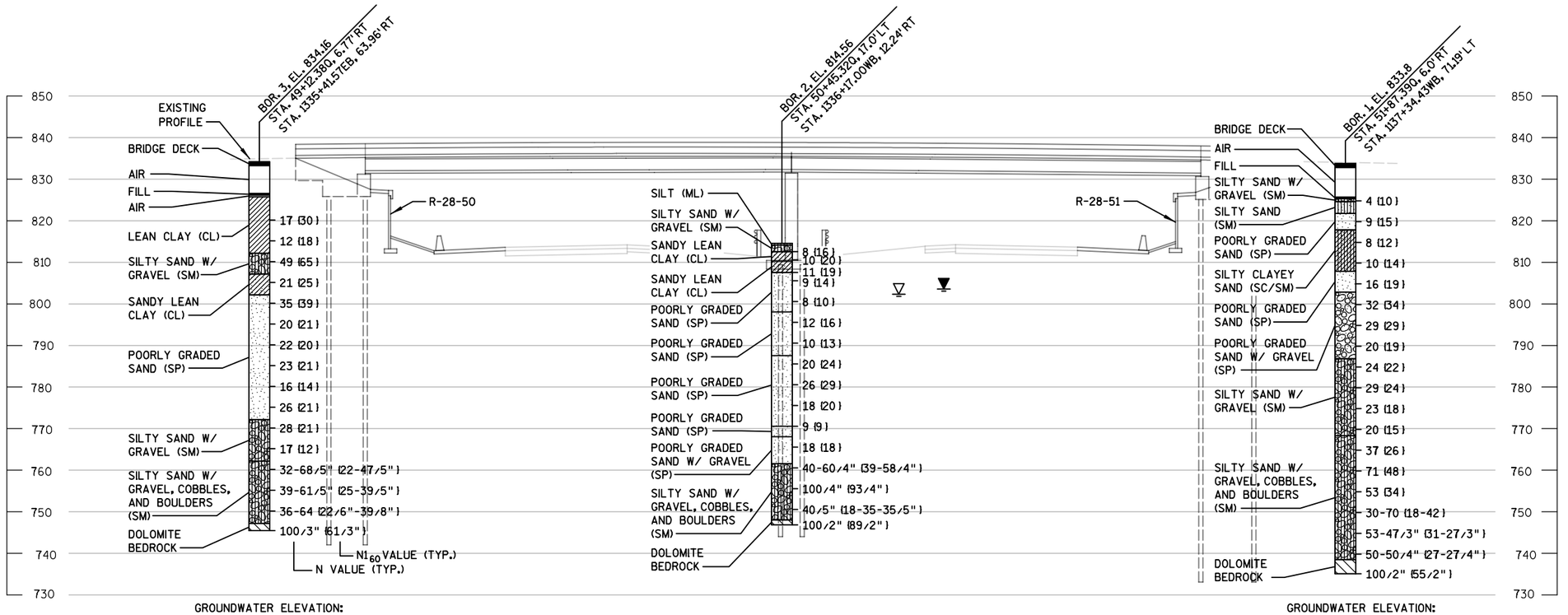
▽ AFTER DRILLING

ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.



GROUNDWATER ELEVATION:
NO MEASUREMENT RECORDED

GROUNDWATER ELEVATION:
NO MEASUREMENT RECORDED

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-186

DRAWN BY DTH | PLANS CK'D. DJW

SUBSURFACE EXPLORATION

SHEET 3
165

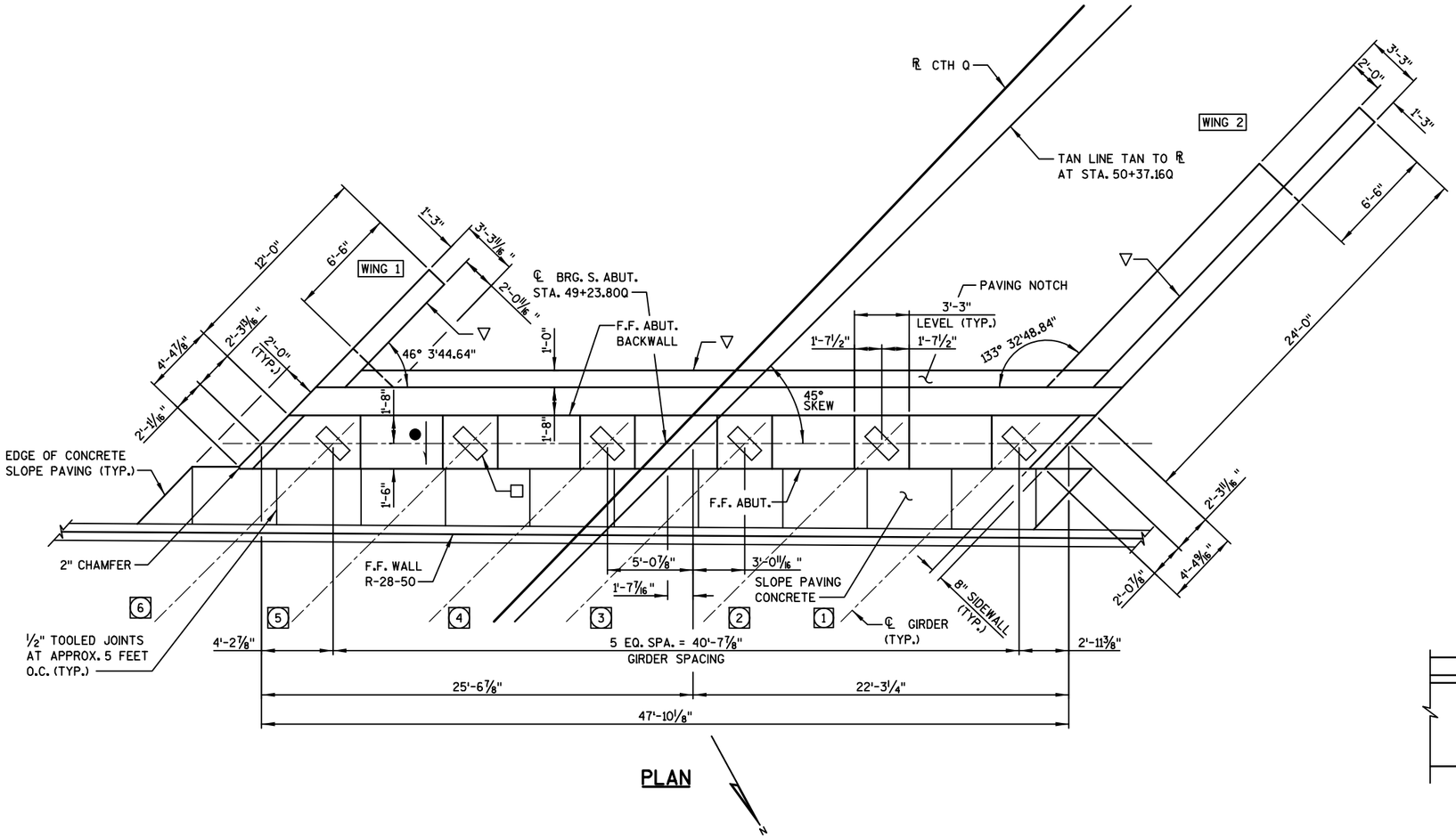
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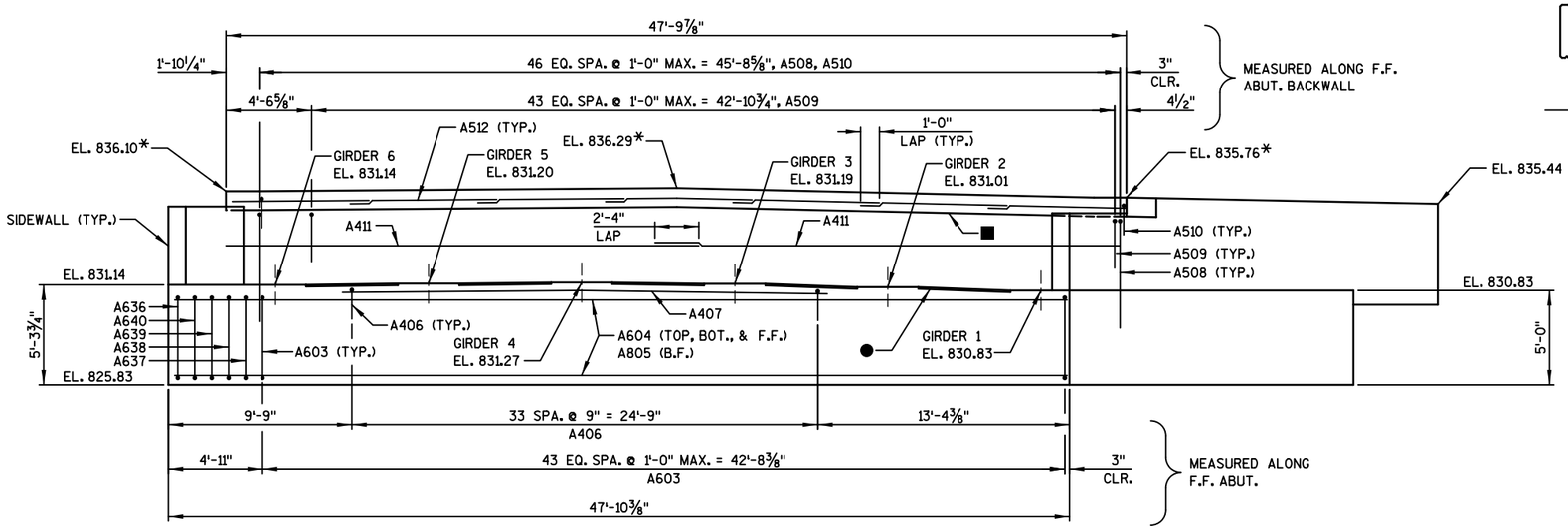
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STATE PROJECT NUMBER

1066-06-72



PLAN



ELEVATION
(LOOKING SOUTH)

NOTES

SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW FINISHED ROADWAY SURFACE AT INSIDE FACE.

SOUTH ABUTMENT TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE AT SOUTH ABUTMENT. ESTIMATED 85 FEET LONG EACH. ATTACH PILE POINTS TO THE TIP OF EACH PILE.

SEE "SOUTH ABUTMENT DETAILS" SHEET FOR PILE SPLICE DETAILS.

SEE SOUTH ABUTMENT AND SOUTH ABUTMENT WING DETAIL SHEETS FOR REINFORCING DETAILS.

ADJUST A603 BARS INTERFERING WITH PILES.

SEE "NORTH ABUTMENT" SHEET FOR TYPICAL FILL SECTION AT WING TIPS.

LEGEND

▽ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

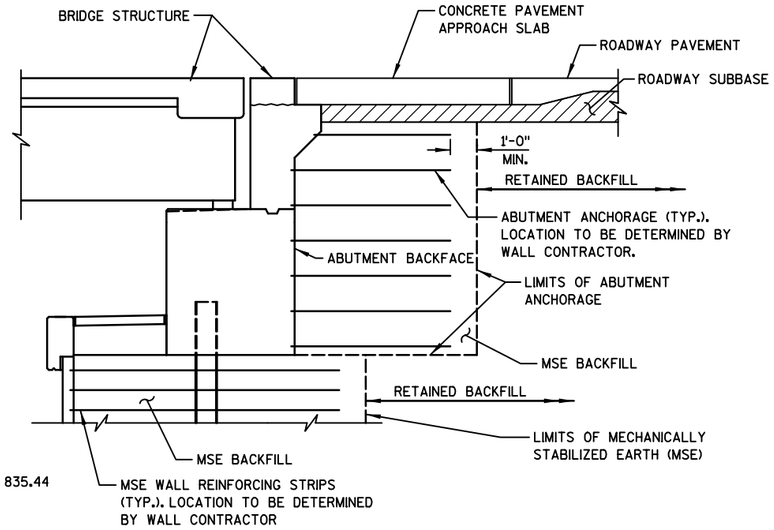
(#) INDICATES GIRDER NUMBER.

* ELEVATION GIVEN AT F.F. OF ABUT. BACKWALL.

● SLOPE DOWN 1" BETWEEN BEAM SEATS (TYP.)

□ STEEL LAMINATED ELASTOMERIC BEARING PAD (TYP.). SEE "BEARING DETAILS" SHEET.

■ HORIZONTAL CONSTRUCTION JOINT. POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.



BACKFILL STRUCTURE LIMITS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-186

DRAWN BY DTH | PLANS CK'D. DJW

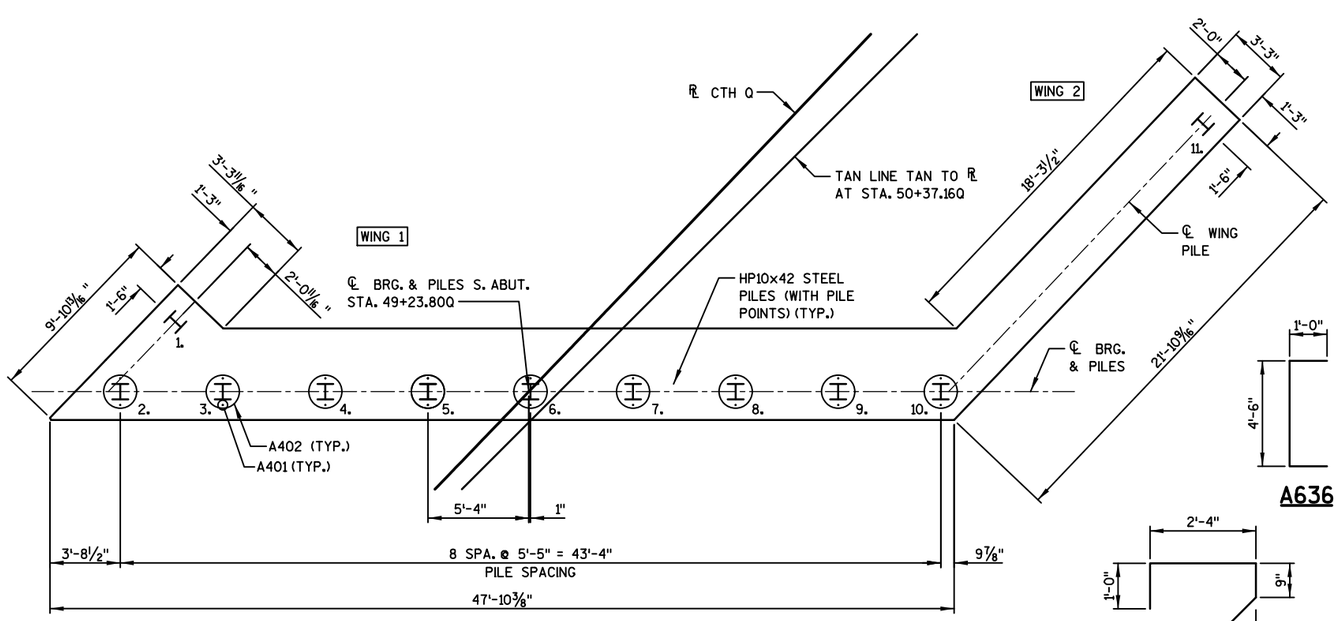
SOUTH ABUTMENT

SHEET 4
166

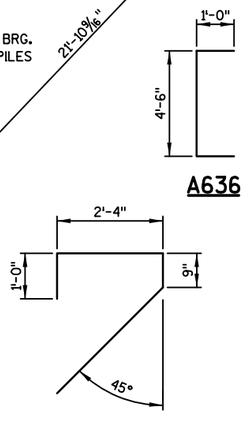
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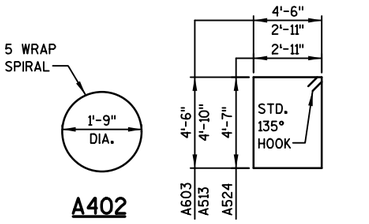


PILE PLAN



A636

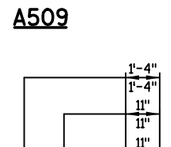
A509



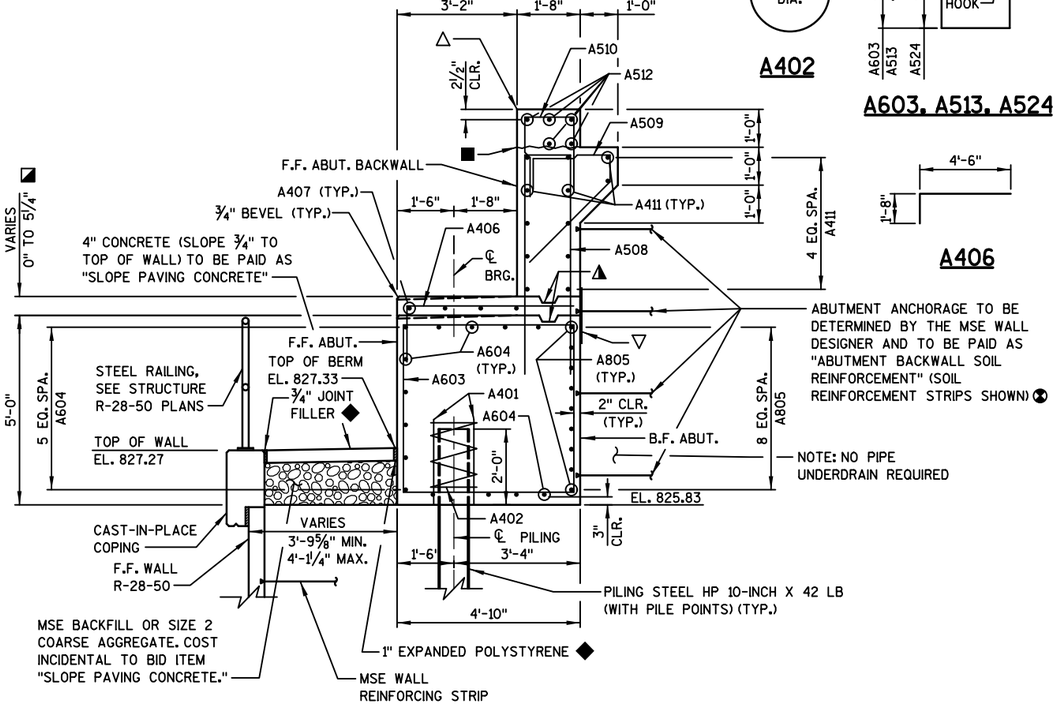
A402

A603, A513, A524

A406



A508, A510, A516
A517, A527, A528



TYPICAL SECTION THRU BODY

SOUTH ABUTMENT BILL OF BARS

UNCOATED: 3,880 LBS
COATED: 4,000 LBS

BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
A401	18	2'-3"			BODY - PILES - VERT.
A402	9	28'-0"	X		BODY - PILES - SPIRAL
A603	44	18'-10"	X		BODY - STIRRUPS - VERT.
A604	14	47'-5"			BODY - TOP, BOT., & F.F. - HORIZ.
A805	9	47'-5"			BODY - B.F. - HORIZ.
A406	34	6'-1"	X		BODY - TOP - VERT.
A407	4	25'-0"			BODY - TOP - HORIZ.
A508	47	12'-9"	X	X	BACKWALL - VERT.
A509	44	7'-1"	X	X	BACKWALL - PAVING NOTCH - VERT.
A510	47	5'-1"	X	X	BACKWALL - VERT.
A411	24	25'-0"		X	BACKWALL - HORIZ.
A512	35	7'-8"		X	BACKWALL - TOP - HORIZ.
A513	1	16'-2"	X	X	WING 1 - LOWER - STIRRUPS - VERT.
A514	5	9'-3"		X	WING 1 - LOWER - F.F. - HORIZ.
A615	1	9'-3"		X	WING 1 - LOWER - TOP - HORIZ.
A516	3	14'-4"	X	X	WING 1 - UPPER - STIRRUPS - VERT.
A517	7	13'-10"	X	X	WING 1 - UPPER - STIRRUPS - VERT.
A418	5	11'-4"		X	WING 1 - UPPER - F.F- HORIZ.
A419	8	10'-8"		X	WING 1 - UPPER - B.F- HORIZ.
A620	1	11'-4"		X	WING 1 - UPPER - TOP - F.F. - HORIZ.
A621	1	10'-8"		X	WING 1 - UPPER - TOP - B.F. - HORIZ.
A422	5	5'-6"		X	WING 1 - SIDEWALL- HORIZ.
A423	5	5'-2"		X	WING 1 - SIDEWALL - VERT.
A524	16	15'-8"	X	X	WING 2 - LOWER - STIRRUPS - VERT.
A525	5	21'-6"		X	WING 2 - LOWER - F.F. - HORIZ.
A826	12	21'-2"		X	WING 2 - LOWER - TOP & B.F. - HORIZ.
A527	7	10'-8"	X	X	WING 2 - UPPER - STIRRUPS - VERT.
A528	16	14'-4"	X	X	WING 2 - UPPER - STIRRUPS - VERT.
A429	5	23'-10"		X	WING 2 - UPPER - F.F- HORIZ.
A430	8	24'-6"		X	WING 2 - UPPER - B.F- HORIZ.
A631	1	23'-10"		X	WING 2 - UPPER - TOP - F.F. - HORIZ.
A632	1	24'-6"		X	WING 2 - UPPER - TOP - B.F. - HORIZ.
A433	2	7'-9"		X	WING 2 - UPPER - F.F. & B.F. - HORIZ.
A434	5	5'-6"		X	WING 2 - SIDEWALL- HORIZ.
A435	5	4'-10"		X	WING 2 - SIDEWALL - VERT.
A636	1	6'-2"	X		BODY - VERT. - EAST END
A637	1	18'-0"	X		BODY - VERT. - EAST END
A638	1	16'-2"	X		BODY - VERT. - EAST END
A639	1	14'-2"	X		BODY - VERT. - EAST END
A640	1	12'-4"	X		BODY - VERT. - EAST END
A441	7	7'-9"		X	WING 1 - UPPER - HORIZ.

STATE PROJECT NUMBER

1066-06-72

NOTES

ABUTMENT TO BE BACKFILLED TO A MINIMUM OF THE BEAM SEAT ELEVATIONS PRIOR TO PLACING GIRDERS.

LEGEND

△ STRIP SEAL EXPANSION JOINT TO BE INSTALLED WITH CONCRETE POUR. SEE "STRIP SEAL EXPANSION JOINT DETAILS" SHEETS.

■ HORIZONTAL CONSTRUCTION JOINT. POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.

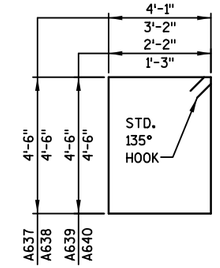
⊗ UNFACTORED SUPERSTRUCTURE LATERAL LOADS TRANSFERRED TO THE ABUTMENT ARE TAKEN TO BE KIPS PER FOOT OF ABUTMENT LENGTH. LOADS ARE APPLIED PARALLEL TO TANGENT LINE AND ACT AT THE BEAM SEAT ELEVATION AT ℄ BEARING. THE VALUES ARE TO BE USED FOR THE LRFD DESIGN OF THE ABUTMENT ANCHORAGE BY THE MSE MANUFACTURER (MSE SYSTEM, DEAD MAN ANCHOR, OTHER). THE FOLLOWING AASHTO LINE LOADS SHALL BE USED:
BR = 0.8 KLF WS = 0.4 KLF
TU = 2.4 KLF WL = 0.3 KLF

◆ SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF FILLER AND EXPANDED POLYSTYRENE WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE).

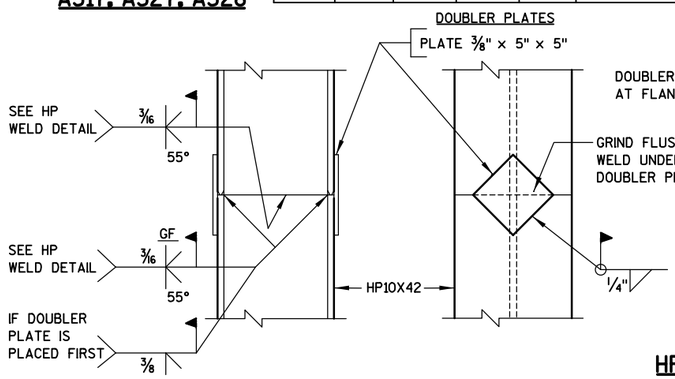
◪ A406 AND A407 ONLY PLACED WHERE THIS DIMENSION EXCEEDS 4".

▽ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

◭ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2"X6".



A637, A638, A639, A640



PILE SPLICE DETAILS

HP WELD DETAIL
FLANGE SHOWN, WEB SIMILAR

PILE SPLICE NOTES

STEEL 'HP' PILE MATERIAL SHALL BE A.S.T.M. A709 GR. 50.

GRINDING MAY BE USED IN LIEU OF BACKGOUGING.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-186

DRAWN BY DTH | PLANS CK'D. DJW

SOUTH ABUTMENT DETAILS

SHEET 5
167

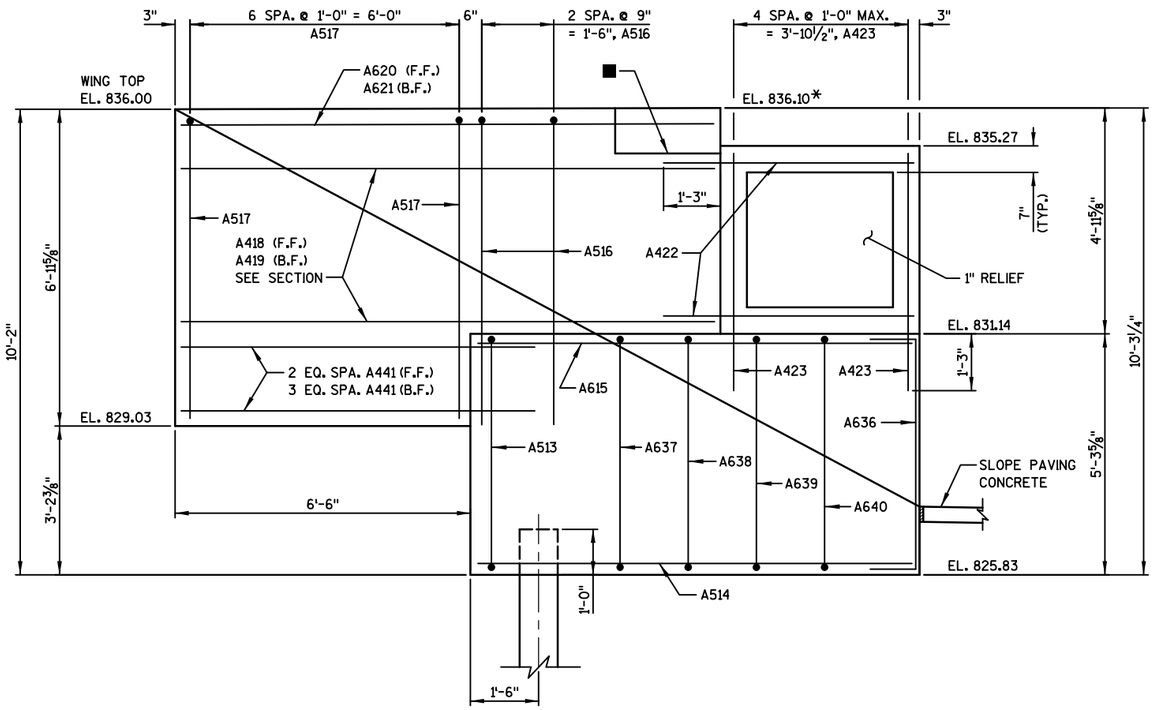
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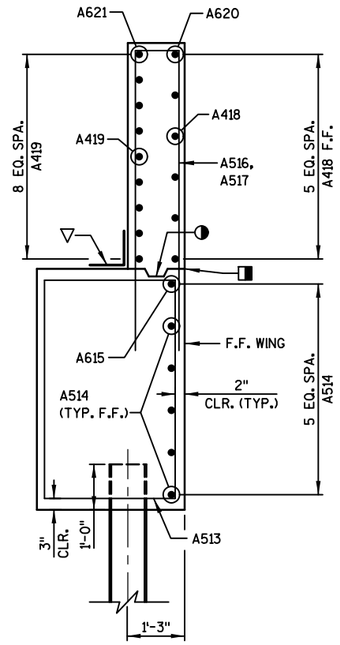
STATE PROJECT NUMBER

1066-06-72



WING ELEVATION

(WING 1, FRONT FACE)

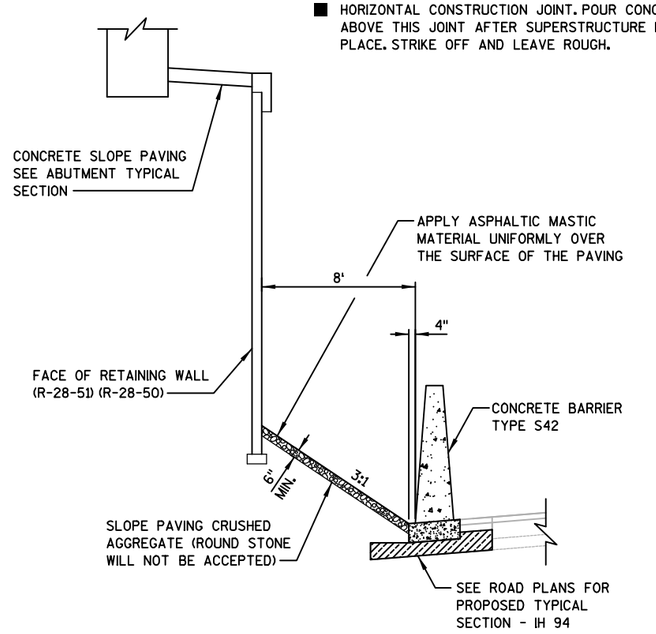


WING WITH PILE SECTION

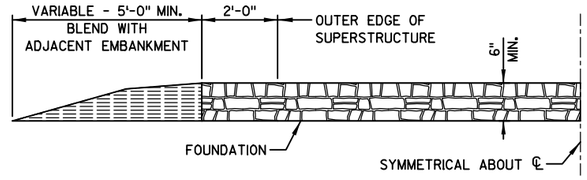
(WING 1)

LEGEND

- ▽ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- * ELEVATION GIVEN AT F.F. OF ABUT. BACKWALL.
- ◑ OPTIONAL CONSTRUCTION JOINT FORMED BY BEVELED 2"X6" KEYWAY WITH MEMBRANE ON BACKFACE.
- ◨ ¾" 'V' GROOVE ON FRONT FACE OF WING WALL.
- ■ HORIZONTAL CONSTRUCTION JOINT. POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.

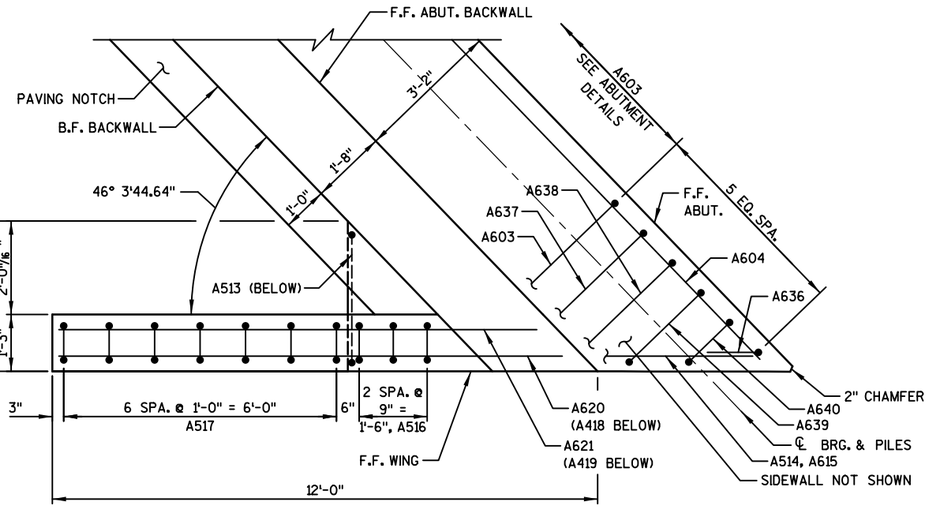


SLOPE PAVING CRUSHED AGGREGATE



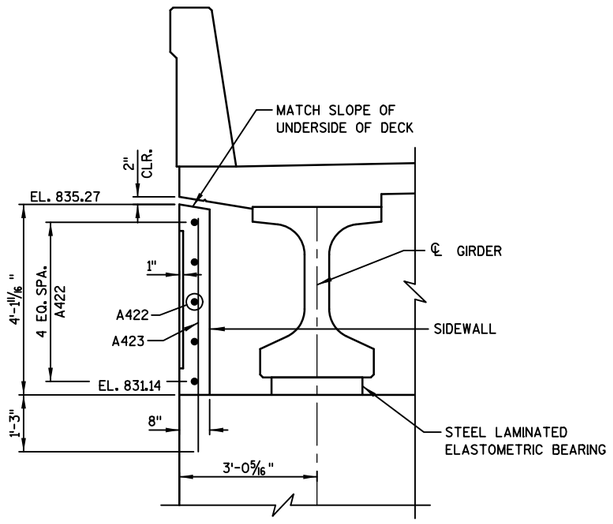
CRUSHED AGGREGATE

TRANSVERSE SECTION THRU SLOPE PAVING CRUSHED AGGREGATE



WING PLAN

(WING 1)



SECTION THRU SIDEWALL

(WING 1)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-186

DRAWN BY DTH | PLANS CK'D. DJW

SOUTH ABUTMENT
WING 1 DETAILS

SHEET 6
168

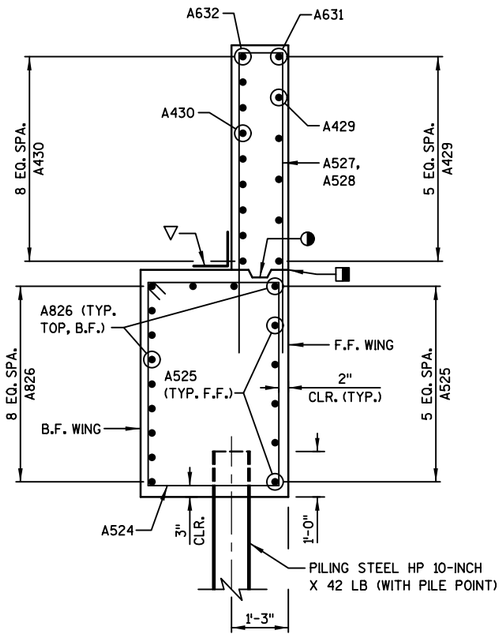
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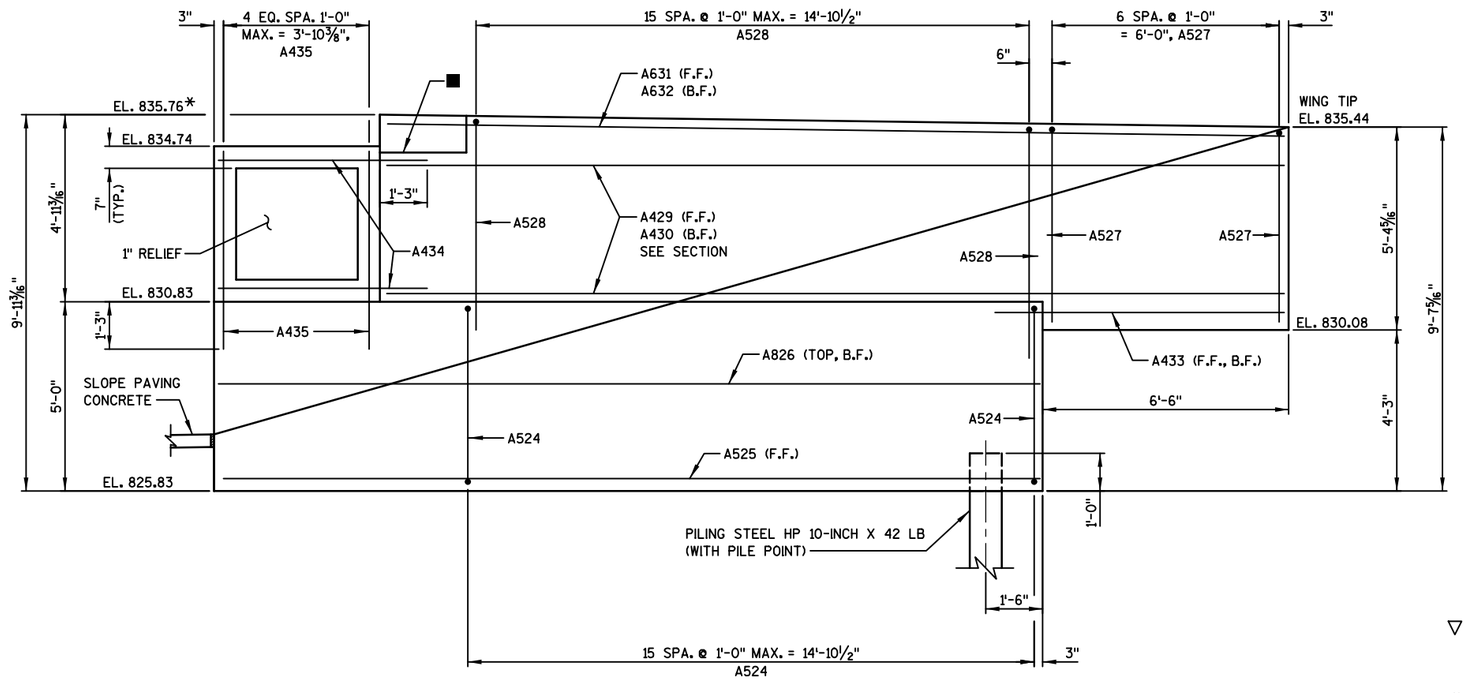
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STATE PROJECT NUMBER

1066-06-72



WING WITH PILE SECTION
(WING 2)



WING ELEVATION
(WING 2, FRONT FACE)

LEGEND

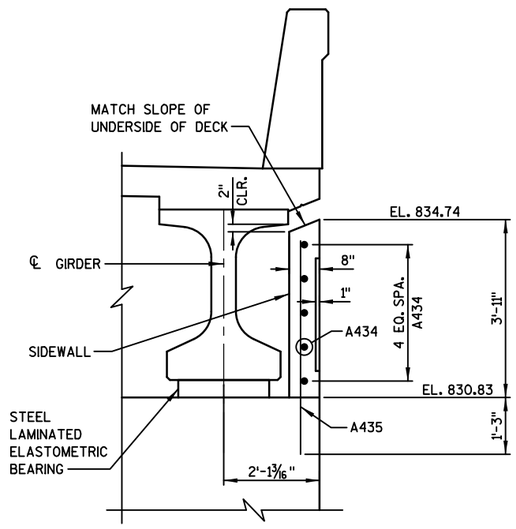
▽ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

* ELEVATION GIVEN AT F.F. OF ABUT. BACKWALL.

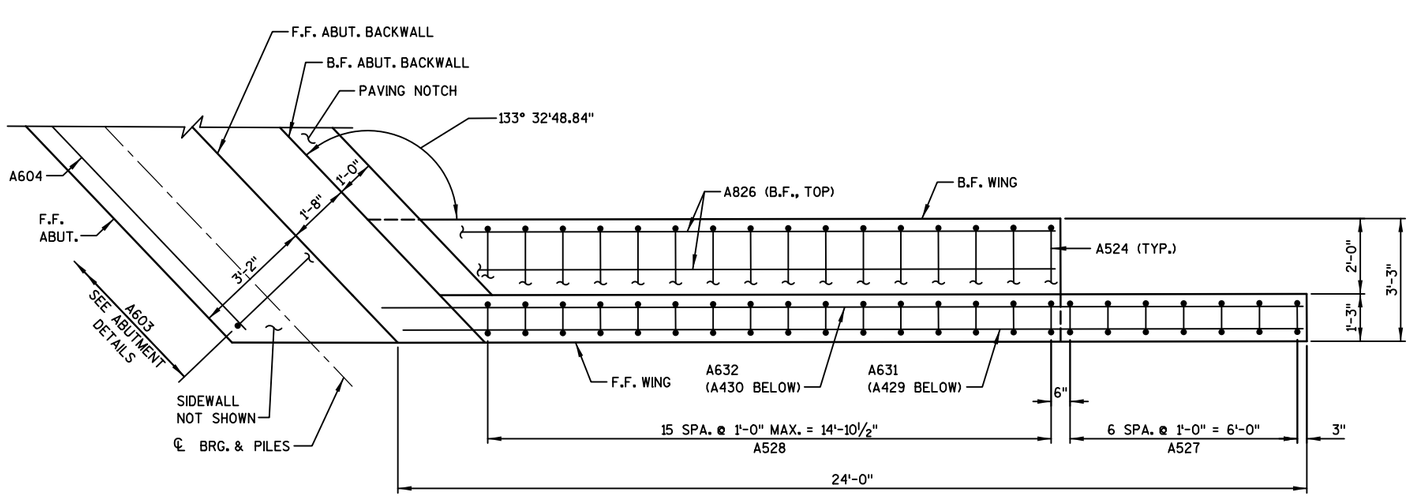
◑ OPTIONAL CONSTRUCTION JOINT FORMED BY BEVELED 2"X6" KEYWAY WITH MEMBRANE ON BACKFACE.

◨ ¾" 'V' GROOVE ON FRONT FACE OF WING WALL.

■ HORIZONTAL CONSTRUCTION JOINT. POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.



SECTION THRU SIDEWALL
(WING 2)



WING PLAN
(WING 2)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-186

DRAWN BY DTH | PLANS CK'D. DJW

SOUTH ABUTMENT WING 2 DETAILS

SHEET 7
169

8

8

FILE NAME : S:\MAD\1000--1099\1089\397\Micros\PLAN\080107_sa.dgn

STATE PROJECT NUMBER

1066-06-72

NOTES

SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW FINISHED ROADWAY SURFACE AT INSIDE FACE.

NORTH ABUTMENT TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE AT NORTH ABUTMENT. ESTIMATED 95 FEET LONG EACH. ATTACH PILE POINTS TO THE TIP OF EACH PILE.

SEE "SOUTH ABUTMENT DETAILS" SHEET FOR PILE SPLICE DETAILS.

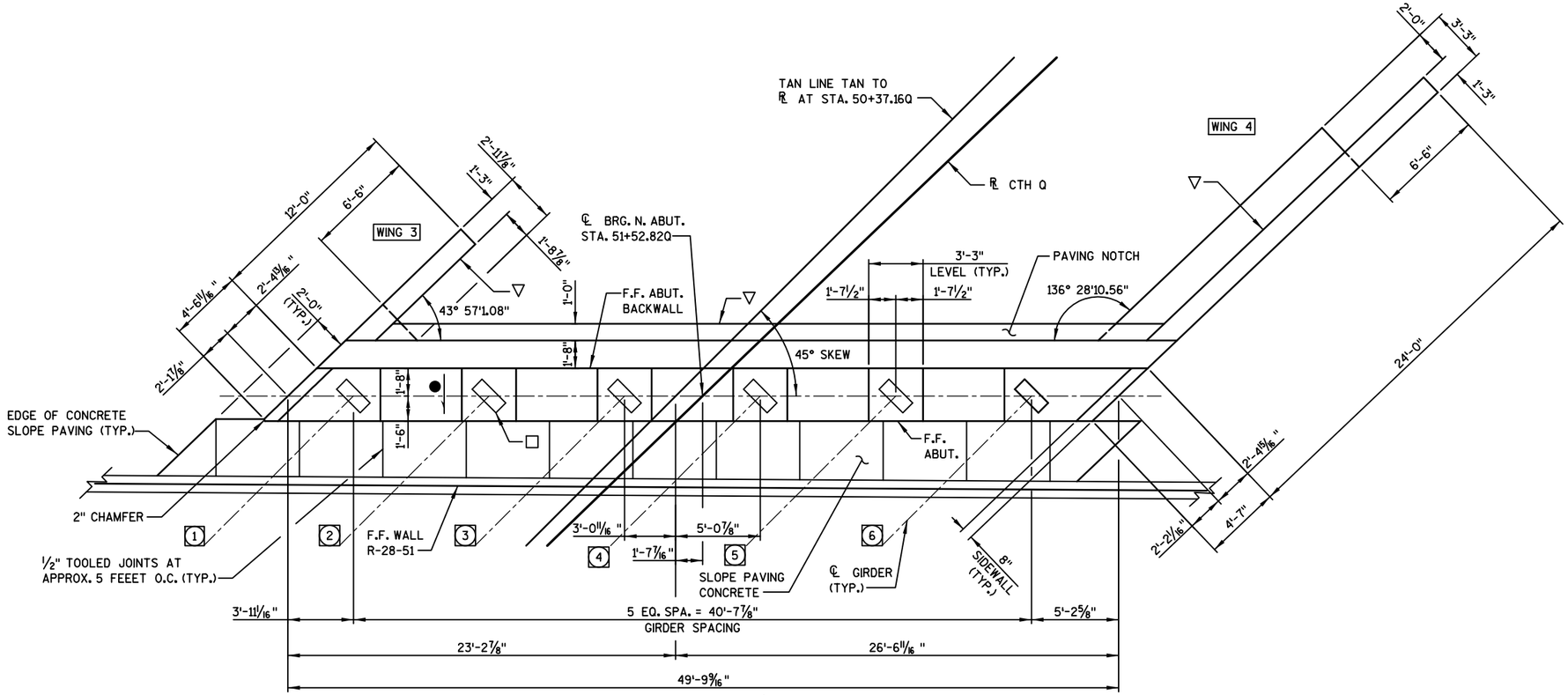
SEE NORTH ABUTMENT AND NORTH ABUTMENT WING DETAIL SHEETS FOR REINFORCING DETAILS.

ADJUST B603 BARS INTERFERING WITH PILES.

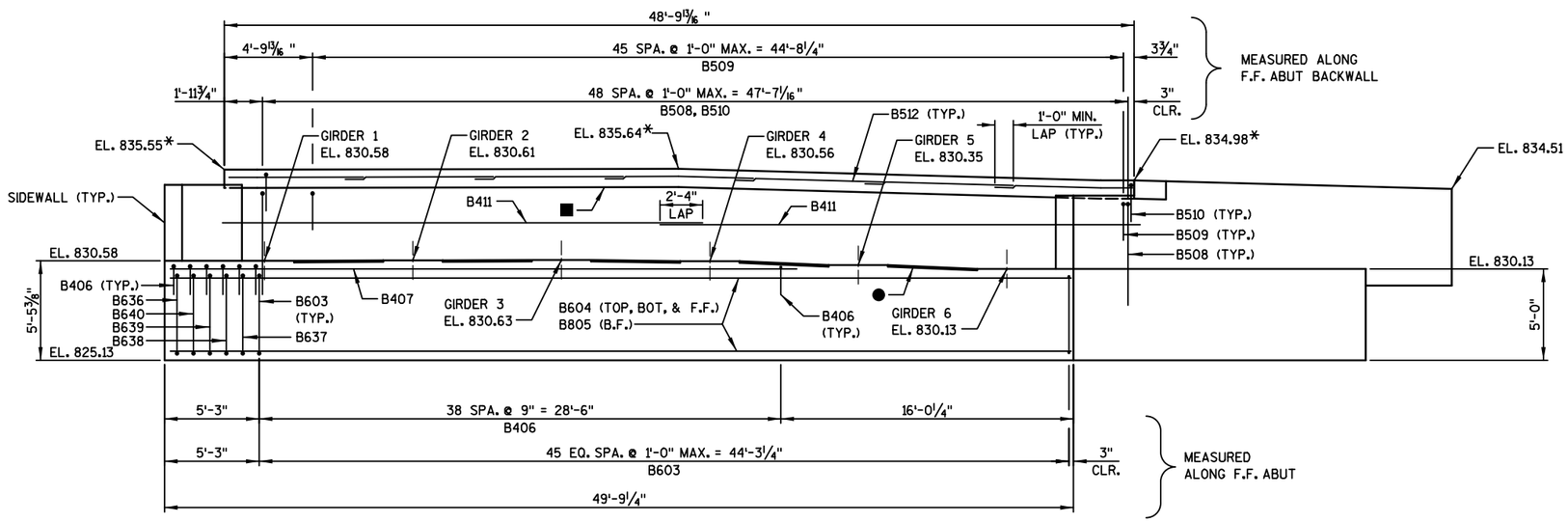
SEE THIS SHEET FOR TYPICAL FILL SECTION AT WING TIPS.

LEGEND

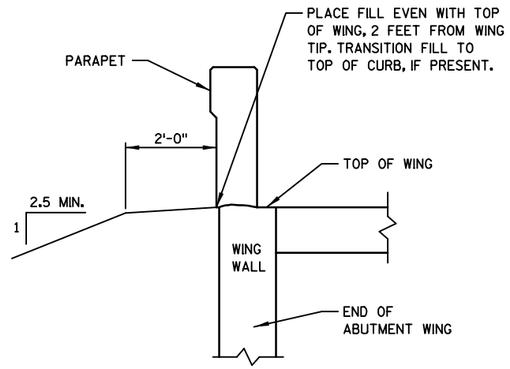
- ▽ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- (#) INDICATES GIRDER NUMBER.
- * ELEVATION GIVEN AT F.F. OF ABUT. BACKWALL.
- ● SLOPE DOWN 1" BETWEEN BEAM SEATS (TYP.)
- □ STEEL LAMINATED ELASTOMERIC BEARING PAD (TYP.). SEE "BEARING DETAILS" SHEET.
- ■ HORIZONTAL CONSTRUCTION JOINT. POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.



PLAN



ELEVATION
(LOOKING NORTH)



TYPICAL FILL SECTION AT WING TIPS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-186

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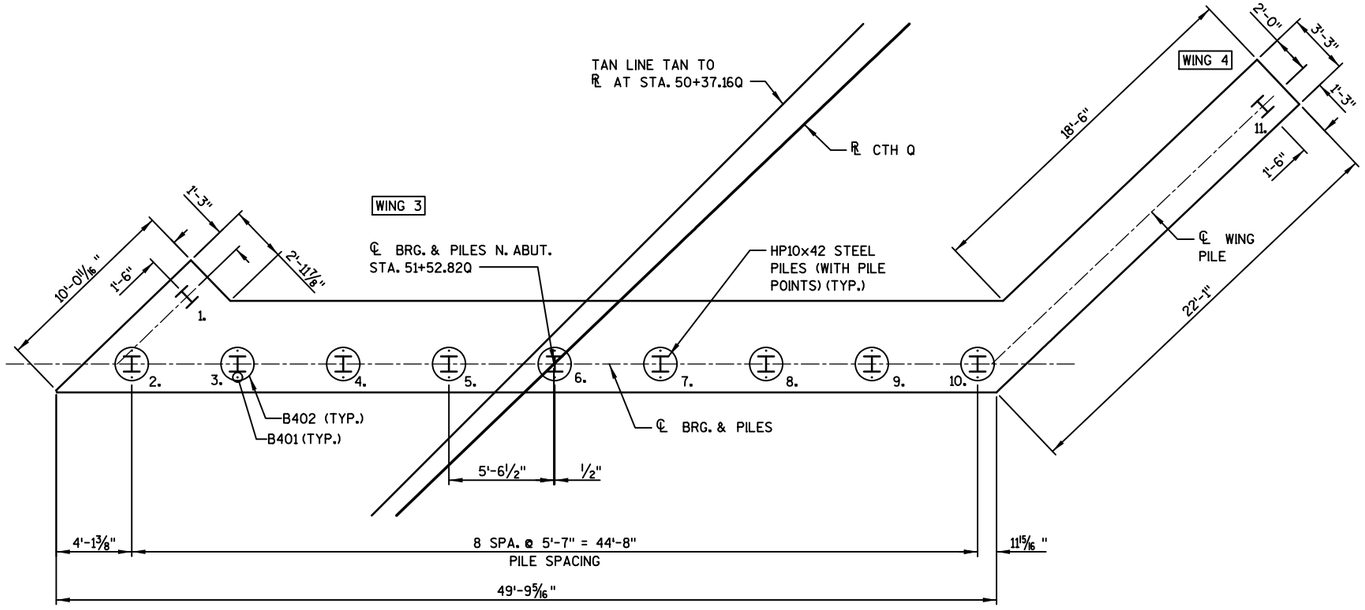
NORTH ABUTMENT

SHEET 8
170

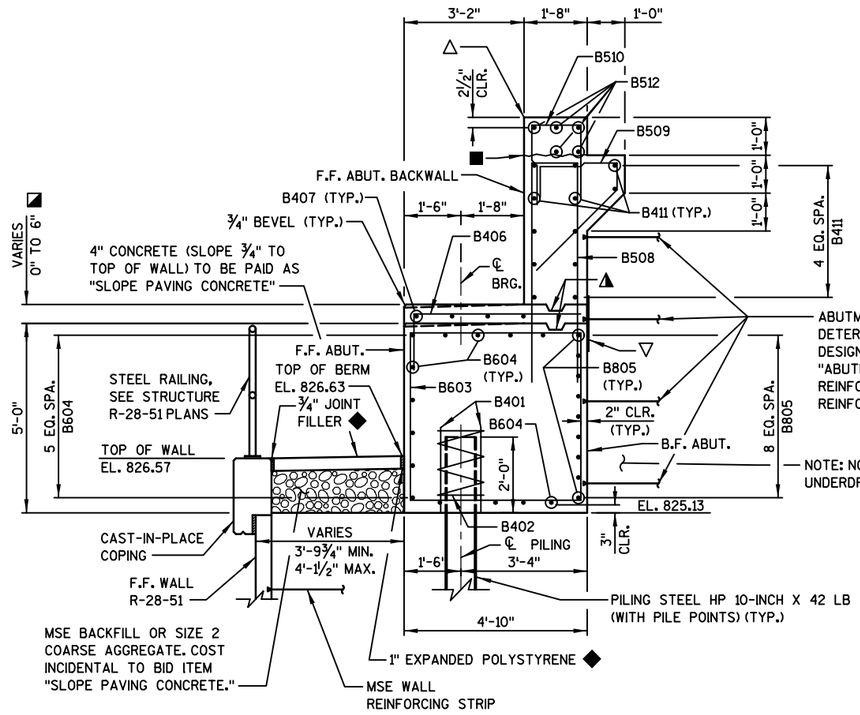
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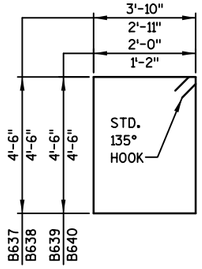
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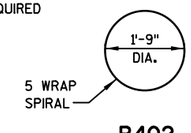
PILE PLAN



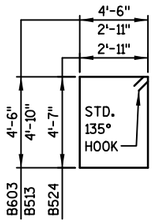
TYPICAL SECTION THRU BODY



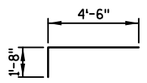
B637, B638, B639 B640



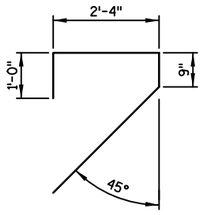
B402



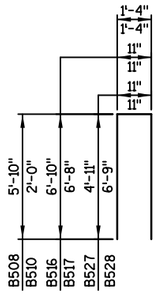
B603, B513, B524



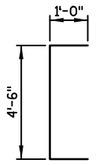
B406



B509



B508, B510, B516, B517, B527, B528



B636

NORTH ABUTMENT BILL OF BARS

UNCOATED: 4,090 LBS
COATED: 4,100 LBS

BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
B401	18	2'-3"			BODY - PILES - VERT.
B402	9	28'-0"	X		BODY - PILES - SPIRAL
B603	46	18'-10"	X		BODY - STIRRUPS - VERT.
B604	14	49'-5"			BODY - TOP, BOT., & F.F. - HORIZ.
B805	9	49'-5"			BODY - B.F. - HORIZ.
B406	44	6'-1"	X		BODY - TOP - VERT.
B407	4	33'-8"			BODY - TOP - HORIZ.
B508	49	12'-9"	X	X	BACKWALL - VERT.
B509	46	7'-1"	X	X	BACKWALL - PAVING NOTCH - VERT.
B510	49	5'-1"	X	X	BACKWALL - VERT.
B411	24	26'-0"		X	BACKWALL - HORIZ.
B512	35	8'-0"		X	BACKWALL - TOP - HORIZ.
B513	1	16'-6"	X	X	WING 3 - LOWER - STIRRUPS - VERT.
B514	5	11'-3"		X	WING 3 - LOWER - F.F. - HORIZ.
B615	1	11'-9"		X	WING 3 - LOWER - TOP - HORIZ.
B516	3	14'-4"	X	X	WING 3 - UPPER - STIRRUPS - VERT.
B517	7	14'-0"	X	X	WING 3 - UPPER - STIRRUPS - VERT.
B418	5	11'-4"		X	WING 3 - UPPER - F.F- HORIZ.
B419	8	10'-7"		X	WING 3 - UPPER - B.F- HORIZ.
B620	1	11'-4"		X	WING 3 - UPPER - TOP - F.F. - HORIZ.
B621	1	10'-7"		X	WING 3 - UPPER - TOP - B.F. - HORIZ.
B422	5	5'-8"		X	WING 3 - SIDEWALL- HORIZ.
B423	5	5'-3"		X	WING 3 - SIDEWALL - VERT.
B524	16	15'-7"	X	X	WING 4 - LOWER - STIRRUPS - VERT.
B525	5	21'-9"		X	WING 4 - LOWER - F.F. - HORIZ.
B826	12	21'-4"		X	WING 4 - LOWER - TOP & B.F. - HORIZ.
B527	7	10'-6"	X	X	WING 4 - UPPER - STIRRUPS - VERT.
B528	16	14'-2"	X	X	WING 4 - UPPER - STIRRUPS - VERT.
B429	5	23'-9"		X	WING 4 - UPPER - F.F- HORIZ.
B430	8	24'-6"		X	WING 4 - UPPER - B.F- HORIZ.
B631	1	23'-9"		X	WING 4 - UPPER - TOP - F.F. - HORIZ.
B632	1	24'-6"		X	WING 4 - UPPER - TOP - B.F. - HORIZ.
B433	2	7'-9"		X	WING 4 - UPPER - F.F. & B.F. - HORIZ.
B434	5	5'-8"		X	WING 4 - SIDEWALL- HORIZ.
B435	5	5'-0"		X	WING 4 - SIDEWALL - VERT.
B636	1	6'-2"	X		BODY - VERT. - WEST END
B637	1	17'-6"	X		BODY - VERT. - WEST END
B638	1	15'-8"	X		BODY - VERT. - WEST END
B639	1	13'-10"	X		BODY - VERT. - WEST END
B640	1	12'-2"	X		BODY - VERT. - WEST END
B441	7	7'-9"		X	WING 3 - UPPER - HORIZ.

STATE PROJECT NUMBER

1066-06-72

NOTES

ABUTMENT TO BE BACKFILLED TO A MINIMUM OF THE BEAM SEAT ELEVATIONS PRIOR TO PLACING GIRDERS.

LEGEND

△ STRIP SEAL EXPANSION JOINT TO BE INSTALLED WITH CONCRETE POUR. SEE "STRIP SEAL EXPANSION JOINT DETAILS" SHEETS.

■ HORIZONTAL CONSTRUCTION JOINT. POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.

⊗ UNFACTORED SUPERSTRUCTURE LATERAL LOADS TRANSFERRED TO THE ABUTMENT ARE TAKEN TO BE KIPS PER FOOT OF ABUTMENT LENGTH. LOADS ARE APPLIED PARALLEL TO TANGENT LINE AND ACT AT THE BEAM SEAT ELEVATION AT ℄ BEARING. THE VALUES ARE TO BE USED FOR THE LRFD DESIGN OF THE ABUTMENT ANCHORAGE BY THE MSE MANUFACTURER (MSE SYSTEM, DEAD MAN ANCHOR, OTHER). THE FOLLOWING AASHTO LINE LOADS SHALL BE USED:
BR = 0.8 KLF WS = 0.4 KLF
TU = 2.4 KLF WL = 0.3 KLF

◆ SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF FILLER AND EXPANDED POLYSTYRENE WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE).

◪ B406 AND B407 ONLY PLACED WHERE THIS DIMENSION EXCEEDS 4".

▽ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

▲ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2"X6".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-186

DRAWN BY DTH | PLANS CK'D. DJW

NORTH ABUTMENT DETAILS

SHEET 9
171

8

8

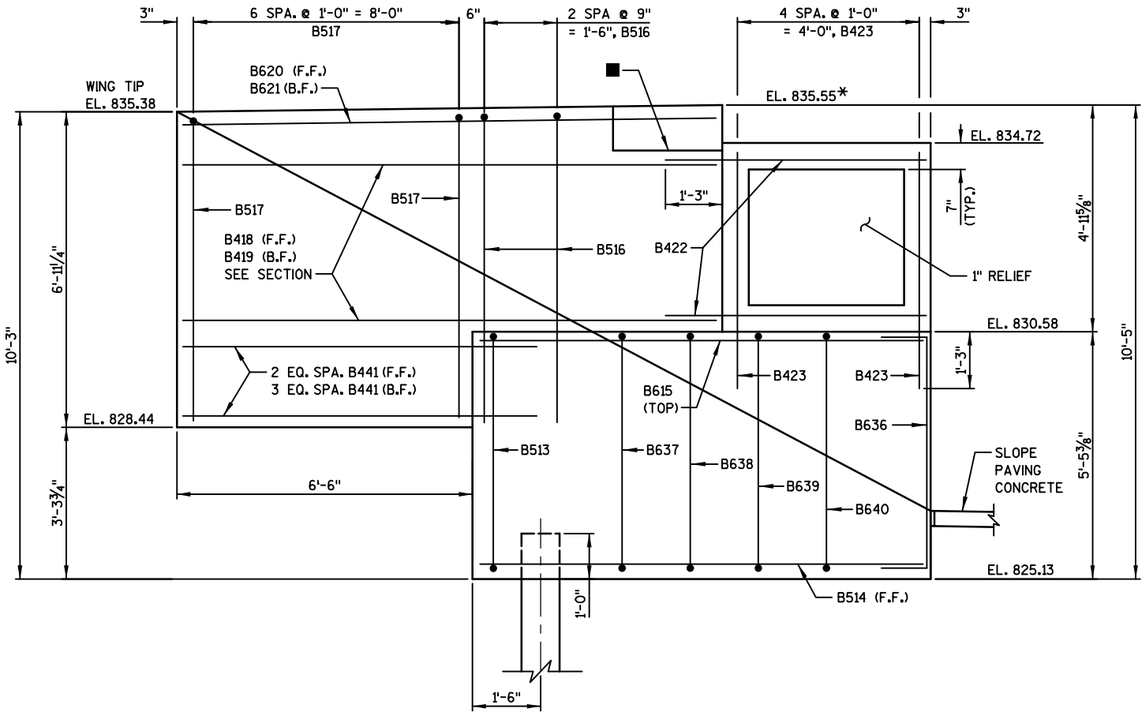
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STATE PROJECT NUMBER

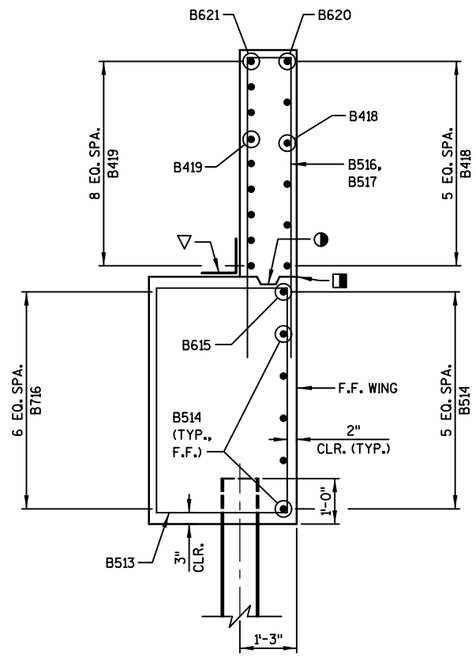
1066-06-72

LEGEND

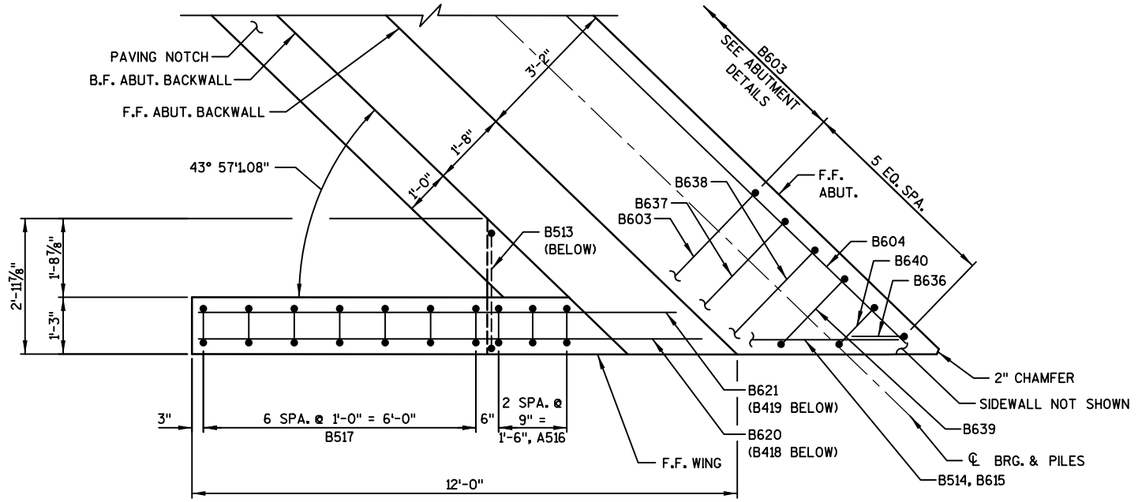
- ▽ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- * ELEVATION GIVEN AT F.F. OF ABUT. BACKWALL.
- ◑ OPTIONAL CONSTRUCTION JOINT FORMED BY BEVELED 2"X6" KEYWAY WITH MEMBRANE ON BACKFACE.
- ◨ ¾" 'V' GROOVE ON FRONT FACE OF WING WALL.
- ■ HORIZONTAL CONSTRUCTION JOINT. POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.



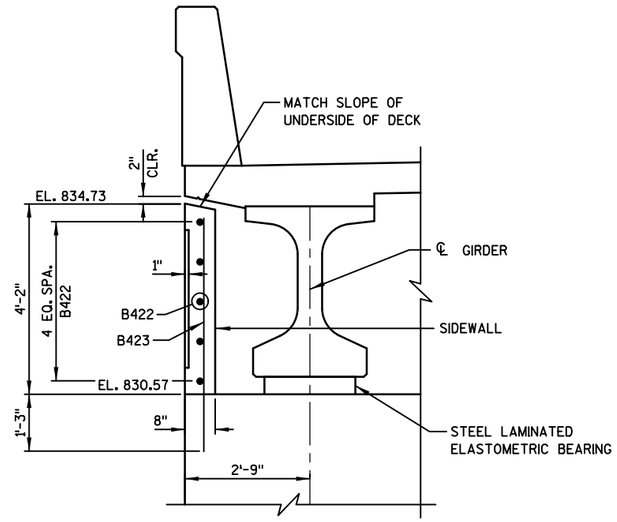
WING ELEVATION
(WING 3, FRONT FACE)



WING WITH PILE SECTION
(WING 3)



WING PLAN
(WING 3)



SECTION THRU SIDEWALL
(WING 3)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-186

DRAWN BY DTH | PLANS CK'D. DJW

NORTH ABUTMENT WING 3 DETAILS

SHEET 10
172

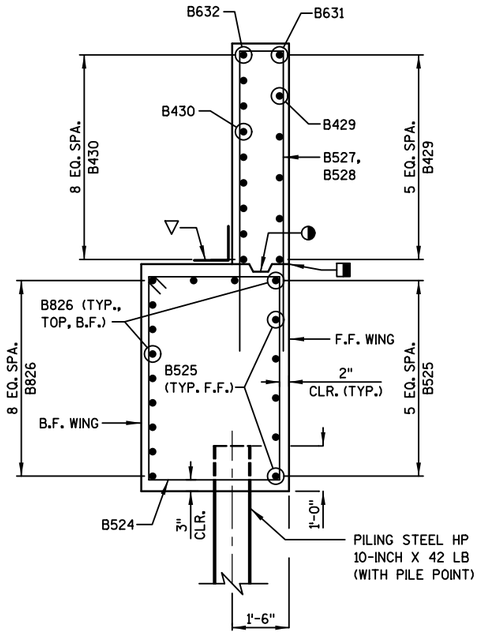
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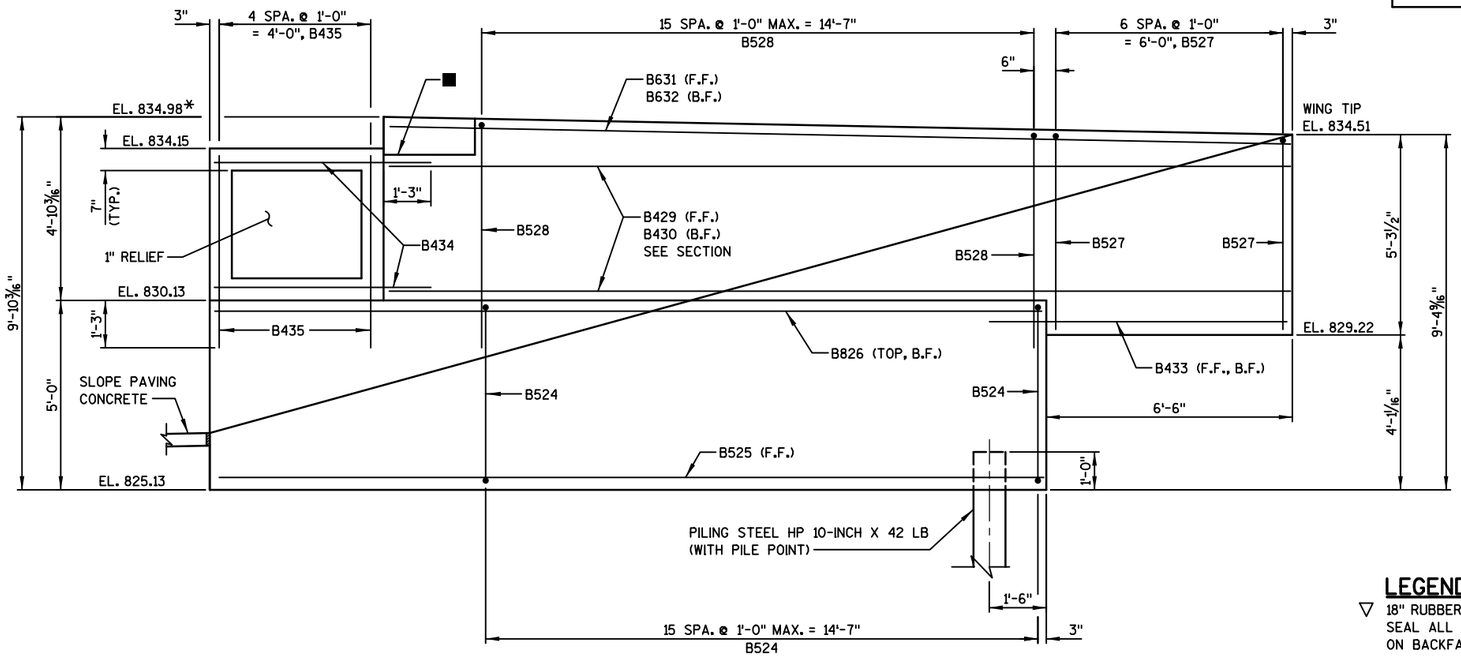
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STATE PROJECT NUMBER

1066-06-72



WING WITH PILE SECTION
(WING 4)



WING ELEVATION
(WING 4, FRONT FACE)

LEGEND

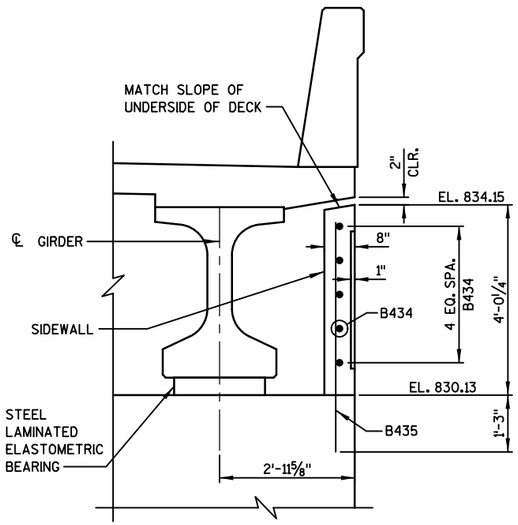
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* ELEVATION GIVEN AT F.F. OF ABUT. BACKWALL.

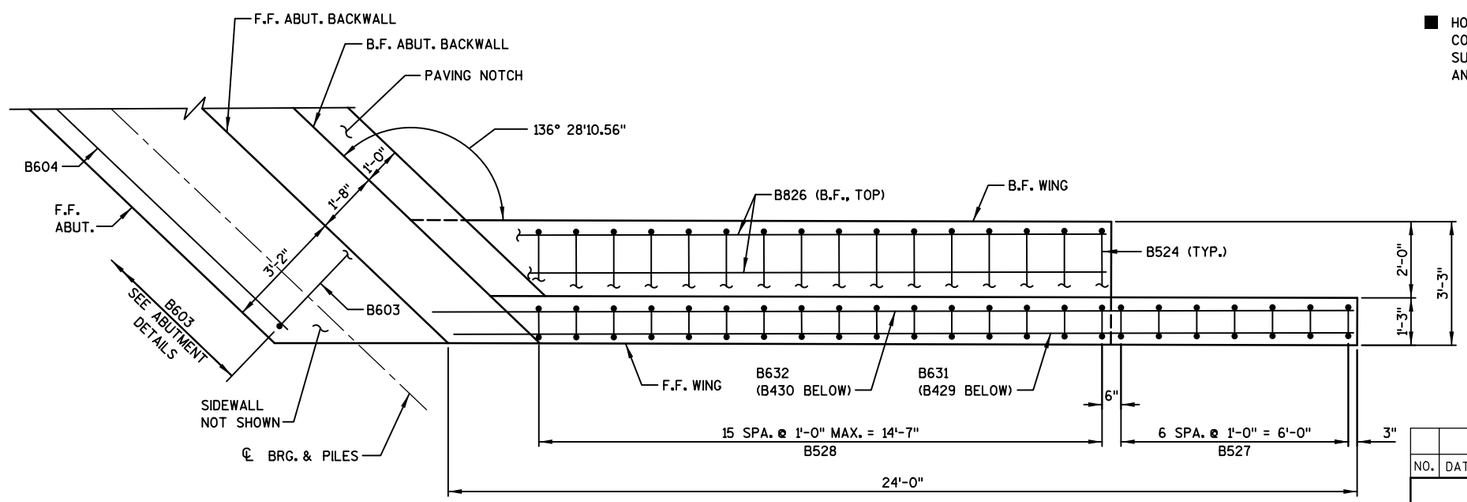
◑ OPTIONAL CONSTRUCTION JOINT FORMED BY BEVELED 2"X6" KEYWAY WITH MEMBRANE ON BACKFACE.

◨ ¾" 'V' GROOVE ON FRONT FACE OF WING WALL.

■ HORIZONTAL CONSTRUCTION JOINT. POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.



SECTION THRU SIDEWALL
(WING 4)



WING PLAN
(WING 4)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-186

DRAWN BY DTH | PLANS CK'D. DJW

NORTH ABUTMENT WING 4 DETAILS

SHEET 11
173

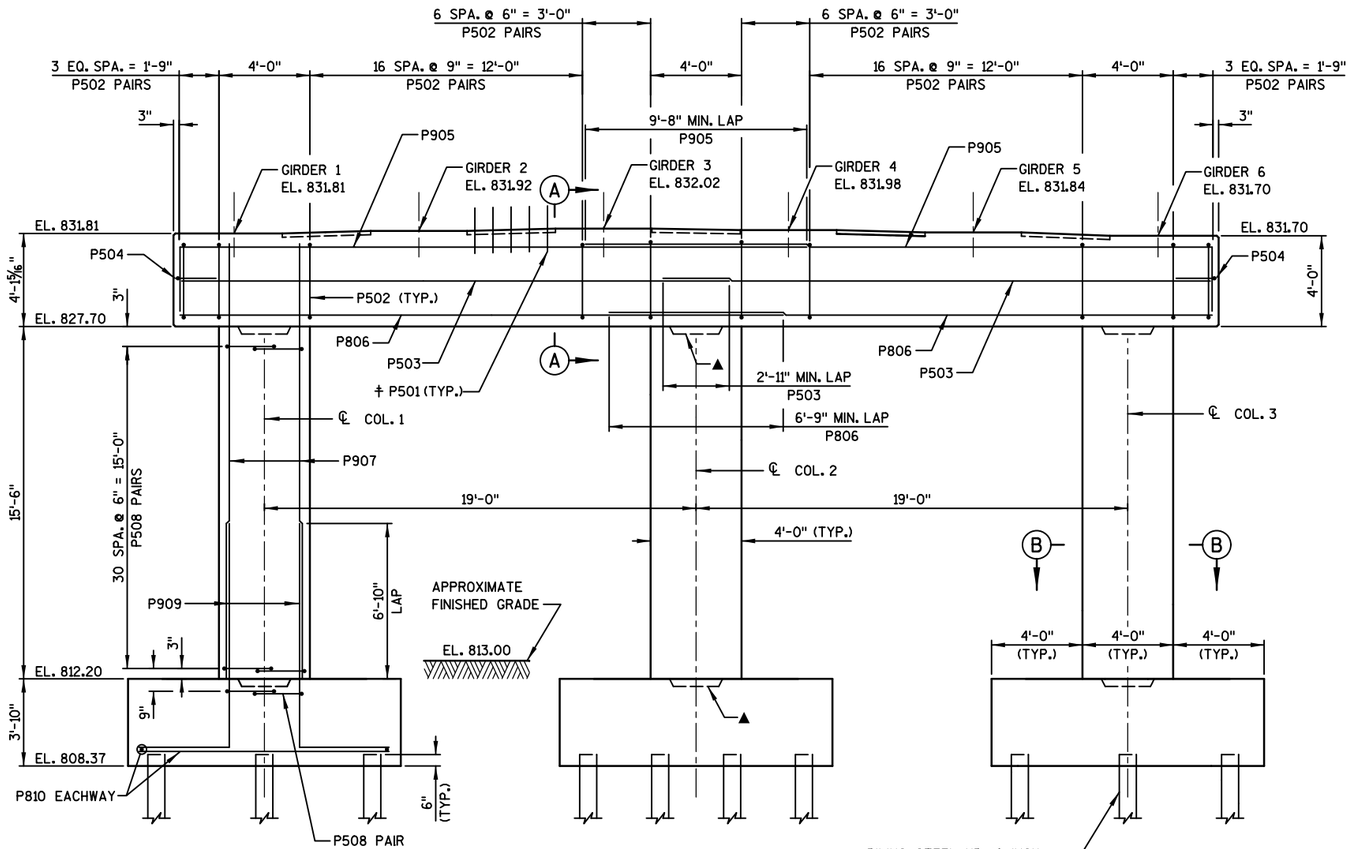
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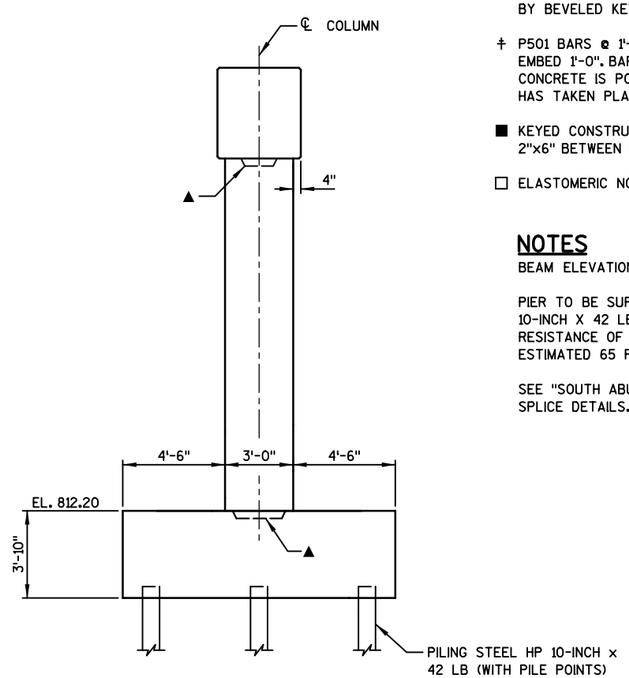
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STATE PROJECT NUMBER

1066-06-72



ELEVATION
(LOOKING NORTH)



END VIEW

LEGEND

(#) INDICATES GIRDER NUMBER.

▲ 1'-3"x2'-0"x4" DEEP CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY. (TYP.)

‡ P501 BARS @ 1'-0" MAX. BETWEEN BEAM SEATS, EMBED 1'-0". BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE.

■ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2"x6" BETWEEN BEAM SEATS. (TYP.)

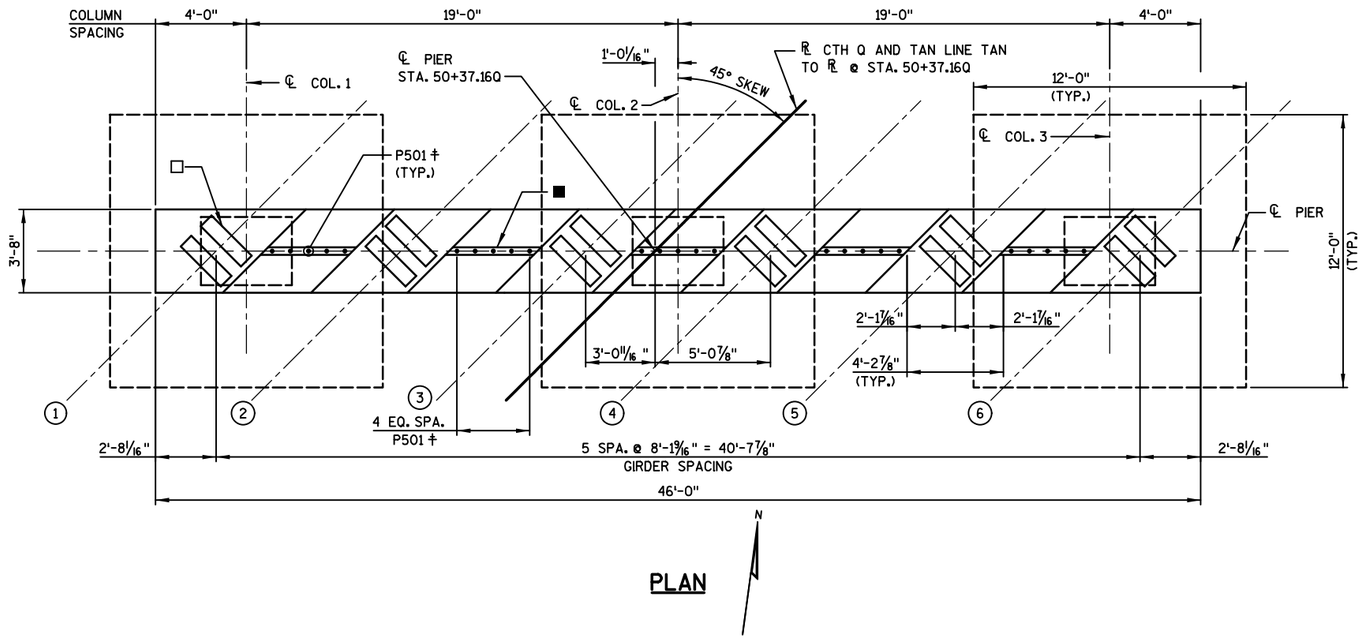
□ ELASTOMERIC NON-LAMINATE BEARING PAD (TYP.)

NOTES

BEAM ELEVATIONS GIVEN AT ℄ PIER.

PIER TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE AT PIER. ESTIMATED 65 FEET LONG EACH.

SEE "SOUTH ABUTMENT DETAILS" SHEET FOR PILE SPLICE DETAILS.



PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-186

DRAWN BY DTH | PLANS CK'D. DJW

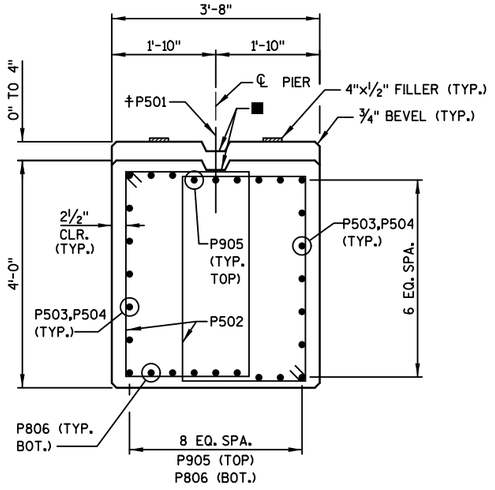
PIER

SHEET 12
174

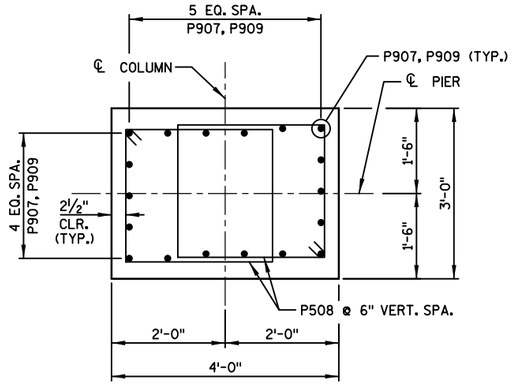
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SECTION A-A



SECTION B-B

PIER

BILL OF BARS

UNCOATED: 2,760 LBS
COATED: 12,820 LBS

BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
P501	25	2'-0"		X	CAP - DOWEL - VERT.
P502	108	12'-0"	X	X	CAP - STIRRUPS - VERT.
P503	20	24'-3"		X	CAP - SIDES - HORIZ.
P504	14	8'-9"	X	X	CAP - ENDS - HORIZ.
P905	18	30'-8"	X	X	CAP - TOP - HORIZ.
P806	18	26'-2"		X	CAP - BOT. - HORIZ.
P907	54	19'-4"		X	COLUMN - VERT.
P508	192	10'-4"	X	X	COLUMN - STIRRUPS
P909	54	11'-4"	X	X	FOOTING/COLUMN - VERT.
P810	90	11'-6"			FOOTING - HORIZ.

LEGEND

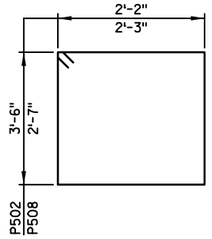
† P501 BARS @ 1'-0". BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE.

■ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2"x6" BETWEEN BEAM SEATS. (TYP.)

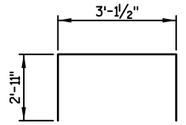
NOTES

NEW PILES MAY BE DRIVEN NEXT TO EXISTING TIMBER PILES. IF NEW PILES CONFLICT WITH EXISTING TIMBER PILES, NEW PILES MAY BE MOVED UP TO 6". IF MORE ADJUSTMENT IS NECESSARY, CONTACT WISDOT BUREAU OF STRUCTURES SECTION.

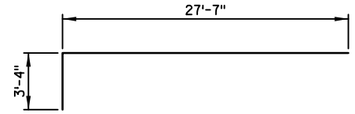
SEE "SOUTH ABUTMENT DETAILS" SHEET FOR PILE SPLICE DETAILS.



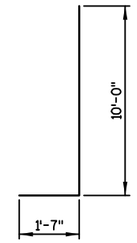
P502, P508



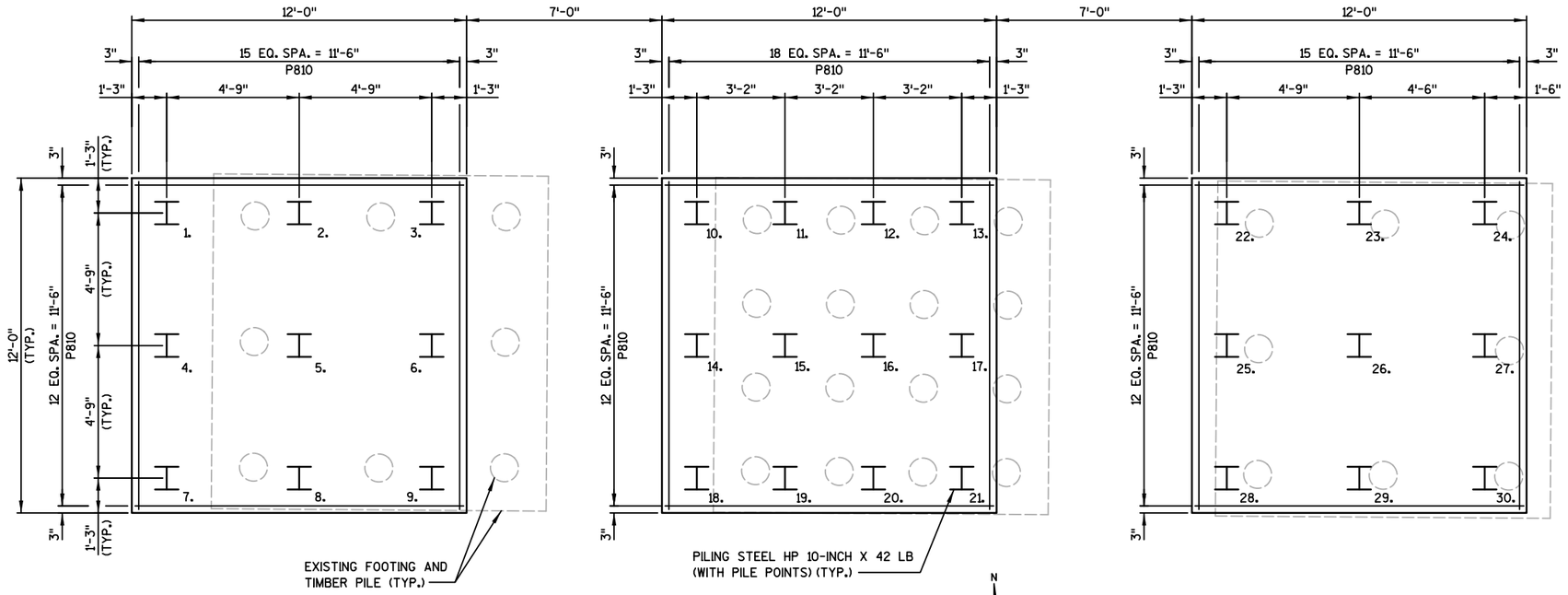
P504



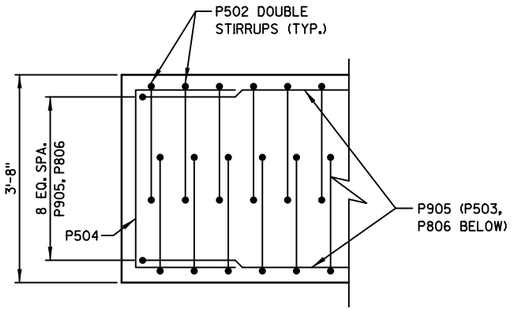
P905



P909



PILE / FOOTING PLAN



PLAN VIEW SHOWING END OF CAP REINFORCING

STATE PROJECT NUMBER

1066-06-72

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-186

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PIER DETAILS

SHEET 13
175

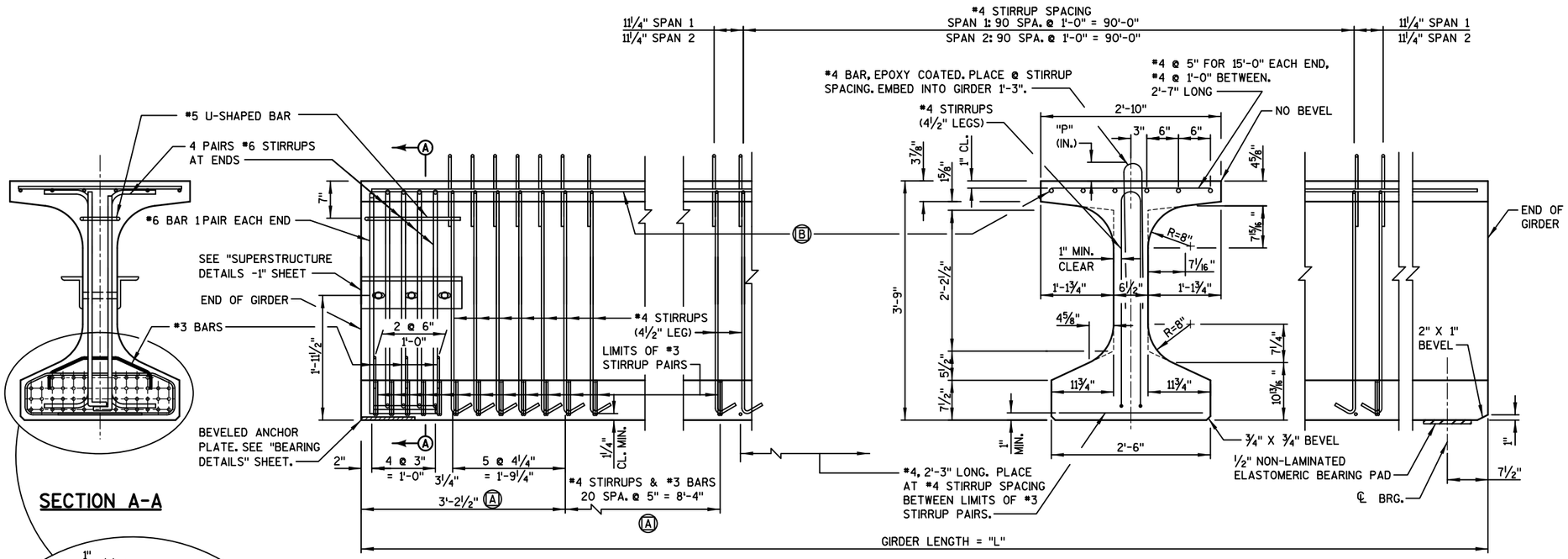
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STATE PROJECT NUMBER

1066-06-72



SECTION A-A

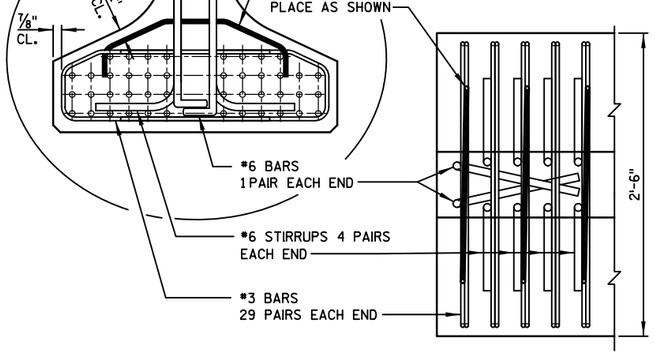
AT ABUTMENT

AT PIER

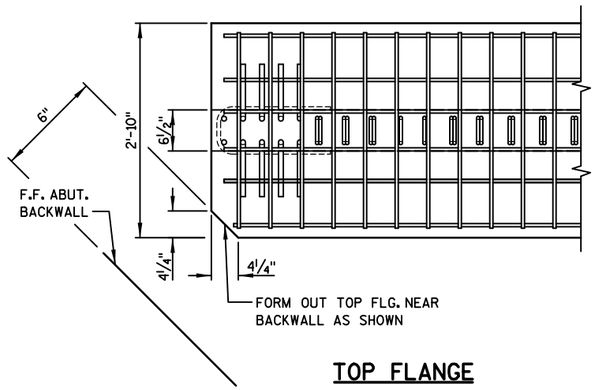
SIDE VIEW & TYP. SECTION IN SPAN

Ⓐ DETAIL TYP. AT EACH END.

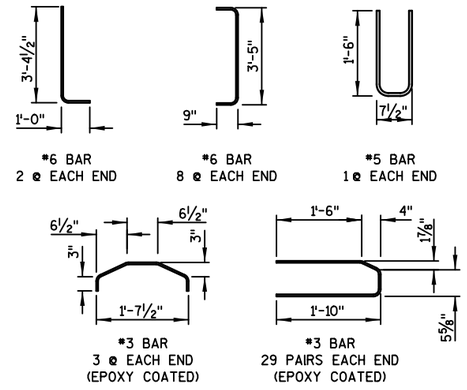
Ⓑ 6 *6 BARS, FULL LENGTH, MIN. LAP = 3'-6"



BOTTOM FLANGE



TOP FLANGE



GIRDER NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 8" OF GIRDER, WHICH SHALL RECIEVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS. SEE SECTION 503.3.3 OF STANDARD SPECIFICATIONS FOR GUIDANCE.

STRANDS SHALL BE FLUSH WITH THE END OF GIRDER, FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, ENDS OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GRIDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, GRADE 2, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO THE APPLICATION OF THE SEALER.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

SPACING SHOWN FOR *4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A1064 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.

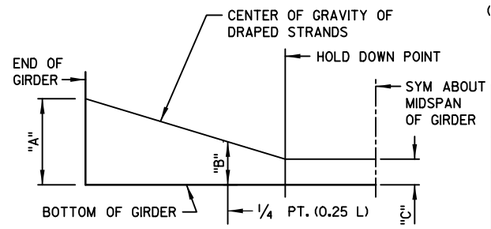
PRESTRESSING STRANDS SHALL BE 0.6" DIA. - 7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI.

FOR DIAPHRAGM INSERT AND CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.

*MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CONC. STRGTH. f'c (P.S.I.)	"P" (IN.) 1ST 1/3 OF GIRDER	"P" (IN.) MID 1/3 OF GIRDER	"P" (IN.) END 1/3 OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	UNDRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) *
1	1,6	114'-11 1/2"	0.9	1.7	2.4	2.8	2.9	2.7	2.3	1.7	0.9	8000	7.0	7.25	7.0	0.60	38	6800	40.0	13.75	16.75	5.0		
1	2-5	114'-11 1/2"										8000	7.0	7.75	7.0	0.60	34	6800	40.0	13.75	16.75	5.0		
2	1,6	114'-11 1/2"	0.9	1.7	2.3	2.7	2.9	2.8	2.4	1.7	0.9	8000	7.0	7.25	7.0	0.60	38	6800	40.0	13.75	16.75	5.0		
2	2-5	114'-11 1/2"										8000	7.0	7.75	7.0	0.60	34	6800	40.0	13.75	16.75	5.0		



DRAPED STRAND PROFILE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-186

DRAWN BY DTH | PLANS CK'D. DJW

45W" PRESTRESSED GIRDER

SHEET 14
176

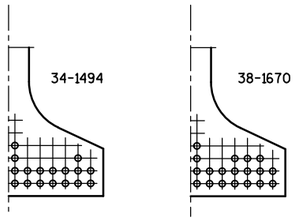
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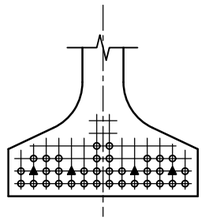
STATE PROJECT NUMBER

1066-06-72



ARRANGMENT AT ℄ SPAN - FOR GIRDERS WITH DRAPED STRANDS

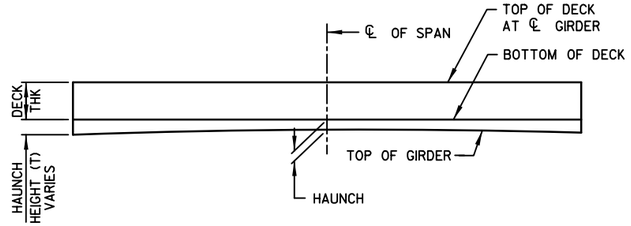
0.6"φ STRANDS



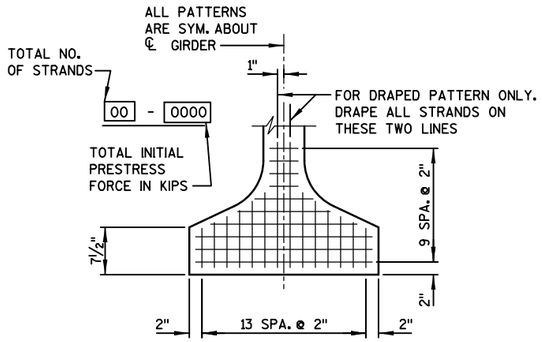
DEBONDED STRANDS - EXTERIOR GIRDERS SPAN 1& 2

DEBOND AT PIER END ONLY

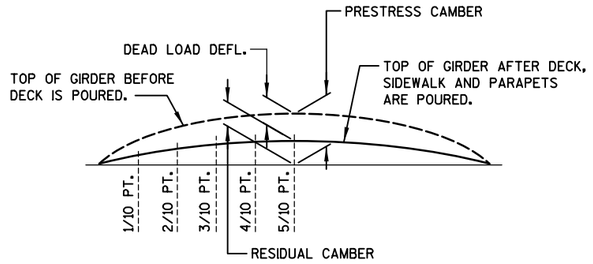
▲ DEBOND LENGTH = 2'-0"



ELEVATION



TYP. STRAND PATTERN



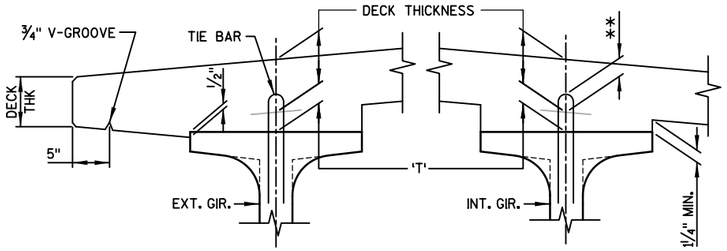
CAMBER AND DEFLECTION DIAGRAM

SPAN	GIRDER	CAMBER (IN.) *
1	1.6	4.5
2	1.6	4.5
1	2-5	3.7
2	2-5	3.7

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS.

THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

* THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.



DECK HAUNCH DETAIL

IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
\- TOP OF GIRDER ELEVATION
\+ DEAD LOAD DEFLECTION
\- DECK THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 3⅛" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".

8

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-186

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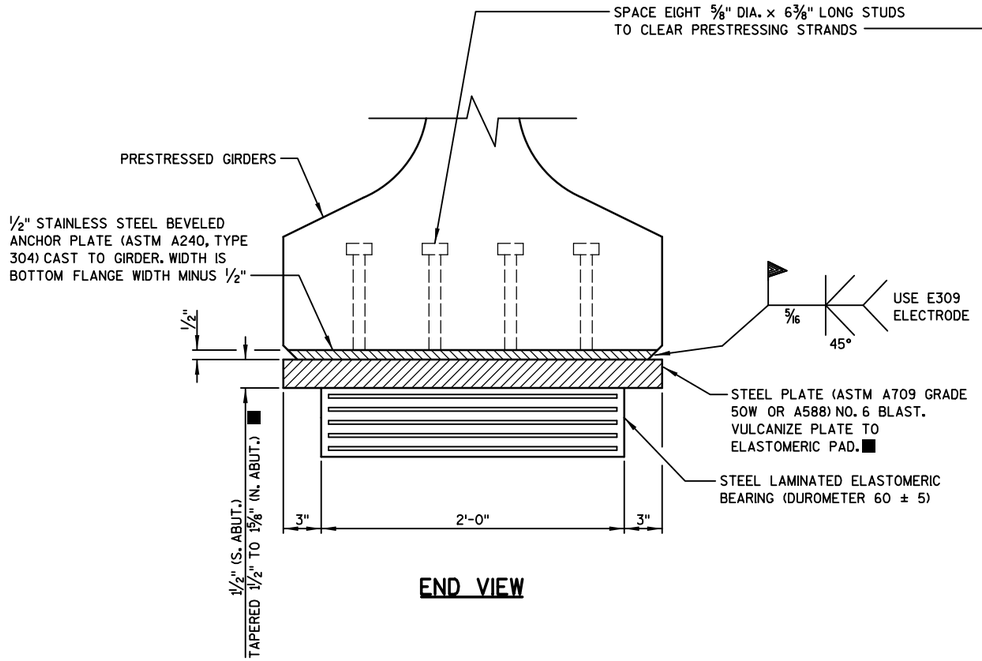
45W" PRESTRESSED GIRDER DETAILS

SHEET 15
177

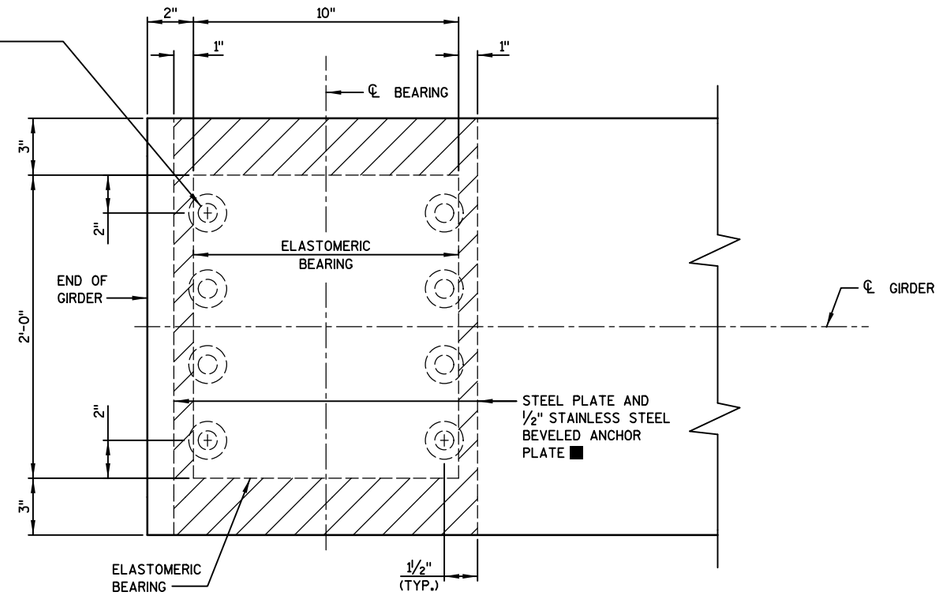
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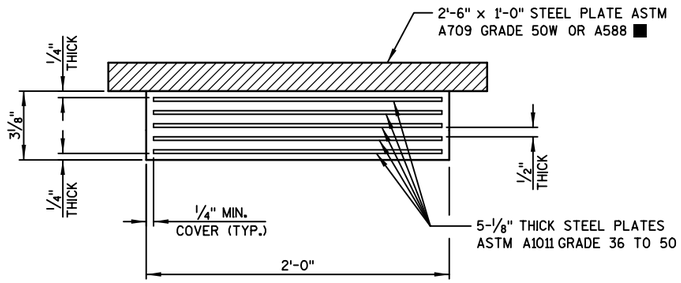
1066-06-72



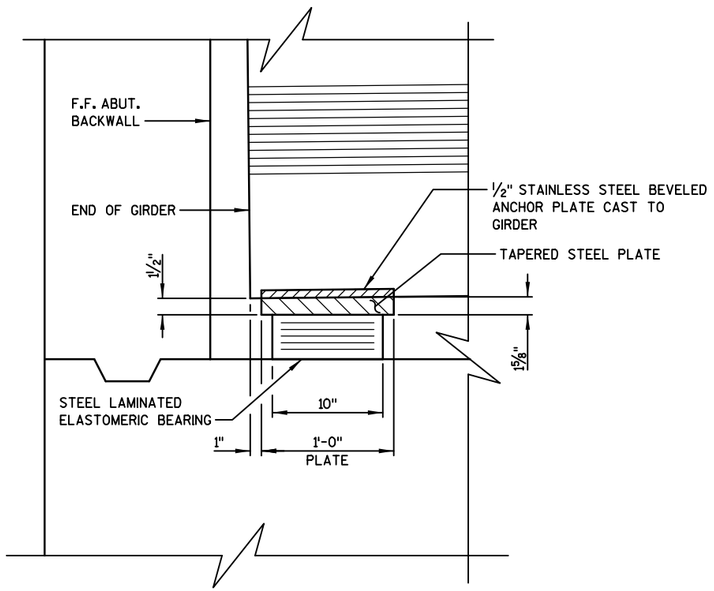
END VIEW



PLAN VIEW



SECTION THRU ELASTOMERIC BEARING



PART ELEVATION AT NORTH ABUTMENT

(SHOWING TAPERED STEEL PLATE)
(LOOKING EAST)

LEGEND

■ STEEL PLATE FOR ALL BEARINGS AT SOUTH ABUTMENT SHALL BE 1 1/2" THICK. STEEL PLATE FOR ALL BEARINGS AT NORTH ABUTMENT SHALL BE TAPERED TO BE 1 1/2" THICK ALONG EDGE CLOSEST TO END OF GIRDER AND 1 5/8" THICK AT OPPOSITE EDGE. SEE DETAIL THIS SHEET.

NOTES

BEARINGS SHALL NOT BE PLACED AT A TEMPERATURE GREATER THAN 85° F.

ALL MATERIAL USED FOR BEARINGS SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING PADS ELASTOMERIC LAMINATED", EACH.

ALL STRUCTURAL STEEL BEARING PLATES SHALL BE FLAT ROLLED WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL.

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-186

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BEARING DETAILS

SHEET 16
178

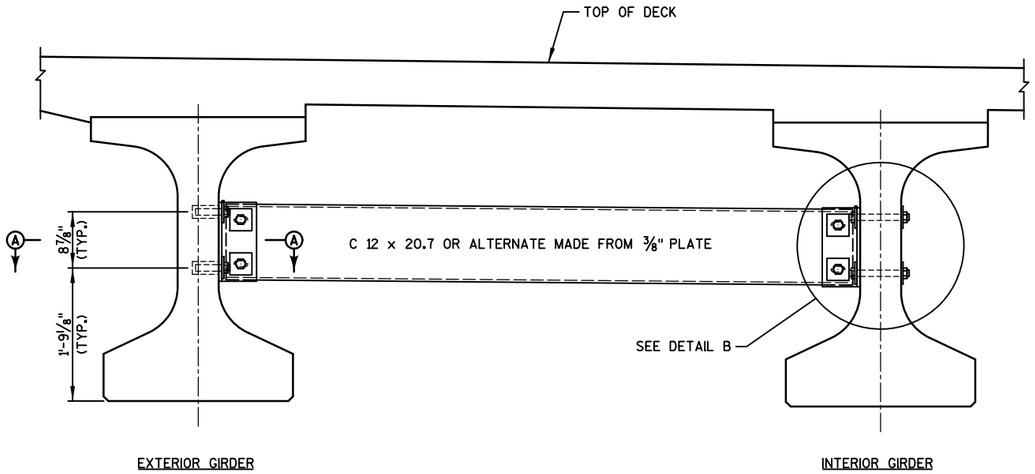
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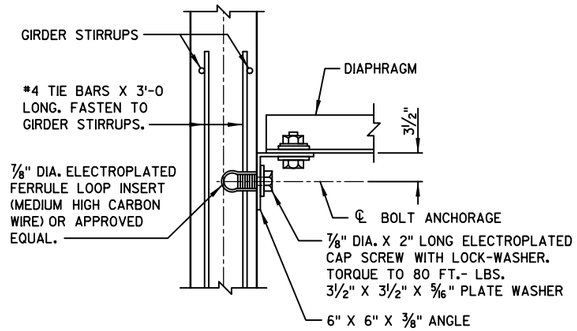
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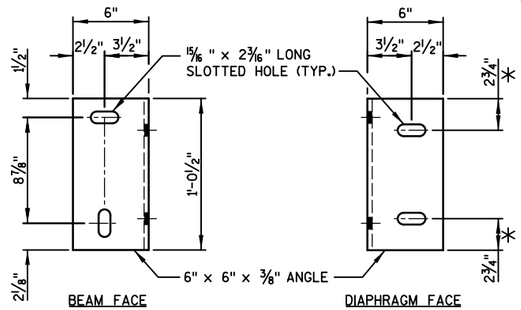
1066-06-72



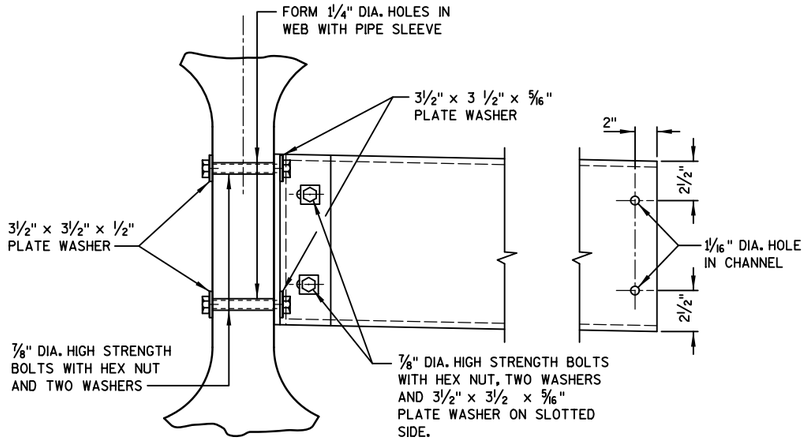
PART TRANSVERSE SECTION AT DIAPHRAGM



SECTION A-A
(FOR EXTERIOR ATTACHMENT)



DIAPHRAGM SUPPORT
✳ 2½" FOR ALTERNATE PLATE DIAPHRAGM



(FOR STAGGERED DIAPHRAGM)

DETAIL B

NOTES

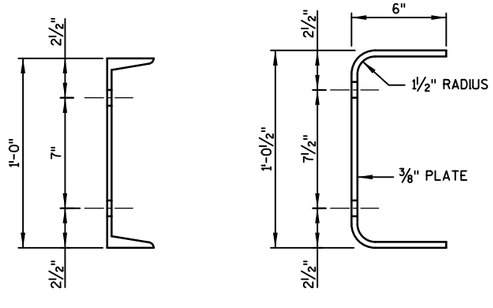
ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-28-186", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

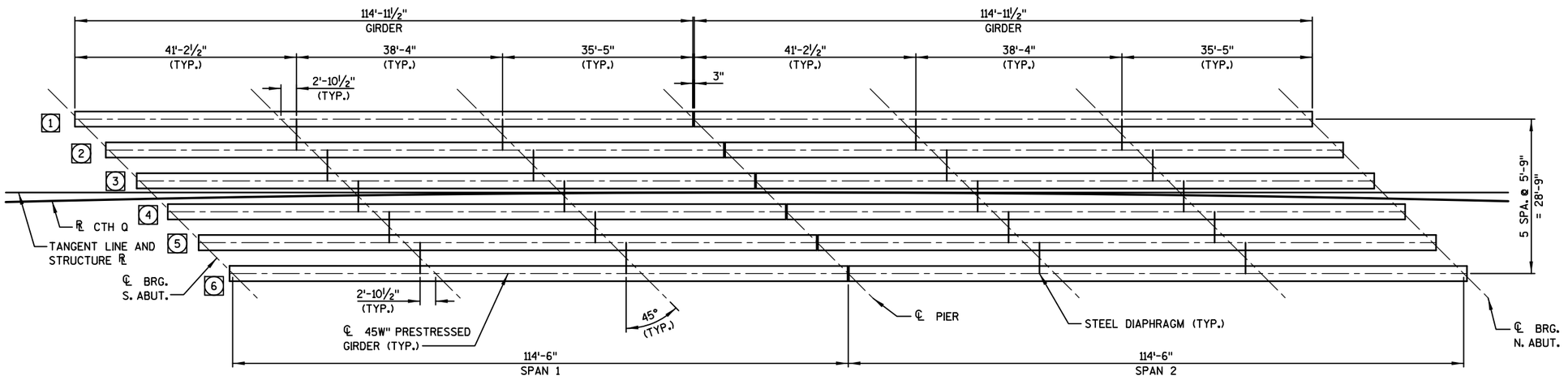
ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

ALL DIAPHRAGM MATERIAL INCLUDING BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AFTER FABRICATION.

STEEL DIAPHRAGM TO CONCRETE WEB CONNECTION SHALL BE SNUG-TIGHT PLUS ¼ TURN, UNLESS NOTED OTHERWISE. HIGH STRENGTH BOLTS FOR WEB CONNECTION SHALL MEET THE REQUIREMENTS FOR ASTM A325 OR ASTM A449.



SECTION THRU DIAPHRAGM



PLAN
(SHOWING STEEL DIAPHRAGM LAYOUT)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-186

DRAWN BY DTH | PLANS CK'D. DJW

STEEL DIAPHRAGMS

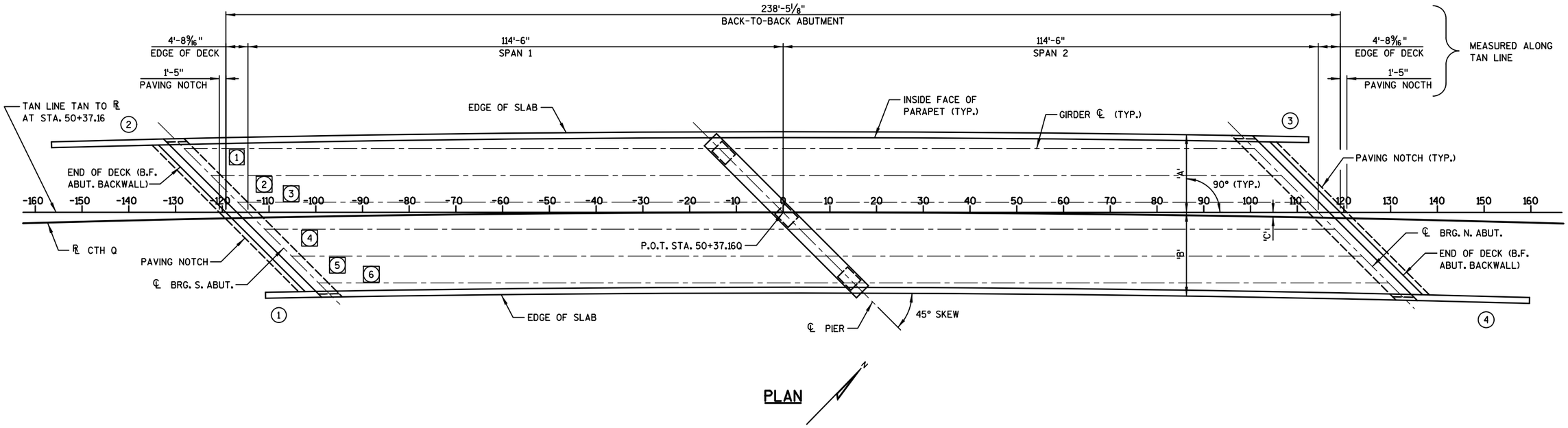
SHEET 17
179

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8

FILE NAME : S:\MAD\1000--1099\1089\397\Micros\PLAN\080117_sd.dgn

STATE PROJECT NUMBER
1066-06-72



PLAN

LEGEND

(#) INDICATES WING NUMBER

[#] INDICATES GIRDER NUMBER.

OFFSET & ELEVATION TABLE

	DISTANCE:	-130	-120	-110	-100	-90	-80	-70	-60	-50	-40	-30	-20	-10	0	10	20	30	40	50	60	70	80	90	100	110	120	130
	OFFSET 'A'	15.75	15.97	16.17	16.36	16.53	16.68	16.81	16.92	17.02	17.10	17.17	17.21	17.24	17.25	17.24	17.22	17.18	17.12	17.04	16.95	16.84	16.71	16.56	16.40			
*	ELEV. 'A'	835.80	835.91	836.01	836.11	836.19	836.25	836.31	836.36	836.39	836.42	836.43	836.43	836.42	836.40	836.37	836.32	836.27	836.20	836.12	836.03	835.93	835.82	835.70	835.56			
	OFFSET 'B'					17.98	17.83	17.69	17.58	17.48	17.40	17.34	17.29	17.26	17.25	17.26	17.28	17.32	17.38	17.46	17.55	17.66	17.79	17.94	18.10	18.29	18.49	18.70
*	ELEV. 'B'					836.18	836.25	836.31	836.36	836.39	836.42	836.43	836.43	836.42	836.40	836.37	836.32	836.27	836.20	836.12	836.03	835.93	835.82	835.69	835.56	835.41	835.25	835.08
	OFFSET 'C'			1.08	0.89	0.72	0.55	0.44	0.33	0.23	0.15	0.08	0.04	0.01	0.00	0.01	0.03	0.07	0.13	0.21	0.30	0.41	0.54	0.69	0.85	1.03	1.23	
	ELEV. 'C'			836.31	836.41	836.49	836.56	836.62	836.67	836.71	836.73	836.75	836.75	836.74	836.72	836.69	836.64	836.58	836.52	836.44	836.35	836.24	836.13	836.00	835.86	835.71	835.55	

* ELEVATION GIVEN AT EDGE OF SLAB = ELEVATION AT F.F. OF PARAPET
'A' = DISTANCE FROM TAN LINE TO WEST EDGE OF SLAB
'B' = DISTANCE FROM TAN LINE TO EAST EDGE OF SLAB
'C' = DISTANCE FROM TAN LINE TO REFERENCE LINE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-186

DRAWN BY DTH | PLANS CK'D. DJW

SUPERSTRUCTURE PLAN

SHEET 18
180

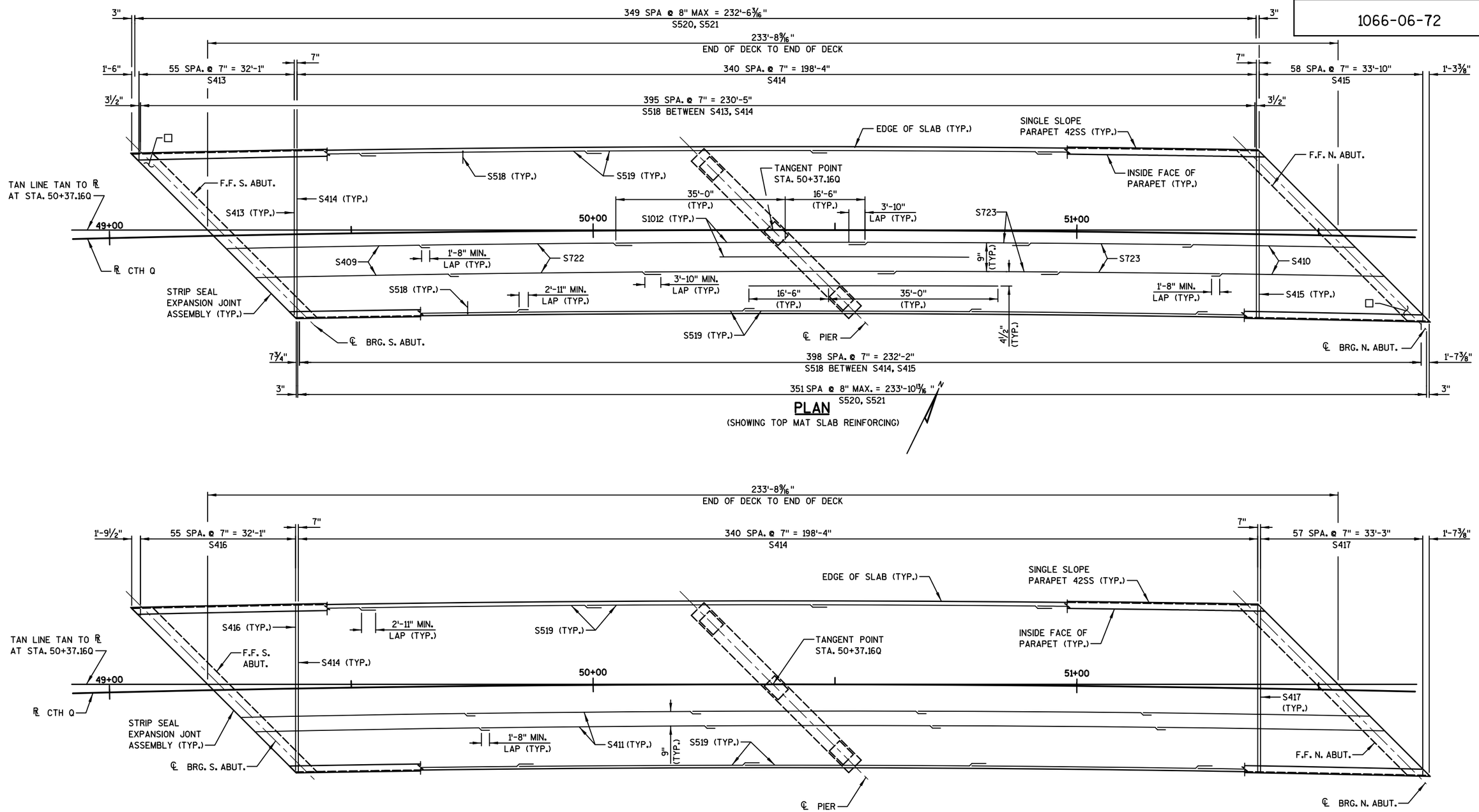
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STATE PROJECT NUMBER

1066-06-72



PLAN

(SHOWING TOP MAT SLAB REINFORCING)

PLAN

(SHOWING BOTTOM MAT SLAB REINFORCING)

LEGEND

☐ PLACE HOOKED BARS (S518) PARALLEL TO ℄ OF BRIDGE ABUTMENT UNTIL THERE IS ENOUGH CLEAR EDGE DISTANCE TO PLACE PERPENDICULAR TO GIRDER ℄.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-186

DRAWN BY DTH | PLANS CK'D. DJW

SUPERSTRUCTURE REINFORCING PLAN

SHEET 19
181

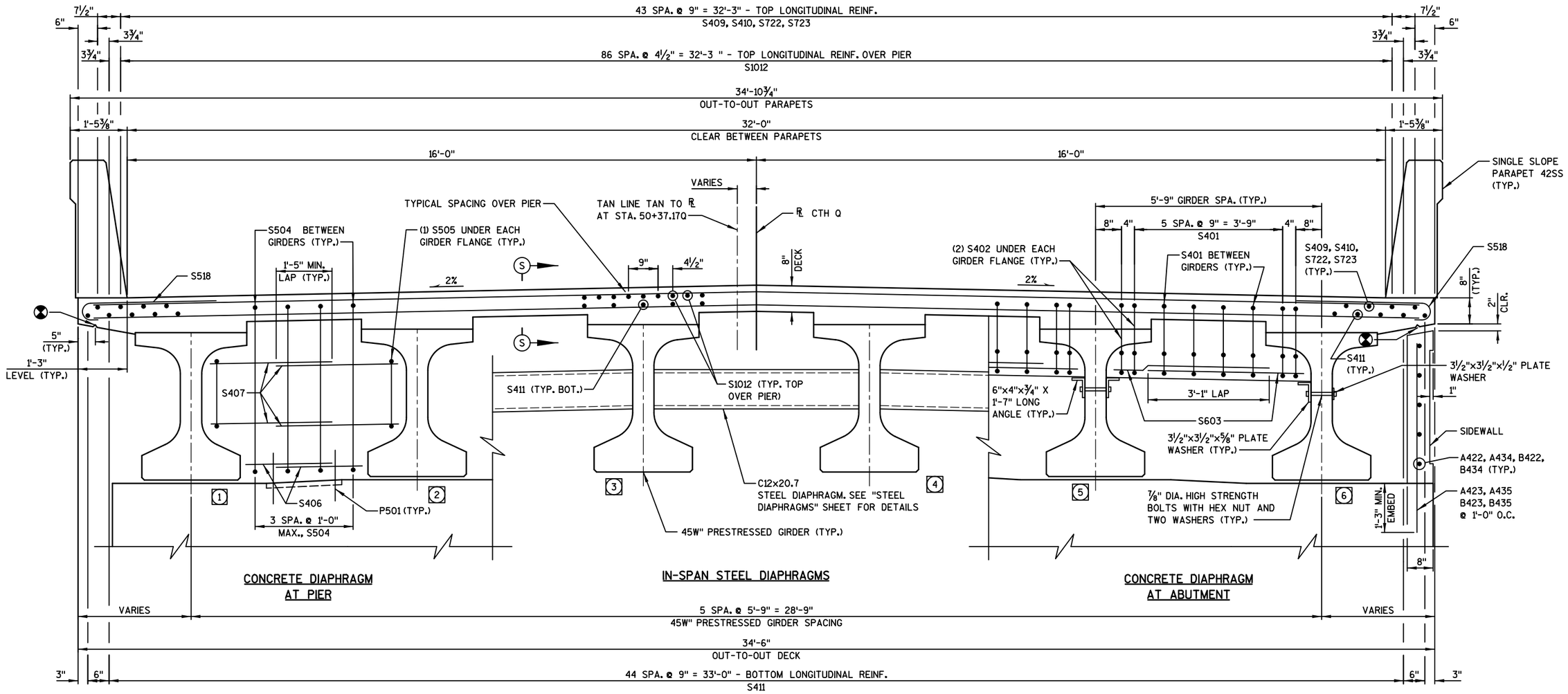
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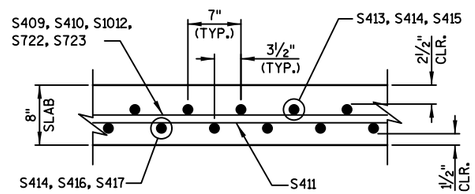
STATE PROJECT NUMBER

1066-06-72



CROSS SECTION THRU BRIDGE

(LOOKING NORTH)



SECTION S-S

NOTES

SEE "SUPERSTRUCTURE DETAILS" SHEETS FOR REINFORCING DETAILS.

LEGEND

(#) INDICATES GIRDER NUMBER.

¾" 'V'-GROOVE REQ'D. EXTEND TO 2'-0" FROM FRONT FACE OF ABUTMENT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-186

DRAWN BY DTH | PLANS CK'D. DJW

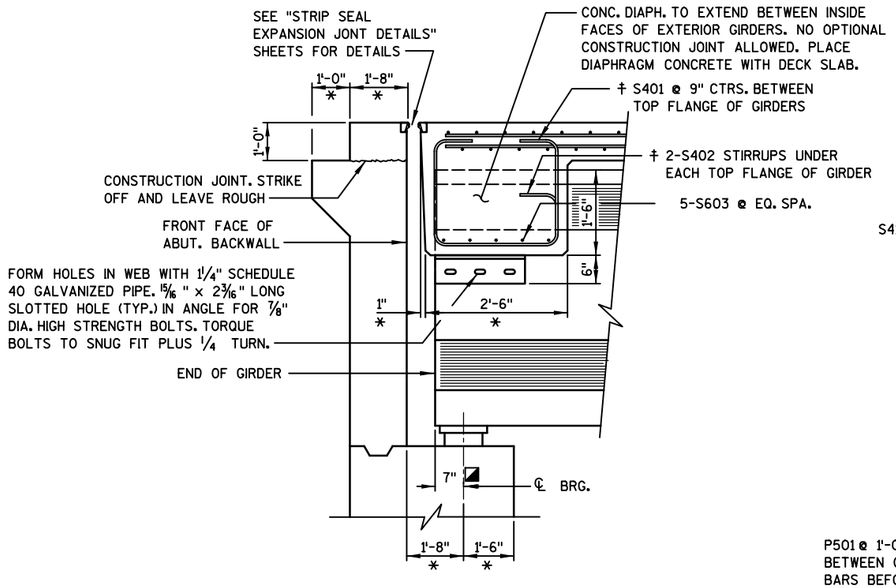
SUPERSTRUCTURE SECTION

SHEET 20
182

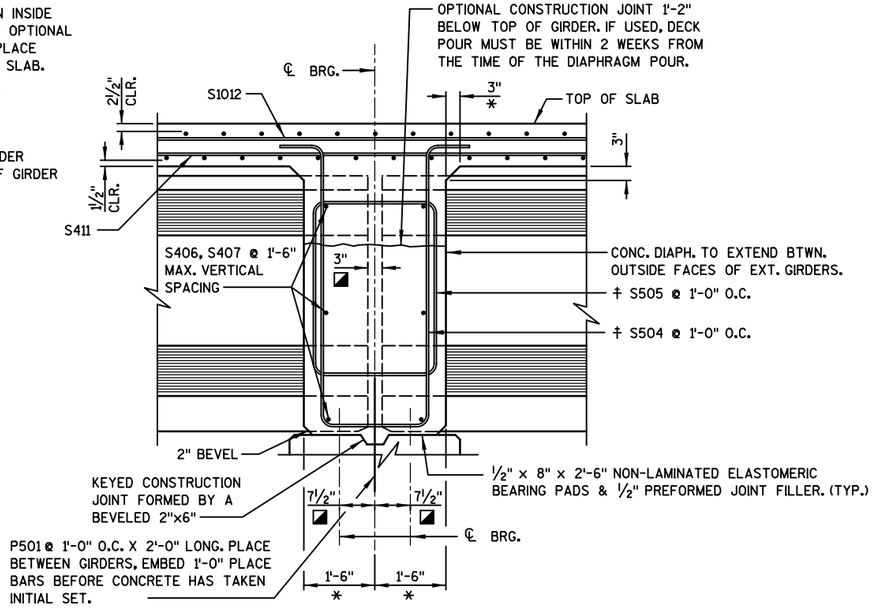
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STATE PROJECT NUMBER

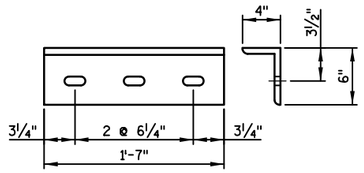
1066-06-72



PART LONGIT. SECTION



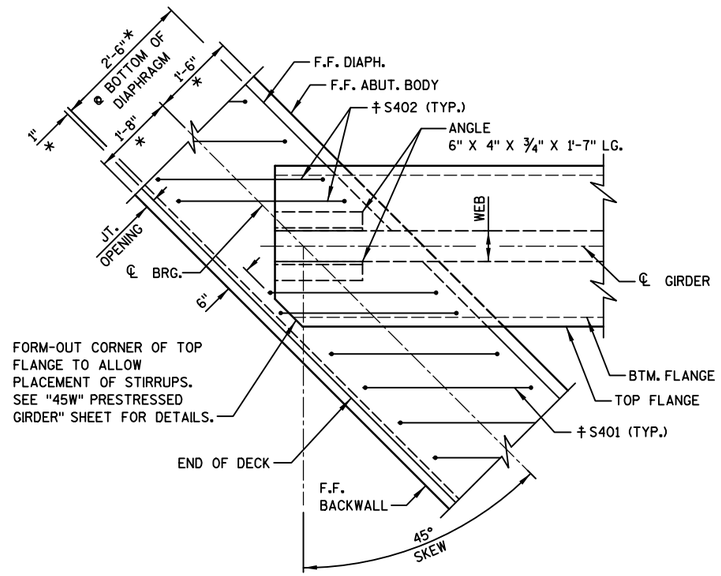
AT PIER DIAPHRAGM



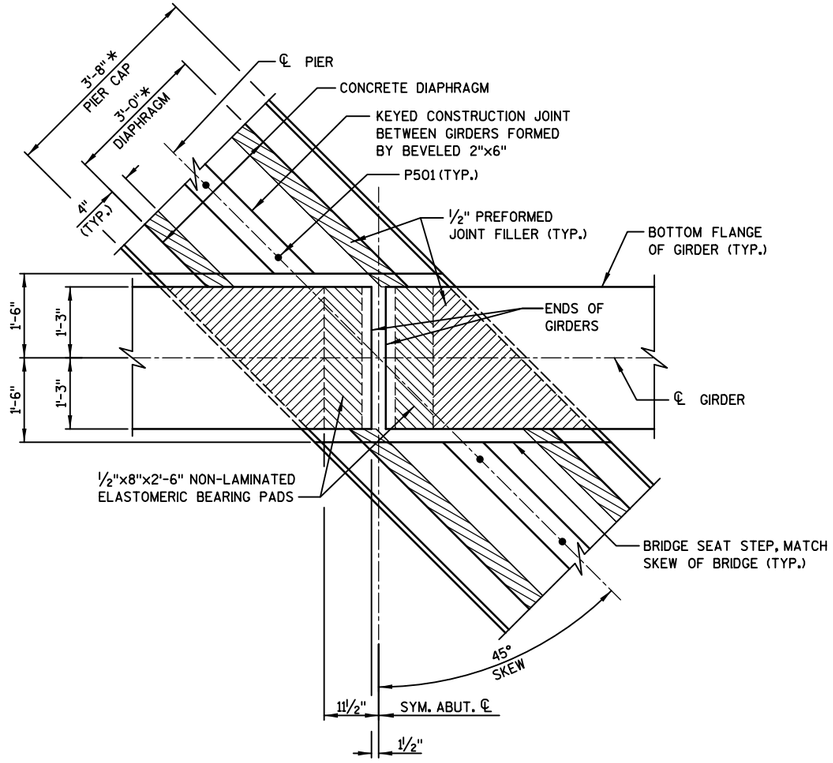
ANGLE DETAILS

6" X 4" X ¾" x 1'-7"

PROVIDE 3½" x 3½" x 5/16" PLATE WASHERS AT ALL LOCATIONS EXCEPT AT EXTERIOR FACES OF EXTERIOR GIRDERS WHERE 3½" x 3½" x ½" PLATE WASHERS SHALL BE PROVIDED.



TOP VIEW OF ABUTMENT DIAPHRAGM



TOP VIEW OF PIER DIAPHRAGM

LEGEND

◪ DIMENSION IS TAKEN PARALLEL TO ℄ GIRDER.

* DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE UNITS.

‡ BARS PLACED PARALLEL TO GIRDERS. SPACING PERPENDICULAR TO ℄ GIRDERS.

NOTES

ALL DIAPHRAGM SUPPORT HARDWARE SHALL BE INCIDENTAL TO "CONCRETE MASONRY BRIDGES".

DIAPHRAGM SUPPORT ANGLES SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUT AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL SUPPORT ANGLES SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.

STEEL DIAPHRAGM SUPPORT ANGLE TO CONCRETE WEB CONNECTION SHALL BE SNUG-TIGHT PLUS 1/4 TURN. HIGH STRENGTH BOLTS FOR WEB CONNECTION SHALL MEET THE REQUIREMENTS FOR ASTM A325 OR ASTM A449.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-186

DRAWN BY DTH | PLANS CK'D. DJW

SUPERSTRUCTURE DETAILS - 1

SHEET 21
183

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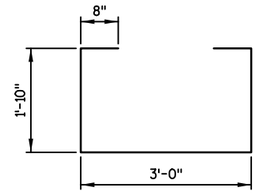
STATE PROJECT NUMBER
1066-06-72

SUPERSTRUCTURE
BILL OF BARS

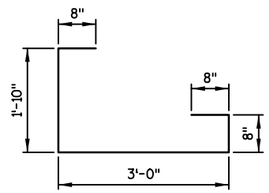
COATED: 78,160 LBS

	BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
	S401	40	7'-8"	X	X	ABUT. DIAPHRAGM - VERT.
	S402	40	6'-6"	X	X	ABUT. DIAPHRAGM - VERT.
	S603	100	5'-0"		X	ABUT. DIAPHRAGM - HORIZ.
	S504	20	13'-1"	X	X	PIER DIAPHRAGM - VERT.
	S505	10	12'-5"	X	X	PIER DIAPHRAGM - VERT.
	S406	20	2'-10"		X	PIER DIAPHRAGM - HORIZ.
	S407	40	4'-2"		X	PIER DIAPHRAGM - HORIZ.
	S408	20	8'-0"		X	STRIP SEAL EXPANSION JOINT - BTWN GIRDS. - HORIZ.
	S409	46	43'-7"		X	SLAB - LONG. - TOP - SPAN 1
	S410	46	35'-2"		X	SLAB - LONG. - TOP - SPAN 2
	S411	235	48'-4"		X	SLAB - LONG. - BOTTOM
	S1012	91	51'-6"		X	SLAB - LONG. - TOP - AT PIER
△	S413	56	17'-4"		X	SLAB - TRANS. - TOP
	S414	682	34'-2"		X	SLAB - TRANS. - TOP & BOTTOM
△	S415	59	17'-4"		X	SLAB - TRANS. - TOP
△	S416	56	17'-8"		X	SLAB - TRANS. - BOTTOM
△	S417	58	17'-4"		X	SLAB - TRANS. - BOTTOM
	S518	795	5'-7"	X	X	SLAB - TRANS. - TOP - HOOK
	S519	80	49'-4"		X	PARAPET - LONG.
	S520	702	6'-8"	X	X	PARAPET - TRANS.
	S521	702	4'-5"	X	X	PARAPET - TRANS.
	S722	46	43'-6"		X	SLAB - LONG. - TOP - SPAN 1
	S723	92	37'-4"		X	SLAB - LONG. - TOP - SPAN 2

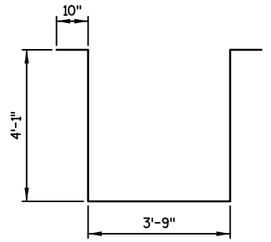
△ BAR SERIES. LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.



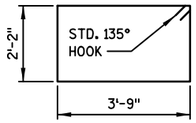
S401



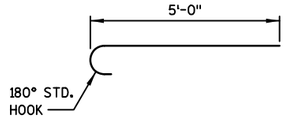
S402



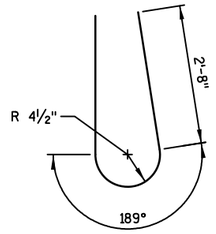
S504



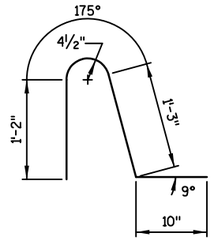
S505



S518



S520



S521

BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S413	1 SERIES OF 56	1'-0" TO 33'-9"
S415	1 SERIES OF 59	9" TO 33'-11"
S416	1 SERIES OF 56	1'-3" TO 34'-0"
S417	1 SERIES OF 58	1'-0" TO 33'-7"

TOP OF DECK ELEVATIONS

	SPAN 1										
	CL BRG. S. ABUT.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	CL PIER
W. DECK EDGE	835.79	835.92	836.03	836.13	836.22	836.29	836.34	836.38	836.41	836.43	836.42
GIRDER 1	835.83	835.96	836.08	836.18	836.27	836.34	836.40	836.44	836.46	836.47	836.47
GIRDER 2	836.01	836.14	836.25	836.34	836.42	836.49	836.53	836.57	836.58	836.59	836.57
GIRDER 3	836.19	836.31	836.41	836.50	836.57	836.63	836.67	836.69	836.70	836.70	836.68
REF. LINE	836.29	836.40	836.49	836.57	836.64	836.69	836.72	836.74	836.75	836.74	836.71
GIRDER 4	836.27	836.37	836.46	836.53	836.59	836.63	836.66	836.67	836.67	836.66	836.63
GIRDER 5	836.20	836.30	836.38	836.44	836.49	836.53	836.55	836.56	836.55	836.53	836.50
GIRDER 6	836.14	836.23	836.30	836.36	836.40	836.43	836.44	836.44	836.43	836.40	836.36
E. DECK EDGE	836.13	836.21	836.28	836.34	836.38	836.41	836.43	836.42	836.41	836.38	836.33

	SPAN 2										
	CL PIER	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	CL BRG. N. ABUT.
W. DECK EDGE	836.42	836.41	836.38	836.33	836.27	836.20	836.10	836.00	835.88	835.74	835.59
GIRDER 1	836.47	836.45	836.41	836.36	836.29	836.21	836.12	836.00	835.88	835.74	835.58
GIRDER 2	836.57	836.55	836.50	836.44	836.37	836.28	836.18	836.06	835.92	835.77	835.61
GIRDER 3	836.68	836.64	836.59	836.52	836.44	836.34	836.23	836.11	835.96	835.80	835.63
REF. LINE	836.71	836.68	836.62	836.55	836.47	836.37	836.26	836.13	835.98	835.82	835.64
GIRDER 4	836.63	836.59	836.53	836.46	836.37	836.27	836.16	836.03	835.89	835.73	835.56
GIRDER 5	836.50	836.45	836.38	836.30	836.21	836.10	835.98	835.84	835.69	835.53	835.35
GIRDER 6	836.36	836.30	836.23	836.14	836.04	835.93	835.80	835.65	835.49	835.32	835.13
E. DECK EDGE	836.33	836.27	836.19	836.10	835.99	835.87	835.73	835.58	835.41	835.22	835.02

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

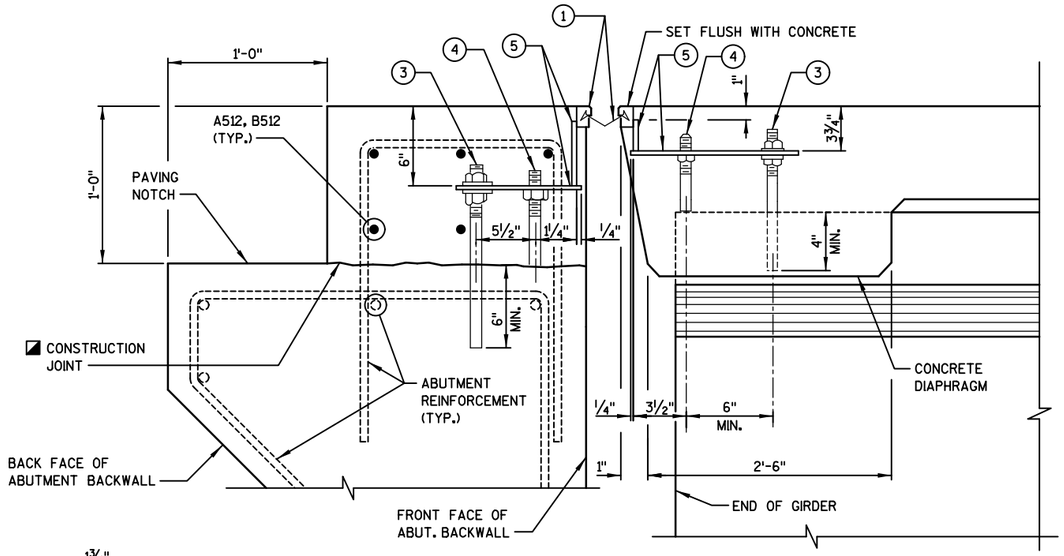
STRUCTURE B-28-186

DRAWN BY DTH | PLANS CK'D. DJW

SUPERSTRUCTURE DETAILS - 2

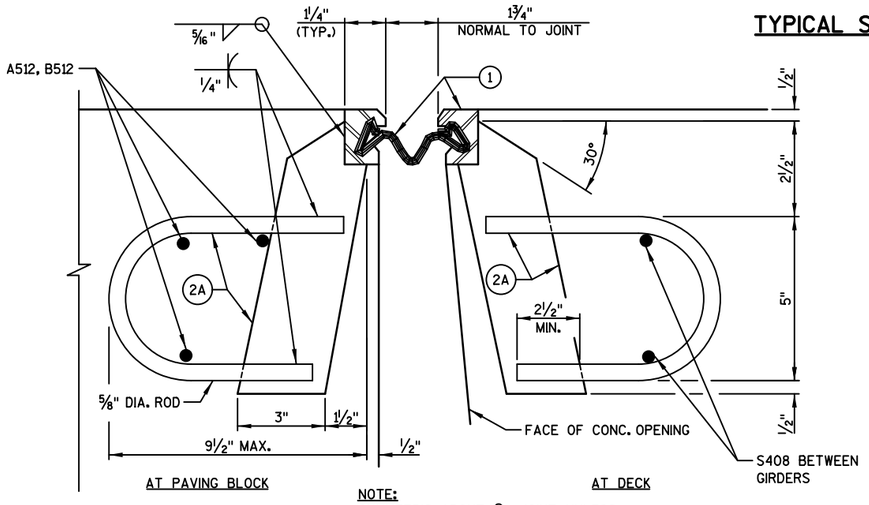
SHEET 22
184

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TYPICAL SECTION THRU JOINT AT ABUTMENT

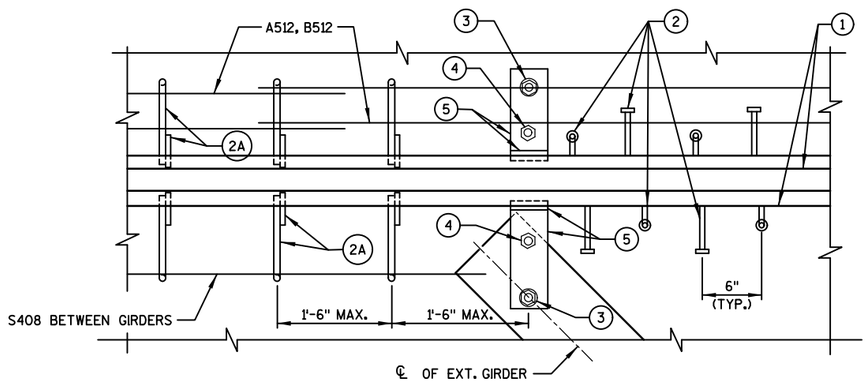
NORMAL TO ℄ SUBSTRUCTURE



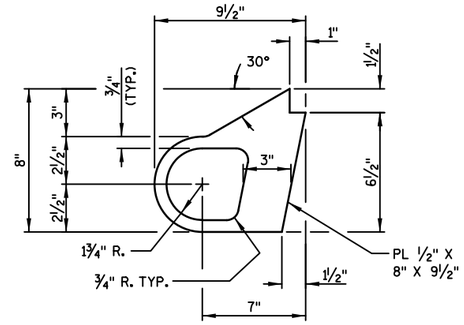
NOTE:
SYMMETRIC ABOUT ℄ JOINT UNLESS OTHERWISE SHOWN OR NOTED.

SECTION THRU JOINT

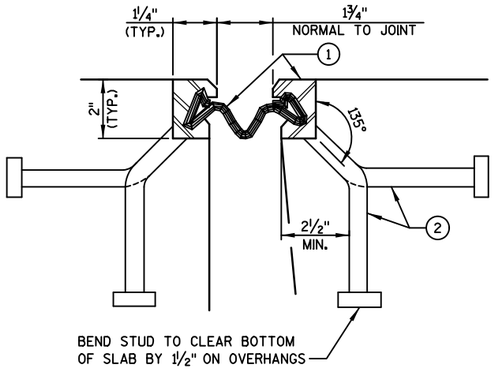
ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS



PART PLAN



ALTERNATE STRIP SEAL ANCHOR



SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK AND AT PARAPETS

STATE PROJECT NUMBER

1066-06-72

NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION, HANDLING, OR GALVANIZING REQUIREMENTS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST AND SWEEP.

FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN AND SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SANDBLAST PLATES, SUPPORTS, AND EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES, SUPPORTS AND EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

ANCHOR SYSTEM NO. 8 AND NO. 9 SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D. SEE "STRIP SEAL EXPANSION JOINT DETAILS-2" SHEET FOR NO. 8 AND NO. 9.

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-28-186".

STRIP SEAL MANUFACTURER SHALL MARK "TOP SIDE" ON THE TOP SIDE OF THE NEOPRENE GLAND PRIOR TO SHIPPING.

SEE "STRIP SEAL EXPANSION JOINT DETAILS-2" SHEET FOR ADDITIONAL DETAILS.

LEGEND

(1) NEOPRENE STRIP SEAL (4-INCH) AND STEEL EXTRUSIONS.

(2) STUDS 5/8" DIA. X 6 3/8" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.

(2A) ½" THICK ANCHOR PLATE WITH 5/8" DIA. ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.

(3) ¾" DIA. THREADED ROD WITH 2 NUTS AND PLATE WASHERS. GROUT THREADED ROD INTO FIELD DRILLED HOLES ON ℄ OF PRESTRESSED GIRDERS. ON ABUTMENT SIDE, GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

(4) ¾" DIA. THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.

(5) FABRICATE SUPPORT FROM 3" X ½" BAR AS SHOWN OR EQUIVALENT. ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY- COATING MATERIAL. PROVIDE 1½" DIA. HOLE FOR NO. 3 AND 1" DIA. HOLE FOR NO. 4.

◪ POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-186

DRAWN BY DTH | PLANS CK'D. DJW

STRIP SEAL EXPANSION JOINT DETAILS - 1

SHEET 23
185

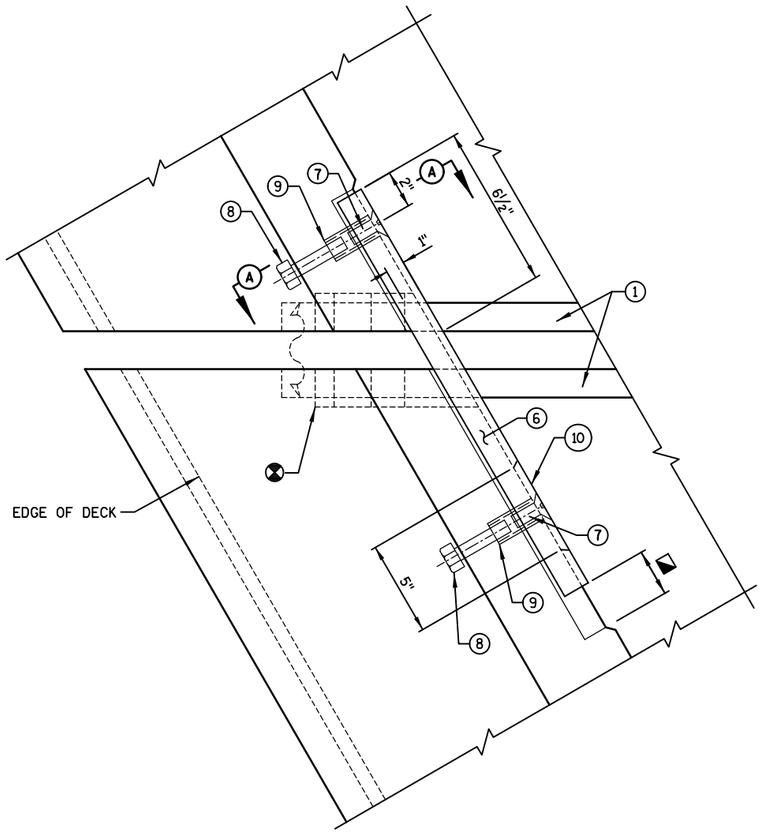
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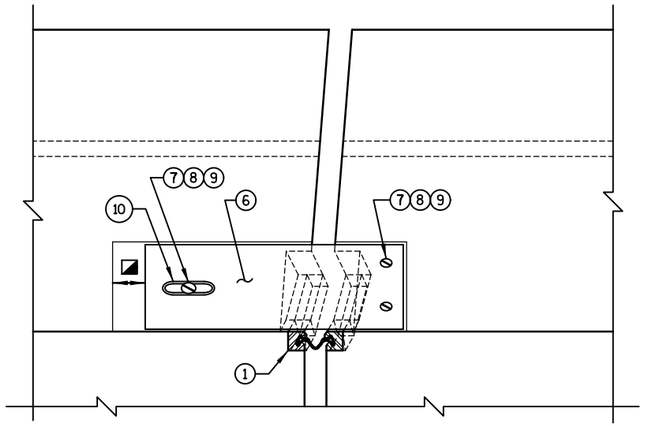
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STATE PROJECT NUMBER

1066-06-72



PLAN AT PARAPET



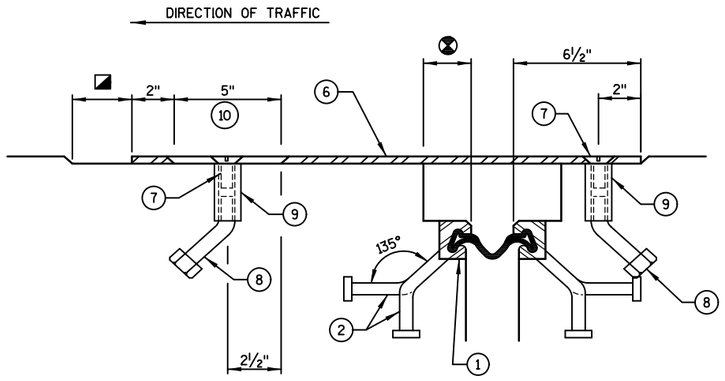
VIEW OF PARAPET PLATES FROM ROADWAY

LEGEND

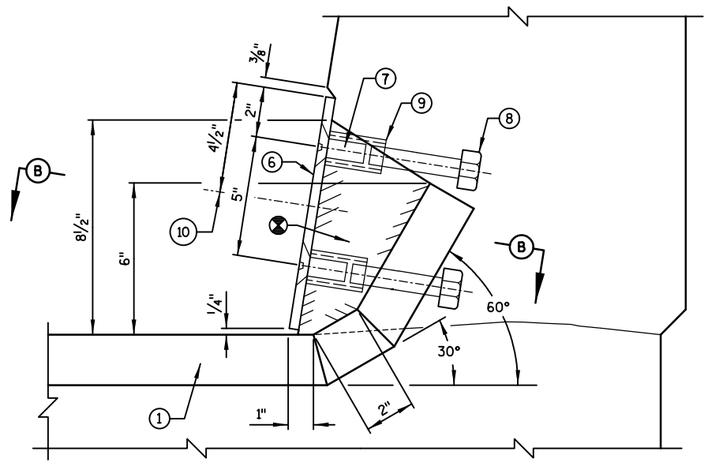
1. NEOPRENE STRIP SEAL (4-INCH) & STEEL EXTRUSIONS.
2. STUDS 5/8" DIA. X 6 3/8" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.
2A. 1/2" THICK ANCHOR PLATE WITH 5/8" DIA. ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.
3. 3/4" DIA. THREADED ROD WITH 2 NUTS AND PLATE WASHERS. GROUT THREADED ROD INTO FIELD DRILLED HOLES ON ℄ OF PRESTRESSED GIRDERS. ON ABUTMENT SIDE, GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.
4. 3/4" DIA. THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.
5. FABRICATE SUPPORT FROM 3" X 1/2" BAR AS SHOWN OR EQUIVALENT. ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1 1/2" DIA. HOLE FOR NO. 3 AND 1" DIA. HOLE FOR NO. 4.
6. GALVANIZED PLATE 3/8" X 10" X 2'-2" LONG WITH HOLES FOR NO. 7.
7. 3/4" DIA. X 1 1/2" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.
8. 3/4" DIA. X 4" GALVANIZED HEX HEAD BOLT, BEND 45°.
9. 3/4" DIA. X 2 1/4" GALVANIZED THREADED COUPLING.
10. 1" X 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

⊗ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

◪ JOINT OPENING DIMENSION ALONG SKEW PLUS 1/2".



SECTION B-B



SECTION A-A

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-186

DRAWN BY DTH | PLANS CK'D. DJW

STRIP SEAL EXPANSION JOINT DETAILS - 2

SHEET 24
186

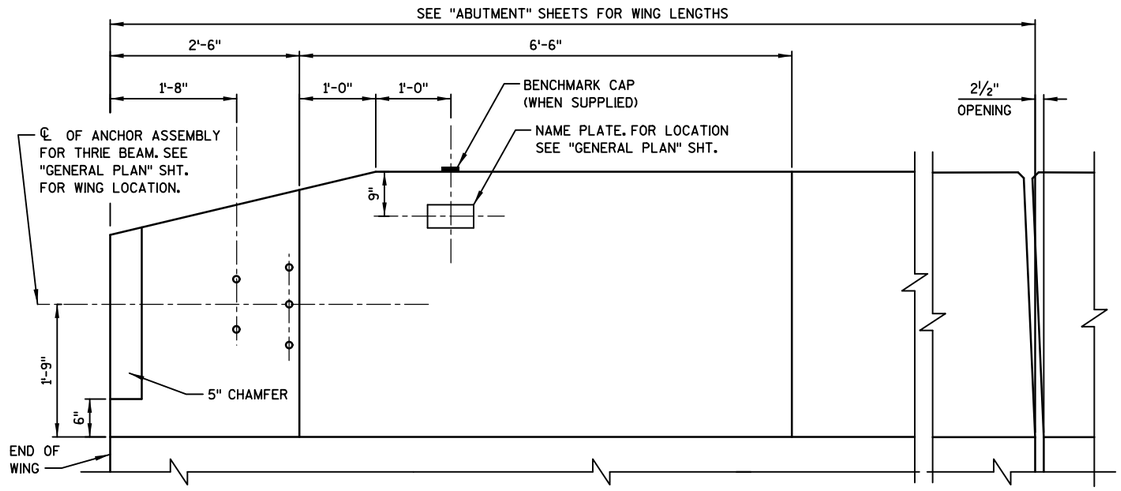
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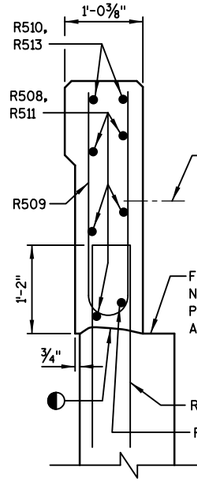
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STATE PROJECT NUMBER

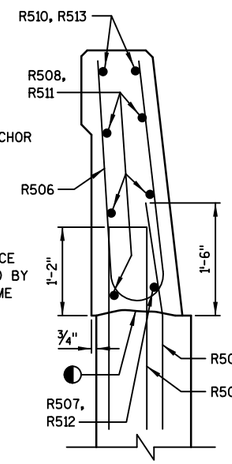
1066-06-72



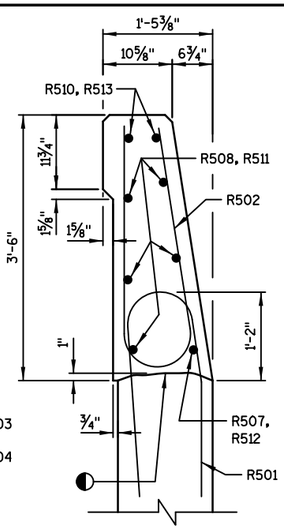
INSIDE ELEVATION



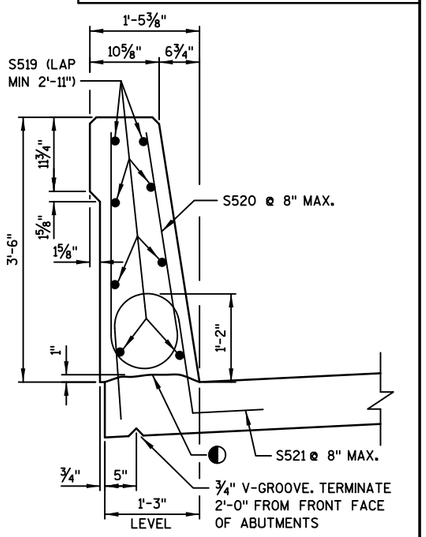
SECTION A



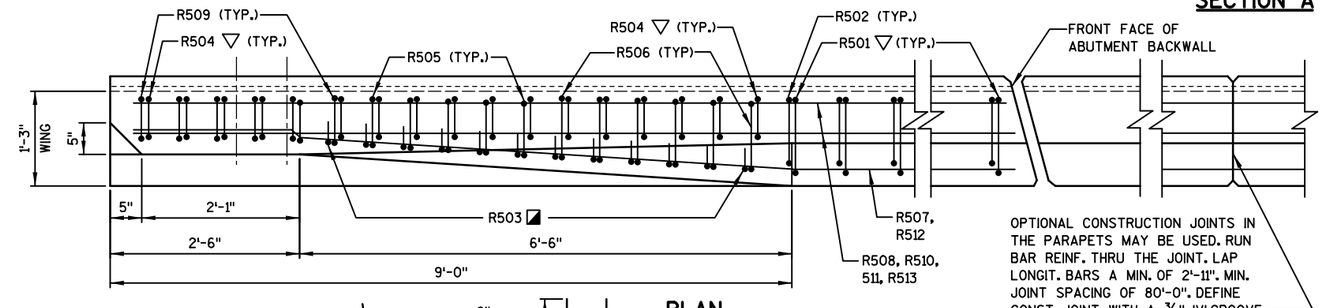
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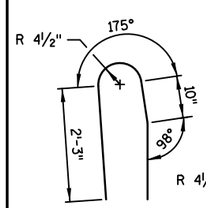
SECTION C



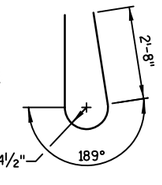
SECTION THRU PARAPET ON BRIDGE



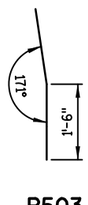
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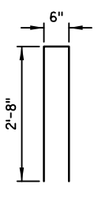
R501



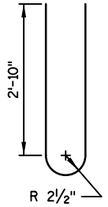
R502



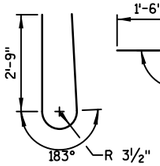
R503



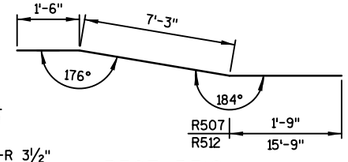
R504



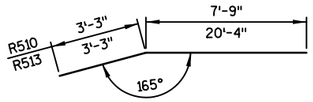
R505



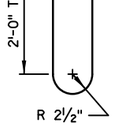
R506



R507, R512



R510, R513



R509

SINGLE SLOPE PARAPET 42SS

BILL OF BARS

COATED: 2,300 LBS

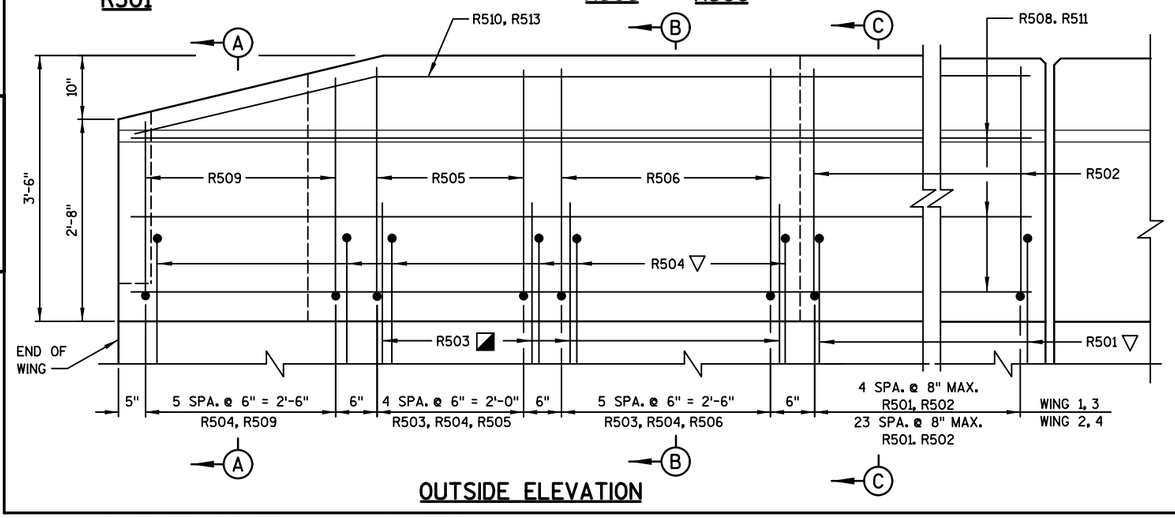
BAR MARK	NO. REQ'D S. ABUT.	NO. REQ'D N. ABUT.	LENGTH	BENT	COAT	BAR SERIES	LOCATION
R501	29	29	5'-10"	X	X		PARAPET - VERT.
R502	29	29	6'-8"	X	X		PARAPET - VERT.
R503	22	22	3'-0"	X	X		PARAPET - VERT.
R504	34	34	5'-7"	X	X		PARAPET - VERT.
R505	10	10	6'-5"	X	X		PARAPET - VERT.
R506	12	12	6'-6"	X	X		PARAPET - VERT.
R507	1	1	10'-6"	X	X		PARAPET - HORIZ. - WING 1 & 3
R508	5	5	10'-9"		X		PARAPET - HORIZ.
R509	12	12	5'-5"	X	X	⚠	PARAPET - VERT.
R510	2	2	11'-0"	X	X		PARAPET - HORIZ. - WING 1 & 3
R511	5	5	23'-7"		X		PARAPET - HORIZ.
R512	1	1	24'-6"	X	X		PARAPET - HORIZ. - WING 2 & 4
R513	2	2	23'-7"	X	X		PARAPET - HORIZ. - WING 2 & 4

⚠ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

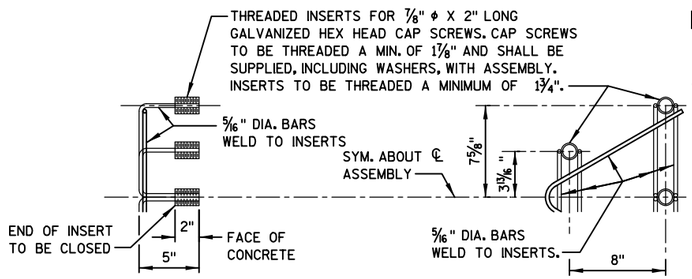
BAR SERIES TABLE

BAR MARK	NO. REQ'D	LENGTH
R509	4 SERIES OF 6	4'-9" TO 6'-1"

BUNDLE AND TAG EACH SERIES SEPARATELY.



OUTSIDE ELEVATION



DETAIL OF ANCHOR ASSEMBLY

NOTE:
HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY BID ITEM SHALL BE "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

LEGEND

◐ CONSTRUCTION JOINT - STRIKE OFF AS SHOWN.

◪ R503 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

▽ R501 AND R504 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-186

DRAWN BY DTH | PLANS CK'D. DJW

SINGLE SLOPE PARAPET 42SS

SHEET 25
187

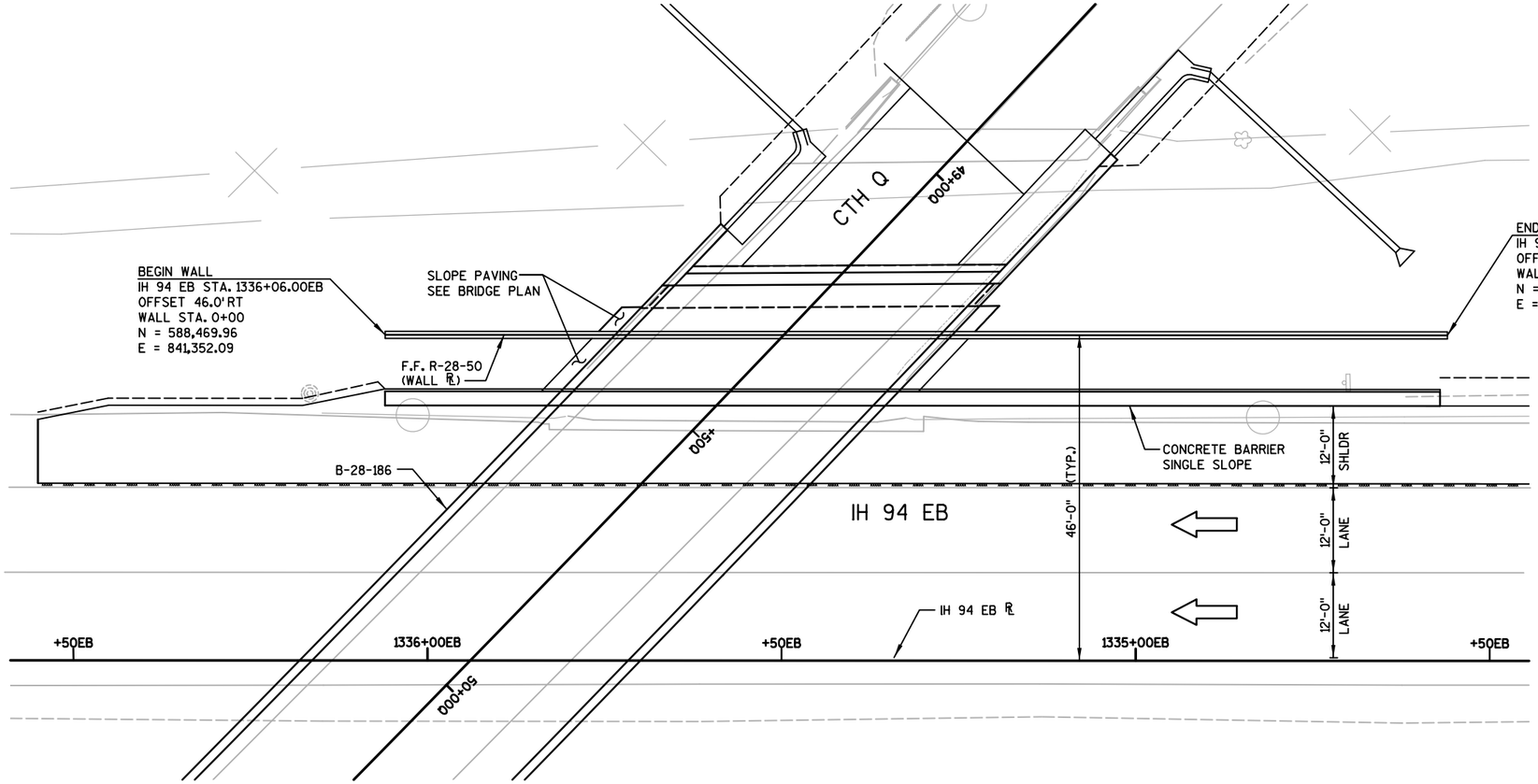
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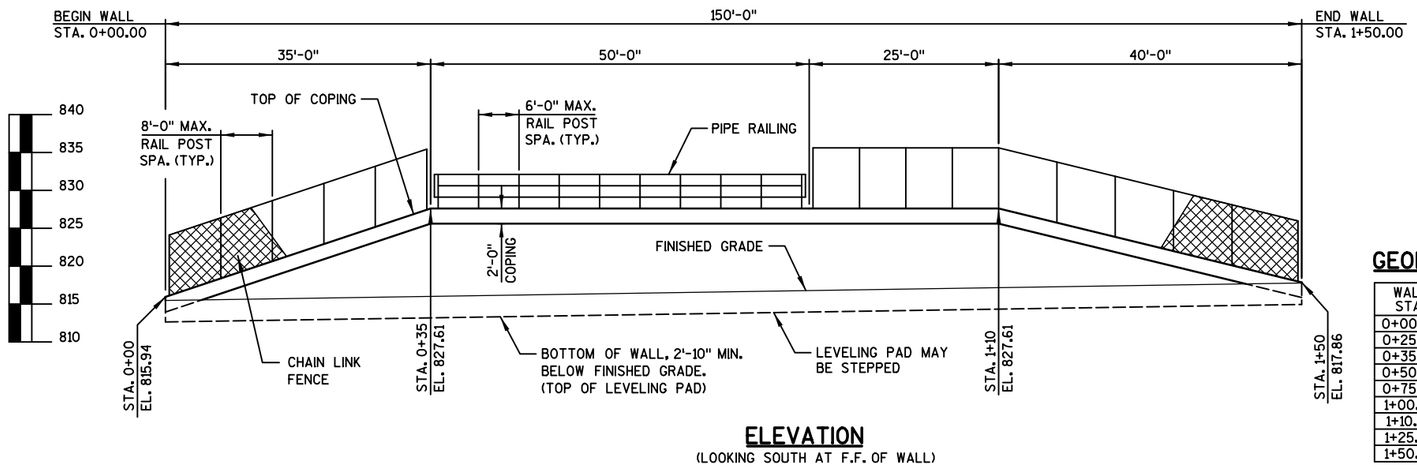
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STATE PROJECT NUMBER

1066-06-72



PLAN
(MSE PANEL WALL)



ELEVATION
(LOOKING SOUTH AT F.F. OF WALL)

GEOMETRY TABLE

WALL STA.	I-94 EB STA	R.L. OFFSET TO F.F. OF	TOP OF WALL	FINISHED GRADE	BOTTOM OF WALL	EXPOSED WALL HEIGHT
0+00.00	1336+06.00	46.00' RT	815.94	815.47	812.64	0.47
0+25.00	1335+81.00	46.00' RT	824.03	815.91	813.08	8.12
0+35.00	1335+71.00	46.00' RT	827.27	816.06	813.23	11.21
0+50.00	1335+56.00	46.00' RT	827.27	816.29	813.46	10.98
0+75.00	1335+31.00	46.00' RT	827.27	816.68	813.85	10.59
1+00.00	1335+06.00	46.00' RT	827.27	817.07	814.24	10.20
1+10.00	1334+96.00	46.00' RT	827.27	817.23	814.40	10.04
1+25.00	1334+81.00	46.00' RT	823.74	817.46	814.63	6.28
1+50.00	1334+56.00	46.00' RT	817.86	817.79	814.96	0.07

LIST OF DRAWINGS

1. GENERAL PLAN & ELEVATION
2. CROSS SECTION, QUANTITIES, AND NOTES
3. SOIL DATA AND WALL DETAILS
4. FENCE DETAILS
5. PIPE RAILING DETAILS
6. SUBSURFACE EXPLORATION

LEGEND

℄ = REFERENCE LINE

F.F. = FRONT FACE

B.F. = BACK FACE

WISCONSIN
BRETT M. OFTEDAHL
E-41123
MADISON
WI
PROFESSIONAL ENGINEER
3/1/2018

STRUCTURE DESIGN CONTACTS

BRIDGE OFFICE CONTACT:
WILLIAM DREHER (608) 266-8489

DESIGN CONSULTANT CONTACT:
BRETT OFTEDAHL (608) 251-4843

NO.	DATE	REVISION	BY

STRAND ASSOCIATES®
910 WEST WINGRA DRIVE
MADISON, WISCONSIN 53715
(608)-251-4843
(608) 251-8655 FAX
WWW.STRAND.COM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher SDR 07/30/19
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE R-28-50

ALONG EB IH 94 UNDER CTH Q

COUNTY	TOWN/~~CITY/VILLAGE~~
JEFFERSON	AZTALAN

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
BMO	DJW	DTH	DJW

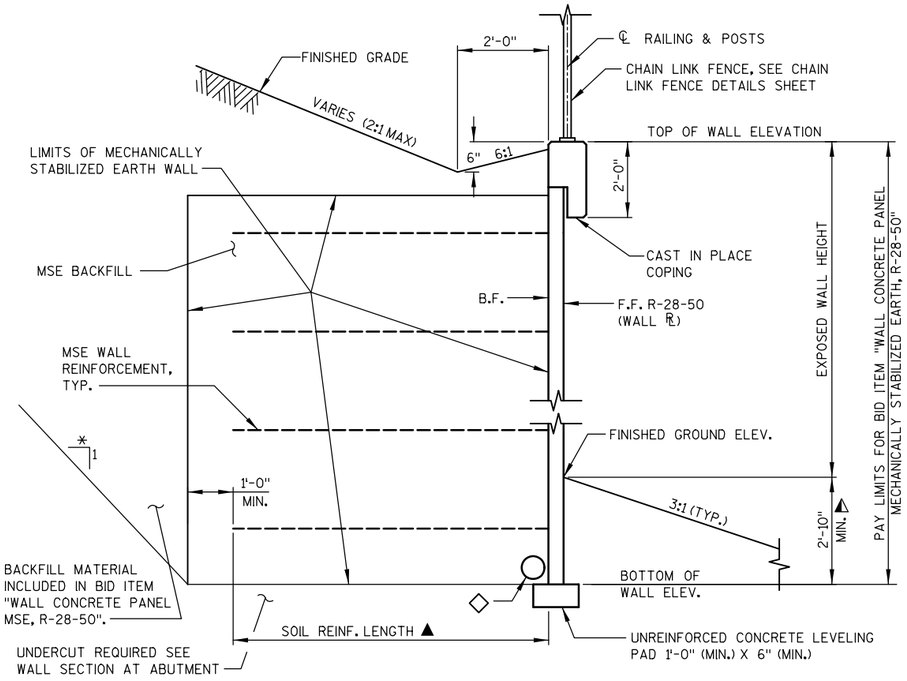
GENERAL PLAN & ELEVATION

SHEET 1 OF 6
188

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TYPICAL SECTION THRU MSE RETAINING WALL OUTSIDE ABUTMENT

(WALL STA. 0+00 TO 0+35 AND 0+85 TO 1+49)

LEGEND

▲ MINIMUM LENGTH OF MSE WALL REINFORCING STRIPS MUST BE 70% THE TOTAL WALL HEIGHT (EXPOSED HEIGHT PLUS EMBEDMENT DEPTH) OR 8.0 FEET, WHICHEVER IS GREATER. SOIL REINFORCING MUST EXTEND A MINIMUM OF 3.0 FEET BEYOND THE FAILURE PLANE FOR INTERNAL STABILITY AS DEFINED BY AASHTO SPECIFICATIONS.

◭ MINIMUM EMBEDMENT BASED ON SITE SPECIFIC PARAMETERS. FIELD EMBEDMENTS SHALL MEET OR EXCEED THE MINIMUM EMBEDMENT. FIELD EMBEDMENTS BELOW MINIMUM EMBEDMENT SHALL NOT BE INCLUDED IN THE PAY LIMITS.

◇ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. PROVIDE RODENT SHEILD AT ENDS OF PIPE UNDERDRAIN.

* EXCAVATION SLOPE DETERMINED BY CONTRACTOR.

† SEAL ALL HORIZONTAL AND VERTICAL SURFACES OF FILLER AND EXPANDED POLYSTYRENE WITH NON-STAINING, GRAY NON-BITUMINOUS JOINT SEALER (1 INCH DEEP AND HOLD 1/8 INCH BELOW SURFACE OF CONCRETE).

◪ APPROXIMATELY 2'-6" OF UNDERCUT IS ANTICIPATED TO REMOVE THE EXISTING LAYERS OF SOFT SOIL UNDER THE WALL. THE ACTUAL DEPTH OF UNDERCUT MAY VARY AND SHALL BE DETERMINED BY THE SOUTHWEST REGION SOILS ENGINEER.

◐ WALL SUBGRADE SHALL BE APPROVED BY THE SOUTHWEST REGION SOILS ENGINEER PRIOR TO CONSTRUCTION OF THE WALL.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

THE PLAN QUANTITY FOR THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH, R-28-50" IS BASED ON A WALL HEIGHT MEASURED FROM THE TOP OF WALL TO A CONSTANT DEPTH OF 2'-10" BELOW FINISHED GRADE.

ALL BAR STEEL REINFORCEMENT IN CAST-IN-PLACE COPING SHALL BE EPOXY COATED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

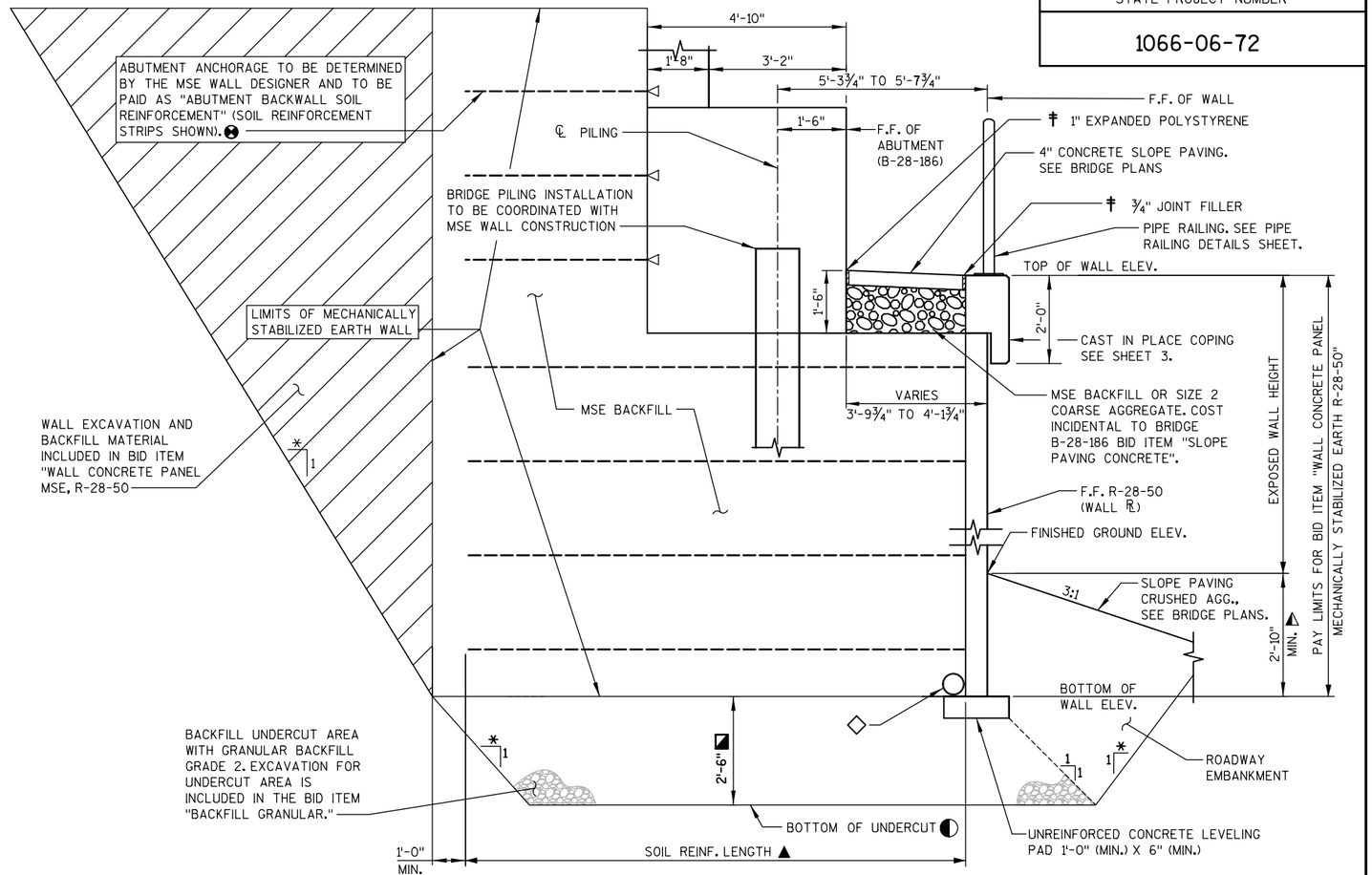
BEVEL EXPOSED EDGES OF CONCRETE 3/4-INCH, UNLESS NOTED OTHERWISE.

ALL DIMENSIONS, STATIONS, AND OFFSETS ARE GIVEN AT THE FRONT FACE OF THE WALL, UNLESS OTHERWISE SHOWN.

ABUTMENTS SHALL BE BACKFILLED TO A MINIMUM OF THE BEAM SEAT ELEVATION PRIOR TO PLACING GIRDERS.

CONTRACTOR SHALL SUPPLY AND INSTALL A NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

A GEOTECHNICAL REPORT HAS BEEN PREPARED FOR THIS STRUCTURE AND IS AVAILABLE UPON REQUEST FROM WISDOT'S SW REGION OFFICE.



TYPICAL WALL SECTION AT ABUTMENT

(WALL STATION 0+35 TO 0+85)

DESIGN DATA

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALLS IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH, R-28-50".

PLANS, ELEVATIONS AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE RETAINING WALL IS TO BE DESIGNED USING THE ELEVATIONS GIVEN IN THIS PLAN.

DESIGN FOR RETAINING WALL TO PROVIDE FOR FINISHED GRADE SLOPED BEHIND WALL AS SHOWN.

DESIGN RETAINING WALL FOR A LIVE LOAD SURCHARGE OF 240 PSF AT BRIDGE ABUTMENT AND 100 PSF ELSEWHERE.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30 DEGREES WITHOUT CERTIFIED TEST RESULTS.

⊗ UNFACTORED SUPERSTRUCTURE LATERAL LOADS TRANSFERRED TO THE ABUTMENT ARE TAKEN TO BE KIPS PER FOOT OF ABUTMENT LENGTH. THE VALUES ARE TO BE USED FOR THE LRFD DESIGN OF THE ABUTMENT ANCHORAGE BY THE MSE WALL MANUFACTURER. THE FOLLOWING AASHTO LINE LOADS SHALL BE INCLUDED IN THE WALL DESIGN:

BR = 0.8 KLF WS = 0.4 KLF
TU = 2.4 KLF WL = 0.3 KLF

THE ABUTMENT ANCHORAGE AND CONNECTION TO THE ABUTMENT ARE INCLUDED WITH THE BID ITEM "ABUTMENT BACKWALL SOIL REINFORCEMENT" AS SHOWN ON B-28-186 BRIDGE PLANS.

TOTAL ESTIMATED QUANTITIES

BID ITEM	BID ITEMS	UNIT	QUANTITY
209.2100	BACKFILL GRANULAR GRADE 2	CY	237
513.2001	RAILING PIPE	LF	50
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	160
616.0206	FENCE CHAIN LINK 6-FT	LF	113
SPV.0165.01	WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH, R-28-50	SF	1740
	NON-BID ITEMS		
	PREFORMED FILLER	SIZE	3/4"
	EXPANDED POLYSTYRENE	SIZE	1"

ULTIMATE DESIGN STRESSES

CONCRETE COPING _____ f'c = 3,500 PSI

HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 _____ Fy = 60,000 PSI

PRECAST CONCRETE WALL PANELS __ f'c = 4,000 PSI

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-28-50

DRAWN BY DTH PLANS CK'D. DJW

CROSS SECTION, QUANTITIES, AND NOTES

SHEET 2
189

STATE PROJECT NUMBER
1066-06-72

8

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FILE NAME : S:\MAD\1000--1099\1089\397\Micros\PLAN\080202_wd.dgn

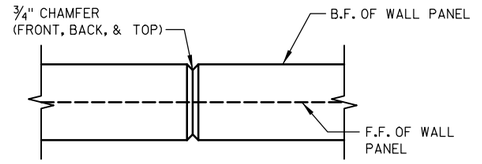
STATE PROJECT NUMBER

1066-06-72

SOIL PARAMETERS

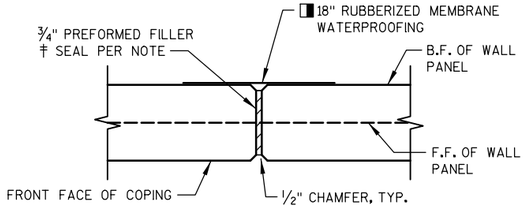
STRATUM LOCATIONS & SOIL DESCRIPTIONS	TOTAL UNIT WEIGHT (PCF)	FRICTION ANGLE (DEGREES)	COHESION (PSF)
GRANULAR BACKFILL (REINFORCING ZONE OR BACKFILL)	120	30	0
GRANULAR RETAINED SOIL *	135	30	0
BORING 3			
LEAN CLAY (CL) ELEV 825.8 TO 812.2	125	0	1,000
SILTY SAND WITH GRAVEL (SM) ELEV 812.2 TO 807.2	130	44	0
SANDY LEAN CLAY (CL) ELEV 807.2 TO 802.2	130	0	2,000
POORLY - GRADED SAND (SP) ELEV 802.2 TO 872.2	129	33	0
SILTY SAND WITH GRAVEL (SM) ELEV 772.2 TO 762.2	129	33	0
SILTY SAND WITH GRAVEL, COBBLES, AND BOULDERS (SM) ELEV 762.2 TO 752.2	140	45	0

*DESIGN WALL FOR THESE VALUES



COPING CONTRACTION JOINT

DO NOT RUN BAR STEEL THRU JOINT.
MAX. SPACING OF JOINT = 12'

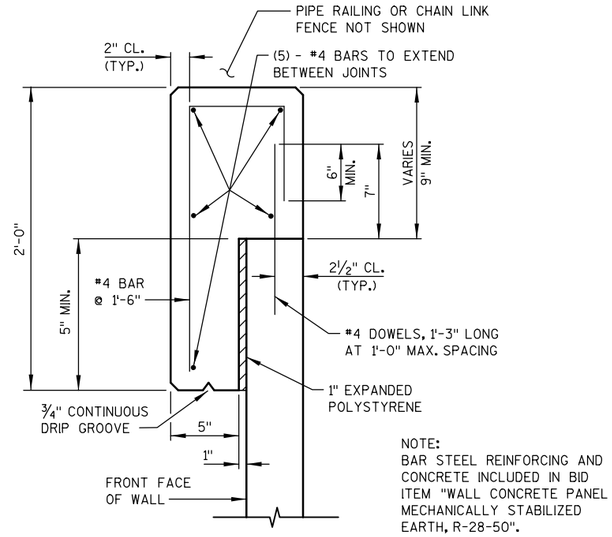


COPING EXPANSION JOINT

DO NOT RUN BAR STEEL THRU JOINT.
MAX. SPACING OF JOINT = 50'

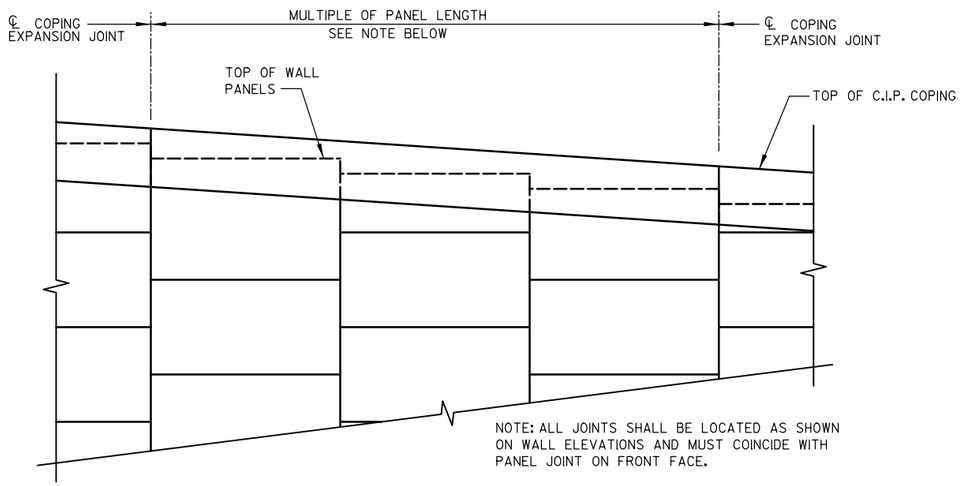
◨ MEMBRANE WATERPROOFING TO EXTEND FROM TOP OF COPING TO 6" BELOW TOP OF PANELS. MEMBRANE WATERPROOFING INCLUDED IN BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH, R-28-50".

‡ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.)



NOTE:
BAR STEEL REINFORCING AND CONCRETE INCLUDED IN BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH, R-28-50".

CAST-IN-PLACE CONCRETE COPING DETAIL



C.I.P. COPING PARTIAL ELEVATION

WALL EXTERNAL & OVERALL STABILITY EVALUATION

DIMENSIONS	EVALUATED LOCATIONS		
WALL HEIGHT (FEET)[1]	13.26	12.76	
EXPOSED WALL HEIGHT (FEET)	10.43	9.93	
◩ MINIMUM LENGTH OF REINFORCEMENT (FEET)	17	11	
WALL STATION	0+32	0+75	
BORING	3	3	
CAPACITY TO DEMAND RATIO (CDR)[2,3]			
SLIDING (CDR>1.0)	1.0	1.0	
ECCENTRICITY (CDR>1.0)	1.7	1.6	
OVERALL STABILITY (CDR>1.0)	1.1	N/A[4]	
BEARING RESISTANCE (CDR>1.0)	1.1	1.2	
FACTORED BEARING RESISTANCE (PSF)	5,400	5,200	

NOTES:
1. THE WALL HEIGHT INCLUDES AN EMBEDMENT OF 2'-10".
2. THE WALL STABILITY EVALUATION INCLUDED A SURCHARGE LOAD OF 240 PSF AT WALL STA. 0+32 AND 100 PSF AT WALL STA. 0+75.
3. CDR VALUES ARE PRESENTED IN CHAPTER 14 OF THE WISDOT BRIDGE MANUAL.
4. GLOBAL SLOPE STABILITY WAS ONLY EVALUATED AT THE CRITICAL WALL LOCATION.
5. THE WALL EXTERNAL STABILITY ANALYSIS ASSUMED AN UNDERCUT OF 2.5 FT.

◩ THE LENGTHS PROVIDED IN THE TABLE ARE THE MINIMUM REQUIRED REINFORCEMENT LENGTHS BASED UPON THE MINIMUM DESCRIBED IN THE WALL SYSTEM SPECIAL PROVISIONS FOR EXTERNAL AND OVERALL STABILITY AT THE DESIGNATED LOCATIONS. THESE DESIGNATED LOCATIONS REPRESENT TYPICAL AND CRITICAL WALL LOCATIONS, BUT SHALL NOT BE CONSIDERED ALL INCLUSIVE. THE CONTRACTOR DESIGN LENGTHS SHALL MEET OR EXCEED THE MINIMUM VALUES REPRESENTED IN THE TABLE AT THESE DESIGNATED LOCATIONS. FINAL DESIGN FOR INTERNAL STABILITY AND EXTERNAL SLIDING AND ECCENTRICITY AT OTHER WALL STATIONS IS THE RESPONSIBILITY OF THE CONTRACTOR'S WALL DESIGNER.

NOTES:
1. THE SETTLEMENT OF THE FOUNDATION WAS ESTIMATED TO BE 1.4 INCHES OR LESS, ASSUMING AN UNDERCUT OF 2.5 FT.

2. THE SOUTHWEST REGION SOILS ENGINEER SHALL REVIEW THE SUBSURFACE CONDITIONS PRIOR TO CONSTRUCTION OF THE WALLS TO DETERMINE IF THE SOILS HAVE THE MINIMUM BEARING RESISTANCE SHOWN IN THE TABLE ABOVE.

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-28-50

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SOIL DATA AND WALL DETAILS

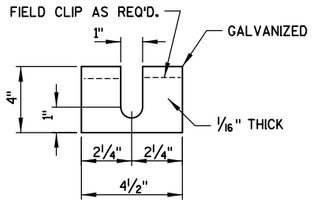
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STATE PROJECT NUMBER
1066-06-72

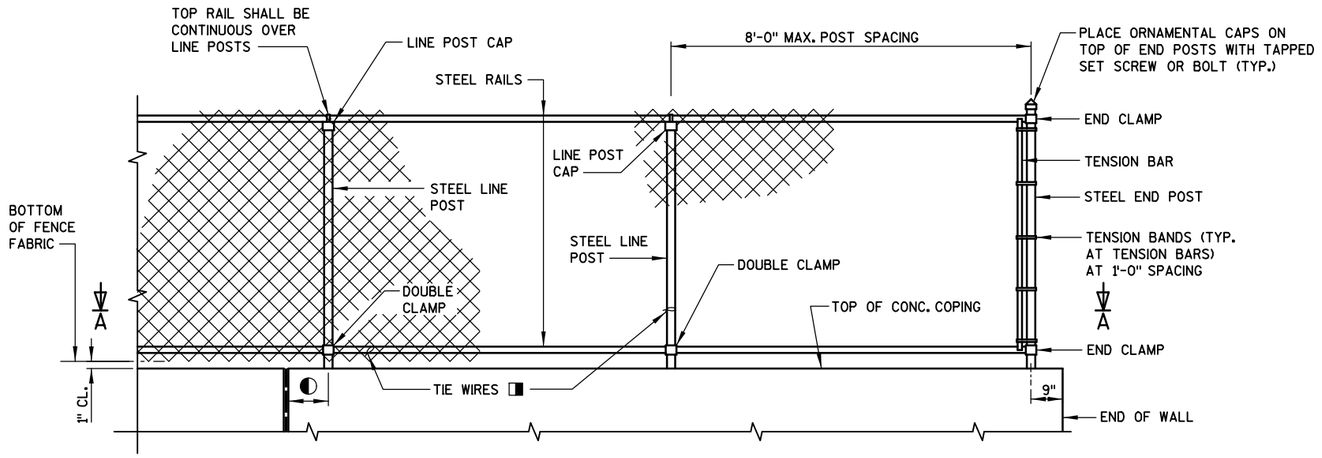
FENCE MEMBER SIZE & WEIGHT

STEEL FENCE MEMBER	OUTSIDE DIAMETER (INCHES)	WEIGHT (LB/FT)
RAILS	1.660	2.27
END POST	2.875	5.80
OVERHANG POST	2.875	5.80
LINE POST	2.375	3.65
POST SLEEVE	4.000	9.12



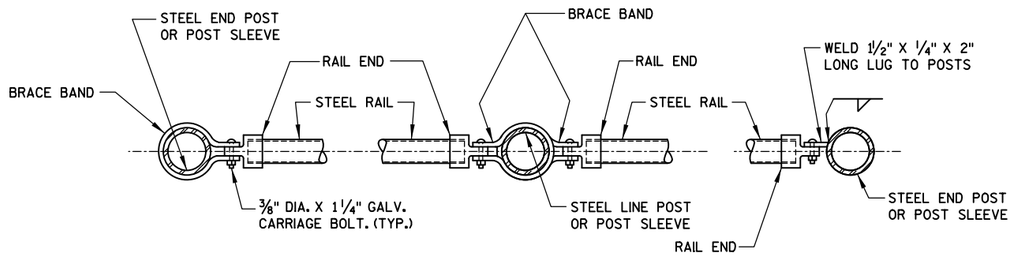
POST SHIM DETAILS

SHIMS REQUIRED ONLY WHEN END POSTS AND LINE POSTS ARE WELDED TO BASE PLATES. PROVIDE 4 SHIMS PER POST. USE WHERE REQUIRED FOR ALIGNMENT.



FENCE PART ELEVATION

VIEWING FABRIC SIDE



END CLAMP ✳ DOUBLE CLAMP WELDED CONNECTION

GENERAL NOTES

THE BID ITEM SHALL BE "FENCE CHAIN LINK 6-FT". BID ITEM INCLUDES ALL ITEMS SHOWN.

POSTS ARE TO BE SET VERTICAL.

ALL FENCE COMPONENTS SHALL BE GALVANIZED STEEL.

FABRIC SHALL CONFORM TO ASTM F668, CLASS 2B. STEEL RAILS, POSTS AND POST SLEEVES SHALL CONFORM TO ASTM F1083, STANDARD WEIGHT PIPE (SCHEDULE 40). FITTINGS SHALL CONFORM TO ASTM F626. SEE THE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.

COMPLETE ANY REQUIRED WELDING OF COMPONENTS BEFORE GALVANIZING.

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

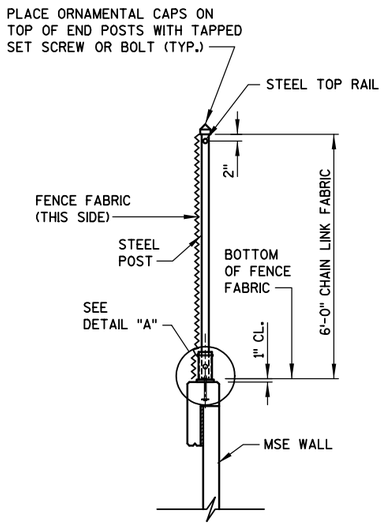
BASE PLATES, ANCHOR PLATES AND SHIMS SHALL BE ASTM A709, GRADE 36.

ALL POST SPACINGS ARE MEASURED HORIZONTALLY ALONG THE C/L OF THE POST.

MINIMUM LENGTH OF TOP RAIL BETWEEN SPLICES SHALL BE 20'-0". LOCATE SPLICES NEAR 1/4 POINT OF POST SPACING.

LEGEND

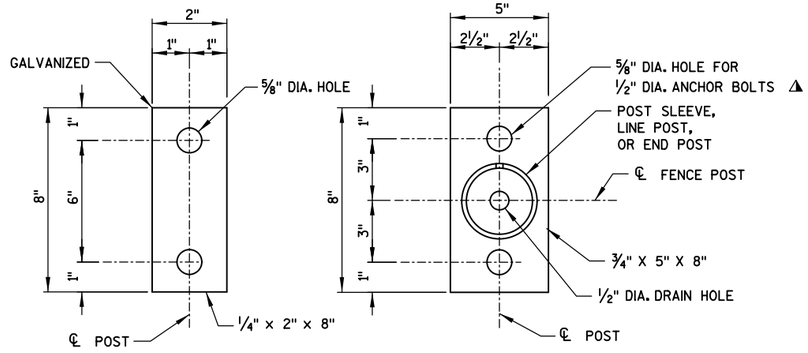
- ◪ CAULK AROUND PERIMETER OF BASE PLATE AND FILL PORTION OF SLOTTED HOLE AROUND ANCHOR BOLT IN SHIM WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.
- ✳ ALTERNATE TO DOUBLE CLAMP: USE LINE RAIL CLAMP (BOULEVARD) OR 180° BRACE BAND, WHICH MAY BE USED WHEN THE POSTS ARE EITHER BOLTED TO THE POST SLEEVES OR DIRECTLY WELDED TO THE BASE PLATE.
- ◭ 1/2" DIA. X 6 7/8" LONG GALVANIZED HEX BOLT WITH NUT & WASHER. ☆
- ☆ ALTERNATIVE ANCHORAGE: CONCRETE ADHESIVE ANCHORS 1/2-INCH. EMBED 7" IN CONCRETE. ADHESIVE ANCHORS SHALL CONFORM TO SECTION 502.2.12 OF THE STANDARD SPECIFICATIONS.
- ◨ ATTACH FABRIC TO RAILS, AND TO POSTS WITHOUT TENSION BANDS, WITH TIE WIRES (ROUND, 9-GAGE) SPACED AT 1'-0".
- ◐ 1'-0" MIN. DISTANCE BETWEEN CENTERLINE OF COPING JOINTS AND CENTERLINE OF FENCE POSTS.



SECTION THRU FENCE

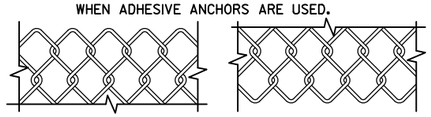
SECTION A-A

NOTE: PLACE ALL BOLT HEADS SOUTH ON SIDE OF FENCE.



ANCHOR PLATE BASE PLATE

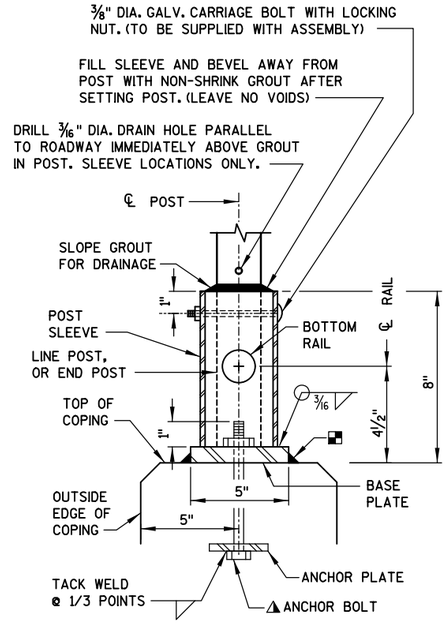
☆ NOTE: ANCHOR PLATE NOT REQUIRED WHEN ADHESIVE ANCHORS ARE USED.



TOP DETAIL BOTTOM DETAIL

FENCE FABRIC

FENCE FABRIC WOVEN OF 9-GAGE WIRE IN 2" DIAMOND PATTERN MESH WITH BOTH THE TOP AND BOTTOM SELVAGES KNUCKLED.



DETAIL 'A'

UNIT SHALL BE GALVANIZED AFTER FABRICATION
NOTE: IN LIEU OF USING THE POST SLEEVE, THE FENCE POST MAY BE WELDED TO THE BASE PLATE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-28-50

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FENCE DETAILS

SHEET 4
191

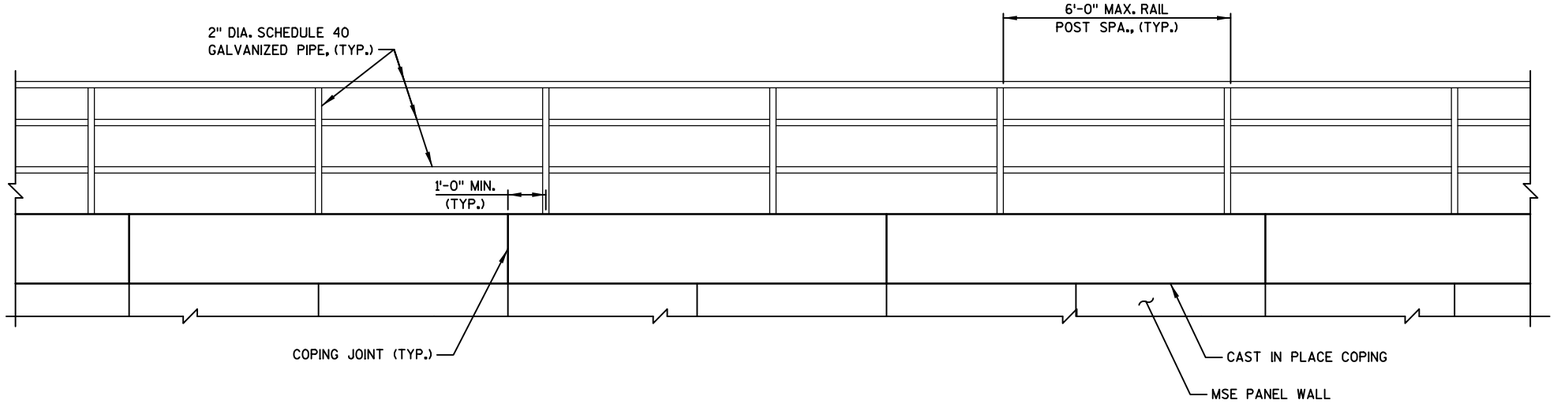
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STATE PROJECT NUMBER

1066-06-72



PARITIAL ELEVATION

(LOOKING SOUTH AT F.F. WALL)

LEGEND

1. 2" ϕ SCH. 40 STEEL PIPE FOR POSTS: CUT BOTTOM OF POST AS REQUIRED TO SET POST VERTICAL IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS.
2. 2" ϕ SCH. 40 STEEL PIPE FOR RAILS: WELD TO NO. 1.
3. 1½" ϕ SCH. 40 PIPE SLEEVE FOR NO. 2. PROVIDE "SLIDING FIT."
4. 1½" ϕ SCH. 40 PIPE SLEEVE X 1'-10" LONG FOR NO. 2. PROVIDE ½" ϕ SURFACE WELDS ON ALL SIDES AS SHOWN. GRIND WELDS TO FIT FREE INTO I.D. OF NO. 2. PROVIDE ⅜" ϕ X ½" WELDING STUDS ON TOP AND BOTTOM SURFACES AT CENTERLINE.
5. PLATE ¾" X 5" X 8", WITH ⅝" ϕ HOLE FOR ANCHOR BOLTS NO. 6. WELD TO NO. 1. OR PIPE SLEEVE AS SHOWN.
6. CONCRETE ADHESIVE ANCHORS ½-INCH. EMBED 7" IN CONCRETE. ADHESIVE ANCHORS SHALL CONFORM TO SECTION 502.2.12 OF THE STANDARD SPECIFICATIONS. 2 REQ'D PER POST. PLACE NORMAL TO PLATE NO.5.

GENERAL NOTES

BID ITEM SHALL BE "RAILING PIPE R-28-50", WHICH INCLUDES ALL ITEMS SHOWN.

RAILING SHALL BE FABRICATED IN LENGTHS THAT INCLUDE 3 OR 4 POSTS.

FIELD ERECTION JOINTS MUST BE PLACED IN BETWEEN RAIL POSTS WHERE THERE IS ALSO A CONCRETE COPING EXPANSION JOINT IN BETWEEN RAIL POSTS.

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

ALL MATERIAL EXCEPT ANCHORAGE DETAIL (NO. 7) SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS AND STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING PER S.S.P.C. SPECIFICATIONS.

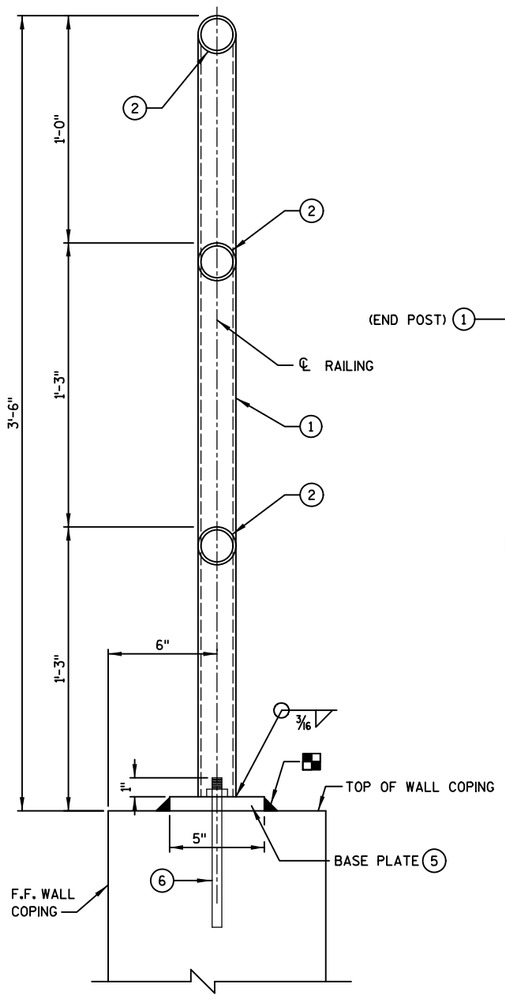
DRILL DRAIN HOLES PRIOR TO GALVANIZING.

ALL STEEL PLATE MATERIALS USED IN FABRICATION SHALL BE MADE FROM MATERIALS CONFORMING TO A.S.T.M. DESIGNATION A709 GRADE 36 UNLESS NOTED OTHERWISE.

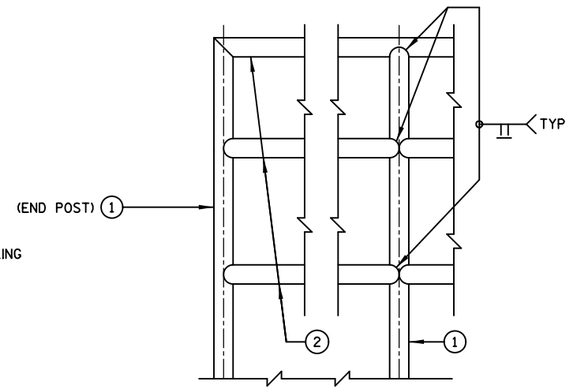
GALVANIZED STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D FOR ALIGNMENT.

ALL STEEL RAILS, POSTS AND SLEEVES SHALL CONFORM TO A.S.T.M. DESIGNATION A53 GRADE B.

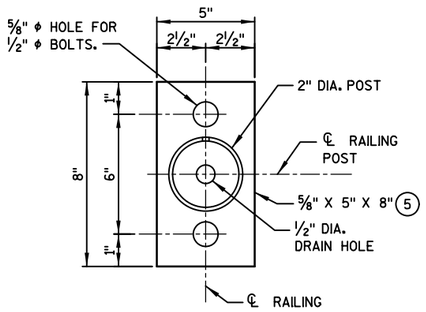
CAULK AROUND PERIMETER OF BASE PLATES AND FILL PORTION OF SLOTTED HOLES AROUND ANCHOR BOLTS IN POST SHIMS AND BASE PLATES WITH NON-STAINING, GRAY, NON-BITUMINOUS JOINT SEALER.



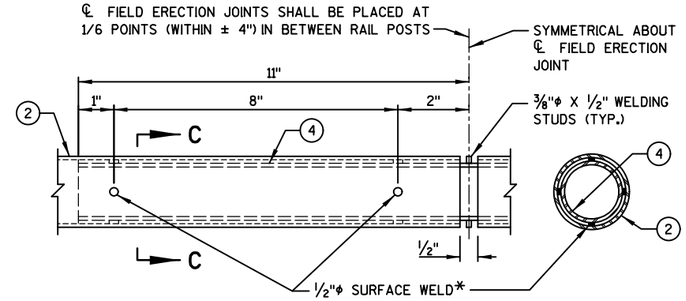
SECTION THRU RAILING



PART ELEVATION OF RAILING



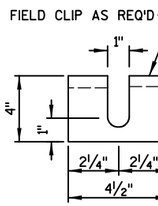
BASE PLATE



FIELD ERECTION JOINT DETAIL

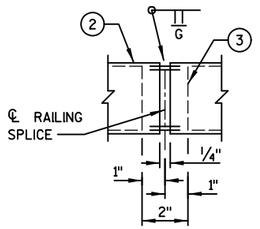
*MIN ⅝" FLAT SURFACE DIA. PUNCHINGS OR STUDS MAY BE USED AS AN ALTERNATE

SECTION C-C



POST SHIM DETAILS

PROVIDE 4 SHIMS PER POST.



SHOP RAILING SPLICE DETAIL

(LOCATION MUST BE SHOWN ON THE SHOP DRAWINGS)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-28-50

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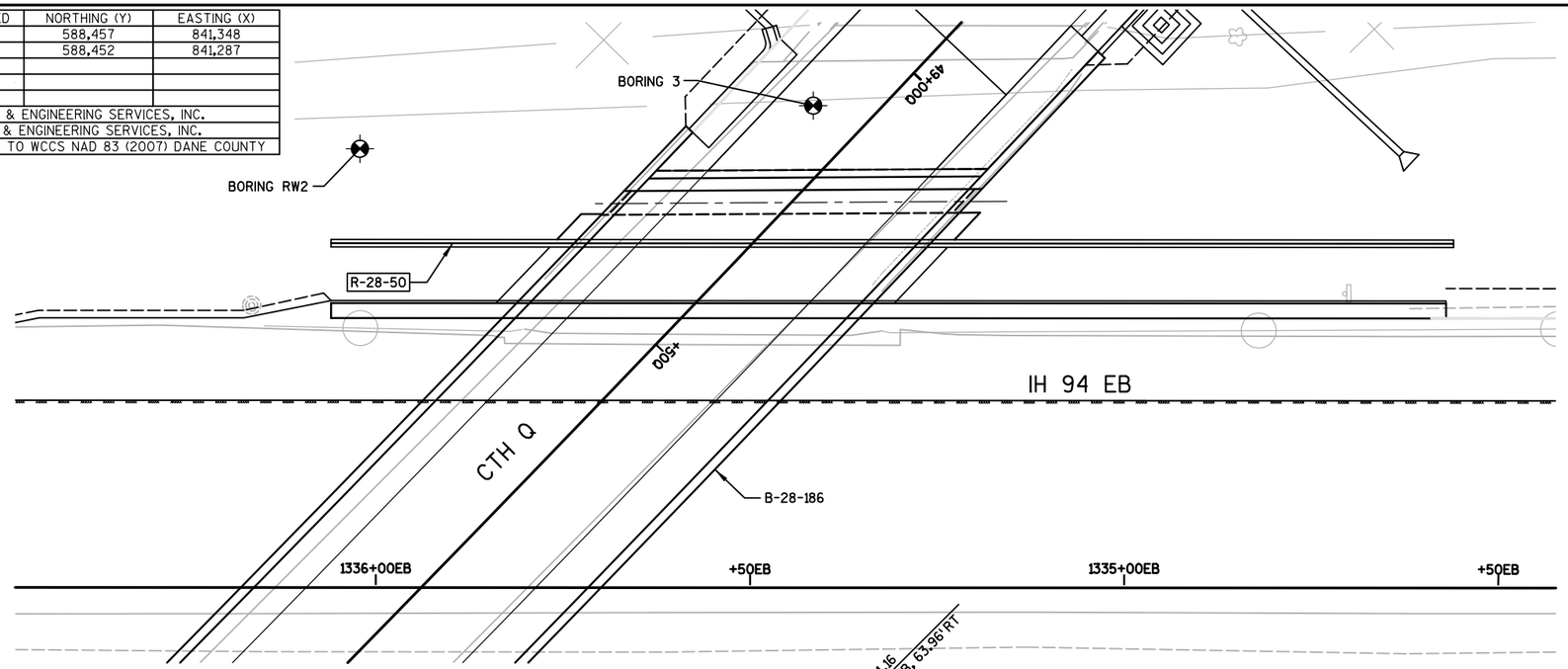
PIPE RAILING DETAILS

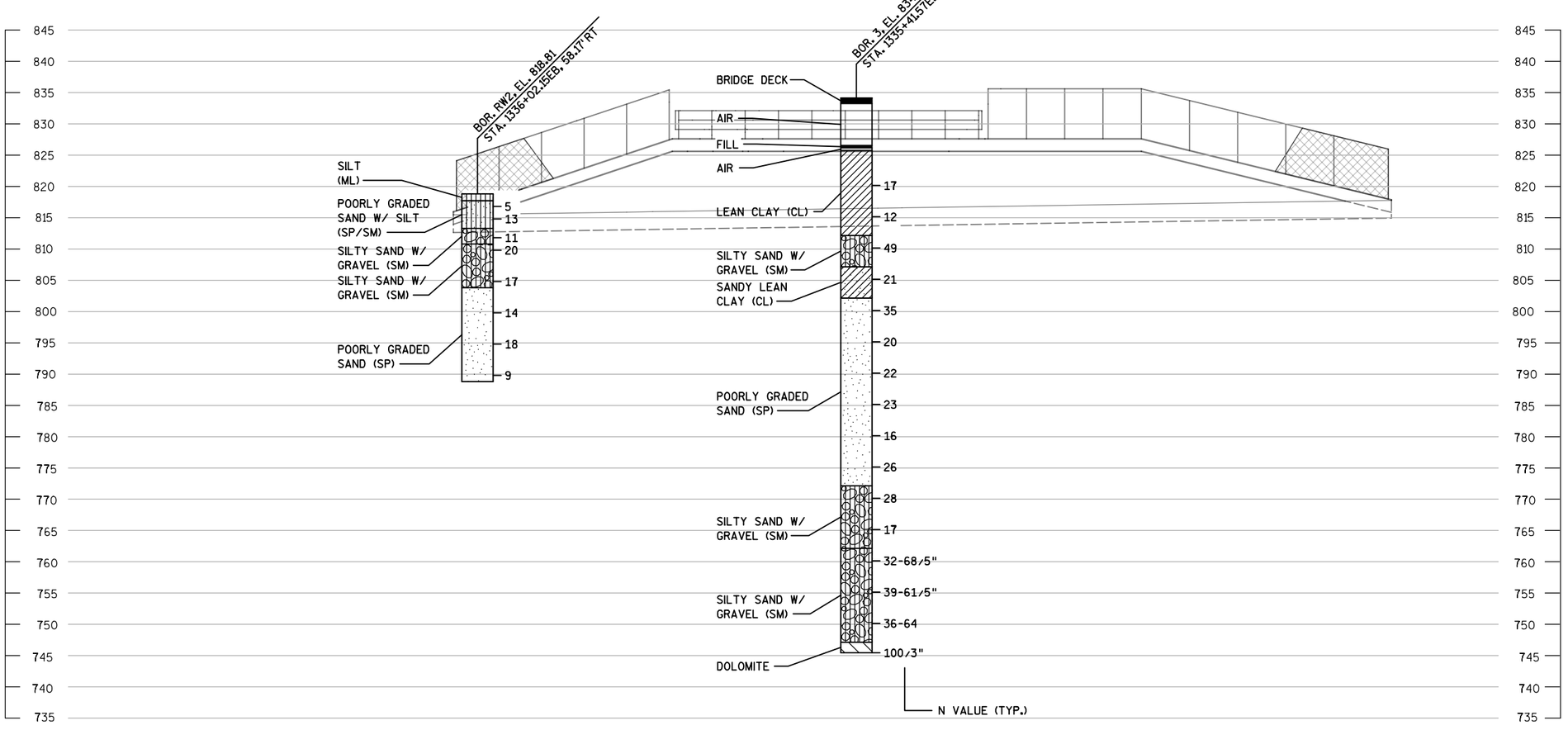
SHEET 5
192

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BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
RW2	6/7/2016	588,457	841,348
3	6/7/2016	588,452	841,287
BORINGS COMPLETED BY: SOILS & ENGINEERING SERVICES, INC.			
REPORT COMPLETED BY: SOILS & ENGINEERING SERVICES, INC.			
ALL COORDINATES REFERENCED TO WCCS NAD 83 (2007) DANE COUNTY			





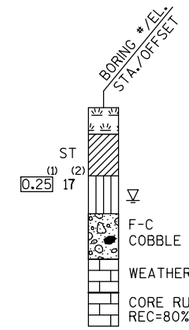
STATE PROJECT NUMBER

1066-06-72

MATERIAL SYMBOLS

ASPHALT	TOPSOIL	PEAT
CONCRETE	FILL	GRAVEL
SAND	CLAY	SILT
BOULDERS OR COBBLES	LIMESTONE	BEDROCK (UNKNOWN)
SHALE	SANDSTONE	IGNEOUS/ META

LEGEND OF BORING



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

- AT TIME OF DRILLING
- END OF DRILLING
- AFTER DRILLING

ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-28-50

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SUBSURFACE EXPLORATION

SHEET 6
193

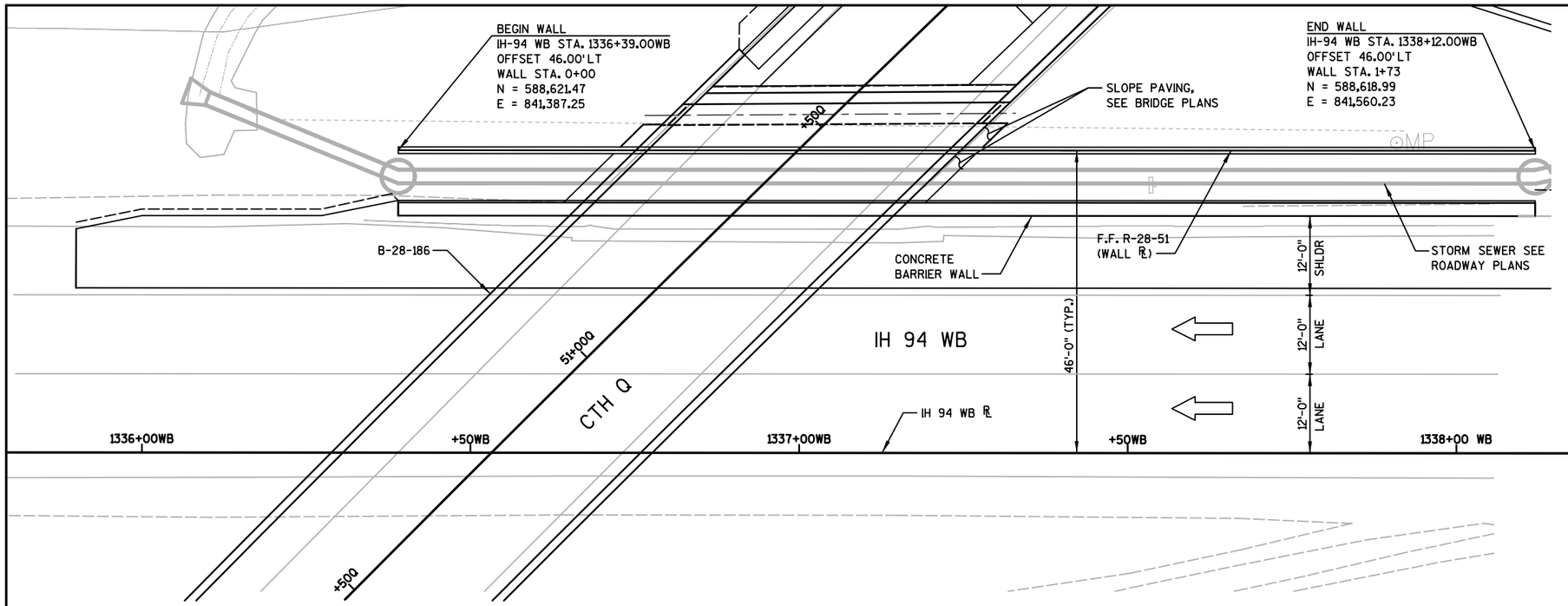
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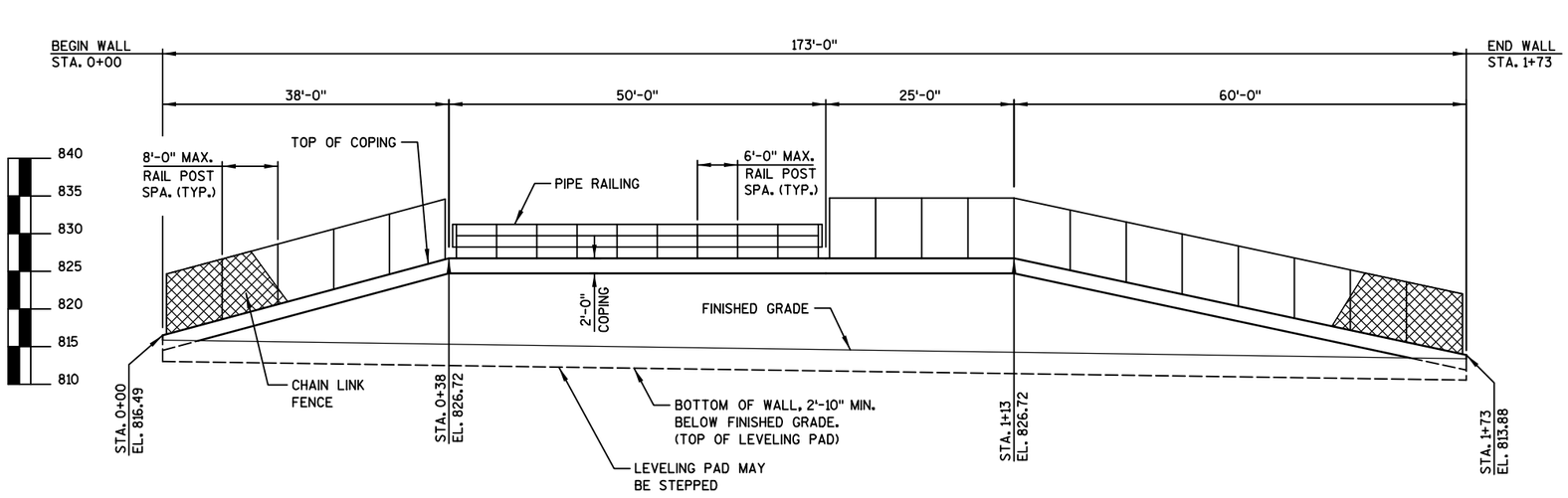
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STATE PROJECT NUMBER

1066-06-72



PLAN
(MSE PANEL WALL)



ELEVATION
(LOOKING NORTH AT F.F. OF WALL)

GEOMETRY TABLE

WALL STA.	I-94 WB STA	R.L. OFFSET TO F.F. OF	TOP OF WALL	FINISHED GRADE	BOTTOM OF WALL	EXPOSED WALL HEIGHT
0+00.00	1336+39.00	46.00' LT	816.49	815.84	813.01	0.65
0+25.00	1336+64.00	46.00' LT	823.12	815.44	812.61	7.68
0+38.00	1336+77.00	46.00' LT	826.57	815.26	812.43	11.31
0+50.00	1336+89.00	46.00' LT	826.57	815.09	812.26	11.48
0+75.00	1337+14.00	46.00' LT	826.57	814.73	811.90	11.84
1+00.00	1337+39.00	46.00' LT	826.57	814.38	811.55	12.19
1+13.00	1337+52.00	46.00' LT	826.57	814.19	811.36	12.38
1+25.00	1337+64.00	46.00' LT	824.03	814.02	811.19	10.01
1+50.00	1337+89.00	46.00' LT	818.75	813.66	810.83	5.09
1+73.00	1338+12.00	46.00' LT	813.88	813.38	810.55	0.5

LIST OF DRAWINGS

1. GENERAL PLAN & ELEVATION
2. CROSS SECTION, QUANTITIES, AND NOTES
3. SOIL DATA AND WALL DETAILS
4. FENCE DETAILS
5. PIPE RAILING DETAILS
6. SUBSURFACE EXPLORATION

LEGEND

℄ = REFERENCE LINE

F.F. = FRONT FACE

B.F. = BACK FACE

STRUCTURE DESIGN CONTACTS

BRIDGE OFFICE CONTACT:
WILLIAM DREHER (608) 266-8489

DESIGN CONSULTANT CONTACT:
BRETT OFTEDAHL (608) 251-4843

WISCONSIN
BRETT M. OFTEDAHL
E-41123
MADISON
WI
PROFESSIONAL ENGINEER
3/1/2018

NO.	DATE	REVISION	BY

STRAND ASSOCIATES®
910 WEST WINGRA DRIVE
MADISON, WISCONSIN 53715
(608)-251-4843
(608) 251-8655 FAX
WWW.STRAND.COM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher SDR 07/30/19
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE R-28-51

ALONG WB IH 94 UNDER CTH Q

COUNTY JEFFERSON | TOWN ~~CITY/VILLAGE~~ AZTALAN

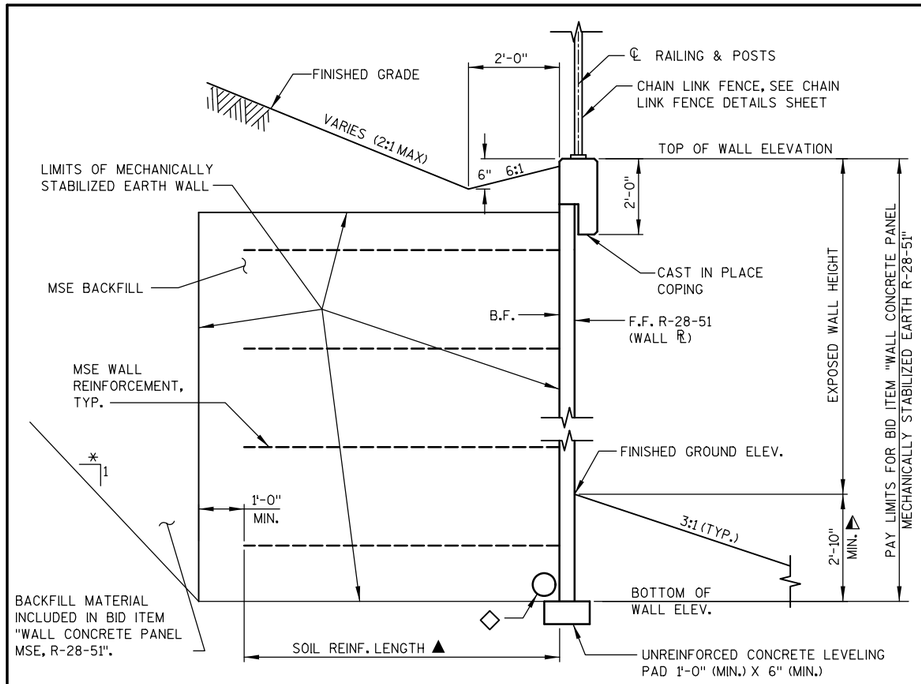
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
BMO	DJW	DTH	DJW

GENERAL PLAN & ELEVATION

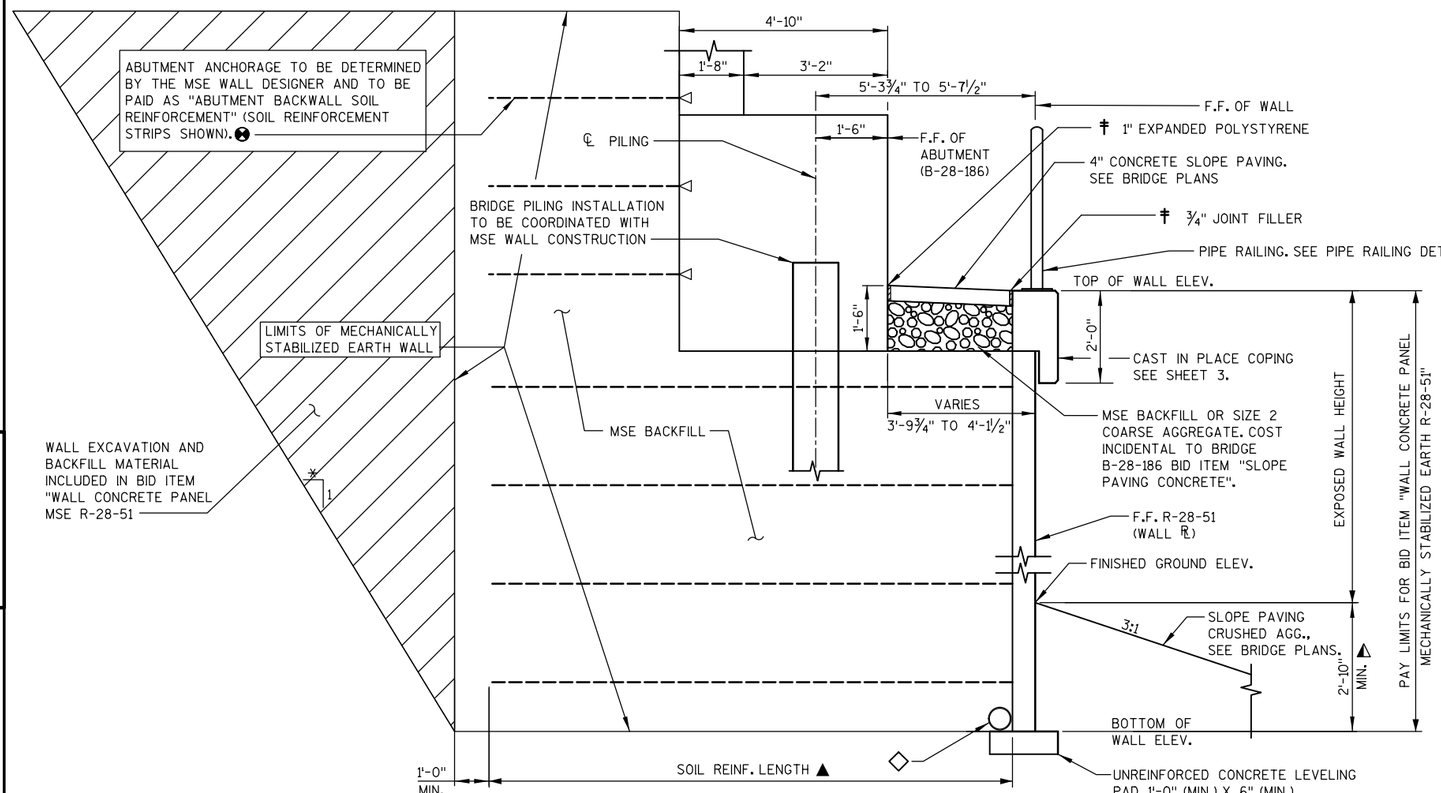
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194

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TYPICAL SECTION THRU MSE RETAINING WALL OUTSIDE ABUTMENT

(WALL STA. 0+00 TO 0+38 AND 0+88 TO 1+72)



TYPICAL WALL SECTION AT ABUTMENT

(WALL STATION 0+35 TO 0+85)

LEGEND

▲ MINIMUM LENGTH OF MSE WALL REINFORCING STRIPS MUST BE 70% THE TOTAL WALL HEIGHT (EXPOSED HEIGHT PLUS EMBEDMENT DEPTH) OR 8.0 FEET, WHICHEVER IS GREATER. SOIL REINFORCING MUST EXTEND A MINIMUM OF 3.0 FEET BEYOND THE FAILURE PLANE FOR INTERNAL STABILITY AS DEFINED BY AASHTO SPECIFICATIONS.

▲ MINIMUM EMBEDMENT BASED ON SITE SPECIFIC PARAMETERS. FIELD EMBEDMENTS SHALL MEET OR EXCEED THE MINIMUM EMBEDMENT. FIELD EMBEDMENTS BELOW MINIMUM EMBEDMENT SHALL NOT BE INCLUDED IN THE PAY LIMITS.

◇ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. PROVIDE RODENT SHEILD AT ENDS OF PIPE UNDERDRAIN.

* EXCAVATION SLOPE DETERMINED BY CONTRACTOR.

† SEAL ALL HORIZONTAL AND VERTICAL SURFACES OF FILLER AND EXPANDED POLYSTYRENE WITH NON-STAINING, GRAY NON-BITUMINOUS JOINT SEALER (1 INCH DEEP AND HOLD ⅛ INCH BELOW SURFACE OF CONCRETE).

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

THE PLAN QUANTITY FOR THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH R-28-51" IS BASED ON A WALL HEIGHT MEASURED FROM THE TOP OF WALL TO A CONSTANT DEPTH OF 2'-10" BELOW FINISHED GRADE.

ALL BAR STEEL REINFORCEMENT FOR CAST IN PLACE COPING SHALL BE EPOXY COATED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

BEVEL EXPOSED EDGES OF CONCRETE ¾-INCH, UNLESS NOTED OTHERWISE.

ALL DIMENSIONS, STATIONS, AND OFFSETS ARE GIVEN AT THE FRONT FACE OF THE WALL, UNLESS OTHERWISE SHOWN.

ABUTMENTS SHALL BE BACKFILLED TO A MINIMUM OF THE BEAM SEAT ELEVATION PRIOR TO PLACING GIRDERS.

CONTRACTOR SHALL SUPPLY AND INSTALL A NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

A GEOTECHNICAL REPORT HAS BEEN PREPARED FOR THIS STRUCTURE AND IS AVAILABLE UPON REQUEST FROM WISDOT'S SW REGION OFFICE.

DESIGN DATA

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALLS IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH R-28-51".

PLANS, ELEVATIONS AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE RETAINING WALL IS TO BE DESIGNED USING THE ELEVATIONS GIVEN IN THIS PLAN.

DESIGN FOR RETAINING WALL TO PROVIDE FOR FINISHED GRADE SLOPED IN FRONT OF AND BEHIND WALL AS SHOWN.

DESIGN RETAINING WALL FOR A LIVE LOAD SURCHARGE OF 240 PSF BEHIND BRIDGE ABUTMENT AND 100 PSF ELSEWHERE.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30 DEGREES WITHOUT CERTIFIED TEST VALUES.

ⓚ UNFACTORED SUPERSTRUCTURE LATERAL LOADS TRANSFERRED TO THE ABUTMENT ARE TAKEN TO BE KIPS PER FOOT OF ABUTMENT LENGTH. THE VALUES ARE TO BE USED FOR THE LRFD DESIGN OF THE ABUTMENT ANCHORAGE BY THE MSE WALL MANUFACTURER. THE FOLLOWING AASHTO LINE LOADS SHALL BE INCLUDED IN THE WALL DESIGN:

BR = 0.8 KLF WS = 0.4 KLF
TU = 2.4 KLF WL = 0.3 KLF

THE ABUTMENT ANCHORAGE AND CONNECTION TO THE ABUTMENT ARE INCLUDED WITH THE BID ITEM "ABUTMENT BACKWALL SOIL REINFORCEMENT" AS SHOWN ON B-28-186 BRIDGE PLANS.

TOTAL ESTIMATED QUANTITIES

BID ITEM	BID ITEMS	UNIT	QUANTITY
513.2001	RAILING PIPE	LF	50
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	183
616.0206	FENCE CHAIN LINK 6-FT	LF	126
SPV.0165.02	WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH, R-28-51	SF	1993
	NON-BID ITEMS		
	PREFORMED FILLER	SIZE	3/4"
	EXPANDED POLYSTYRENE	SIZE	1"

ULTIMATE DESIGN STRESSES

CONCRETE COPING _____ f'c = 3,500 PSI

HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 _____ Fy = 60,000 PSI

PRECAST CONCRETE WALL PANELS _____ f'c = 4,000 PSI

STATE PROJECT NUMBER

1066-06-72

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-28-51

DRAWN BY DTH | PLANS CK'D. DJW

CROSS SECTION, QUANTITIES, AND NOTES

SHEET 2
195

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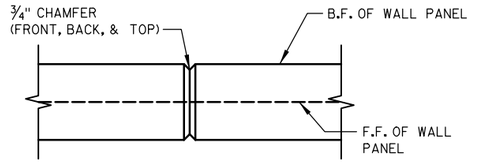
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STATE PROJECT NUMBER
1066-06-72

SOIL PARAMETERS

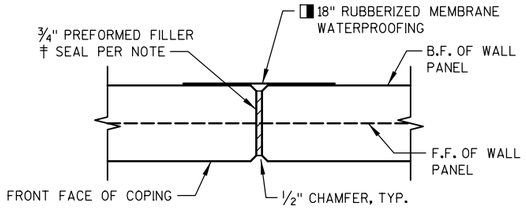
STRATUM LOCATIONS & SOIL DESCRIPTIONS	TOTAL UNIT WEIGHT (PCF)	FRICTION ANGLE (DEGREES)	COHESION (PSF)
GRANULAR BACKFILL (REINFORCING ZONE OR BACKFILL)	120	30	0
GRANULAR RETAINED SOIL *	135	30	0
SILTY SAND WITH GRAVEL (SM) ELEV 825.3 TO 824.6	135	42	0
SILTY SAND (SM) ELEV 824.6 TO 821.8	120	30	0
POORLY - GRADED SAND (SP) ELEV 821.8 TO 817.8	120	31	0
SILTY CLAYEY SAND (SC/SM) ELEV 817.8 TO 807.8	144	31	0
POORLY - GRADED SAND (SP) ELEV 807.8 TO 802.8	129	33	0
POORLY - GRADED SAND WITH GRAVEL (SP) ELEV 802.8 TO 786.8	130	36	0
SILTY SAND WITH GRAVEL (SM) ELEV 786.8 TO 768.3	129	34	0
SILTY SAND WITH GRAVEL, COBBLES, AND BOULDERS (SM) ELEV 768.3 TO 761.8	140	35	0

*DESIGN WALL FOR THESE VALUES



COPING CONTRACTION JOINT

DO NOT RUN BAR STEEL THRU JOINT.
MAX. SPACING OF JOINT = 12'

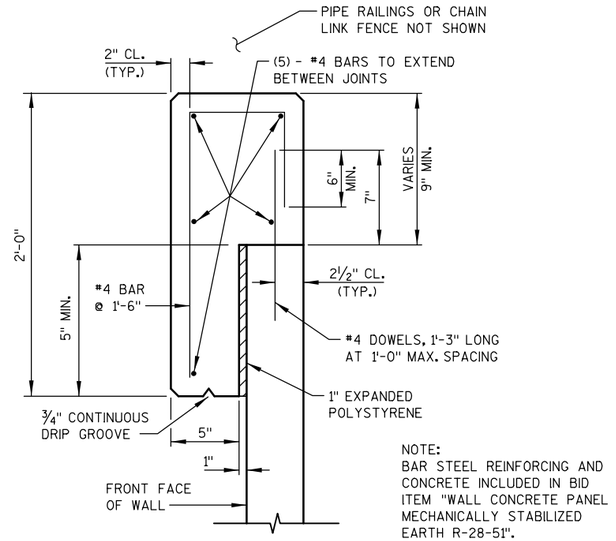


COPING EXPANSION JOINT

DO NOT RUN BAR STEEL THRU JOINT.
MAX. SPACING OF JOINT = 50'

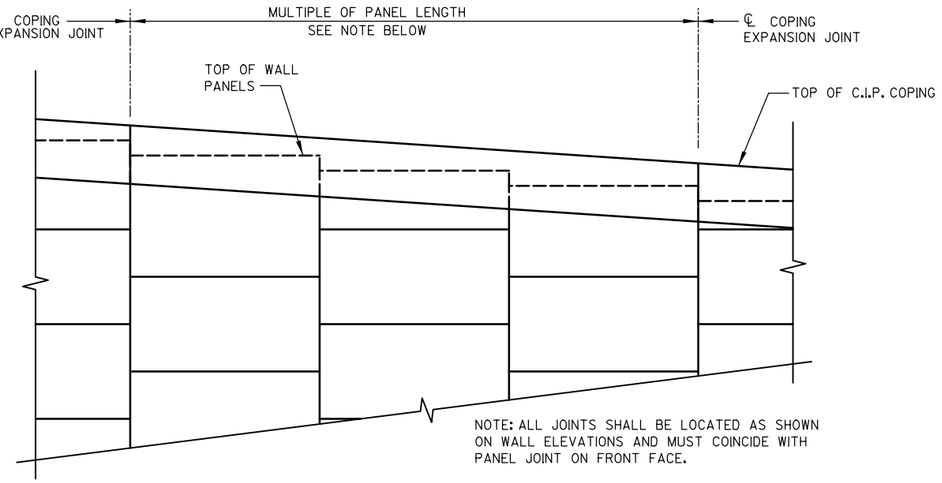
■ MEMBRANE WATERPROOFING TO EXTEND FROM TOP OF COPING TO 6" BELOW TOP OF PANELS. MEMBRANE WATERPROOFING INCLUDED IN BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH R-28-51".

† SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.)



NOTE:
BAR STEEL REINFORCING AND CONCRETE INCLUDED IN BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH R-28-51".

CAST-IN-PLACE CONCRETE COPING DETAIL



C.I.P. COPING PARTIAL ELEVATION

WALL EXTERNAL & OVERALL STABILITY EVALUATION

DIMENSIONS	EVALUATED LOCATIONS		
WALL HEIGHT (FEET)[1]	14.31	13.96	
EXPOSED WALL HEIGHT (FEET)	11.48	11.13	
■ MINIMUM LENGTH OF REINFORCEMENT (FEET)	12	18	
WALL STATION	1+10	0+85	
BORING	1	1	
CAPACITY TO DEMAND RATIO (CDR)[2,3]			
SLIDING (CDR>1.0)	1.0	1.1	
ECCENTRICITY (CDR>1.0)	1.5	1.8	
OVERALL STABILITY (CDR>1.0)	N/A[4]	1.0	
BEARING RESISTANCE (CDR>1.0)	1.7	1.6	
FACTORED BEARING RESISTANCE (PSF)	8,400	8,400	

NOTES:
1. THE WALL HEIGHT INCLUDES AN EMBEDMENT OF 2'-10".
2. THE WALL STABILITY EVALUATION INCLUDED A SURCHARGE LOAD OF 240 PSF AT WALL STA. 0+85 AND 100 PSF AT WALL STA. 1+10.
3. CDR VALUES ARE PRESENTED IN CHAPTER 14 OF THE WISDOT BRIDGE MANUAL.
4. GLOBAL SLOPE STABILITY WAS ONLY EVALUATED AT THE CRITICAL WALL LOCATION.

■ THE LENGTHS PROVIDED IN THE TABLE ARE THE MINIMUM REQUIRED REINFORCEMENT LENGTHS BASED UPON THE MINIMUM DESCRIBED IN THE WALL SYSTEM SPECIAL PROVISIONS FOR EXTERNAL AND OVERALL STABILITY AT THE DESIGNATED LOCATIONS. THESE DESIGNATED LOCATIONS REPRESENT TYPICAL AND CRITICAL WALL LOCATIONS, BUT SHALL NOT BE CONSIDERED ALL INCLUSIVE. THE CONTRACTOR DESIGN LENGTHS SHALL MEET OR EXCEED THE MINIMUM VALUES REPRESENTED IN THE TABLE AT THESE DESIGNATED LOCATIONS. FINAL DESIGN FOR INTERNAL STABILITY AND EXTERNAL SLIDING AND ECCENTRICITY AT OTHER WALL STATIONS IS THE RESPONSIBILITY OF THE CONTRACTOR'S WALL DESIGNER.

NOTES:
1. THE SETTLEMENT OF THE FOUNDATION WAS ESTIMATED TO BE 0.5 INCHES OR LESS.
2. THE SOUTHWEST REGION SOILS ENGINEER SHALL REVIEW THE SUBSURFACE CONDITIONS PRIOR TO CONSTRUCTION OF THE WALLS TO DETERMINE IF THE SOILS HAVE THE MINIMUM BEARING RESISTANCE SHOWN IN THE TABLE ABOVE.

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-28-51

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SOIL DATA AND WALL DETAILS

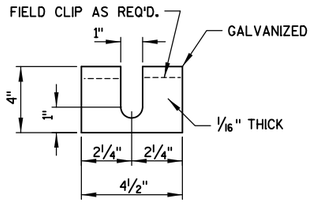
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STATE PROJECT NUMBER
1066-06-72

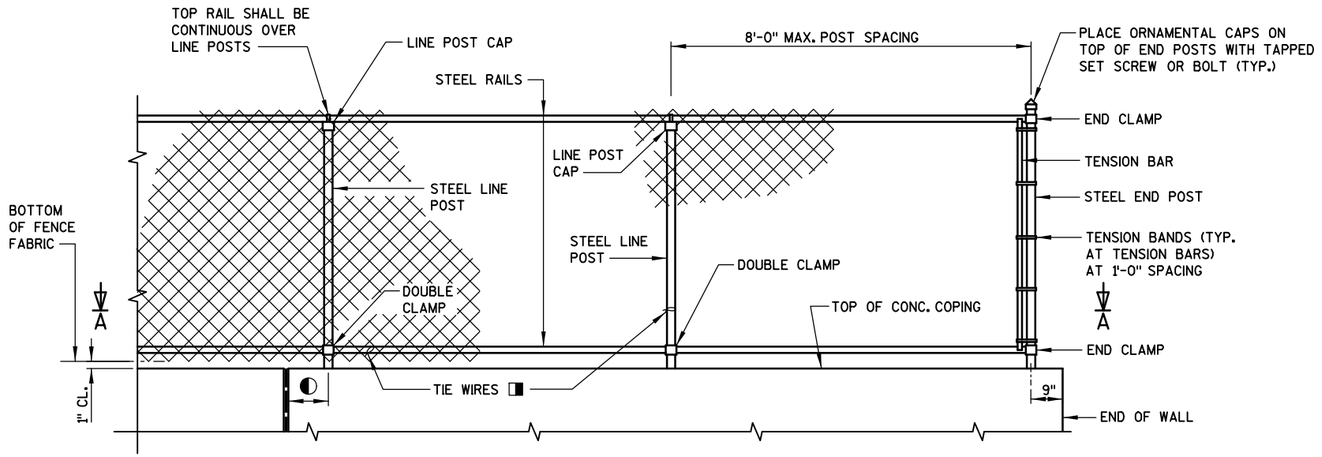
FENCE MEMBER SIZE & WEIGHT

STEEL FENCE MEMBER	OUTSIDE DIAMETER (INCHES)	WEIGHT (LB/FT)
RAILS	1.660	2.27
END POST	2.875	5.80
OVERHANG POST	2.875	5.80
LINE POST	2.375	3.65
POST SLEEVE	4.000	9.12



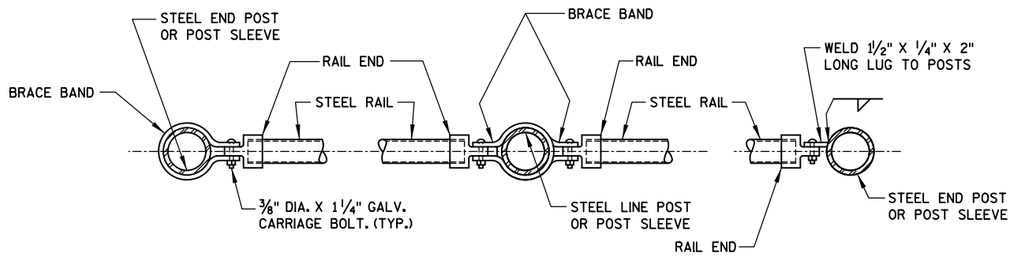
POST SHIM DETAILS

SHIMS REQUIRED ONLY WHEN END POSTS AND LINE POSTS ARE WELDED TO BASE PLATES. PROVIDE 4 SHIMS PER POST. USE WHERE REQUIRED FOR ALIGNMENT.



FENCE PART ELEVATION

VIEWING FABRIC SIDE



END CLAMP ✳ DOUBLE CLAMP WELDED CONNECTION

GENERAL NOTES

THE BID ITEM SHALL BE "FENCE CHAIN LINK 6-FT". BID ITEM INCLUDES ALL ITEMS SHOWN.

POSTS ARE TO BE SET VERTICAL.

ALL FENCE COMPONENTS SHALL BE GALVANIZED STEEL.

FABRIC SHALL CONFORM TO ASTM F668, CLASS 2B. STEEL RAILS, POSTS AND POST SLEEVES SHALL CONFORM TO ASTM F1083, STANDARD WEIGHT PIPE (SCHEDULE 40). FITTINGS SHALL CONFORM TO ASTM F626. SEE THE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.

COMPLETE ANY REQUIRED WELDING OF COMPONENTS BEFORE GALVANIZING.

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

BASE PLATES, ANCHOR PLATES AND SHIMS SHALL BE ASTM A709, GRADE 36.

ALL POST SPACINGS ARE MEASURED HORIZONTALLY ALONG THE C/L OF THE POST.

MINIMUM LENGTH OF TOP RAIL BETWEEN SPLICES SHALL BE 20'-0". LOCATE SPLICES NEAR 1/4 POINT OF POST SPACING.

LEGEND

◪ CAULK AROUND PERIMETER OF BASE PLATE AND FILL PORTION OF SLOTTED HOLE AROUND ANCHOR BOLT IN SHIM WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

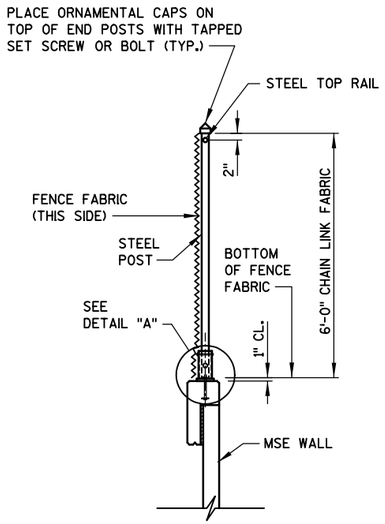
✳ ALTERNATE TO DOUBLE CLAMP: USE LINE RAIL CLAMP (BOULEVARD) OR 180° BRACE BAND, WHICH MAY BE USED WHEN THE POSTS ARE EITHER BOLTED TO THE POST SLEEVES OR DIRECTLY WELDED TO THE BASE PLATE.

◭ 1/2" DIA. X 6 7/8" LONG GALVANIZED HEX BOLT WITH NUT & WASHER. ☆

☆ ALTERNATIVE ANCHORAGE: CONCRETE ADHESIVE ANCHORS 1/2-INCH. EMBED 7" IN CONCRETE. ADHESIVE ANCHORS SHALL CONFORM TO SECTION 502.2.12 OF THE STANDARD SPECIFICATIONS.

◨ ATTACH FABRIC TO RAILS, AND TO POSTS WITHOUT TENSION BANDS, WITH TIE WIRES (ROUND, 9-GAGE) SPACED AT 1'-0".

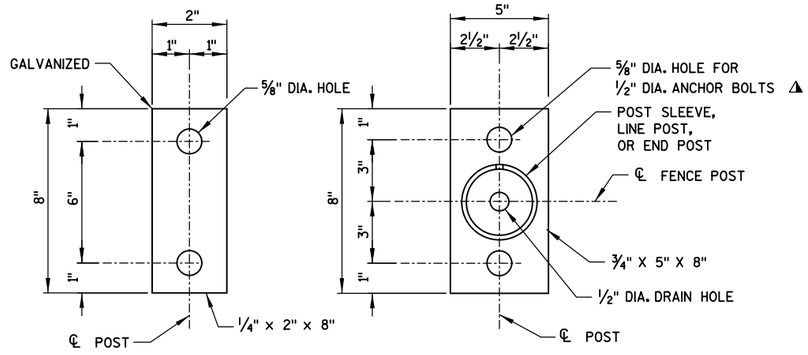
◐ 1'-0" MIN. DISTANCE BETWEEN CENTERLINE OF COPING JOINTS AND CENTERLINE OF FENCE POSTS.



SECTION THRU FENCE

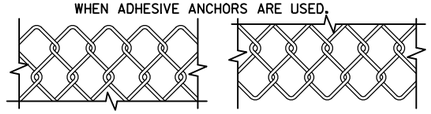
SECTION A-A

NOTE: PLACE ALL BOLT HEADS SOUTH ON SIDE OF FENCE.



ANCHOR PLATE BASE PLATE

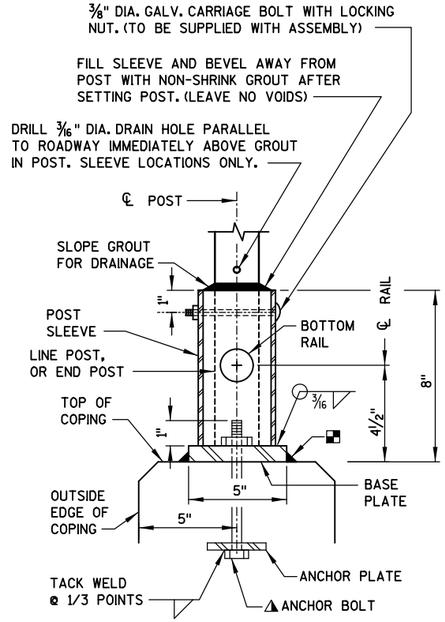
☆ NOTE: ANCHOR PLATE NOT REQUIRED WHEN ADHESIVE ANCHORS ARE USED.



TOP DETAIL BOTTOM DETAIL

FENCE FABRIC

FENCE FABRIC WOVEN OF 9-GAGE WIRE IN 2" DIAMOND PATTERN MESH WITH BOTH THE TOP AND BOTTOM SELVAGES KNUCKLED.



DETAIL 'A'

UNIT SHALL BE GALVANIZED AFTER FABRICATION
NOTE: IN LIEU OF USING THE POST SLEEVE, THE FENCE POST MAY BE WELDED TO THE BASE PLATE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-28-51

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FENCE DETAILS

SHEET 4
197

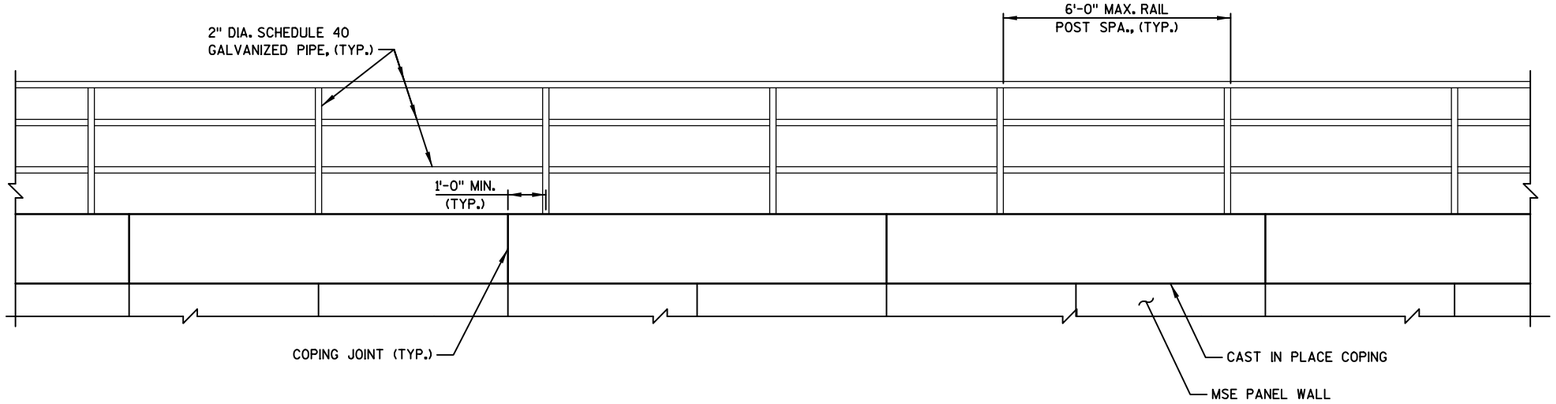
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STATE PROJECT NUMBER

1066-06-72



PARITIAL ELEVATION

(LOOKING SOUTH AT F.F. WALL)

LEGEND

1. 2" ϕ SCH. 40 STEEL PIPE FOR POSTS: CUT BOTTOM OF POST AS REQUIRED TO SET POST VERTICAL IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS.
2. 2" ϕ SCH. 40 STEEL PIPE FOR RAILS: WELD TO NO. 1.
3. 1½" ϕ SCH. 40 PIPE SLEEVE FOR NO. 2. PROVIDE "SLIDING FIT."
4. 1½" ϕ SCH. 40 PIPE SLEEVE X 1'-10" LONG FOR NO. 2. PROVIDE ½" ϕ SURFACE WELDS ON ALL SIDES AS SHOWN. GRIND WELDS TO FIT FREE INTO I.D. OF NO. 2. PROVIDE ⅜" ϕ X ½" WELDING STUDS ON TOP AND BOTTOM SURFACES AT CENTERLINE.
5. PLATE ¾" X 5" X 8", WITH ⅝" ϕ HOLE FOR ANCHOR BOLTS NO. 6. WELD TO NO. 1. OR PIPE SLEEVE AS SHOWN.
6. CONCRETE ADHESIVE ANCHORS ½-INCH. EMBED 7" IN CONCRETE. ADHESIVE ANCHORS SHALL CONFORM TO SECTION 502.2.12 OF THE STANDARD SPECIFICATIONS. 2 REQ'D PER POST. PLACE NORMAL TO PLATE NO.5.

GENERAL NOTES

BID ITEM SHALL BE "RAILING PIPE R-28-50", WHICH INCLUDES ALL ITEMS SHOWN.

RAILING SHALL BE FABRICATED IN LENGTHS THAT INCLUDE 3 OR 4 POSTS.

FIELD ERECTION JOINTS MUST BE PLACED IN BETWEEN RAIL POSTS WHERE THERE IS ALSO A CONCRETE COPING EXPANSION JOINT IN BETWEEN RAIL POSTS.

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

ALL MATERIAL EXCEPT ANCHORAGE DETAIL (NO. 7) SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS AND STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING PER S.S.P.C. SPECIFICATIONS.

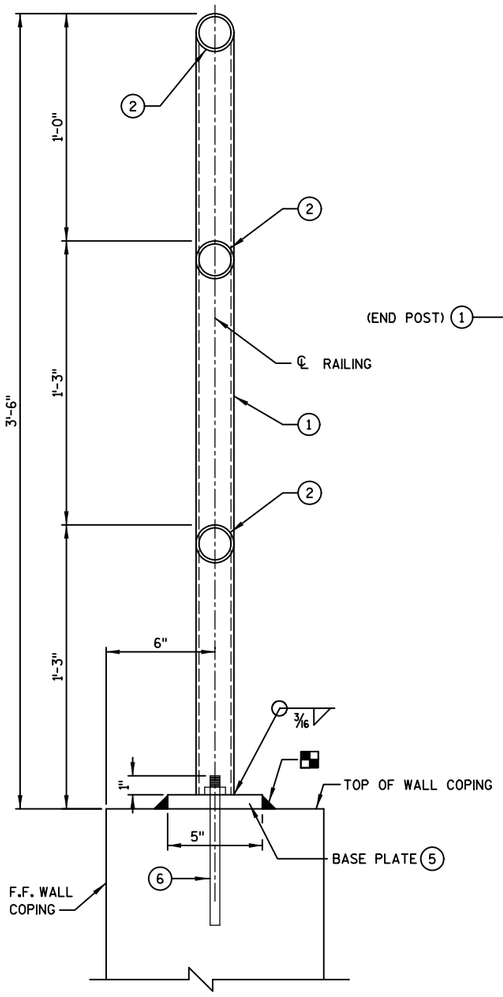
DRILL DRAIN HOLES PRIOR TO GALVANIZING.

ALL STEEL PLATE MATERIALS USED IN FABRICATION SHALL BE MADE FROM MATERIALS CONFORMING TO A.S.T.M. DESIGNATION A709 GRADE 36 UNLESS NOTED OTHERWISE.

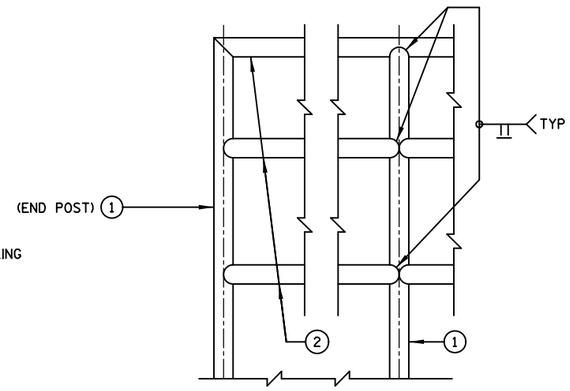
GALVANIZED STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D FOR ALIGNMENT.

ALL STEEL RAILS, POSTS AND SLEEVES SHALL CONFORM TO A.S.T.M. DESIGNATION A53 GRADE B.

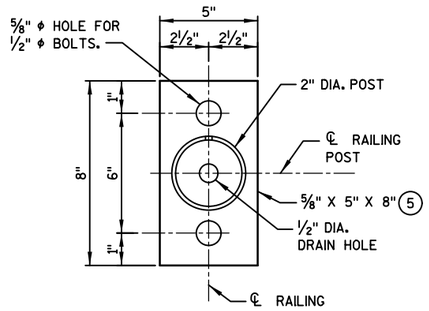
CAULK AROUND PERIMETER OF BASE PLATES AND FILL PORTION OF SLOTTED HOLES AROUND ANCHOR BOLTS IN POST SHIMS AND BASE PLATES WITH NON-STAINING, GRAY, NON-BITUMINOUS JOINT SEALER.



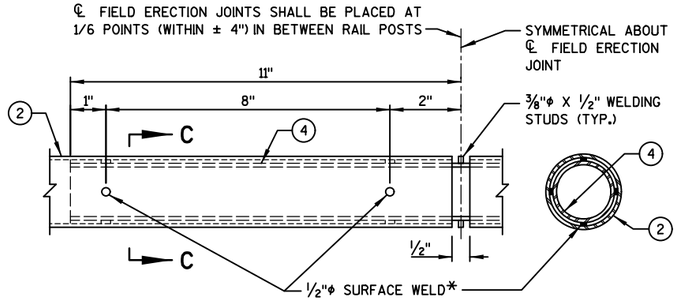
SECTION THRU RAILING



PART ELEVATION OF RAILING



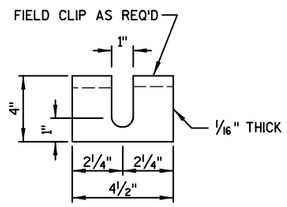
BASE PLATE



FIELD ERECTION JOINT DETAIL

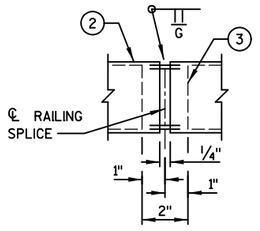
*MIN ⅝" FLAT SURFACE DIA. PUNCHINGS OR STUDS MAY BE USED AS AN ALTERNATE

SECTION C-C



POST SHIM DETAILS

PROVIDE 4 SHIMS PER POST.



SHOP RAILING SPLICE DETAIL

(LOCATION MUST BE SHOWN ON THE SHOP DRAWINGS)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-28-51

DRAWN BY DTH | PLANS CK'D. DJW

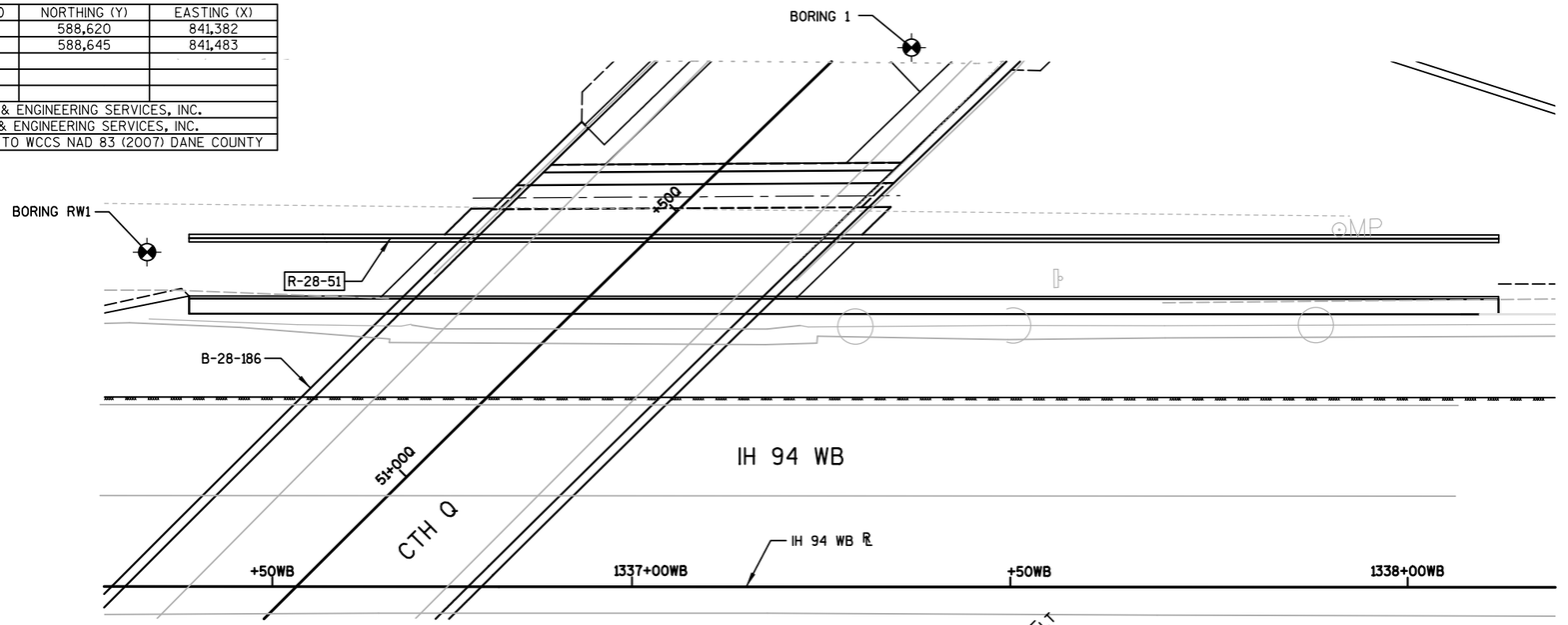
PIPE RAILING DETAILS

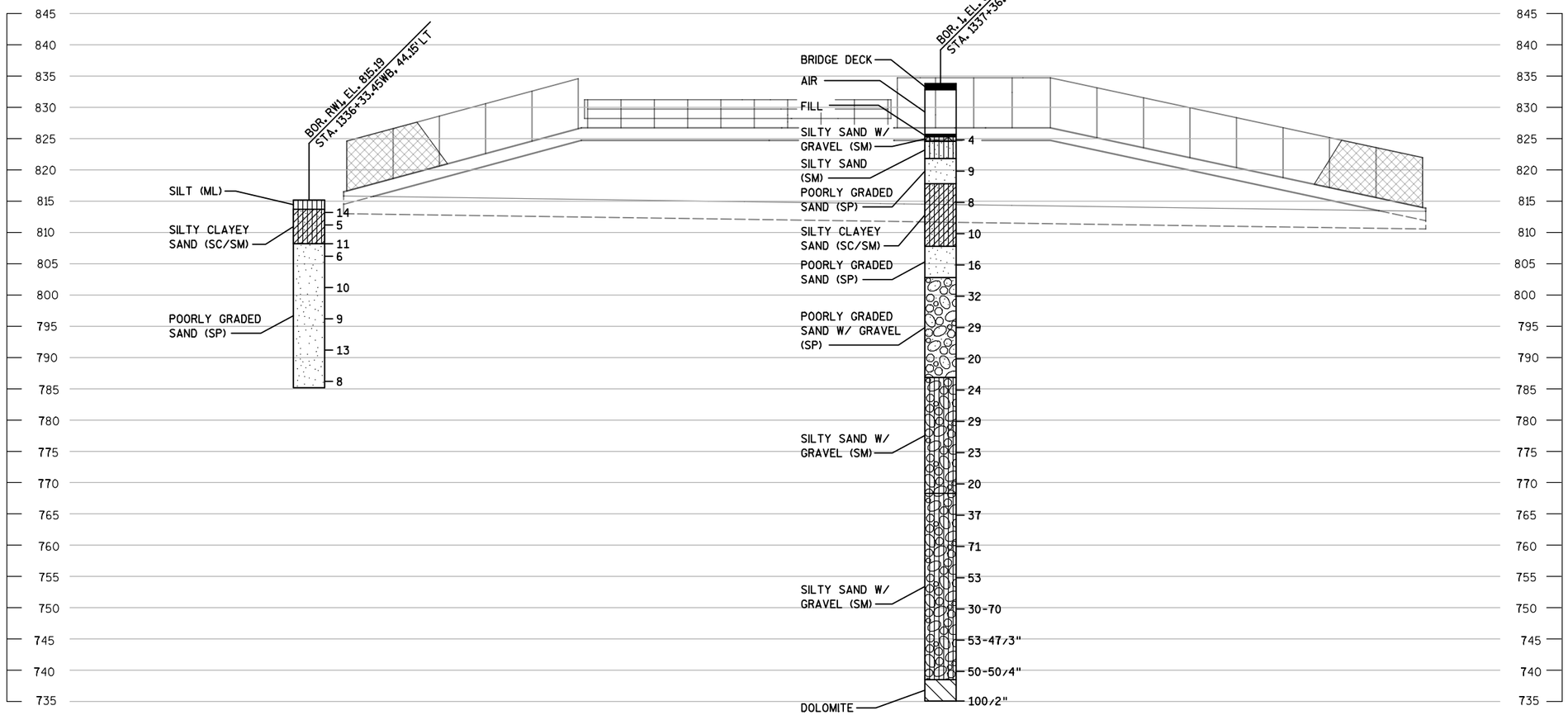
SHEET 5
198

8

8

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
RW1	6/7/16	588,620	841,382
1	6/2/16	588,645	841,483
BORINGS COMPLETED BY: SOILS & ENGINEERING SERVICES, INC.			
REPORT COMPLETED BY: SOILS & ENGINEERING SERVICES, INC.			
ALL COORDINATES REFERENCED TO WCCS NAD 83 (2007) DANE COUNTY			





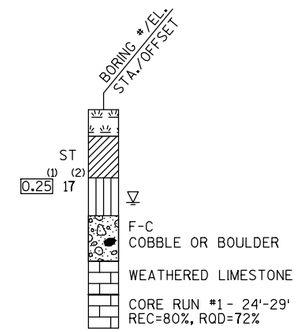
STATE PROJECT NUMBER

1066-06-72

MATERIAL SYMBOLS

ASPHALT	TOPSOIL	PEAT
CONCRETE	FILL	GRAVEL
SAND	CLAY	SILT
BOULDERS OR COBBLES	LIMESTONE	BEDROCK (UNKNOWN)
SHALE	SANDSTONE	IGNEOUS/ META

LEGEND OF BORING



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

- ▽ AT TIME OF DRILLING
- ▼ END OF DRILLING
- ▽ AFTER DRILLING

ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-28-51

DRAWN BY	DTH	PLANS CK'D.	DJW

SUBSURFACE EXPLORATION

SHEET 6
199

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8

FILE NAME : S:\MAD\1000--1099\1089\397\Micros\PLAN\080306_sx.dgn

IH 94 - STAGE 1

IH 94 EB		AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)		
STATION	DISTANCE	CUT	UNUSABLE PAVEMENT MATERIAL	FILL	EBS	CUT NOTE 1	UNUSABLE PAVEMENT MATERIAL NOTE 2	FILL NOTE 2	EBS	CUT 1.00 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 3
1331+75.00	0	1.1	0	2.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0
1332+00.00	25	1.3	0	2.9	0.1	1.1	0.0	2.7	0.1	1.1	3.4	-2
1333+00.00	100	1.2	0	2.1	0.1	4.5	0.0	9.3	0.2	5.6	15.0	-9
1333+14.00	14	2.2	0	9.4	0.1	0.9	0.0	3.0	0.0	6.5	18.7	-12
1334+00.00	86	2.3	0	3.2	0.1	7.1	0.0	20.0	0.4	13.6	43.7	-30
1335+00.00	100	3.2	0	0.5	0.2	10.1	0.0	6.7	0.5	23.8	52.0	-28
1336+00.00	100	2.6	0	0.3	0.1	10.6	0.0	1.4	0.5	34.4	53.7	-19
1337+00.00	100	3.3	0	0.0	0.2	10.9	0.0	0.5	0.5	45.3	54.3	-9
1338+00.00	100	2.2	0	5.4	0.1	10.3	0.0	10.1	0.5	55.6	66.9	-11
1339+00.00	100	2.2	0	2.4	0.1	8.2	0.0	14.5	0.4	63.8	85.0	-21
1339+38.00	38	2.2	0	2.4	0.1	3.1	0.0	3.3	0.2	66.8	89.2	-22
1340+00.00	62	1.4	0	0.2	0.1	4.0	0.0	2.9	0.2	70.9	92.9	-22
1340+77.00	77	3.0	0	0.0	0.2	6.2	0.0	0.3	0.3	77.1	93.2	-16
				COLUMN TOTALS		77.1	0.0	74.5	3.9			

NOTES:
1) CUT: CUT INCLUDES UNUSABLE PAVEMENT MATERIAL
2) FILL: FILL DOES NOT INCLUDE UNUSABLE PAVEMENT MATERIAL
3) MASS ORDINATE = (CUT - UNUSABLE PAVEMENT MATERIAL) - (FILL * FILL FACTOR)

IH 94 - STAGE 4

IH 94 EB		AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)		
STATION	DISTANCE	CUT	UNUSABLE PAVEMENT MATERIAL	FILL	EBS	CUT NOTE 1	UNUSABLE PAVEMENT MATERIAL NOTE 2	FILL NOTE 2	EBS	CUT 1.00 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 3
1330+35.00	0	6.6	0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0
1330+50.00	15	6.2	0	0.0	0.3	3.6	0.0	0.0	0.2	3.6	0.0	4
1331+00.00	50	6.9	0	0.0	0.3	12.2	0.0	0.0	0.6	15.7	0.0	16
1331+50.00	50	7.2	0	18.0	0.4	13.1	0.0	16.7	0.7	28.8	20.9	8
1331+66.98	17	7.2	0	18.6	0.4	4.5	0.0	11.5	0.2	33.4	35.3	-2
1331+91.98	25	7.2	0	5.0	0.4	6.7	0.0	10.9	0.3	40.1	48.9	-9
1332+00.00	8	7.2	0	3.3	0.4	2.1	0.0	1.2	0.1	42.2	50.4	-8
1332+16.98	17	7.2	0	0.4	0.4	4.5	0.0	1.2	0.2	46.7	51.9	-5
1332+50.00	33	7.6	0	0.0	0.4	9.0	0.0	0.2	0.5	55.8	52.1	4
1333+00.00	50	8.9	0	0.0	0.4	15.2	0.0	0.0	0.8	71.0	52.1	19
1333+26.00	26	9.4	0	0.0	0.5	8.8	0.0	0.0	0.4	79.7	52.1	28
1333+50.00	24	9.0	0	0.0	0.5	8.2	0.0	0.0	0.4	87.9	52.1	36
1334+00.00	50	8.0	0	0.0	0.4	15.7	0.0	0.0	0.8	103.6	52.1	51
1334+20.00	20	8.1	0	1.1	0.4	5.9	0.0	0.4	0.3	109.6	52.6	57
1334+40.50	21	6.0	0	17.5	0.3	5.4	0.0	7.1	0.3	114.9	61.5	53
1334+50.00	10	6.2	0	21.7	0.3	2.2	0.0	6.9	0.1	117.1	70.1	47
1334+57.00	7	8.4	0	16.0	0.4	1.9	0.0	4.9	0.1	119.0	76.2	43
1334+76.00	19	19.5	0	11.9	1.0	9.8	0.0	9.8	0.5	128.8	88.4	40
1335+00.00	24	20.0	0	24.9	1.0	17.5	0.0	16.3	0.9	146.3	108.8	37
1335+39.00	39	8.9	0	29.6	0.4	20.8	0.0	39.3	1.0	167.1	158.0	9
1335+50.00	11	10.1	0	29.3	0.5	3.9	0.0	12.0	0.2	171.0	173.0	-2
1335+51.00	1	10.1	0	29.3	0.5	0.4	0.0	1.1	0.0	171.4	174.4	-3
1335+90.00	39	16.1	0	14.7	0.8	18.9	0.0	31.7	0.9	190.3	214.1	-24
1336+00.00	10	16.6	0	7.6	0.8	6.0	0.0	4.1	0.3	196.3	219.2	-23
1336+03.00		30.5	0	6.7	1.5	0.0	0.0	0.0	0.0	196.3	219.2	-23
1336+06.00	3	43.8	0	4.9	2.2	4.1	0.0	0.6	0.2	200.4	220.0	-20
1336+18.00	12	8.1	0	22.3	0.4	11.5	0.0	6.0	0.6	212.0	227.6	-16
1336+27.00	9	16.9	0	18.8	0.8	4.2	0.0	6.8	0.2	216.1	236.1	-20
1336+39.30	12	21.8	0	12.7	1.1	8.8	0.0	7.2	0.4	224.9	245.1	-20
1336+45.00	6	13.6	0	14.4	0.7	3.7	0.0	2.9	0.2	228.6	248.7	-20
1336+50.00	5	11.0	0	16.8	0.6	2.3	0.0	2.9	0.1	230.9	252.3	-21
1336+55.00	5	11.2	0	19.5	0.6	2.1	0.0	3.4	0.1	233.0	256.5	-23
1337+00.00	45	8.6	0	31.6	0.4	16.5	0.0	42.6	0.8	249.4	309.7	-60
1337+01.00	1	8.6	0	31.6	0.4	0.3	0.0	1.2	0.0	249.8	311.2	-61
1337+14.00	13	9.3	0	32.3	0.5	4.3	0.0	15.4	0.2	254.1	330.4	-76
1337+50.00	36	17.6	0	28.7	0.9	17.9	0.0	40.6	0.9	272.0	381.2	-109
1337+77.00	27	9.2	0	17.8	0.5	13.4	0.0	23.2	0.7	285.4	410.2	-125
1338+00.00	23	6.9	0	35.0	0.3	6.8	0.0	22.5	0.3	292.2	438.3	-146
1338+12.00	12	6.5	0	27.6	0.3	3.0	0.0	13.9	0.1	295.2	455.7	-161
1338+28.50	17	6.5	0	22.9	0.3	4.0	0.0	15.4	0.2	299.1	475.0	-176
1338+50.00	22	19.1	0	0.0	1.0	10.2	0.0	9.1	0.5	309.3	486.4	-177
1338+70.00	20	10.1	0	1.0	0.5	10.8	0.0	0.4	0.5	320.1	486.8	-167
1339+00.00	30	5.2	0	0.4	0.3	8.5	0.0	0.7	0.4	328.6	487.8	-159
1339+27.00	27	5.6	0	0.5	0.3	5.4	0.0	0.4	0.3	334.0	488.3	-154
1340+00.00	73	25.4	0	0.0	1.3	41.9	0.0	0.6	2.1	375.9	489.0	-113
1340+50.00	50	7.1	0	5.3	0.4	30.1	0.0	4.9	1.5	406.0	495.1	-89
1340+52.03	2	7.2	0	5.2	0.4	0.5	0.0	0.4	0.0	406.5	495.6	-89
1340+77.03	25	7.2	0	6.2	0.4	6.7	0.0	5.3	0.3	413.2	502.2	-89
1341+00.00	23	7.4	0	9.2	0.4	6.2	0.0	6.5	0.3	419.4	510.4	-91
1341+02.03	2	7.3	0	9.5	0.4	0.6	0.0	0.7	0.0	419.9	511.3	-91
1341+50.00	48	6.6	0	3.5	0.3	12.3	0.0	11.5	0.6	432.3	525.6	-93
1342+00.00	50	5.6	0	0.0	0.3	11.3	0.0	3.2	0.6	443.6	529.6	-86
1342+35.00	35	6.5	0	0.0	0.3	7.8	0.0	0.0	0.4	451.4	529.6	-78
					COLUMN TOTALS	451.4	0.0	423.7	22.6			

NOTES:
1) CUT: CUT INCLUDES UNUSABLE PAVEMENT MATERIAL
2) FILL: FILL DOES NOT INCLUDE UNUSABLE PAVEMENT MATERIAL
3) MASS ORDINATE = (CUT - UNUSABLE PAVEMENT MATERIAL) - (FILL * FILL FACTOR)

I-94 - STAGE 8

IH 94 EB		AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)		
STATION	DISTANCE	CUT	UNUSABLE PAVEMENT MATERIAL	FILL	EBS	CUT NOTE 1	UNUSABLE PAVEMENT MATERIAL NOTE 2	FILL NOTE 2	EBS	CUT 1.00 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 3
1333+26.00	0	0.0	0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
1334+00.00	74	0.0	0	7.5	0.0	0.0	0.0	38.7	0.0	0.0	48.4	-48
1334+20.00	20	0.0	0	7.2	0.0	0.0	0.0	12.8	0.0	0.0	64.4	-64
1334+40.50	21	0.0	0	7.5	0.0	0.0	0.0	13.2	0.0	0.0	80.9	-81
1334+50.00	10	0.0	0	3.3	0.0	0.0	0.0	5.4	0.0	0.0	87.7	-88
1334+57.00	7	0.0	0	9.0	0.0	0.0	0.0	2.9	0.0	0.0	91.3	-91
1334+76.00	19	13.4	0	3.8	0.7	4.7	0.0	4.5	0.2	4.7	96.9	-92
1335+00.00	24	16.5	0	3.0	0.8	13.3	0.0	3.0	0.7	18.0	100.7	-83
1335+39.00	39	19.2	0	2.2	1.0	25.8	0.0	3.7	1.3	43.8	105.4	-62
1335+50.00	11	17.9	0	2.0	0.9	7.6	0.0	0.9	0.4	51.4	106.5	-55
1335+51.00	1	17.8	0	2.0	0.9	0.7	0.0	0.1	0.0	52.0	106.6	-55
1335+90.00	39	11.0	0	2.6	0.6	20.8	0.0	3.4	1.0	72.8	110.8	-38
1336+00.00	10	11.8	0	2.6	0.6	4.2	0.0	1.0	0.2	77.1	112.0	-35
1336+03.00	3	12.9	0	2.6	0.6	1.4	0.0	0.3	0.1	78.4	112.4	-34
1336+06.00	3	14.3	0	2.6	0.7	1.5	0.0	0.3	0.1	79.9	112.7	-33
1336+18.00	12	17.9	0	2.0	0.9	7.2	0.0	1.0	0.4	87.1	114.0	-27
1336+27.00	9	18.1	0	1.5	0.9	6.0	0.0	0.6	0.3	93.1	114.7	-22
1336+39.30	12	20.2	0	1.4	1.0	8.7	0.0	0.7	0.4	101.9	115.6	-14
1336+45.00	6	21.3	0	1.3	1.1	4.4	0.0	0.3	0.2	106.2	115.9	-10
1336+50.00	5	21.4	0	1.3	1.1	4.0	0.0	0.2	0.2	110.2	116.2	-6
1336+55.00	5	20.6	0	1.2	1.0	3.9	0.0	0.2	0.2	114.1	116.5	-2
1337+00.00	45	22.1	0	0.8	1.1	35.6	0.0	1.7	1.8	149.7	118.6	31
1337+01.00	1	22.1	0	0.9	1.1	0.8	0.0	0.0	0.0	150.5	118.7	32
1337+14.00	13	22.5	0	0.8	1.1	10.7	0.0	0.4	0.5	161.2	119.2	42
1337+50.00		9.8	0	2.7	0.5	0.0	0.0	0.0	0.0	161.2	119.2	42
1337+77.00	27	0.0	0	26.2	0.0	4.9	0.0	14.5	0.2	166.1	137.3	29
1338+00.00	23	0.0	0	26.8	0.0	0.0	0.0	22.6	0.0	166.1	165.5	1
1338+12.00	12	0.0	0	32.0	0.0	0.0	0.0	13.1	0.0	166.1	181.8	-16
1338+28.50	17	0.0	0	34.9	0.0	0.0	0.0	20.4	0.0	166.1	207.4	-41
1338+50.00	22	0.0	0	34.2	0.0	0.0	0.0	27.5	0.0	166.1	241.7	-76
1338+70.00	20	0.0	0	32.8	0.0	0.0	0.0	24.8	0.0	166.1	272.7	-107
1339+00.00	30	0.0	0	37.4	0.0	0.0	0.0	27.9	0.0	166.1	307.6	-142
1339+27.00	27	0.0	0	34	0.0	0.0	0.0	13.4	0.0	166.1	324.4	-158
1339+40.00	13	0.0	0	3.0	0.0	0.0	0.0	2.3	0.0	166.1	327.2	-161
				COLUMN TOTALS		166.1	3.0	261.8	8.3			

NOTES:
1) CUT: CUT INCLUDES UNUSABLE PAVEMENT MATERIAL
2) FILL: FILL DOES NOT INCLUDE UNUSABLE PAVEMENT MATERIAL
3) MASS ORDINATE = (CUT - UNUSABLE PAVEMENT MATERIAL) - (FILL * FILL FACTOR)

KARBERG LANE

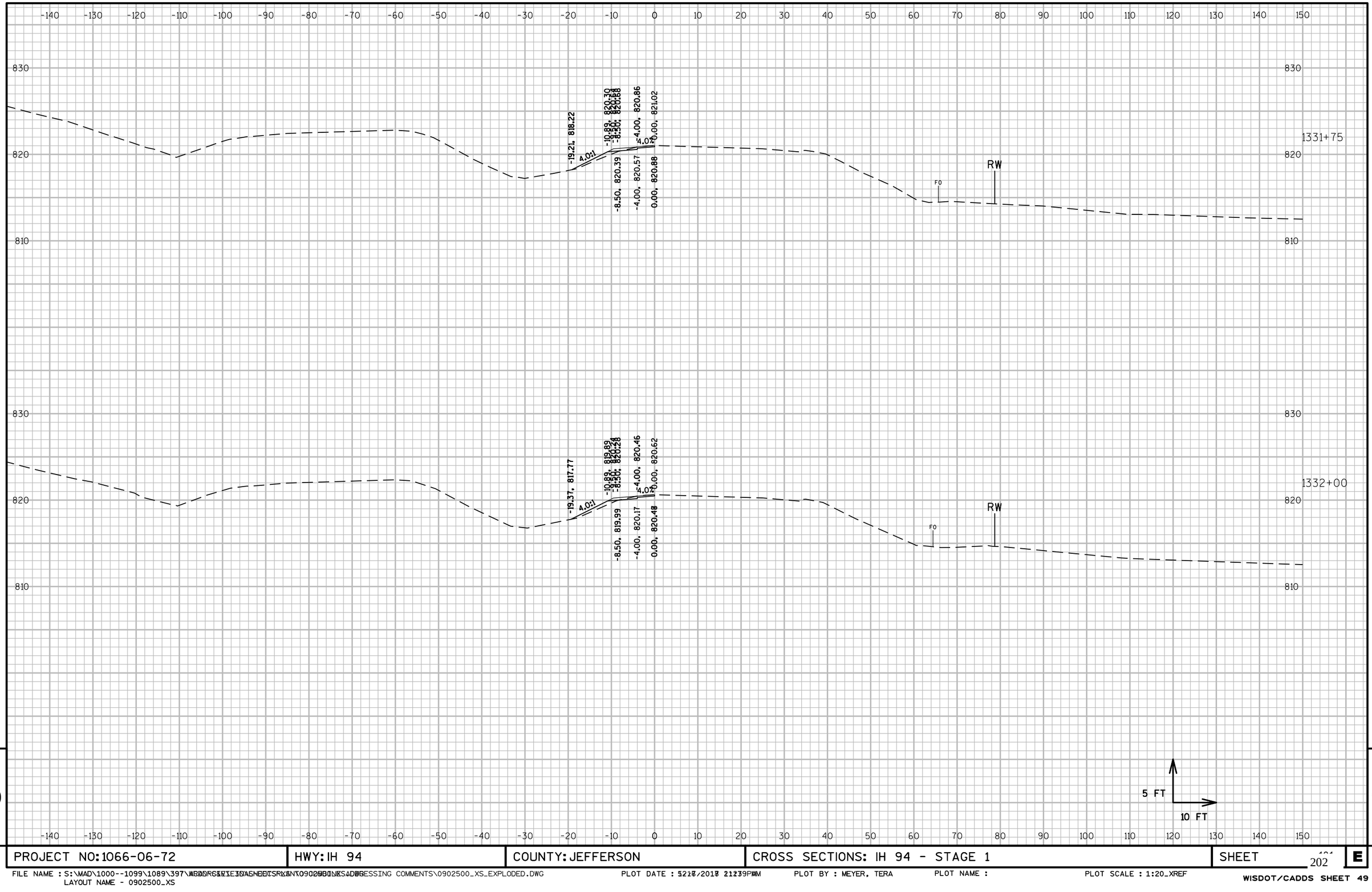
KARBERG LANE		AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)		
STATION	DISTANCE	CUT	UNUSABLE PAVEMENT MATERIAL	FILL	EBS	CUT NOTE 1	UNUSABLE PAVEMENT MATERIAL NOTE 2	FILL NOTE 2	EBS	CUT 1.00 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 3
8+30.00 K	0	32.0	11	1.6	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0
8+50.00 K	20	29.3	11	1.7	1.5	22.7	8.1	1.2	1.1	22.7	1.5	13
8+75.24 K	25	21.7	11	2.6	1.1	23.8	10.3	2.0	1.2	46.5	4.0	24
9+00.00 K	25	14.5	11	13.7	0.7	16.6	10.1	7.5	0.8	63.1	13.3	21
9+15.30 K	15	9.2	11	22.0	0.5	6.7	6.2	10.1	0.3	69.8	26.0	9
9+46.30 K	31	4.0	11	83.6	0.2	7.6	12.6	60.6	0.4	77.4	101.7	-72
9+50.00 K	4	1.3	11	70.8	0.1	0.4	1.5	10.6	0.0	77.8	115.0	-86
9+75.59 K	26	0.0	11	63.3	0.0	0.6	10.4	63.5	0.0	78.4	194.4	-175
				COLUMN TOTALS		78.4	59.3	155.5	3.9			

NOTES:
1) CUT: CUT INCLUDES UNUSABLE PAVEMENT MATERIAL
2) FILL: FILL DOES NOT INCLUDE UNUSABLE PAVEMENT MATERIAL
3) MASS ORDINATE = (CUT - UNUSABLE PAVEMENT MATERIAL) - (FILL * FILL FACTOR)

CTH Q

CTH Q		AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)		
STATION	DISTANCE	CUT	UNUSABLE PAVEMENT MATERIAL	FILL	EBS	CUT NOTE 1	UNUSABLE PAVEMENT MATERIAL NOTE 2	FILL NOTE 2	EBS	CUT 1.00 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 3
41+00.00 Q	0	36.6	11.0	11.9	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0
41+50.00 Q	50	24.5	11.0	15.7	1.2	56.6	20.4	25.5	2.8	56.6	31.9	4
42+00.00 Q	50	18.5	11.0	11.4	0.9	39.8	20.4	25.0	2.0	96.4	63.2	-8
42+50.00 Q	50	2.2	11.0	29.6	0.1	19.2	20.4	38.0	1.0	115.6	110.6	-56
43+00.00 Q	50	4.5	11.0	55.8	0.2	6.2	20.4	79.0	0.3	121.8	209.4	-169
43+50.00 Q	50	6.2	11.0	102.1	0.3	9.9	20.4	146.2	0.5	131.7	392.2	-362
44+00.00 Q	50	4.3	11.0	121.8	0.2	9.7	20.4	207.3	0.5	141.4	651.3	-632
44+50.00 Q	50	2.4	11.0	205.1	0.1	6.3	20.4	302.7	0.3	147.6	1,029.7	-1,025
44+91.05 Q	41	1.3	11.0	333.9	0.1	2.9	16.7	409.7	0.1	150.5	1,541.8	-1,551
44+98.57 Q	8	1.3	11.0	347.4	0.1	0.4	3.1	94.9	0.0	150.9	1,660.4	-1,672
45+00.00 Q	1	1.3	11.0	348.2	0.1	0.1	0.6	18.4	0.0	150.9	1,683.4	-1,695
45+16.05 Q	16	0.8	11.0	348.6	0.0	0.6	6.5	207.1	0.0	151.6	1,942.3	-1,960
45+23.57 Q	8	0.6	11.0	340.2	0.0	0.2	3.1	95.9	0.0	151.8	2,062.2	-2,083
45+41.05 Q	17	0.8	11.0	323.8	0.0	0.5	7.1	214.9	0.0	152.2	2,330.9	-2,358
45+48.57 Q	8	0.3	11.0	262.0	0.0	0.2	3.1	81.6	0.0	152.4	2,432.9	-2,463
45+50.00 Q	1	0.3	11.0	262.6	0.0	0.0	0.6	13.9	0.0	152.4	2,450.2	-2,481
46+00.00 Q	50	1.5	11.0	280.8	0.1	1.7	20.4	503.1	0.1	154.1	3,079.1	-3,129
46+50.00 Q	50	1.8	11.0	324.1	0.1	3.1	20.4	560.0	0.2	157.2	3,779.1	-3,846
46+79.00 Q	29	0.0	11.9	531.5	0.0	1.0	12.3	459.5	0.0	158.2	4,353.5	-4,432
47+00.00 Q	21	1.5	11.9	442.3	0.1	0.6	9.3	378.7	0.0	158.8	4,826.8	-4,914
47+50.00 Q	50	1.2	11.9	425.4	0.1	2.5	22.0	803.4	0.1	161.3	5,831.1	-5,937
48+00.00 Q	50	2.3	11.9	413.4	0.1	3.2	22.0	776.6	0.2	164.5	6,801.9	-6,927
48+50.00 Q	50	0.0	11.9	412.5	0.0	2.1	22.0	764.7	0.1	166.6	7,757.7	-7,903
49+00.00 Q	50	0.1	11.9	569.4	0.0	0.1	22.0	909.1	0.0	166.7	8,894.1	-9,061
51+52.54 Q		110.1	11.9	809.3	5.5	0.0	0.0	0.0	0.0	166.7	8,894.1	-9,061
51+89.32 Q	37	112.2	11.9	378.8	5.6	151.4	16.2	809.2	7.6	318.1	9,905.6	-9,938
52+00.00 Q	11	113.6	11.9	334.1	5.7	44.7	4.7	141.0	2.2	362.8	10,081.9	-10,074
52+14.32 Q	14	101.6	11.9	356.7	5.1	57.1	6.3	183.2	2.9	419.9	10,310.9	-10,252
52+39.32 Q	25	91.5	11.9	282.8	4.6	89.4	11.0	296.1	4.5	509.3	10,681.0	-10,544
52+50.00 Q	11	87.2	11.9	260.5	4.4	35.3	4.7	107.5	1.8	544.6	10,815.3	-10,647
53+00.00 Q	50	48.2	11.9	125.2	2.4	125.3	22.0	357.1	6.3	669.9	11,261.7	-10,991
53+50.00 Q	50	29.3	11.9	77.6	1.5	71.8	22.0	187.7	3.6	741.7	11,496.3	-11,175
54+00.00 Q	50	13.7	11.0	66.6	0.7	39.9	21.2	133.4	2.0	781.6	11,663.1	-11,324
54+12.38 Q	12	6.6	11.0	69.1	0.3	4.7	5.0	31.1	0.2	786.2	11,702.0	-11,363
54+37.38 Q	25	0.0	11.0	49.3	0.0	3.0	10.2	54.8	0.2	789.3	11,770.5	-11,438
54+50.00 Q	13	0.0	11.0	56.8	0.0	0.0	5.1	24.8	0.0	789.3	11,801.5	-11,475
54+62.38 Q	12	0.0	11.0	51.7	0.0	0.0	5.0	24.9	0.0	789.3	11,832.6	-11,511
55+00.00 Q	38	0.0	11.0	70.4	0.0	0.0	15.3	85.0	0.0	789.3	11,938.9	-11,632
55+50.00 Q	50	0.0	11.0	96.7	0.0	0.0	20.4	154.7	0.0	789.3	12,132.2	-11,846
56+00.00 Q	50	0.0	11.0	135.3	0.0	0.0	20.4	214.7	0.0	789.3	12,400.6	-12,135
56+50.00 Q	50	0.0	11.0	124.6	0.0	0.0	20.4	240.6	0.0	789.3	12,701.3	-12,456
57+00.00 Q	50	0.0	11.0	119.8	0.0	0.0	20.4	226.3	0.0	789.3	12,984.2	-12,759
57+50.00 Q	50	0.0	11.0	92.6	0.0	0.0	20.4	196.7	0.0	789.3	13,230.1	-13,025
58+00.00 Q	50	0.0	11.0	77.2	0.0	0.0	20.4	157.2	0.0	789.3	13,426.5	-13,242
58+50.00 Q	50	0.0	11.0	63.8	0.0	0.0	20.4	130.5	0.0	789.3	13,589.7	-13,426
59+00.00 Q	50	0.0	11.0	47.8	0.0	0.0	20.4	103.3	0.0	789.3	13,718.8	-13,575
59+25.00 Q	25	3.9	11.0	28.3	0.2	1.8	10.2	35.2	0.1	791.1	13,762.8	-13,628
59+50.00 Q	25	4.7	11.0	40.2	0.2	4.0	10.2	31.7	0.2	795.1	13,802.5	-13,673
60+00.00 Q	50	20.7	11.0	23.5	1.0	23.6	20.4	59.0	1.2	818.6	13,876.2	-13,744
60+50.00 Q	50	74.3	11.0	8.6	3.7	87.9	20.4	29.7	4.4	906.6	13,913.4	-13,714
61+00.00 Q	50	93.9	11.0	3.0	4.7	155.7	20.4	10.7	7.8	1,062.3	13,926.8	-13,592
				COLUMN TOTALS		1,062.3	727.2	11,141.4	53.1			

NOTES:
1) CUT: CUT INCLUDES UNUSABLE PAVEMENT MATERIAL
2) FILL: FILL DOES NOT INCLUDE UNUSABLE PAVEMENT MATERIAL
3) MASS ORDINATE = (CUT - UNUSABLE PAVEMENT MATERIAL) - (FILL * FILL FACTOR)



9

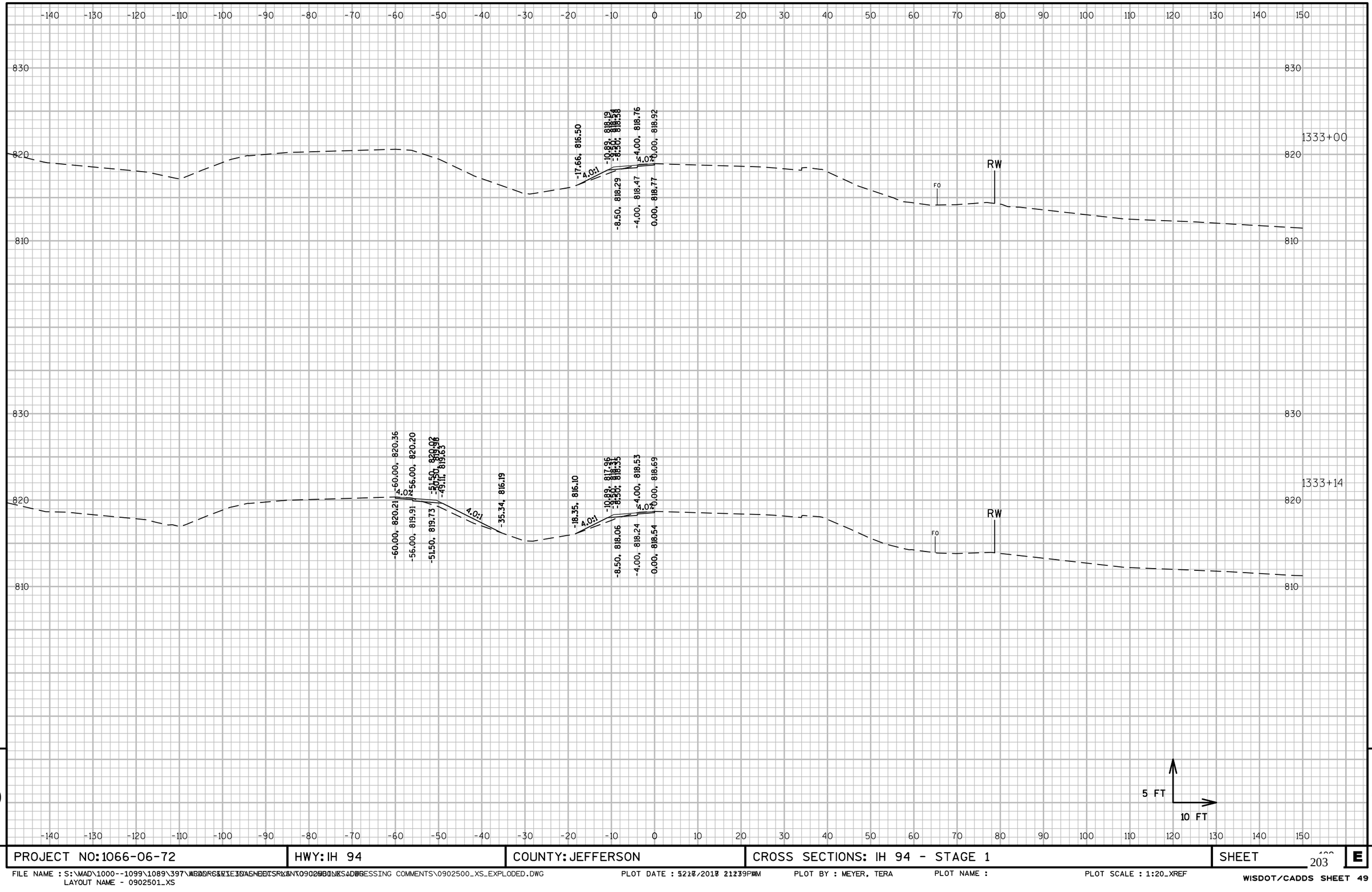
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PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: IH 94 - STAGE 1	SHEET 202	E

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LAYOUT NAME - 0902500_XS

PLOT DATE : 5/28/2018 2:39 PM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49



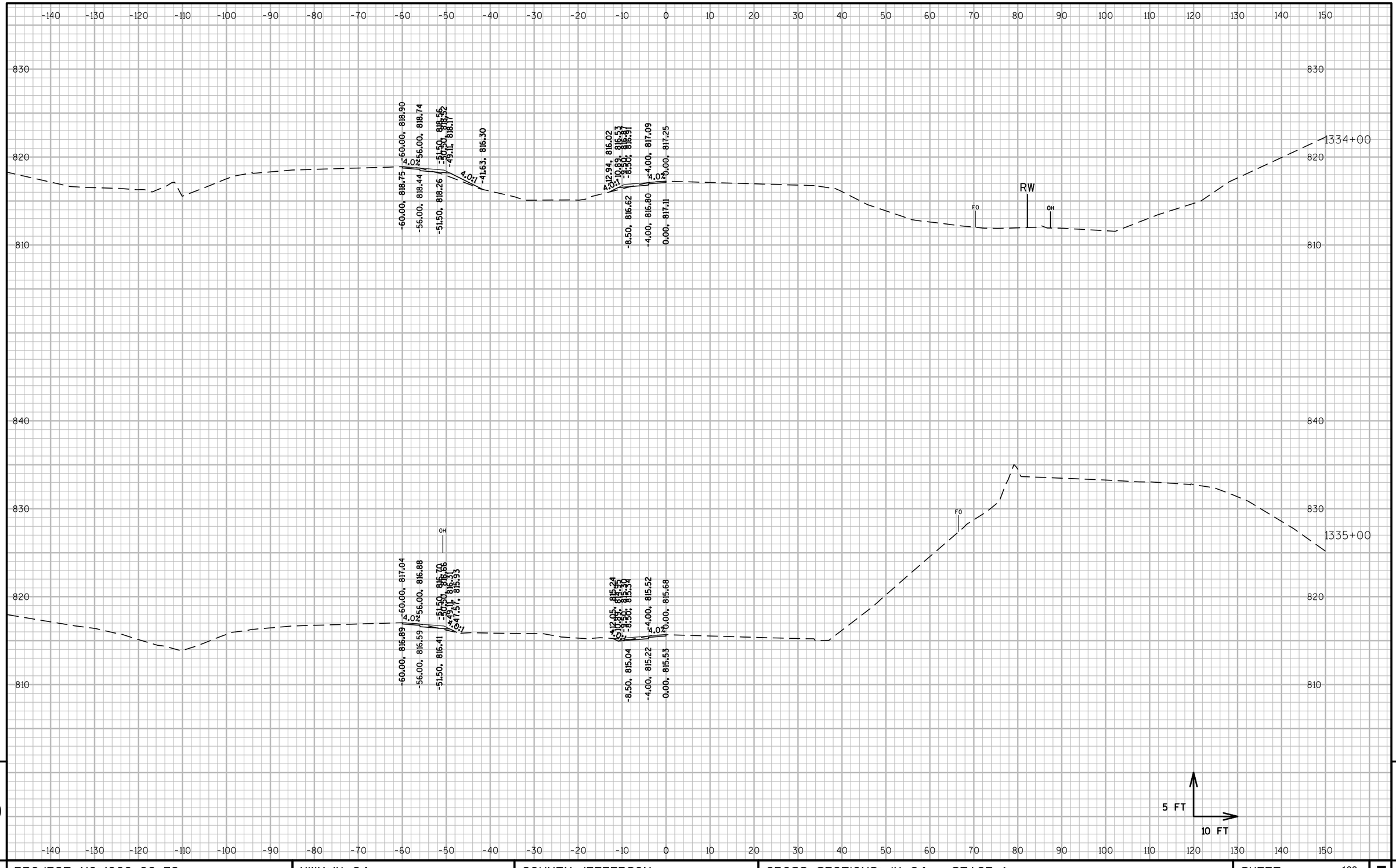
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PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: IH 94 - STAGE 1	SHEET 203	E

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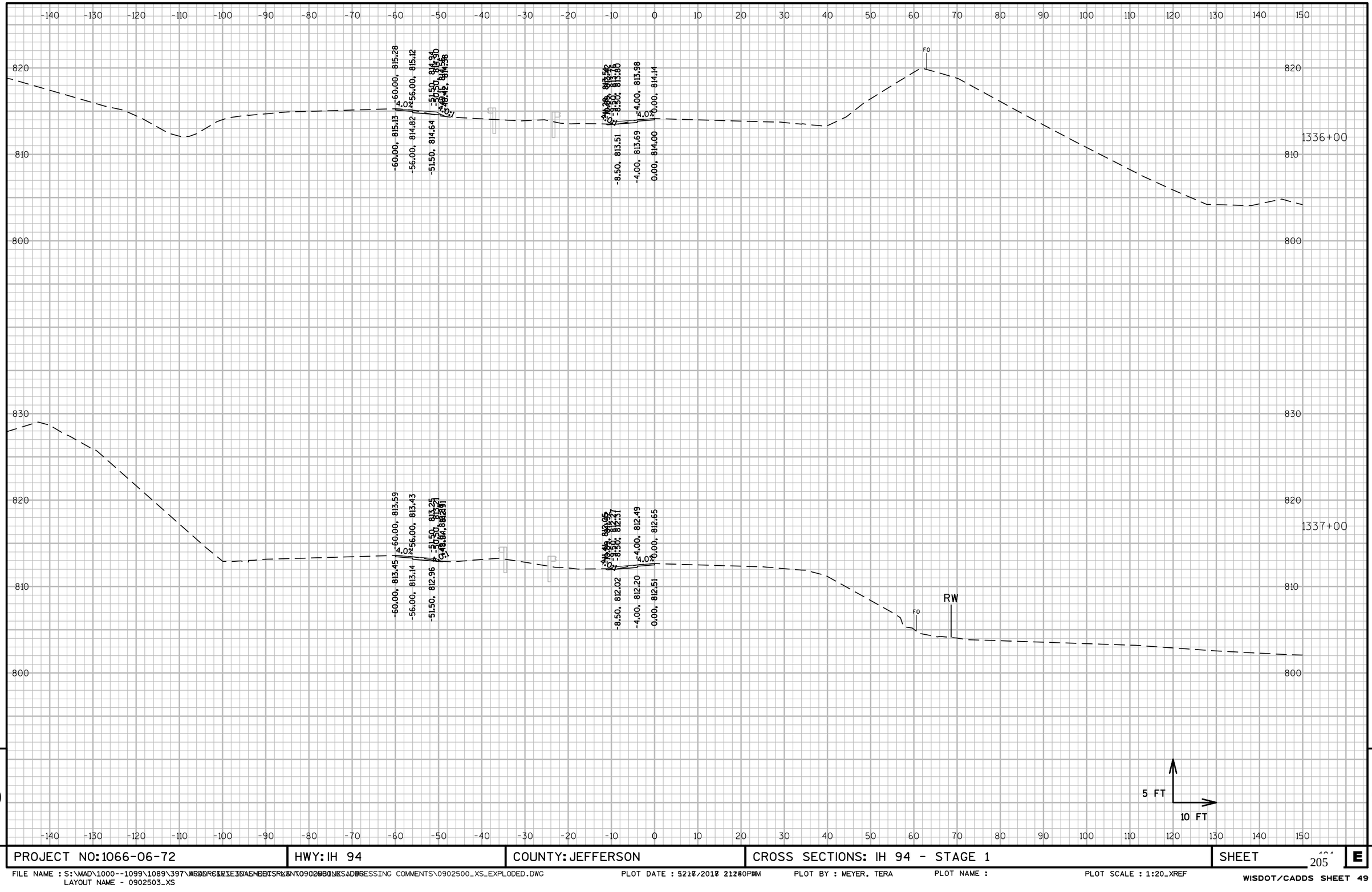


PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: IH 94 - STAGE 1	SHEET 204 E

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PLOT NAME :
PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49

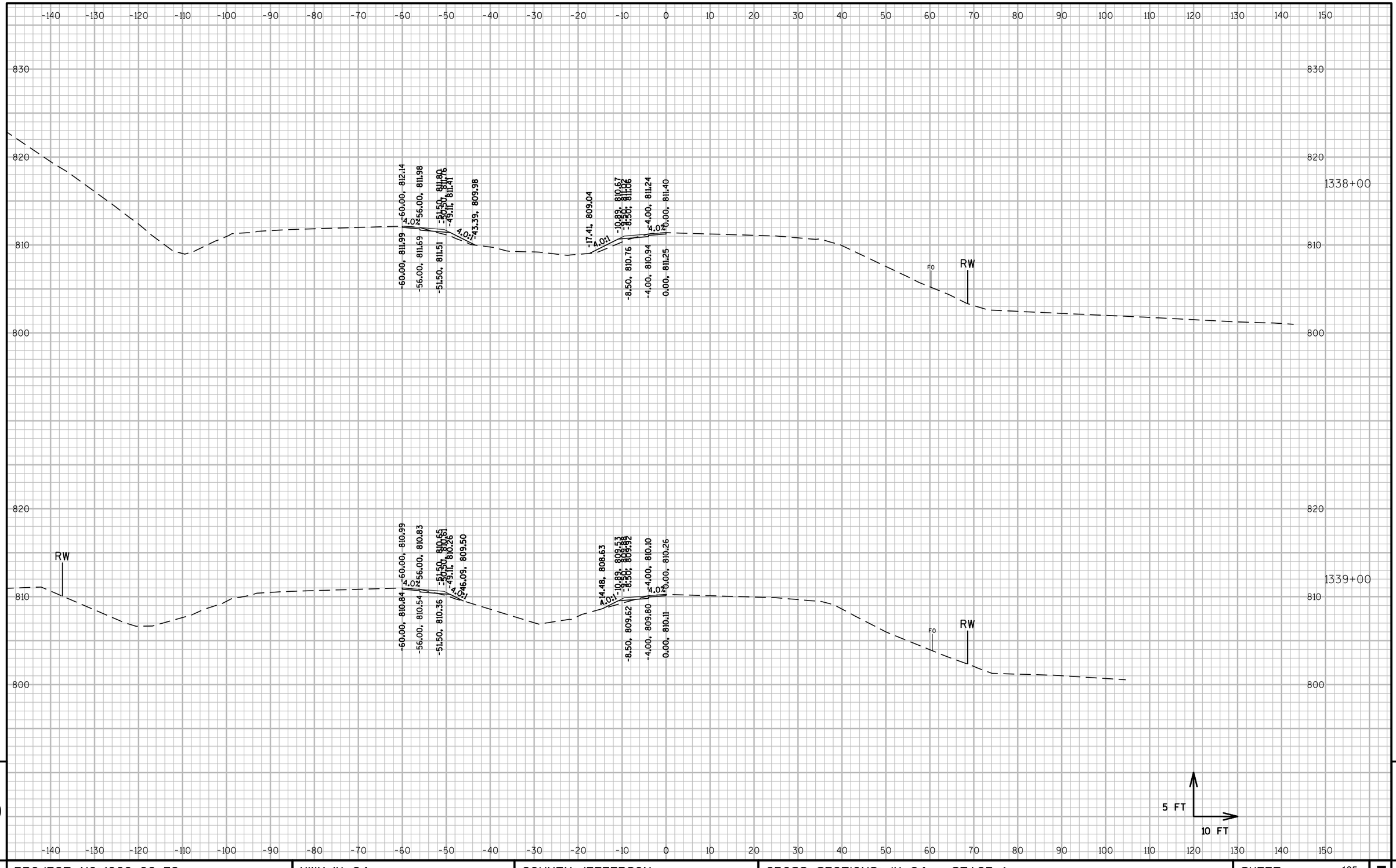


PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: IH 94 - STAGE 1	SHEET 205	E

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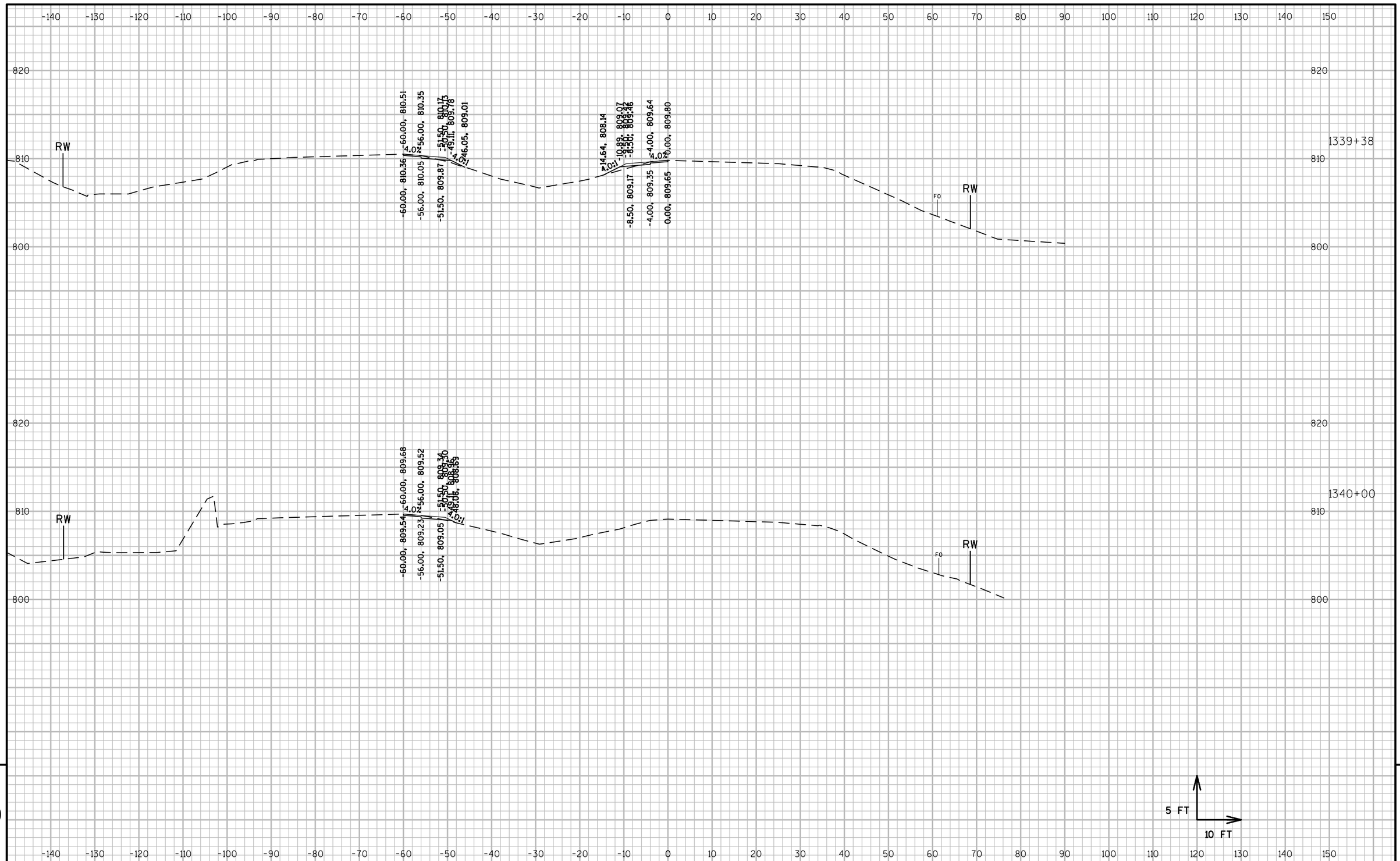


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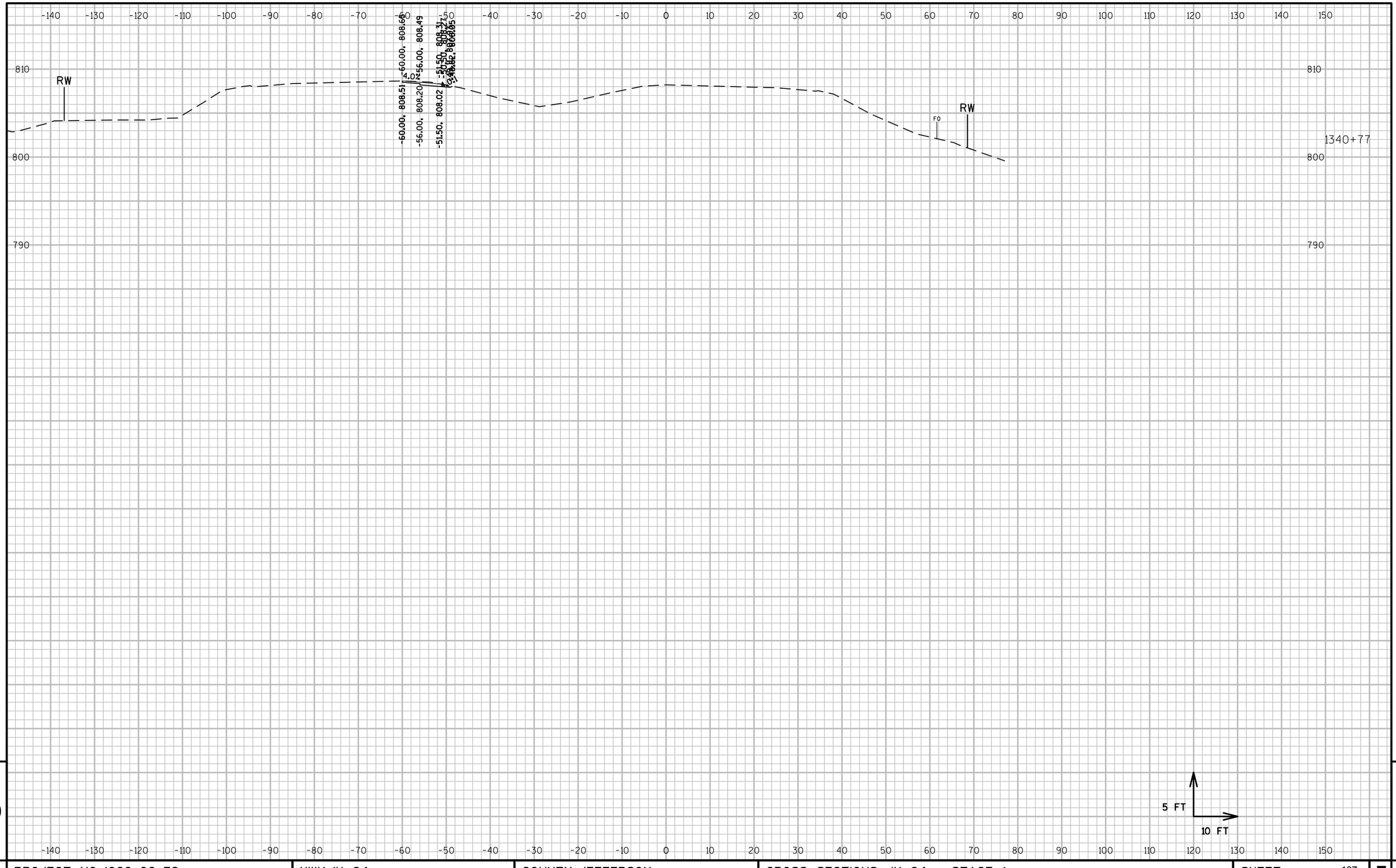
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PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: IH 94 - STAGE 1	SHEET 207	E

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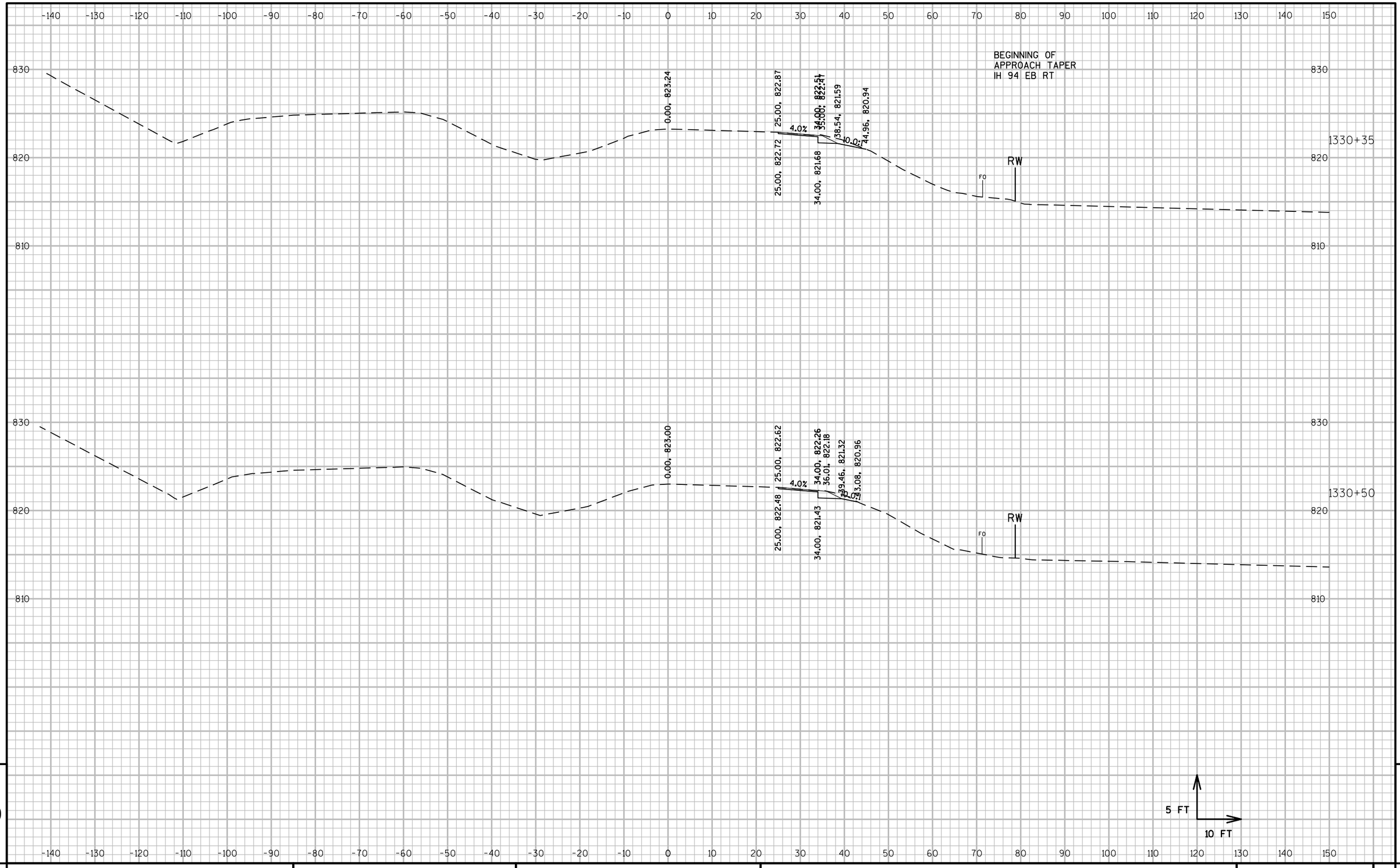
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PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: IH 94 - STAGE 1	SHEET	E

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LAYOUT NAME - 0902506_XS

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PLOT NAME :
PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49



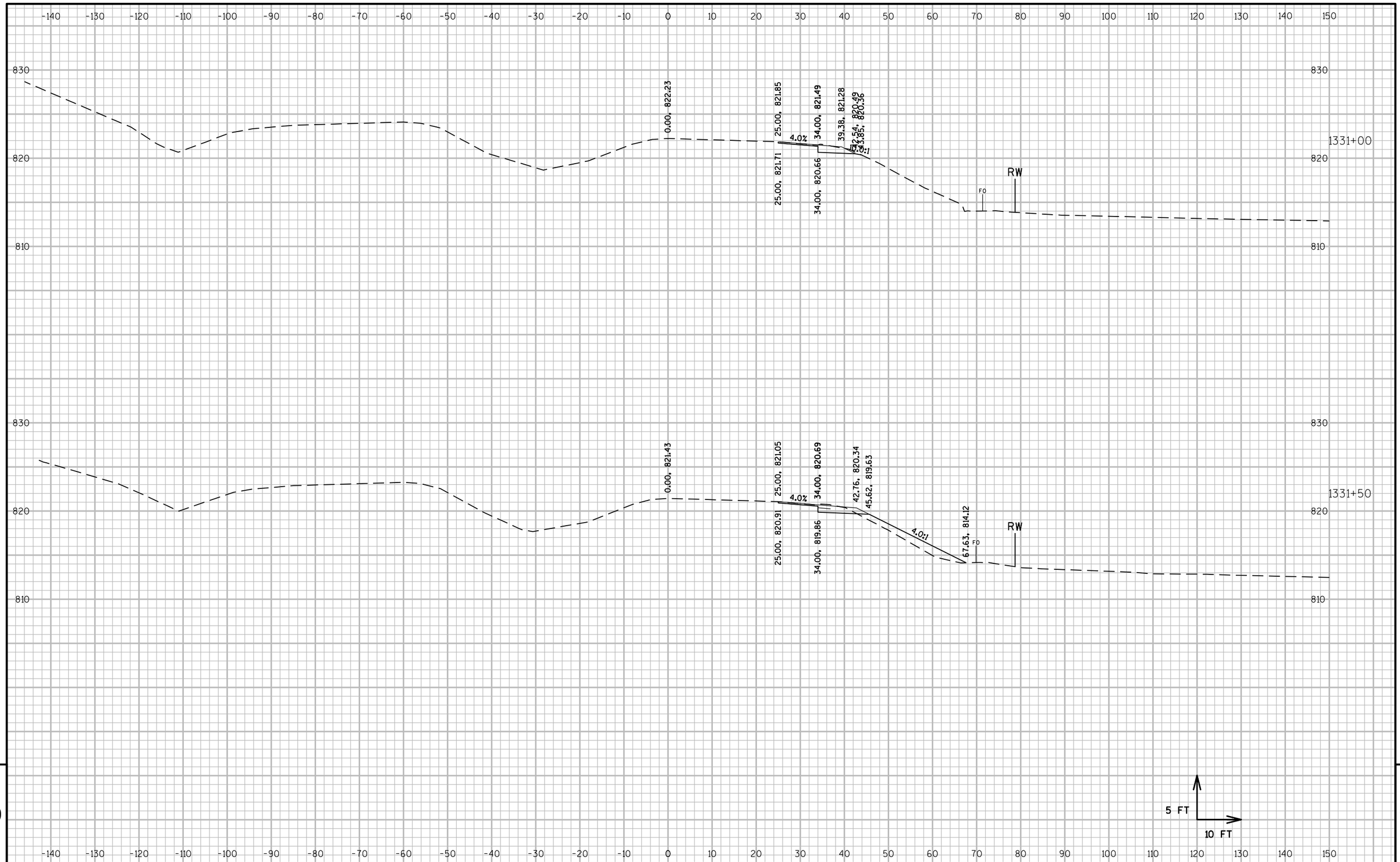
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PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: IH 94	SHEET 209	E

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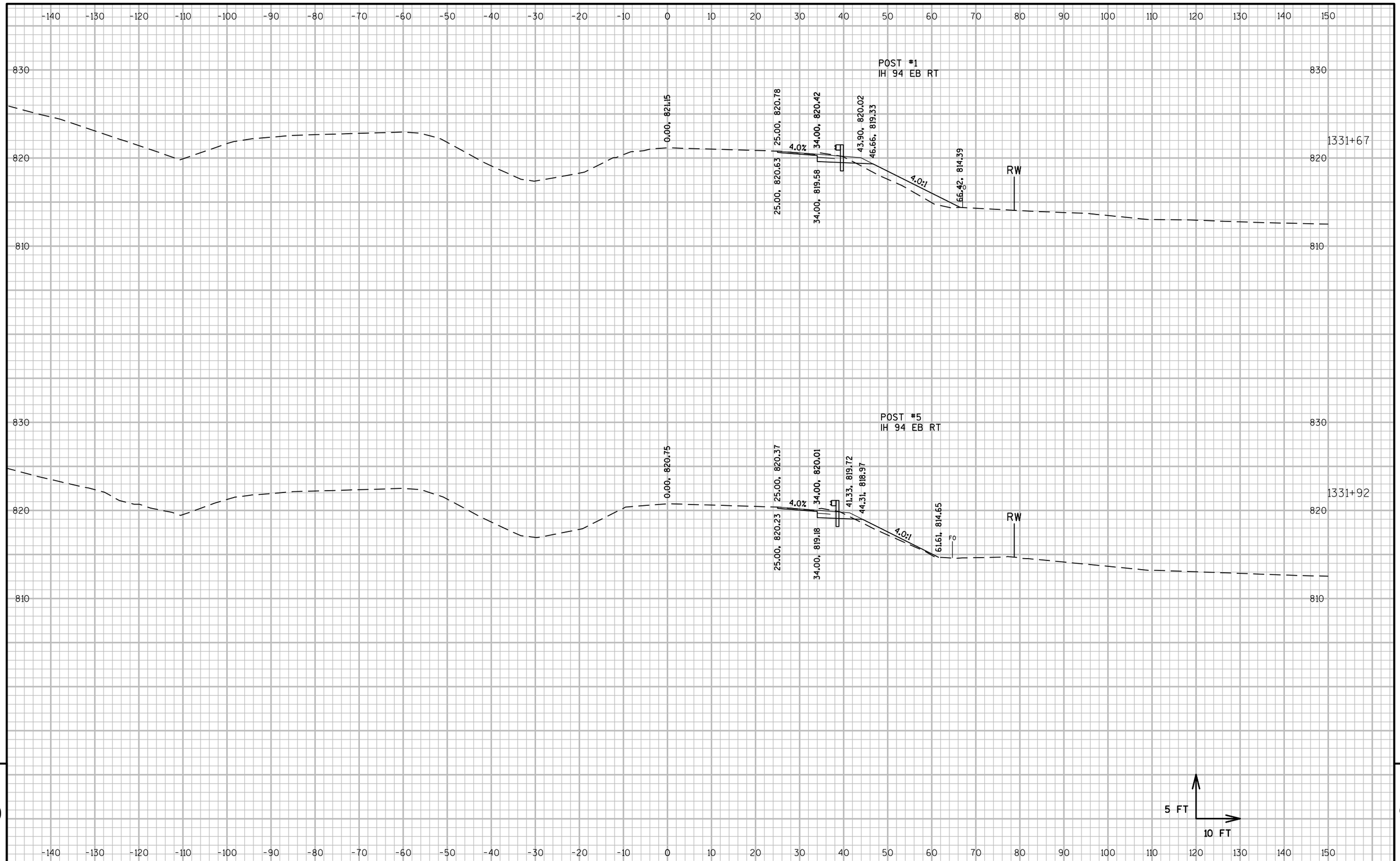
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WISDOT/CADDS SHEET 49



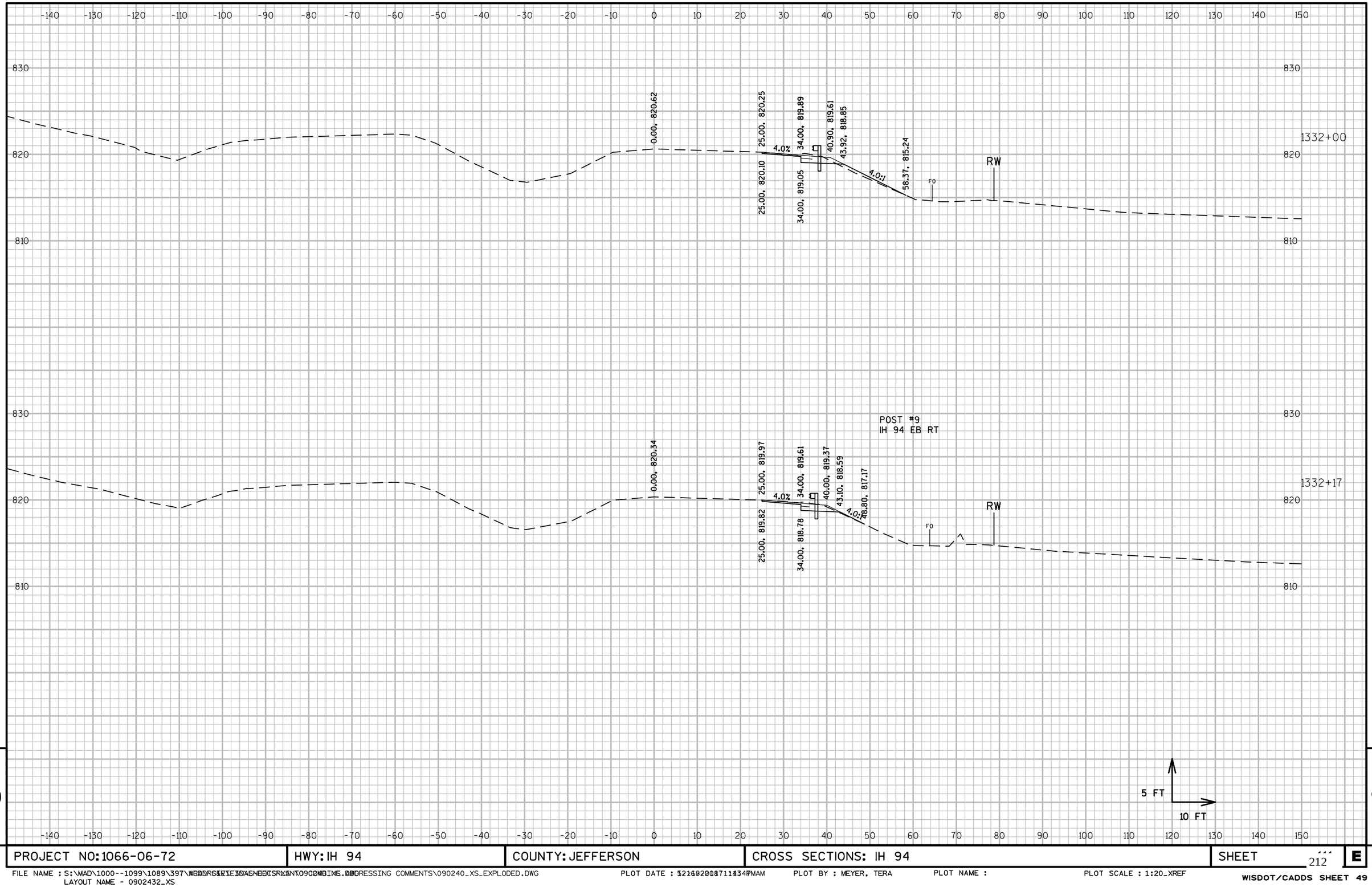
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LAYOUT NAME - 0902430_XS
PLOT DATE : 5/16/2013 11:34:47 AM
PLOT BY : MEYER, TERA
PLOT NAME :
PLOT SCALE : 1:20_XREF
WISDOT/CADDS SHEET 49



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PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: IH 94	SHEET 211 E

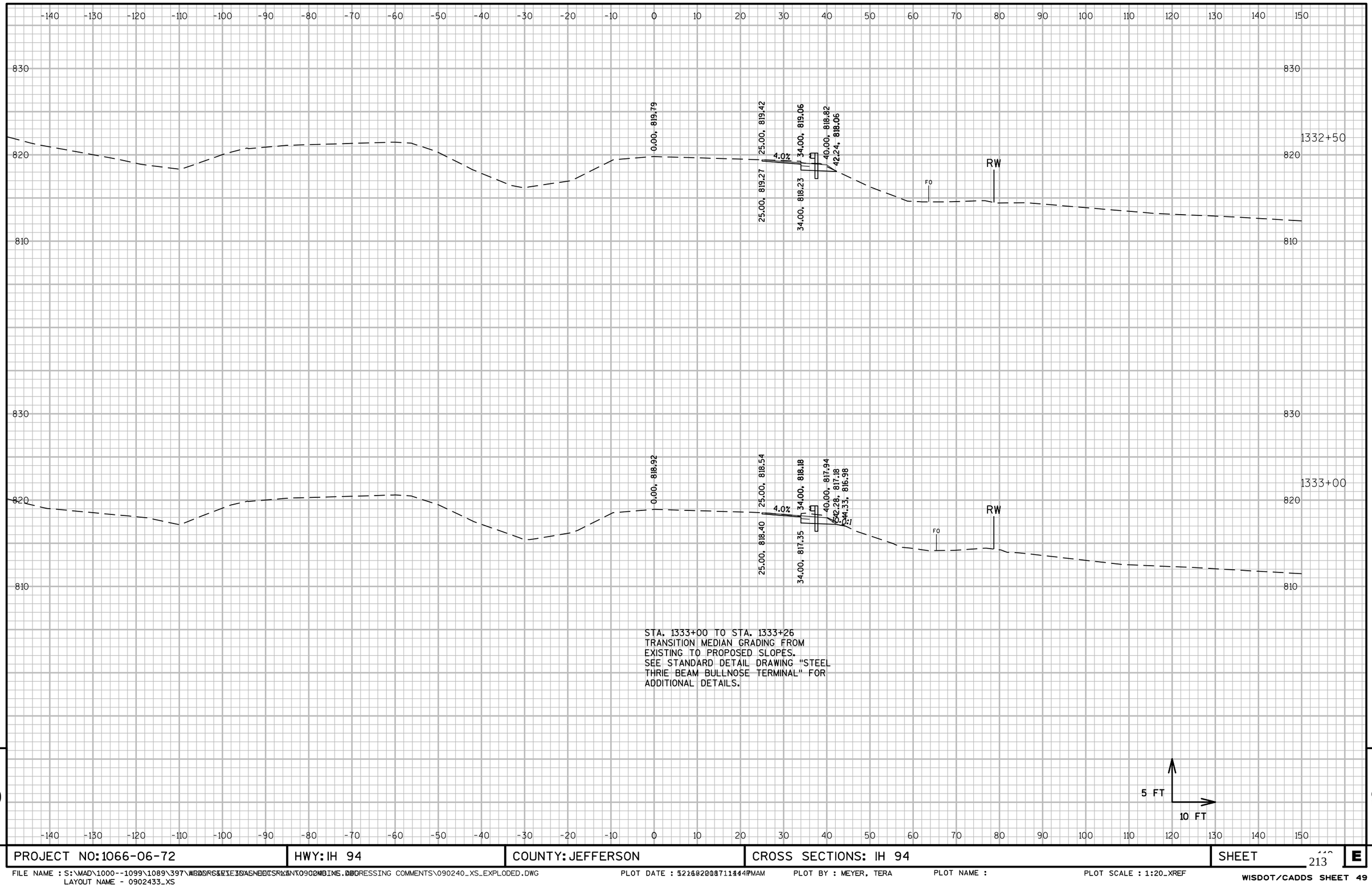


PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: IH 94	SHEET 212	E

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LAYOUT NAME - 0902432_XS

PLOT DATE : 5/16/2013 11:34 PM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49



9 9

PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: IH 94	SHEET 213 E

STA. 1333+26
210' PRIOR TO
STEEL THRIE BEAM
BULLNOSE TERMINAL

1333+26

-50.50, 819.78
-35.93, 816.16
-18.65, 815.83
-9.50, 818.11
0.00, 818.49
25.00, 818.11
34.00, 817.75
40.00, 817.51
42.28, 816.76
44.83, 816.50
25.00, 817.97
34.00, 816.92
4.0:1
4.0%
2.0:1
FO
RW

1333+50

-50.50, 819.39
-28.82, 815.02
-21.84, 815.22
-9.50, 817.71
0.00, 818.09
25.00, 817.72
34.00, 817.36
40.00, 817.11
42.28, 816.36
44.09, 816.18
25.00, 817.57
34.00, 816.52
5.0:1
4.0%
2.0:1
FO
TLE
RW

5 FT
10 FT

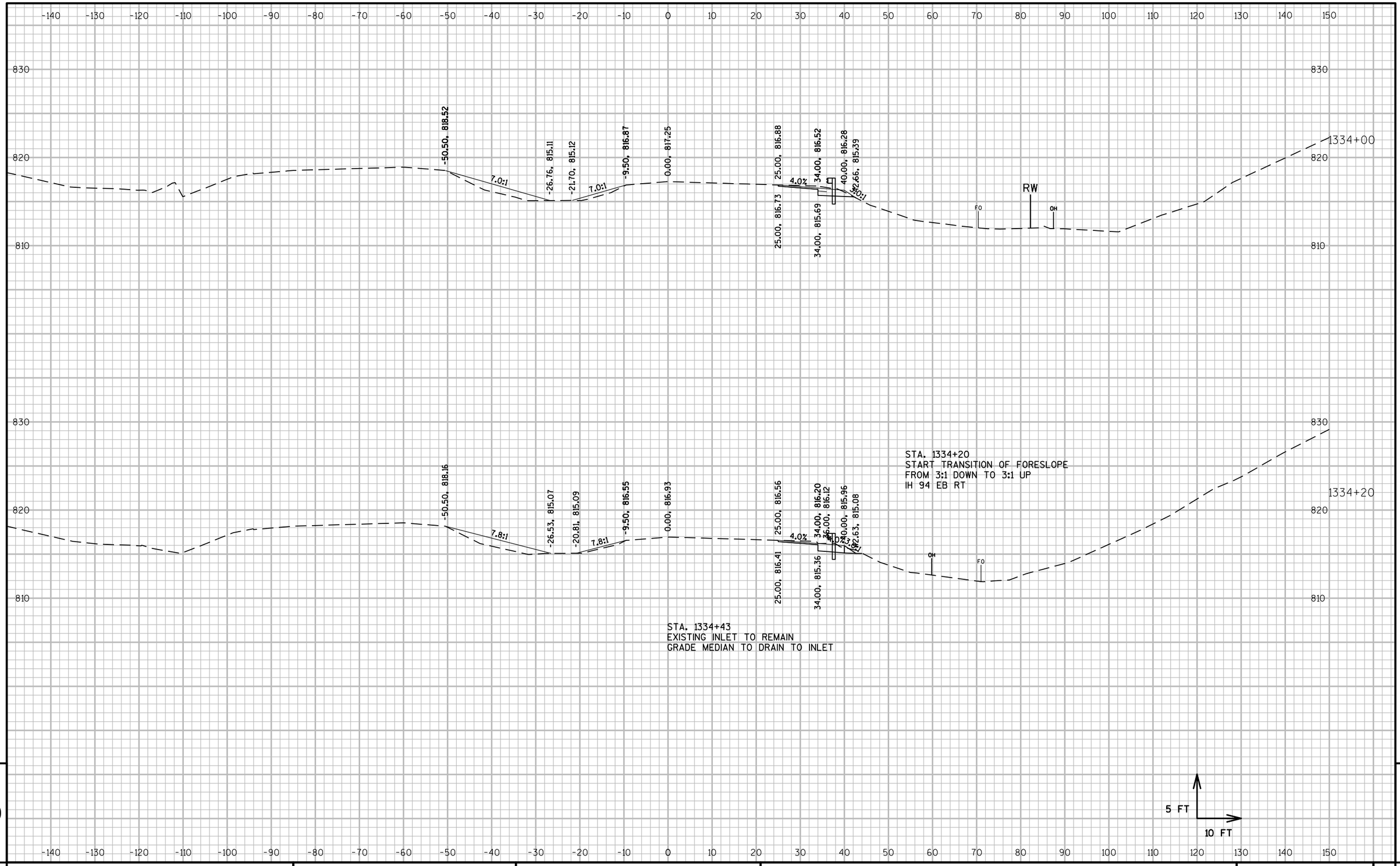
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PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: IH 94	SHEET 214	E

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LAYOUT NAME - 0902434_XS

PLOT DATE : [illegible] PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49



9 9

PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: IH 94	SHEET 215	E

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LAYOUT NAME - 0902435_XS
PLOT DATE : 5/16/2011 11:44 PM
PLOT BY : MEYER, TERA
PLOT NAME :
PLOT SCALE : 1:20_XREF
WISDOT/CADDS SHEET 49

STA. 1334+40
FLAT FORESLOPE
TRANSITIONING FROM 3:1 DOWN TO 3:1 UP
IH 94 EB RT

SEE CTH Q
CROSS SECTIONS

1334+40

-50.43, 817.78
8.6:1
-23.93, 814.70
8.6:1
-9.50, 816.22
0.00, 816.60
25.00, 816.36
4.0%
34.00, 816.00
36.00, 815.92
40.00, 815.76
1853.1:1
48.47, 815.77
4.8:1
55.81, 814.25
34.00, 815.17
40.00, 814.93
FO

STA. 1334+50
FLAT FORESLOPE
TRANSITIONING FROM 3:1 DOWN TO 3:1 UP
IH 94 EB RT

SEE CTH Q
CROSS SECTIONS

1334+50

-50.50, 817.62
9.0:1
-26.18, 814.92
9.0:1
-15.85, 815.36
-9.50, 816.07
0.00, 816.45
25.00, 816.21
4.0%
34.00, 815.85
36.00, 815.77
40.00, 815.61
6.5:1
48.53, 816.93
52.50, 816.23
34.00, 815.01
40.00, 814.77
FO

5 FT
10 FT

9

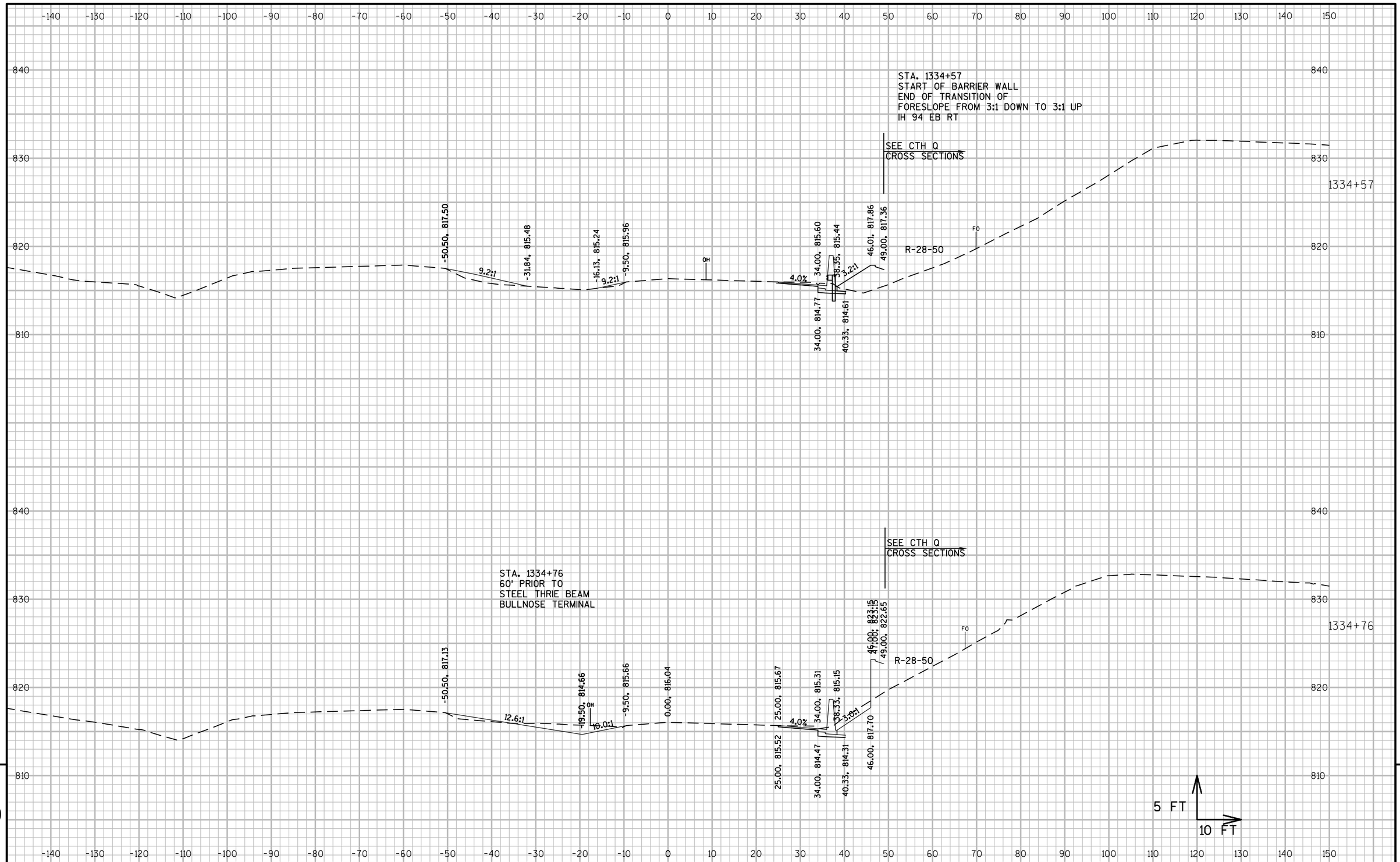
9

PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: IH 94	SHEET 216	E

FILE NAME : S:\MAD\1000--1099\1089\397\WEBDGNS\ROADWAY\SHEETS\090240_XS_EXPLODED.DWG
LAYOUT NAME - 0902436_XS

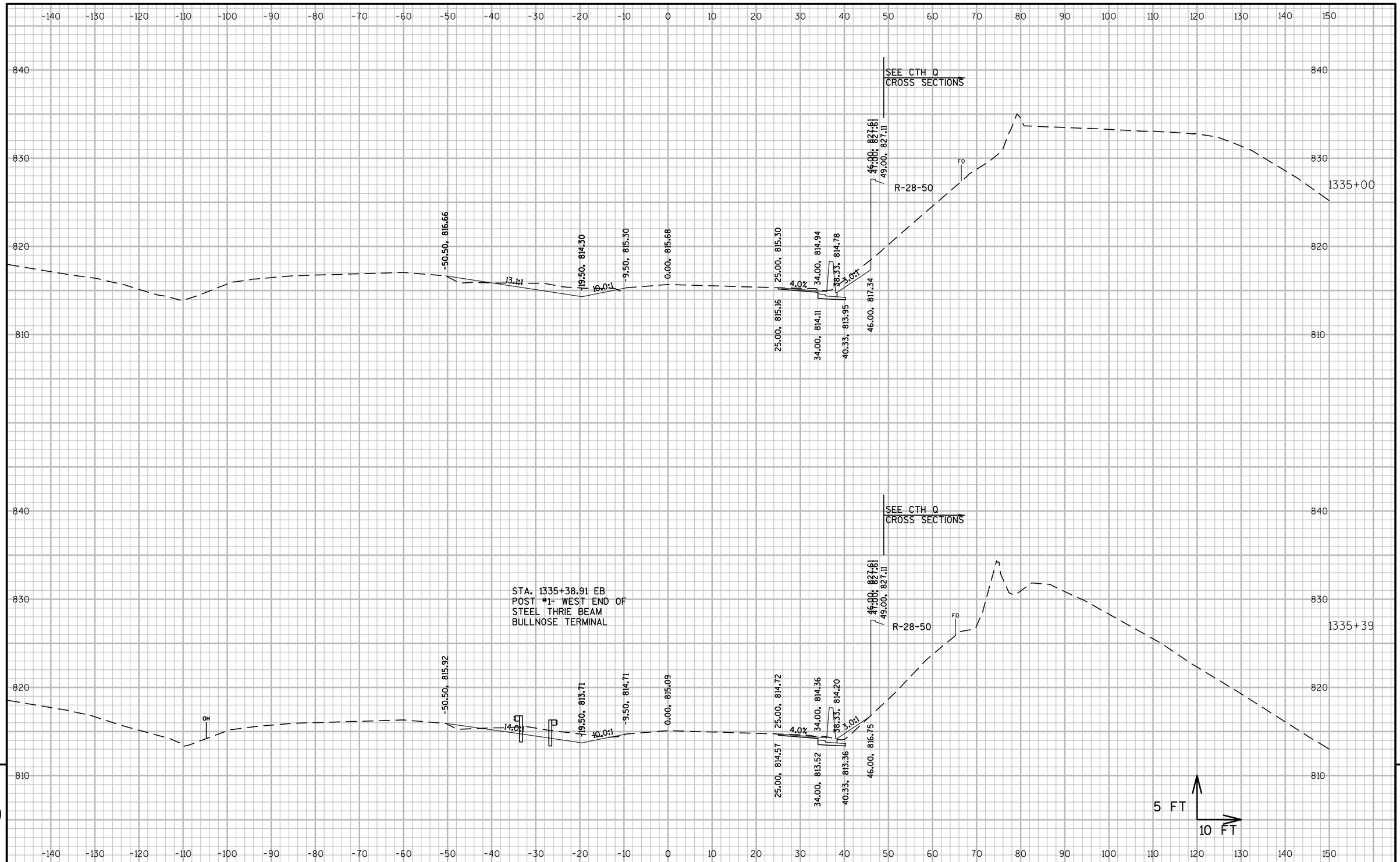
PLOT DATE : 5/16/2013 11:44:47 AM
PLOT BY : MEYER, TERA
PLOT NAME :
PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49



PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: IH 94	SHEET 217 E

FILE NAME : S:\MAD\1000--1099\1089\397\WEBDGS&SPECIFICATIONS\PLOTSHEETS\090240MBINS.DWG
LAYOUT NAME - 0902437_XS
ADDRESSING COMMENTS\090240_XS_EXPLODED.DWG
PLOT DATE : 5/16/2008 7:11:44 PM
PLOT BY : MEYER, TERA
PLOT NAME :
PLOT SCALE : 1:20_XREF
WISDOT/CADDS SHEET 49

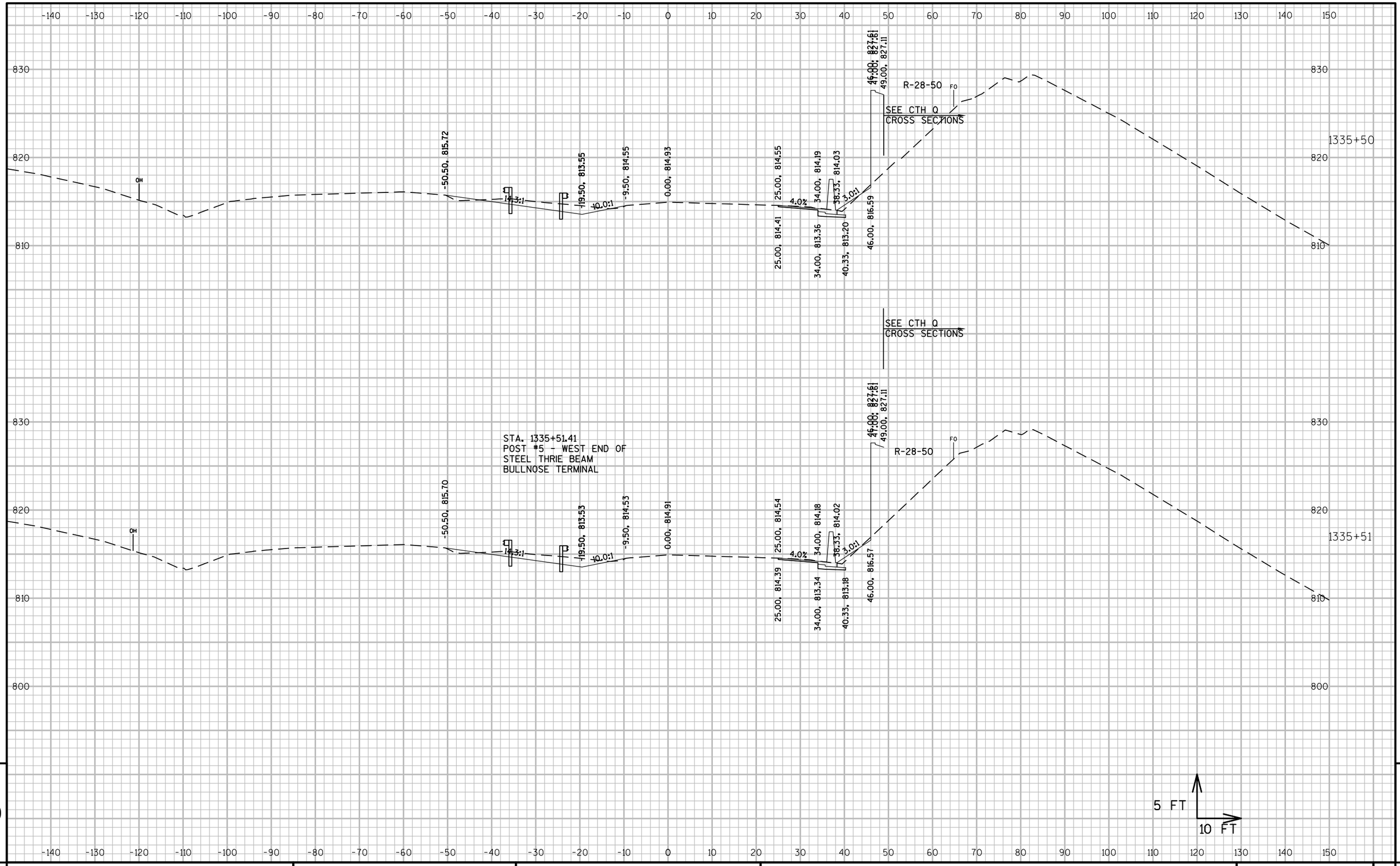


PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: IH 94	SHEET 218 E

FILE NAME : S:\MAD\1000--1099\1089\397\WEBDGNS&XTEIONSNDETSRKSNT0902WEBXS.DWG\ADDRESSING COMMENTS\090240_XS_EXPLODED.DWG
LAYOUT NAME - 0902438_XS

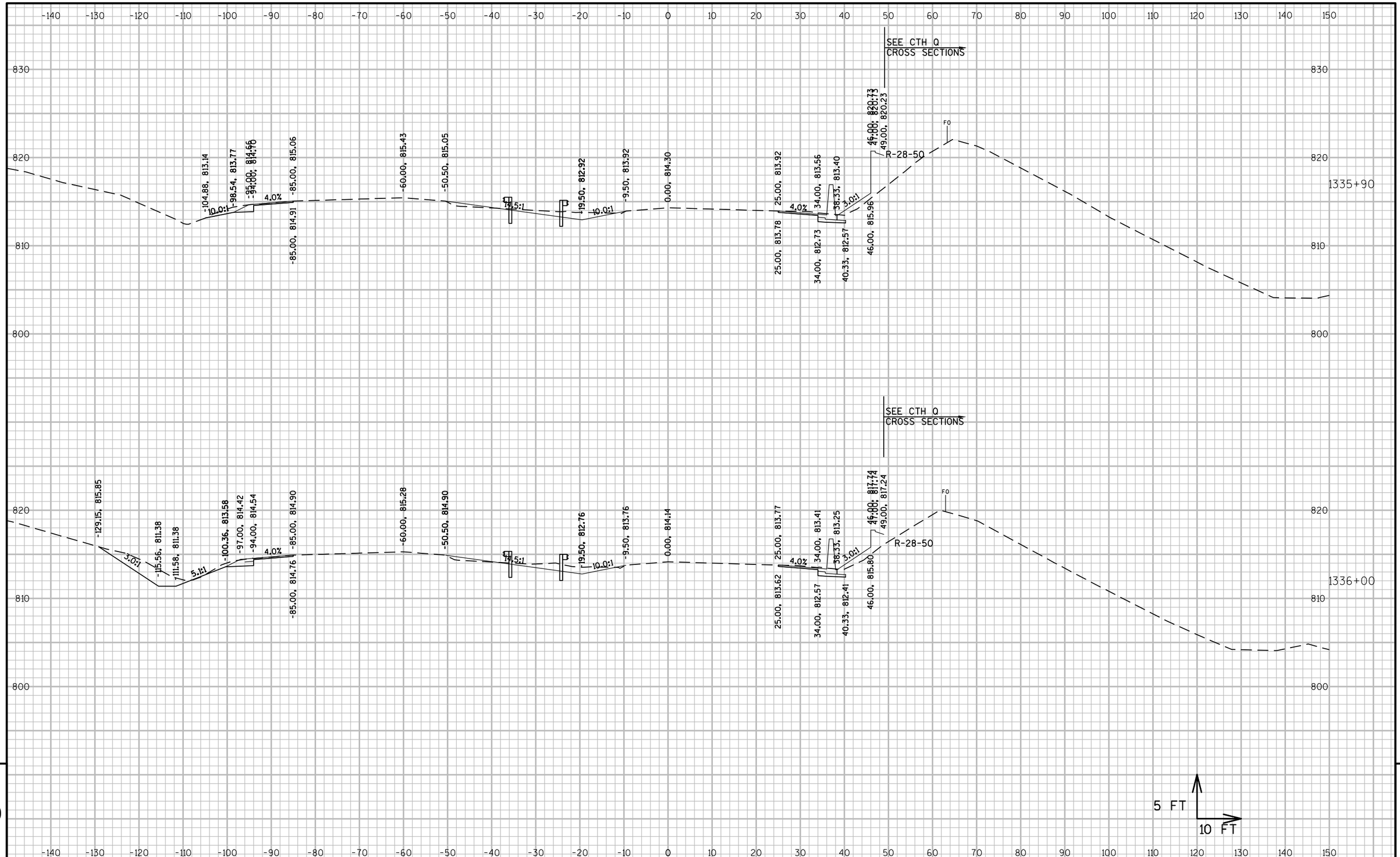
PLOT DATE : 5/16/2013 11:44:47 AM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49



PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: IH 94	SHEET 219	E

FILE NAME : S:\MAD\1000--1099\1089\397\WORKING\CROSS SECTIONS\090240_XS_EXPLODED.DWG
LAYOUT NAME - 0902439_XS
PLOT DATE : 5/16/2008 7:11:54 AM
PLOT BY : MEYER, TERA
PLOT NAME :
PLOT SCALE : 1:20_XREF
WISDOT/CADDS SHEET 49



9 9

PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: IH 94	SHEET 220	E

STA. 1336+03
FIXED OBJECT BEING PROTECTED (B-28-186 PIER)
BY STEEL THRIE BEAM BULLNOSE TERMINAL

-130.71, 816.04
-116.17, 811.19
-112.17, 811.19
-100.97, 813.38
-97.00, 814.37
-94.00, 814.49
-85.00, 814.85
-85.00, 814.71
-60.00, 815.23
-50.50, 814.85
-19.50, 812.72
-9.50, 813.72
25.00, 813.72
34.00, 813.36
36.01, 813.28
38.33, 813.20
46.01, 816.84
49.00, 816.34
25.00, 813.58
34.00, 812.53
40.33, 812.37

3.0:1
4.0:1
5.1:1
4.0%
7.5:1
10.0:1
3.0:1
4.0%
R-28-50
SEE CTH Q
CROSS SECTIONS
FO
1336+03

STA. 1336+06
START TRANSITION OF FORESLOPE
FROM 3:1 UP TO 4:1 DOWN
END BARRIER WALL
IH 94 EB RT

-132.85, 816.32
-115.88, 811.00
-112.88, 811.00
-100.97, 813.34
-97.00, 814.33
-94.00, 814.45
-94.01, 813.61
-85.00, 814.81
-85.01, 814.66
-50.50, 814.80
-19.50, 812.67
-9.50, 813.67
25.00, 813.67
36.00, 813.23
38.00, 813.15
46.01, 815.94
49.00, 815.44
25.00, 813.53
34.00, 812.48
40.33, 812.32

3.0:1
5.1:1
4.0%
4.0%
7.6:1
10.0:1
3.0:1
FO
1336+06

STA. 1336+06
START TRANSITION OF FORESLOPE
FROM 5.1:1 DOWN TO 3:1 UP
IH 94 WB LT

820
810
800

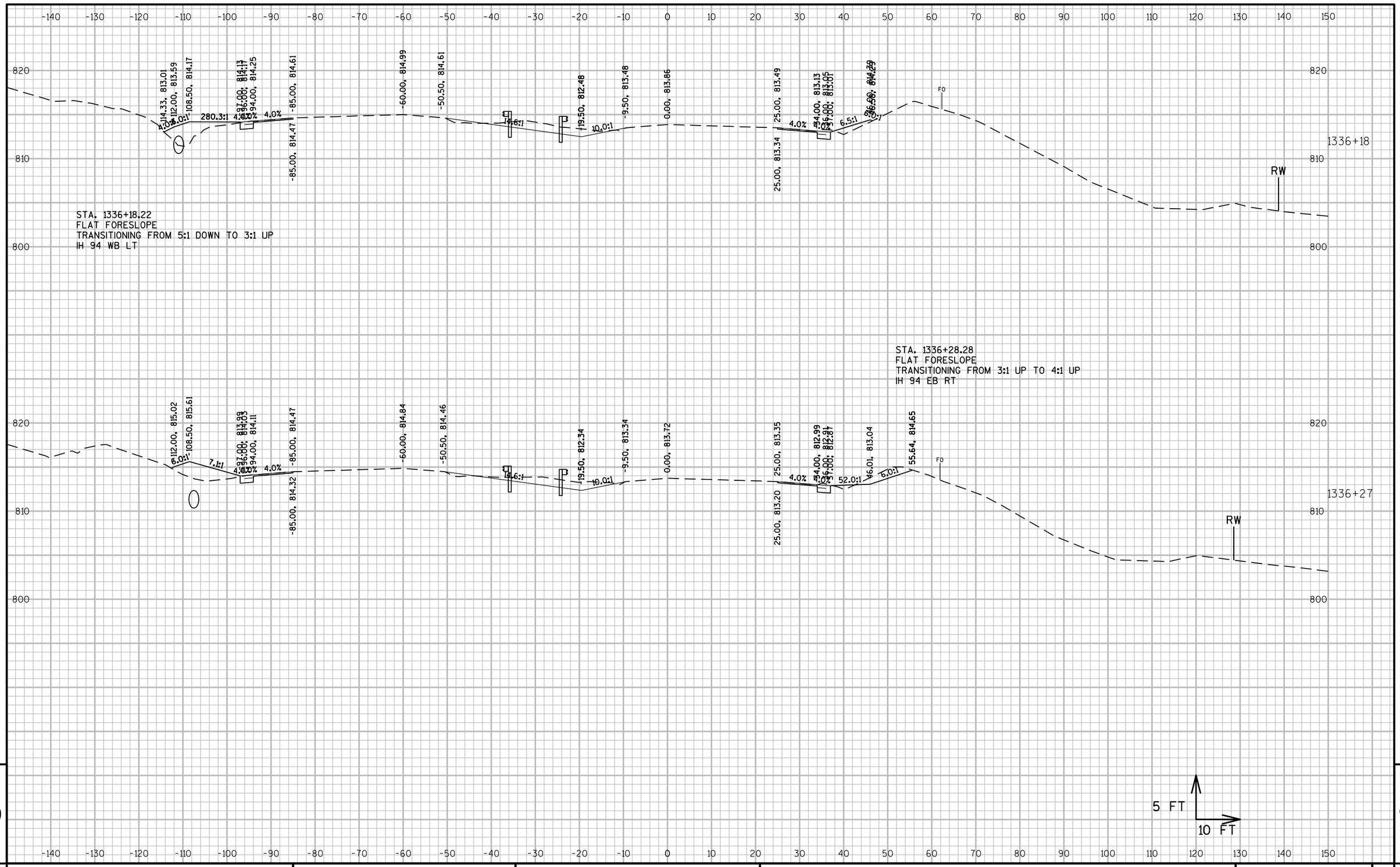
5 FT
10 FT

9

PROJECT NO: 1066-06-72 | HWY: IH 94 | COUNTY: JEFFERSON | CROSS SECTIONS: IH 94 | SHEET 221 | E

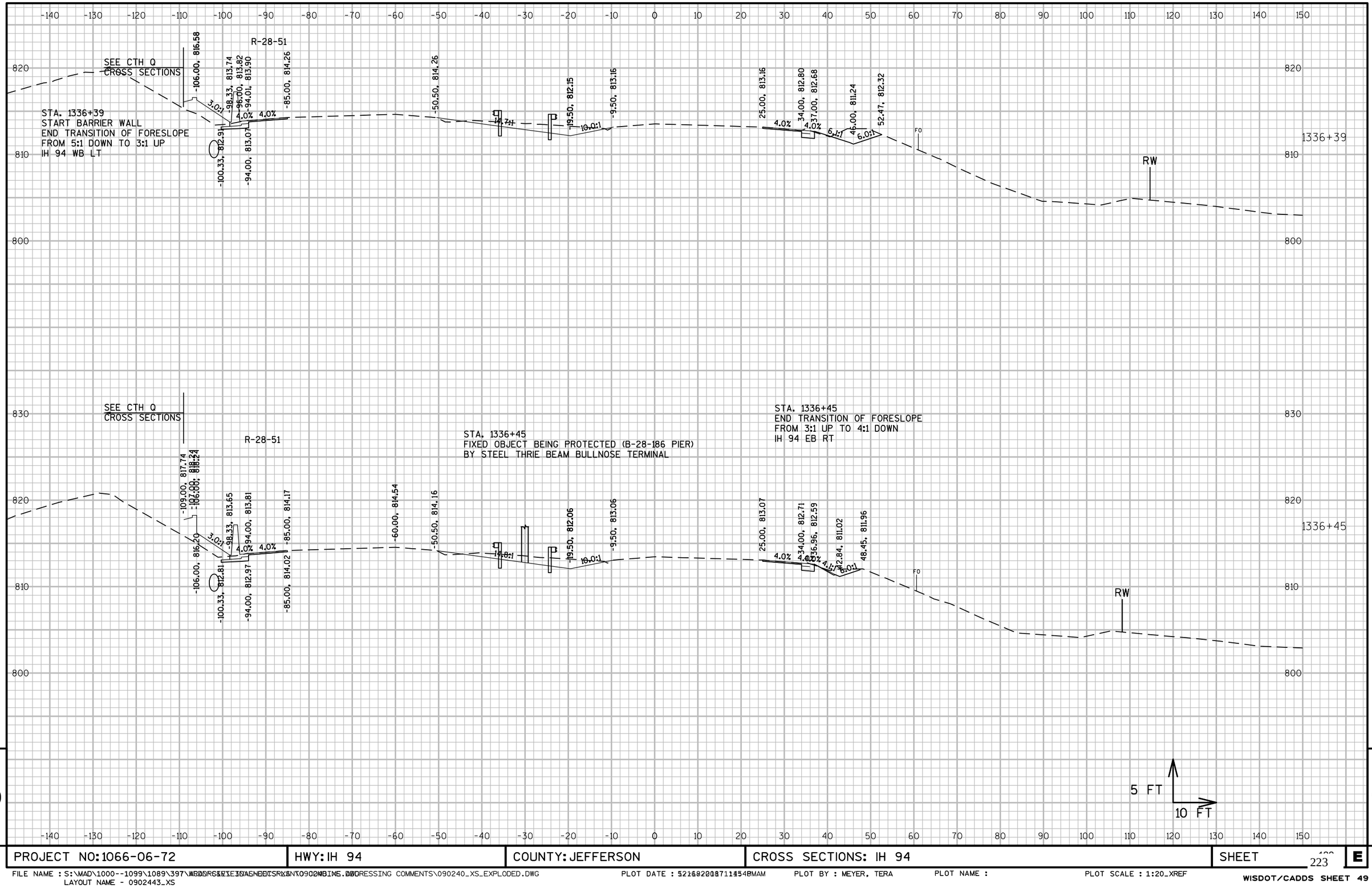
FILE NAME : S:\MAD\1000--1099\1089\397\WORKING\CROSS SECTIONS\090240_XS_EXPLODED.DWG
LAYOUT NAME - 0902441_XS
PLOT DATE : 5/16/2011 11:54 AM
PLOT BY : MEYER, TERA
PLOT NAME :
PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49



PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: IH 94	SHEET 222	E

FILE NAME : S:\MAD\1000--1099\1089\397\WORKING\ROADWAY\CROSS SECTIONS\090240_XS_EXPLODED.DWG
LAYOUT NAME - 0902442_XS
PLOT DATE : 5/16/2008 7:11:54 AM
PLOT BY : MEYER, TERA
PLOT NAME :
PLOT SCALE : 1:20_XREF
WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: IH 94	SHEET 223	E

FILE NAME : S:\MAD\1000--1099\1089\397\WEBDGNS\EIS\ASBUILTS\090240MBINS.DWG
LAYOUT NAME - 0902443_XS

ADDRESSING COMMENTS\090240_XS_EXPLODED.DWG

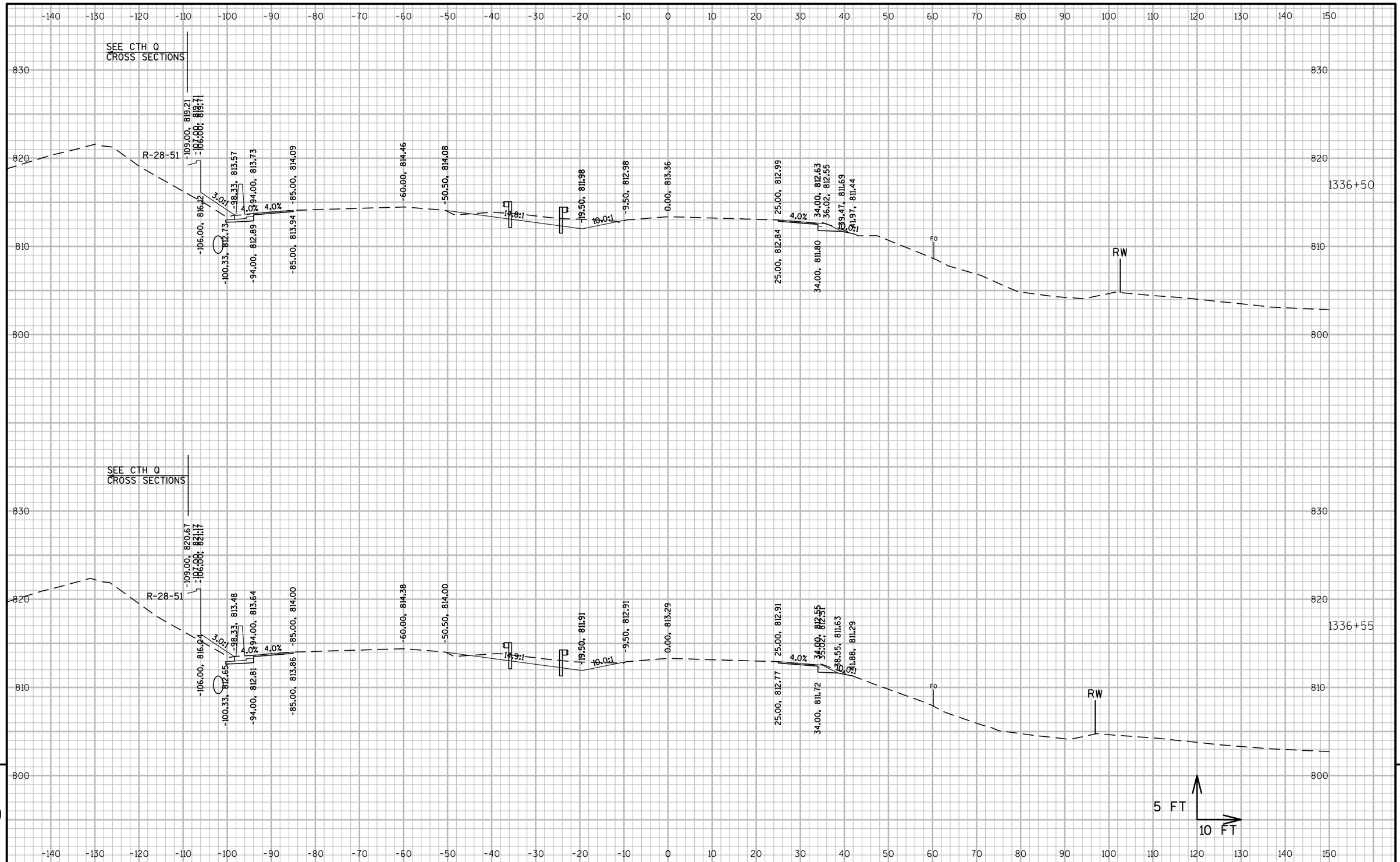
PLOT DATE : 5/16/2008 11:14:54 AM

PLOT BY : MEYER, TERA

PLOT NAME :

PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49



PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: IH 94	SHEET 224	E

FILE NAME : S:\MAD\1000--1099\1089\397\WEBDGS&SPECIFICATIONS\CROSSSECTS\090240_XS_EXPLODED.DWG
LAYOUT NAME - 0902444_XS
PLOT DATE : 5/16/2008 7:11:54 AM
PLOT BY : MEYER, TERA
PLOT NAME :
PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49

SEE CTH Q
CROSS SECTIONS

R-28-51

-109.00, 826.22
-106.00, 826.72

-106.00, 815.25
-100.33, 811.87
-98.33, 812.70
-94.00, 812.03
-94.00, 812.86
-85.00, 813.07
-85.00, 813.22
-60.00, 813.59
-50.50, 813.21
-19.50, 811.27
-9.50, 812.27

3.0:1
4.0%
4.0%
4.0%
16.0:1
10.0:1

RW
FO

1337+00

SEE CTH Q
CROSS SECTIONS

R-28-51

-109.00, 826.22
-106.00, 826.72

-106.00, 815.24
-100.33, 811.85
-98.33, 812.68
-94.00, 812.01
-94.00, 812.84
-85.00, 813.05
-85.00, 813.20
-60.00, 813.58
-50.50, 813.20
-19.50, 811.26
-9.50, 812.26

STA. 1337+01.41
POST #5 - EAST END OF
STEEL THRIE BEAM
BULLNOSE TERMINAL

3.0:1
4.0%
4.0%
4.0%
16.0:1
10.0:1

RW
FO

1337+01

5 FT
10 FT

PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: IH 94	SHEET 225	E

FILE NAME : S:\MAD\1000--1099\1089\397\WORKSPACE\DESIGN\CROSS SECTIONS\090240_XS_EXPLODED.DWG
LAYOUT NAME - 0902445_XS

PLOT DATE : 5/21/2009 11:44:48 AM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49

SEE CTH Q
CROSS SECTIONS

R-28-51

-109.00, 826.22
-106.00, 826.72

STA. 1337+13.91
POST #1 - EAST END OF
STEEL THRIE BEAM
BULLNOSE TERMINAL

1337+14

-106.00, 815.00
3.0:1
-98.33, 812.44
-94.00, 812.60
4.0%
-85.00, 812.96
-100.33, 811.61
-94.00, 811.77
-85.00, 812.82
-60.00, 813.34
-50.50, 812.97
16.47'
-19.50, 811.08
10.0:1
-9.50, 812.08
FO
RW

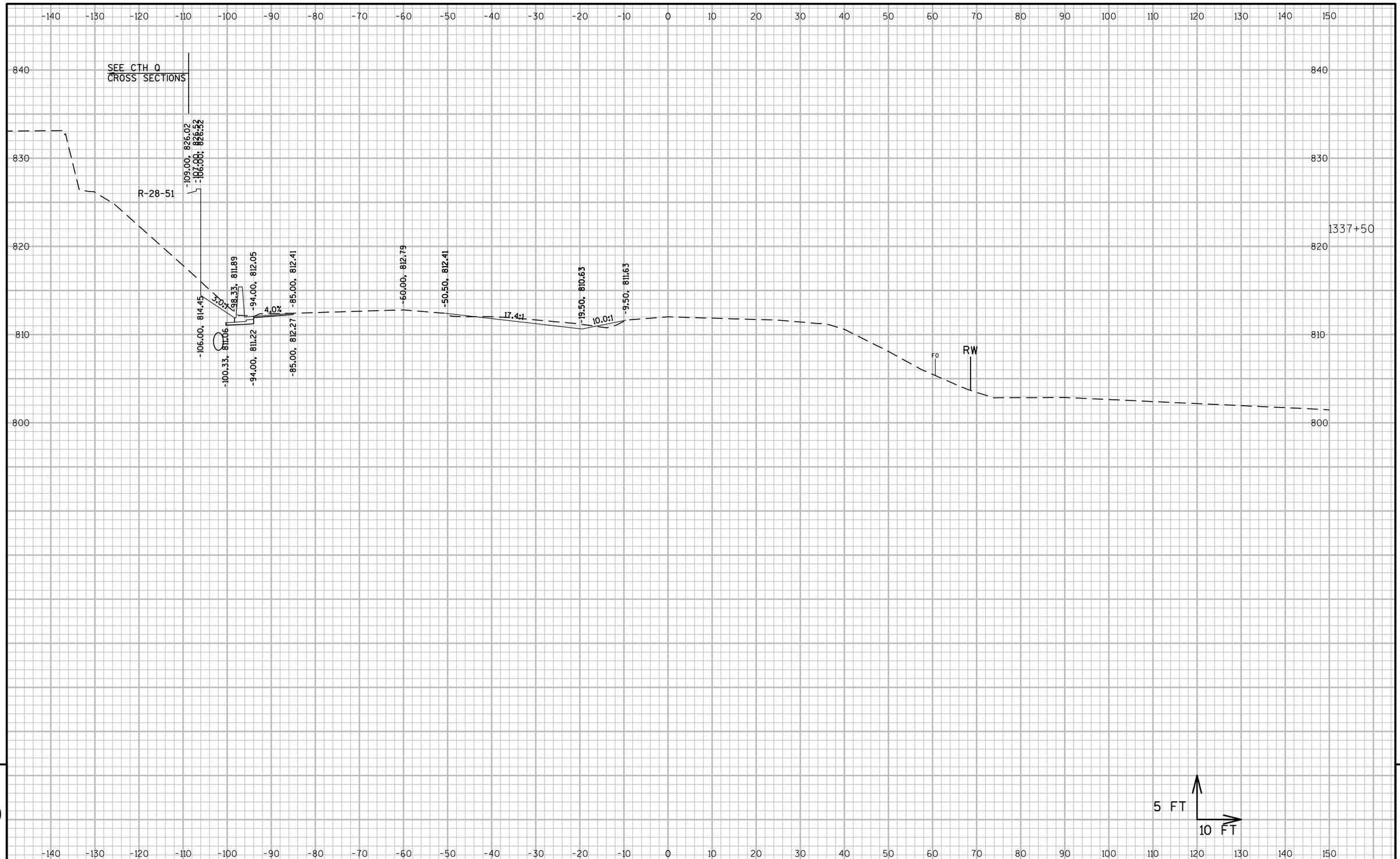
5 FT
10 FT

PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: IH 94	SHEET 226	E

FILE NAME : S:\MAD\1000--1099\1089\397\WEBDGS&SPECIFICATIONS\PLANSHEETS\0902WEBINS.DWG RESSING COMMENTS\090240_XS_EXPLODED.DWG
LAYOUT NAME - 0902446_XS

PLOT DATE : 5/16/2013 11:14:48 AM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

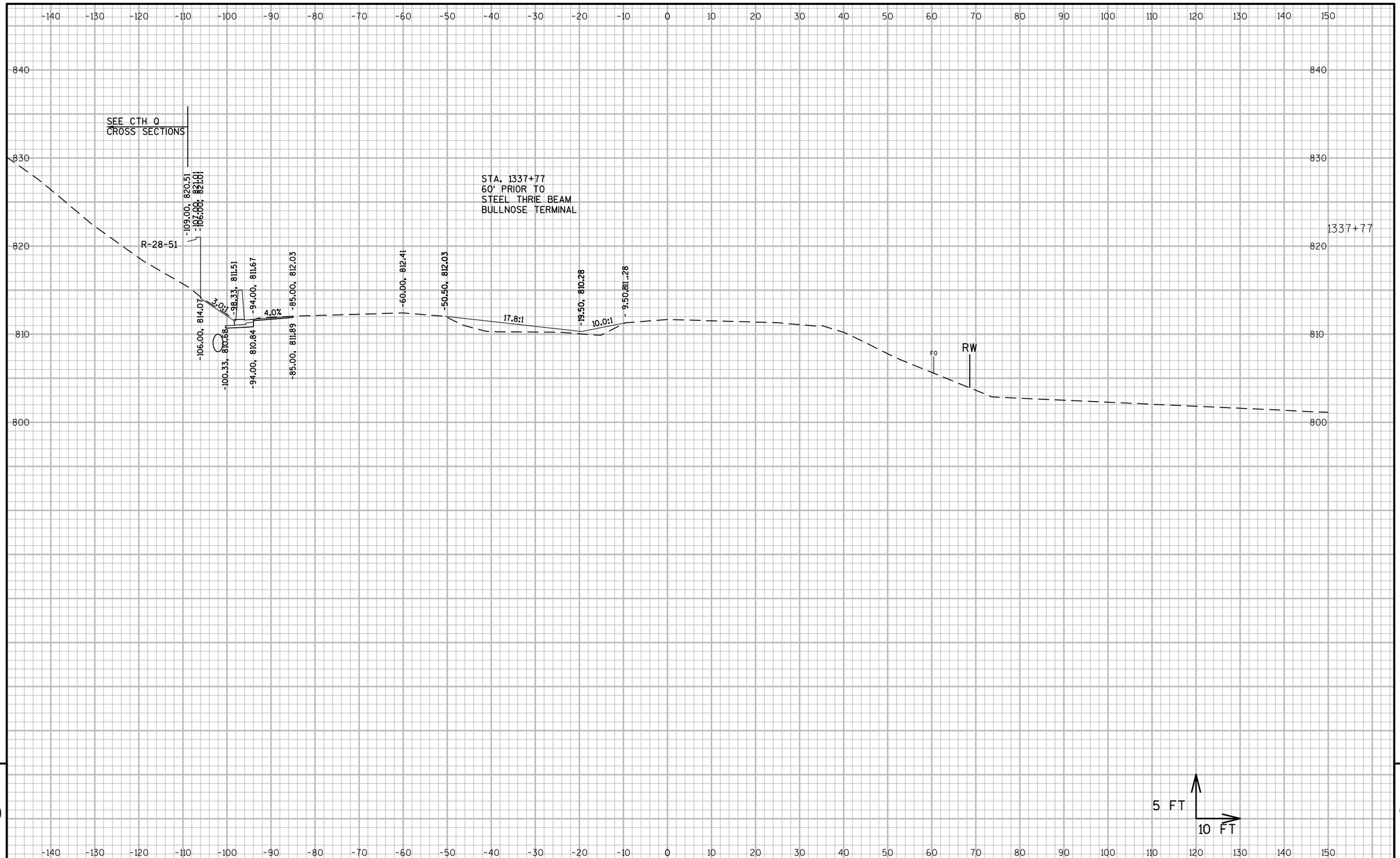
WISDOT/CADDS SHEET 49



PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: IH 94	SHEET 227	E

FILE NAME : S:\MAD\1000--1099\1089\397\WEBDGS&SPECIFICATIONS\PLOTSHEETS\090240MBINE.DWG
LAYOUT NAME - 0902447_XS
ADDRESSING COMMENTS\090240_XS_EXPLODED.DWG
PLOT DATE : 5/16/2013 11:14:48 AM
PLOT BY : MEYER, TERA
PLOT NAME :
PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49



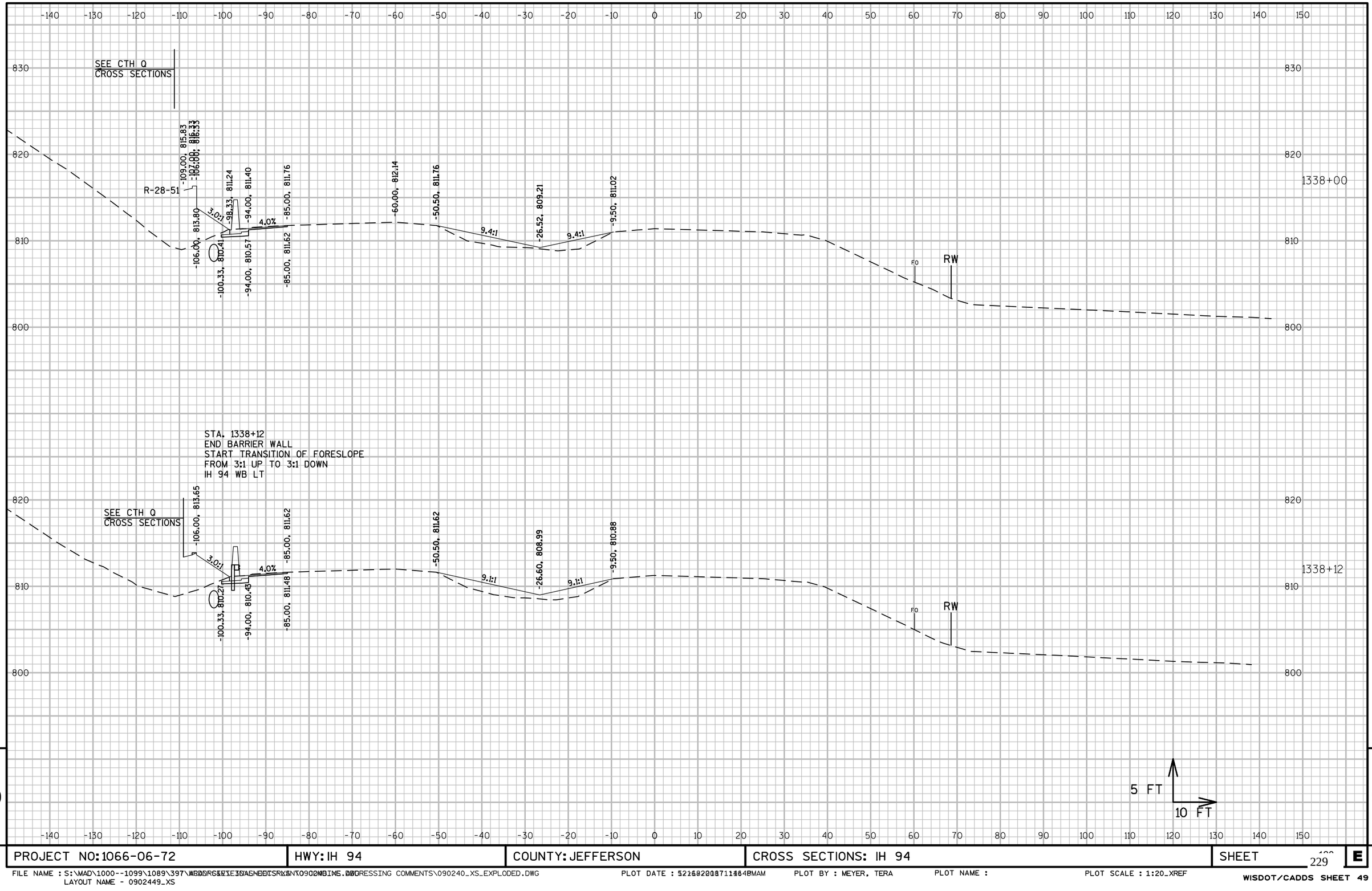
9 9

PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: IH 94	SHEET 228	E

FILE NAME : S:\MAD\1000--1099\1089\397\WEBDGS&SPECIFICATIONS\PLOTSKETCH\0902MBINS.DWG ADDRESSING COMMENTS\090240_XS_EXPLODED.DWG
LAYOUT NAME - 0902448_XS

PLOT DATE : 5/16/2013 7:11:44 AM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

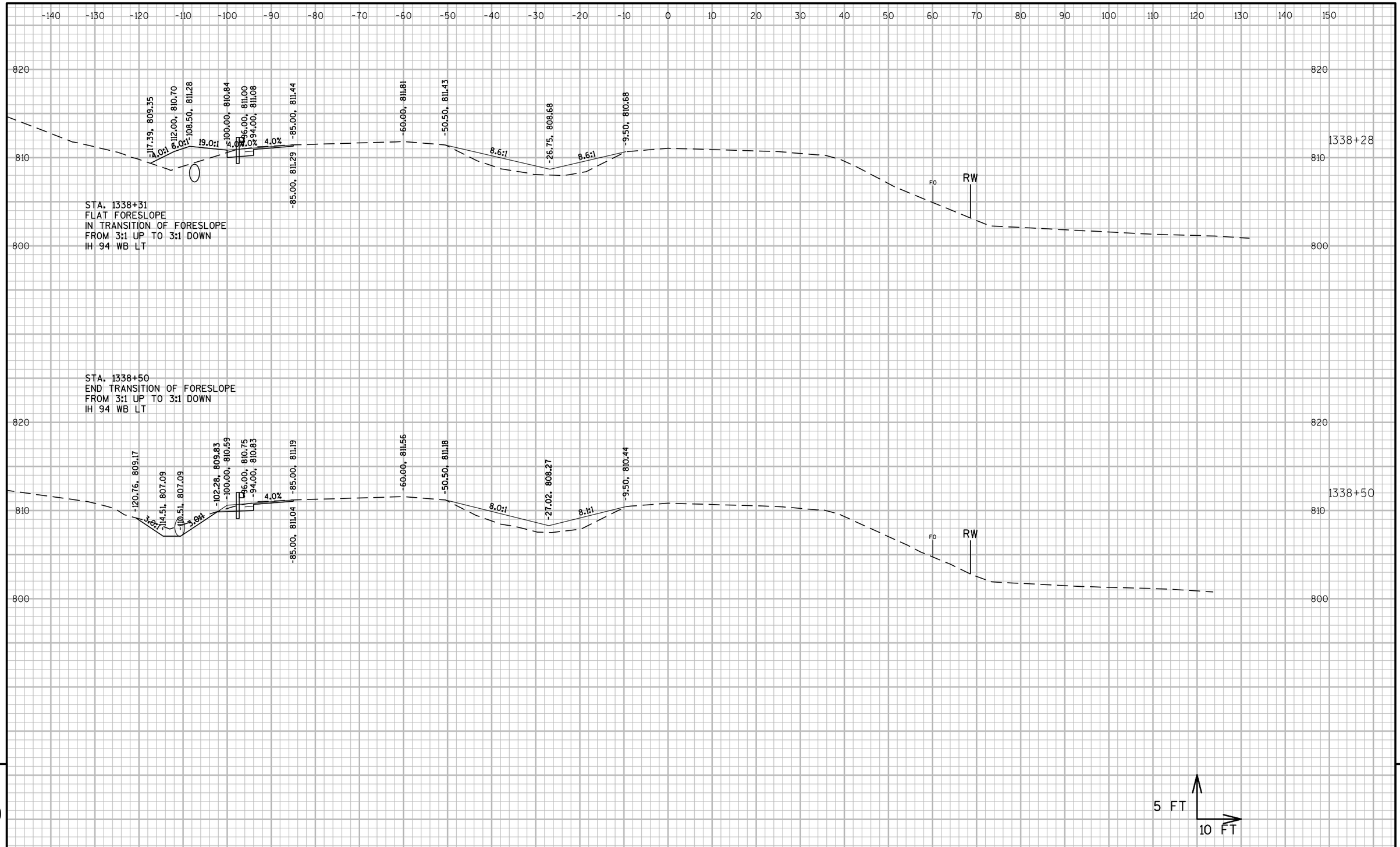
WISDOT/CADDS SHEET 49



PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: IH 94	SHEET 229 E

FILE NAME : S:\MAD\1000--1099\1089\397\WEBDGNS\VEIS\ASBUILTS\ASBUILT090240MBINS.DWG
LAYOUT NAME - 0902449_XS
ADDRESSING COMMENTS\090240_XS_EXPLODED.DWG
PLOT DATE : 5/16/2013 11:44:48 AM
PLOT BY : MEYER, TERA
PLOT NAME :
PLOT SCALE : 1:20_XREF

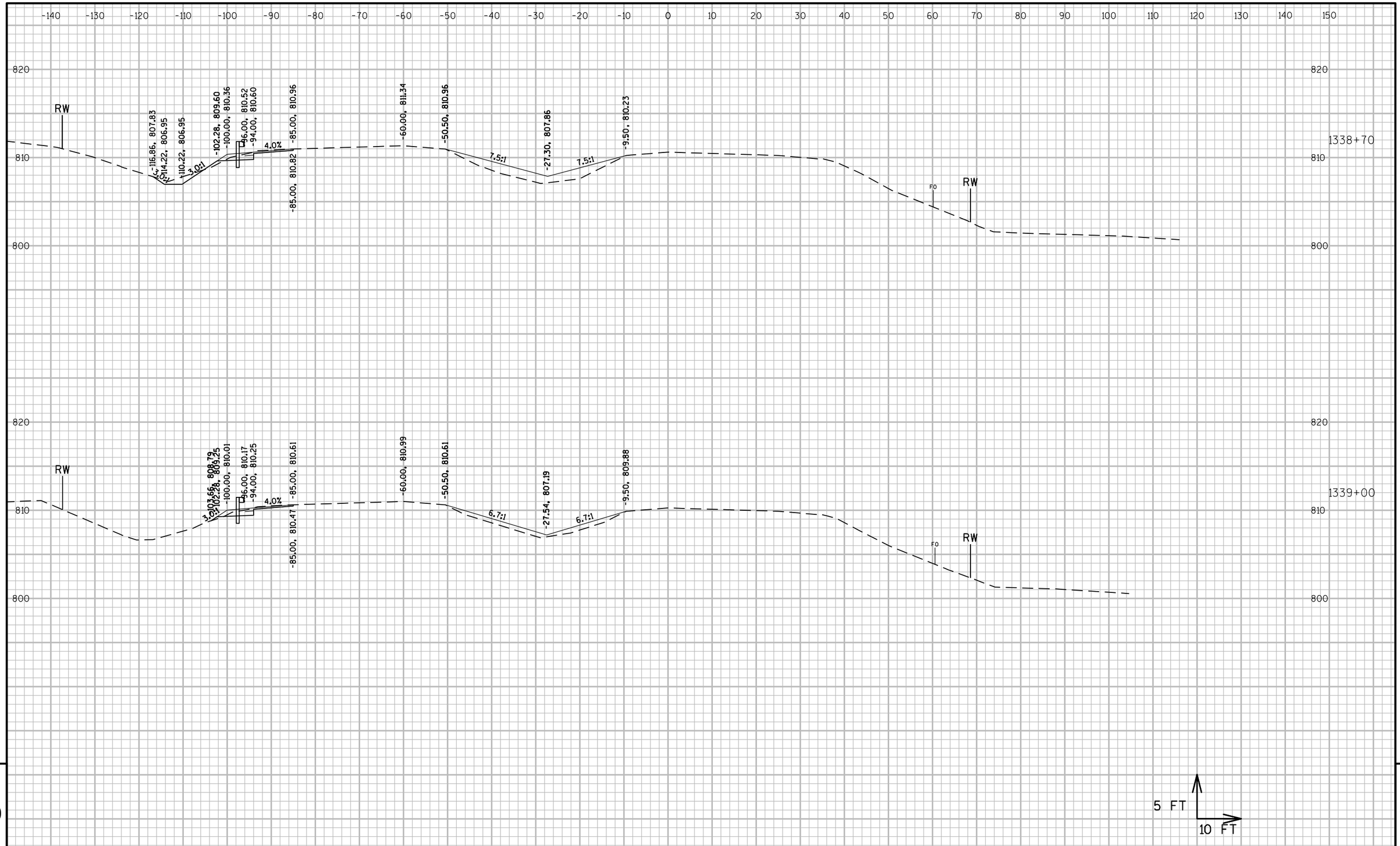
WISDOT/CADDS SHEET 49



PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: IH 94	SHEET 230	E

FILE NAME : S:\MAD\1000--1099\1089\397\WORKSHEETS\ADDRESSING COMMENTS\090240_XS_EXPLODED.DWG
LAYOUT NAME - 0902450_XS
PLOT DATE : 5/16/2013 11:16:48 AM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49



9 9

PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: IH 94	SHEET 231	E

FILE NAME : S:\MAD\1000--1099\1089\397\ROADWAY\SHEETS\XS\090240_XS_EXPLODED.DWG
LAYOUT NAME - 0902451_XS

PLOT DATE : 5/16/2008 7:11:17 AM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49

STA. 1339+27
210' PRIOR TO
STEEL THRIE BEAM
BULLNOSE TERMINAL

1339+27

RW
-104.38, 808.22
-102.28, 808.93
-100.00, 809.69
-96.00, 809.85
-94.00, 809.93
-85.00, 810.29
-85.00, 810.14
3.0:1
4.0%
-60.00, 810.66
-50.50, 810.28
6.0:1
-29.72, 806.81
-23.94, 807.17
6.1:1
-9.50, 809.55
F0
RW

1339+50

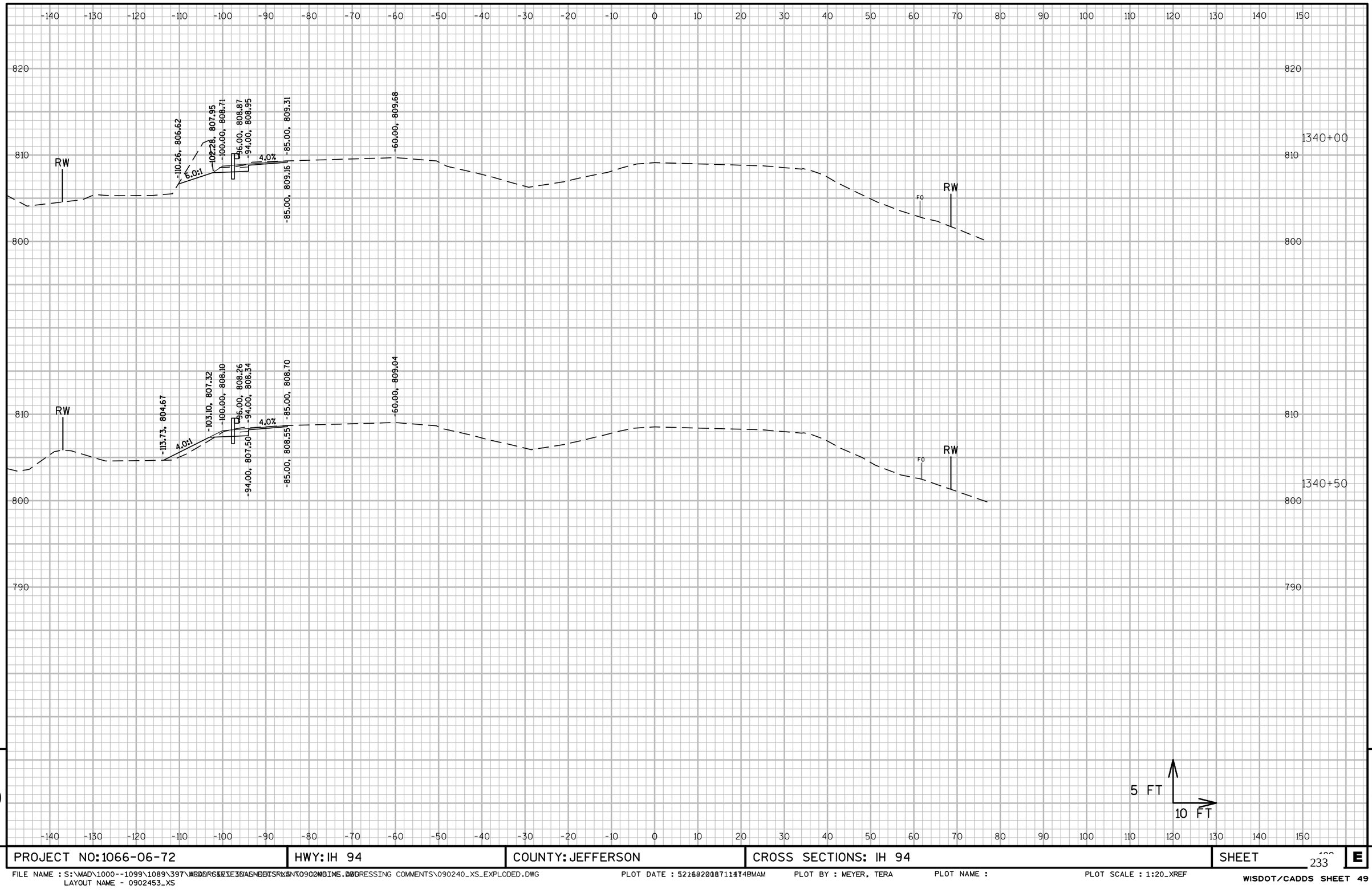
RW
-105.99, 807.37
-102.28, 808.61
-100.00, 809.37
-96.00, 809.53
-94.00, 809.61
-85.00, 809.97
-85.00, 809.82
3.0:1
4.0%
-60.00, 810.34
F0
RW

5 FT
10 FT

9 9

PROJECT NO: 1066-06-72 | HWY: IH 94 | COUNTY: JEFFERSON | CROSS SECTIONS: IH 94 | SHEET 232 E

FILE NAME : S:\MAD\1000--1099\1089\397\WEBDGNS\VERIFICATIONSHEETS\090240_XS_EXPLODED.DWG
LAYOUT NAME - 0902452_XS
PLOT DATE : 5/16/2007 11:14:19 AM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF



PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: IH 94	SHEET 233	E

FILE NAME : S:\MAD\1000--1099\1089\397\WORKSPACE\DESIGN\PLANSET\SHEETS\090240_XS_EXPLODED.DWG
LAYOUT NAME - 0902453_XS

PLOT DATE : 5/16/2011 11:14:19 AM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49

POST #9
IH 94 WB LT

RW

-113.70, 804.65
4.0:1
-103.10, 807.30
-100.00, 808.07
-96.00, 808.23
-94.00, 808.31
4.0%
-85.00, 808.67
-60.00, 809.00
-94.00, 807.48
-85.00, 808.53
F0
RW

1340+52

POST #5
IH 94 WB LT

RW

-114.73, 804.35
4.0:1
-104.32, 806.95
-101.33, 807.70
-97.00, 807.87
-94.00, 807.99
4.0%
-85.00, 808.35
-60.00, 808.65
-94.00, 807.16
-85.00, 808.21
F0
RW

1340+77

5 FT
10 FT

9

9

PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: IH 94	SHEET 234	E

FILE NAME : S:\MAD\1000--1099\1089\397\WORKSPACE\CSRXSNT090240.DWG
LAYOUT NAME - 0902454_XS

PLOT DATE : 5/16/2008 11:14:19 AM
PLOT BY : MEYER, TERA
PLOT NAME :
PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49

-140 -130 -120 -110 -100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

810
800
790

RW
-116.27, 804.18
4.0:1
-106.47, 806.63
-103.69, 807.32
-97.92, 807.55
4.0%
-94.00, 807.71
-85.00, 808.07
-60.00, 808.39
-94.00, 806.88
-85.00, 807.93
FO
RW

1341+00

POST #1
IH 94 WB LT

RW
-116.42, 804.16
4.0:1
-106.66, 806.60
-103.90, 807.29
-98.00, 807.53
4.0%
-94.00, 807.69
-85.00, 808.05
-60.00, 808.33
-94.00, 806.85
-85.00, 807.90
FO
RW

1341+02

5 FT
10 FT

9

PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: IH 94	SHEET 235	E

FILE NAME : S:\MAD\1000--1099\1089\397\ROADWAY\PLANSHEETS\090240_XS_EXPLODED.DWG
LAYOUT NAME - 0902455_XS

PLOT DATE : 5/16/2008 7:11:14 AM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49

-140 -130 -120 -110 -100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

810
800
790

RW
-112.37, 803.97
4.0%
-103.73, 806.13
-100.69, 806.89
-94.00, 806.32
-94.00, 807.12
-94.00, 807.15
-85.00, 807.37
-85.00, 807.51
4.0%
-60.00, 807.78
FO
RW

1341+50

RW
-100.94, 805.68
-97.34, 806.51
-94.00, 806.65
-94.00, 805.81
4.0%
-85.00, 806.86
-85.00, 807.01
-60.00, 807.26
FO
RW

1342+00

5 FT
10 FT

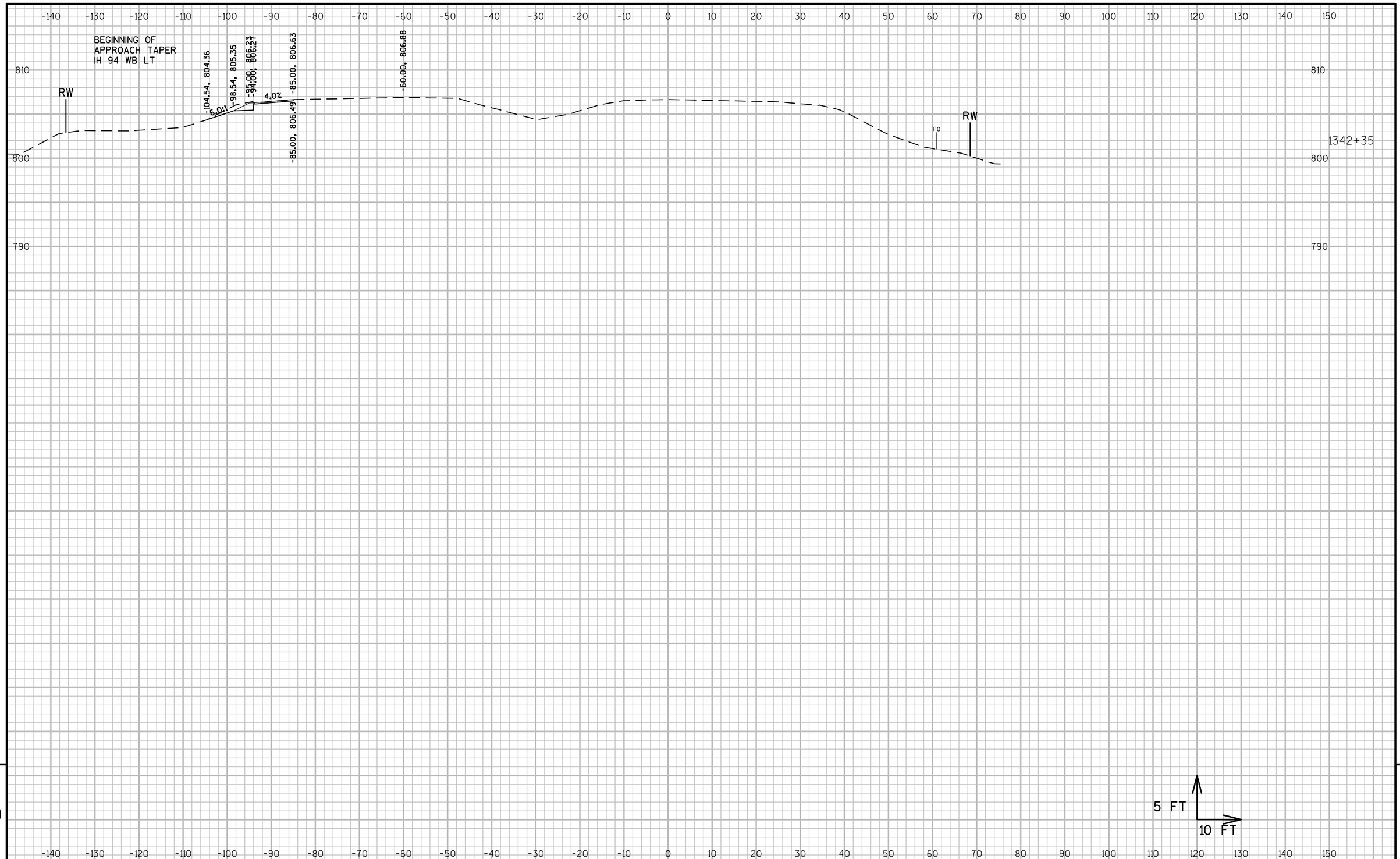
9

PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: IH 94	SHEET 236	E

FILE NAME : S:\MAD\1000--1099\1089\397\ROADWAY\SHEETS\XS\090240_XS_EXPLODED.DWG
LAYOUT NAME - 0902456_XS

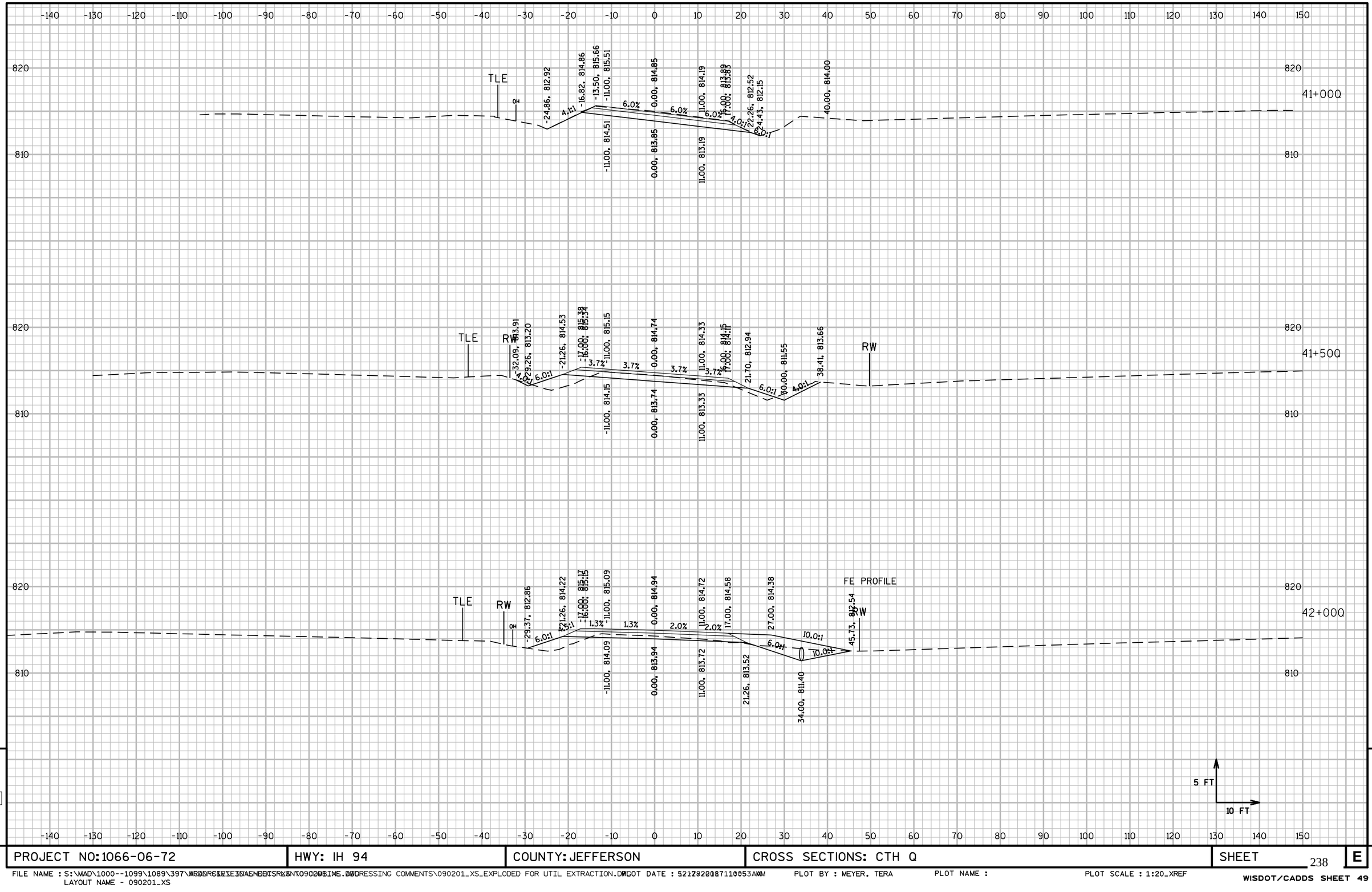
PLOT DATE : 5/16/2013 7:14:49 AM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49



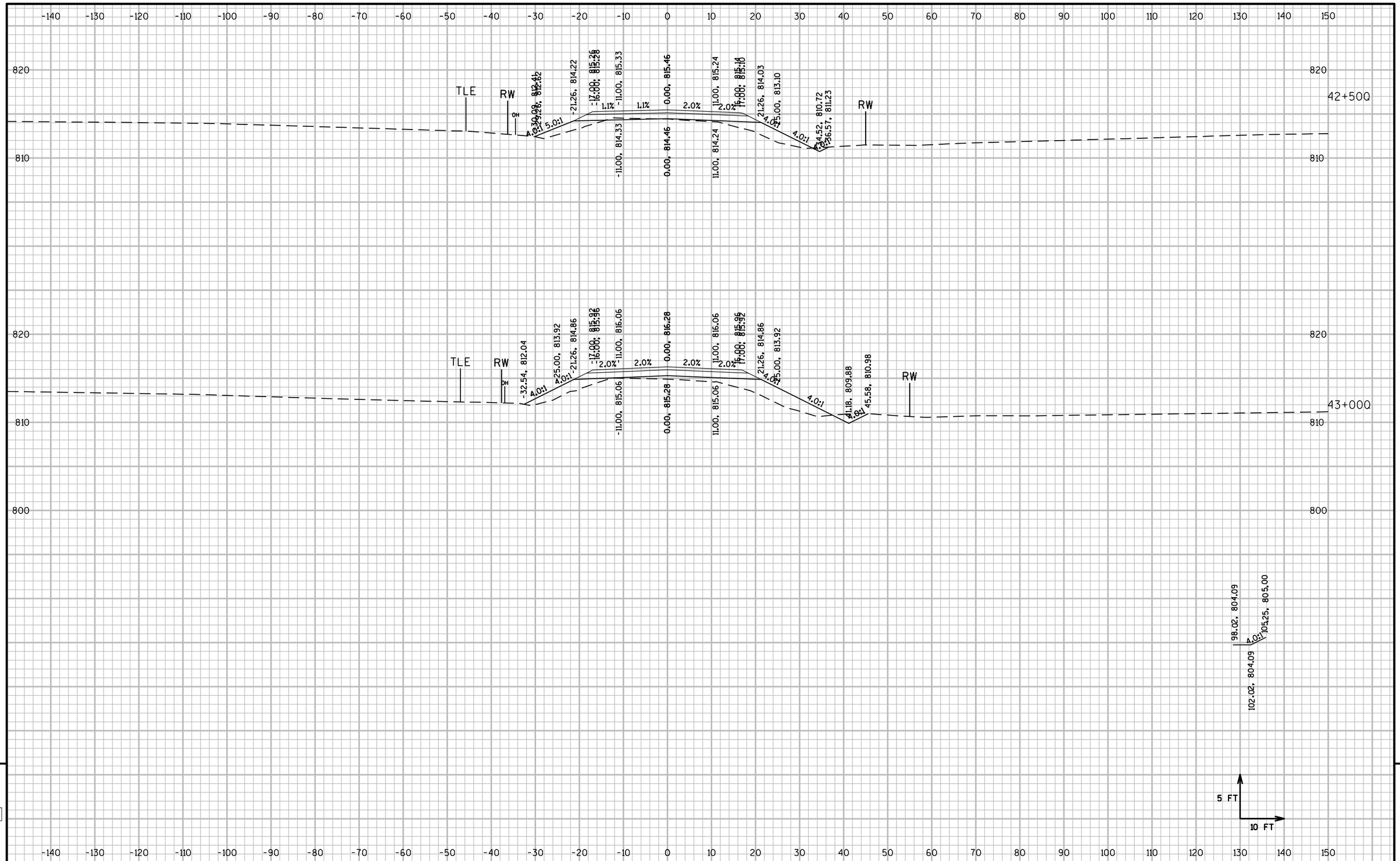
PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: IH 94	SHEET 237	E

FILE NAME : S:\MAD\1000--1099\1089\397\WRDORS&TEIGNASHEETS\RKSANT090240_XS_EXPLODED.DWG
LAYOUT NAME - 29 - 0902457_XS
PLOT DATE : 5/16/2013 11:14:49 AM
PLOT BY : MEYER, TERA
PLOT NAME :
PLOT SCALE : 1:20_XREF
WISDOT/CADDS SHEET 49



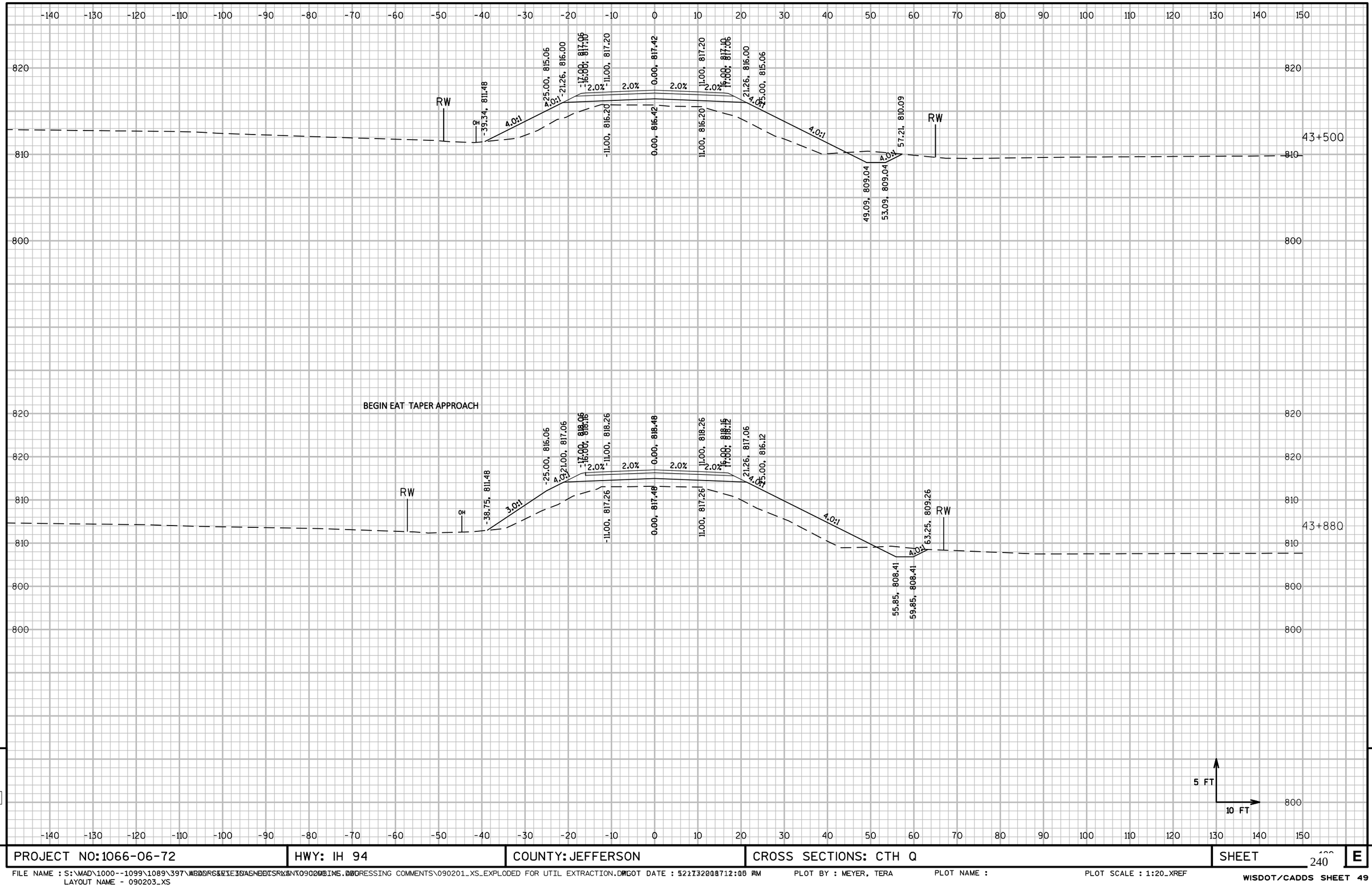
PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: CTH Q	SHEET 238 E

FILE NAME : S:\MAD\1000--1099\1089\397\WEBDGS&SPECS\PLAN SHEETS\090201XS.DWG
LAYOUT NAME - 090201_XS
ADDRESSING COMMENTS\090201_XS_EXPLODED FOR UTIL EXTRACTION.DWG
PLOT DATE : 5/27/2009 7:11:53 AM
PLOT BY : MEYER, TERA
PLOT NAME :
PLOT SCALE : 1:20_XREF
WISDOT/CADDS SHEET 49



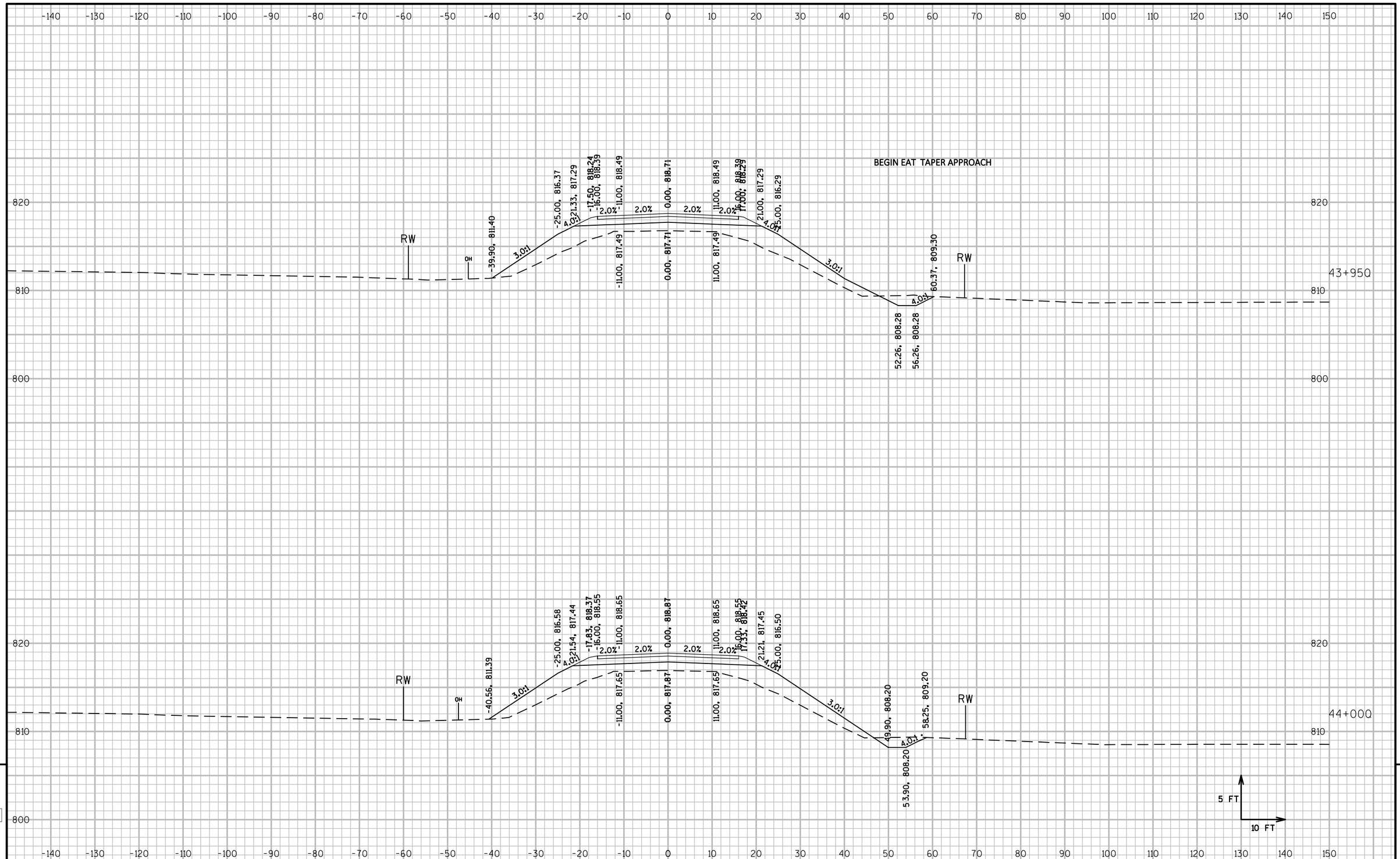
PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: CTH Q	SHEET 239	E

FILE NAME : S:\MAD\1000--1099\1089\397\WEBDGS&SPECIFICATIONS\PLOTSHEETS\090208MS.DWG
LAYOUT NAME - 090202_XS
PLOT DATE : 5/21/2013 12:05 PM
PLOT BY : MEYER, TERA
PLOT NAME :
PLOT SCALE : 1:20_XREF
WISDOT/CADDS SHEET 49



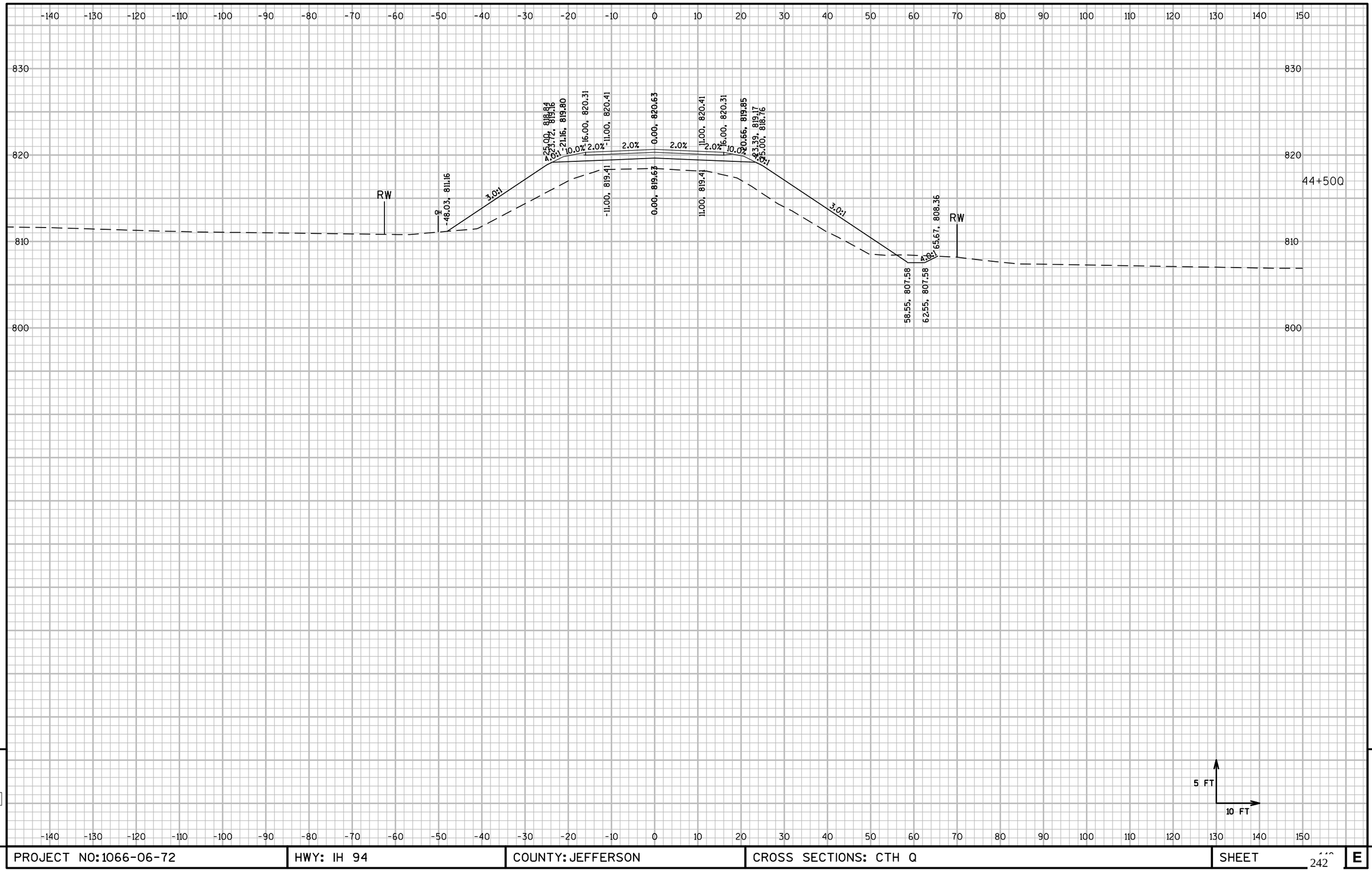
PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: CTH Q	SHEET 240	E

FILE NAME : S:\WAD\1000--1099\1089\397\WRDS\ENGINEERING\PLANSHEETS\RESPONSE TO COMMENTS\090201_XS_EXPLODED FOR UTIL EXTRACTION.DWG
LAYOUT NAME - 090203_XS
PLOT DATE : 5/27/2009 12:05 PM
PLOT BY : MEYER, TERA
PLOT NAME :
PLOT SCALE : 1:20_XREF



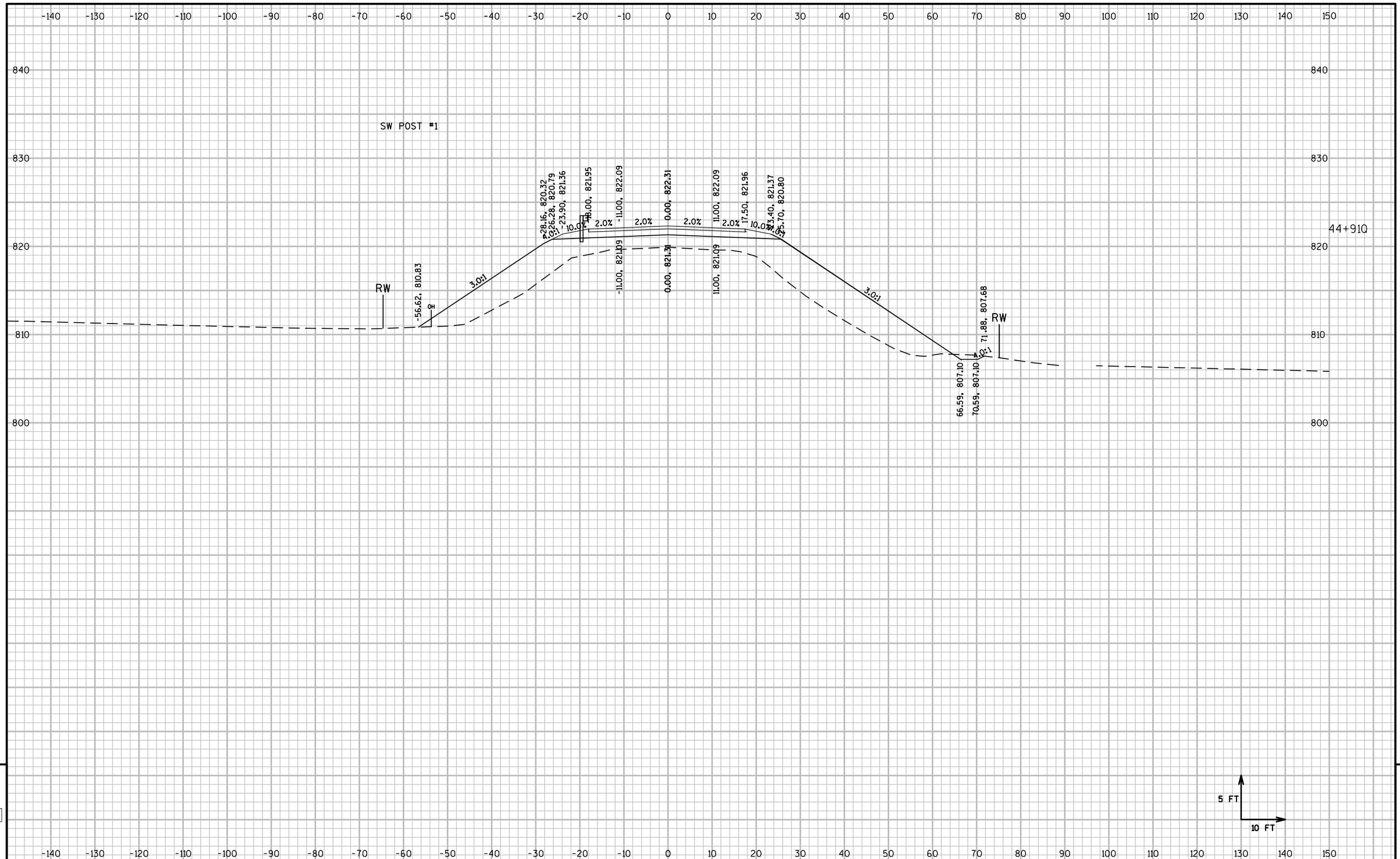
PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: CTH Q	SHEET 241	E

FILE NAME : S:\MAD\1000--1099\1089\397\ACAD\CIVIL3D\SHEETSPLAN\090201_XS_EXTRA CROSS SECTIONS AT BEGIN TAPER OF EAT_20180515.DWG PLOT DATE : 5/15/2018 2:59 PM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF
LAYOUT NAME - 090201_XS

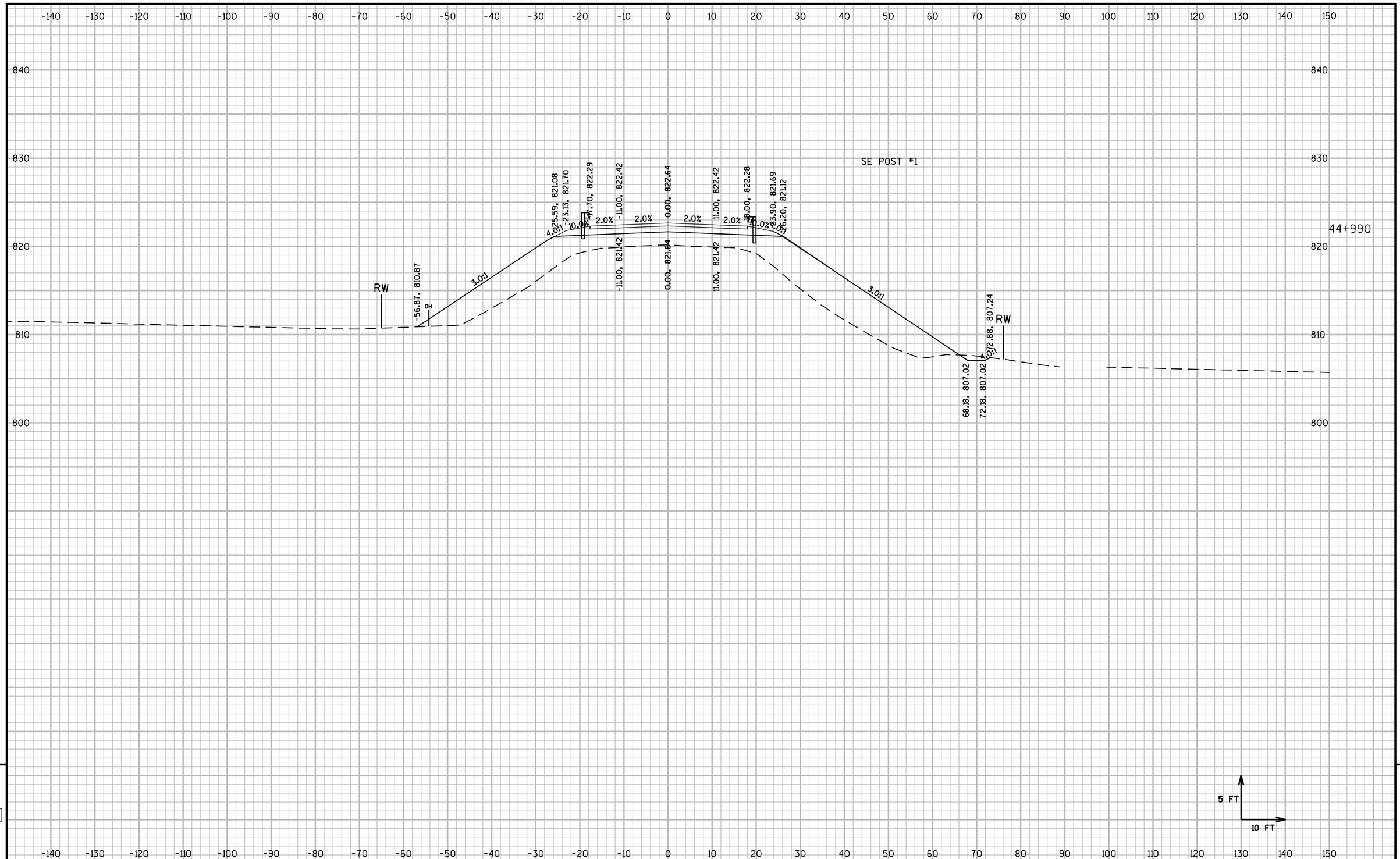


PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: CTH Q	SHEET 242	E

FILE NAME : S:\MAD\1000--1099\1089\397\WEBDGS&SPECS\ENGINEERING\PLANSHEETS\090206IM5.DWG
LAYOUT NAME - 090204_XS
ADDRESSING COMMENTS\090201_XS_EXPLODED FOR UTIL EXTRACTION.DWG
PLOT DATE : 5/25/2018 11:06:16 AM
PLOT BY : MEYER, TERA
PLOT NAME :
PLOT SCALE : 1:20_XREF
WISDOT/CADDS SHEET 49



PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: CTH Q	SHEET 243	E



PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: CTH Q	SHEET 244	E

FILE NAME : S:\MAD\1000--1099\1089\397\WEBDGS&SPECS\PLANSHEETS\090206MS.DWG
LAYOUT NAME - 090206_XS

ADDRESSING COMMENTS\090201_XS_EXPLODED FOR UTIL EXTRACTION.DWG

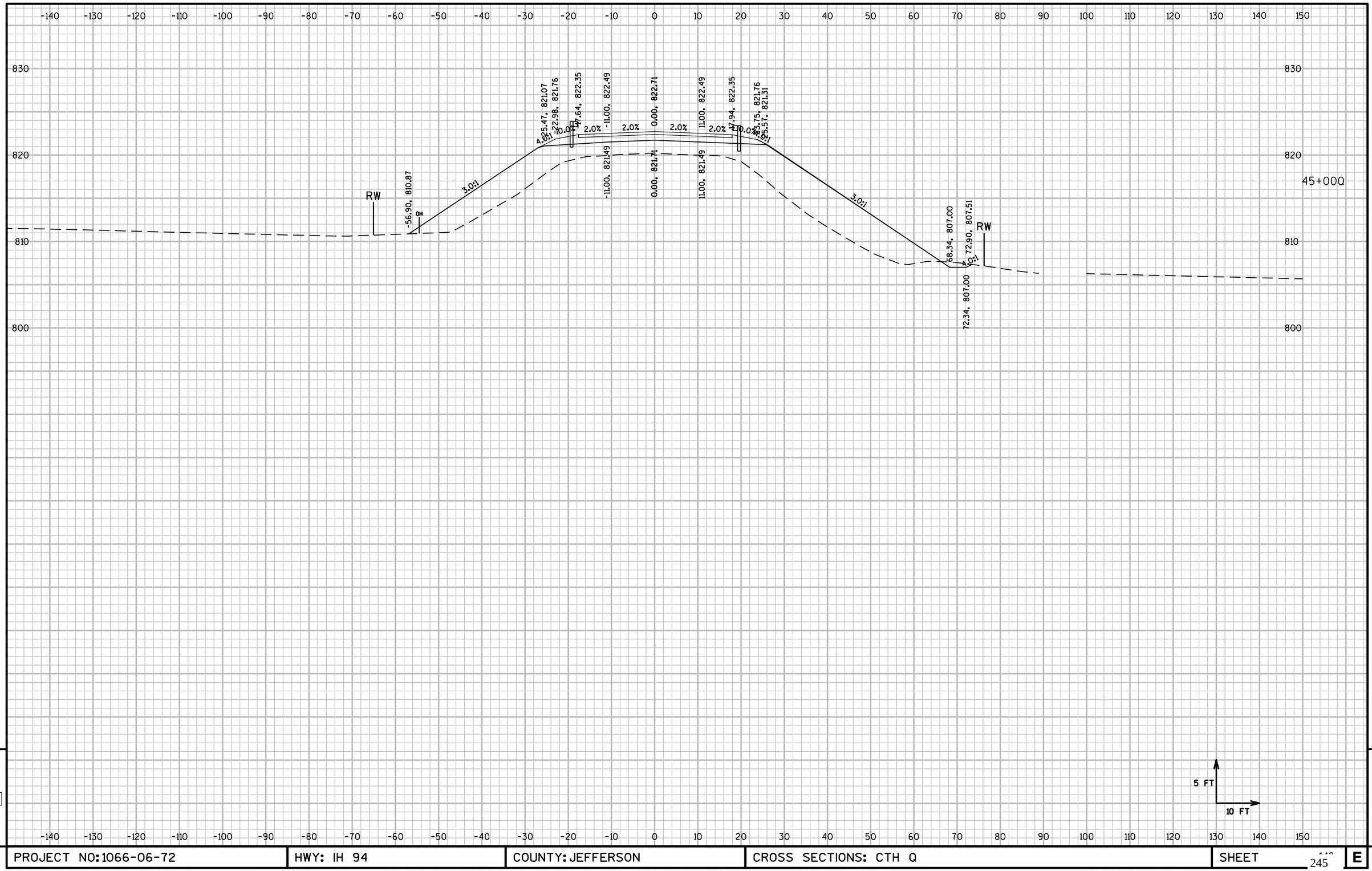
PLOT DATE : 5/27/2009 7:11:06 AM

PLOT BY : MEYER, TERA

PLOT NAME :

PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49

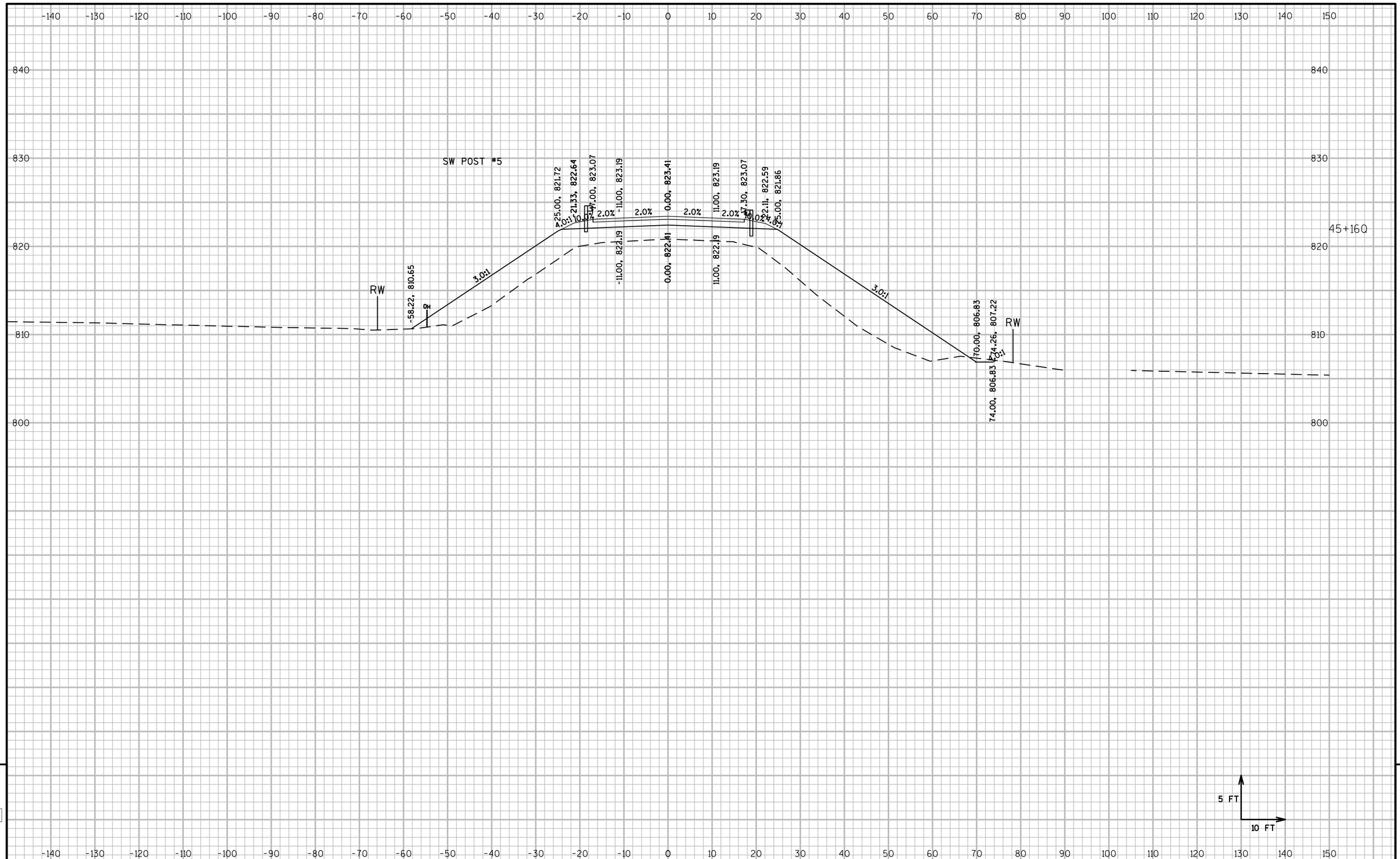


PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: CTH Q	SHEET 245	E

FILE NAME : S:\MAD\1000--1099\1089\397\WRDS\SURVEY\ASNDOCS\ASNT090206ME.ADDRESSING COMMENTS\090201_XS_EXPLODED FOR UTIL EXTRACTION.DWG PLOT DATE : 5/27/2009 7:11:56 AM
LAYOUT NAME - 090207_XS

PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49

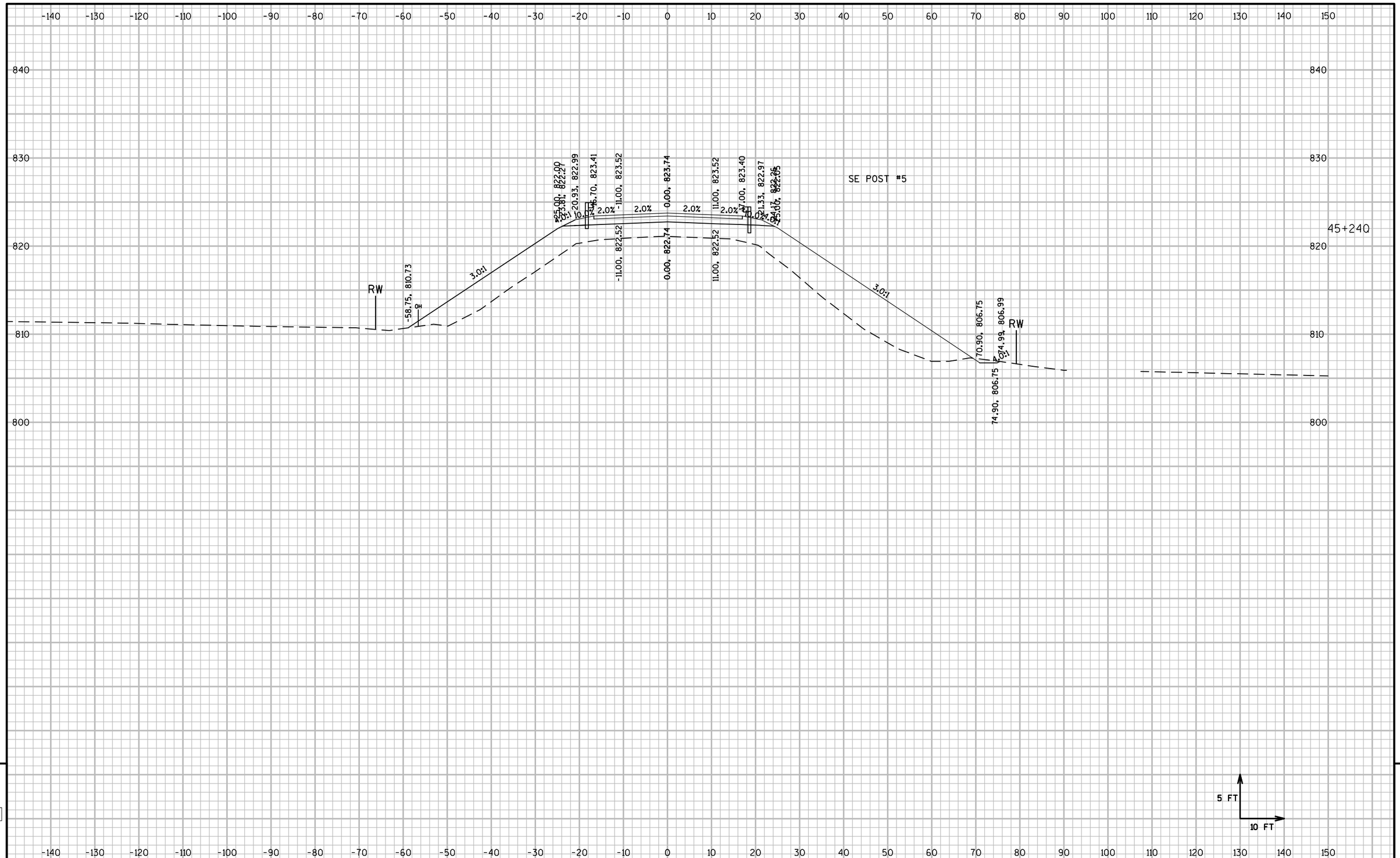


PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: CTH Q	SHEET 246	E

FILE NAME : S:\MAD\1000--1099\1089\397\ACAD\CIVIL3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090208_XS

PLOT DATE : 12/28/2017 10:54 AM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49



PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: CTH Q	SHEET 247	E

FILE NAME : S:\MAD\1000--1099\1089\397\WEBDGNS&XTEIGNASHEETS\RKSANT090206MS.DWG
LAYOUT NAME - 090209_XS

ADDRESSING COMMENTS\090201_XS_EXPLODED FOR UTIL EXTRACTION.DWG

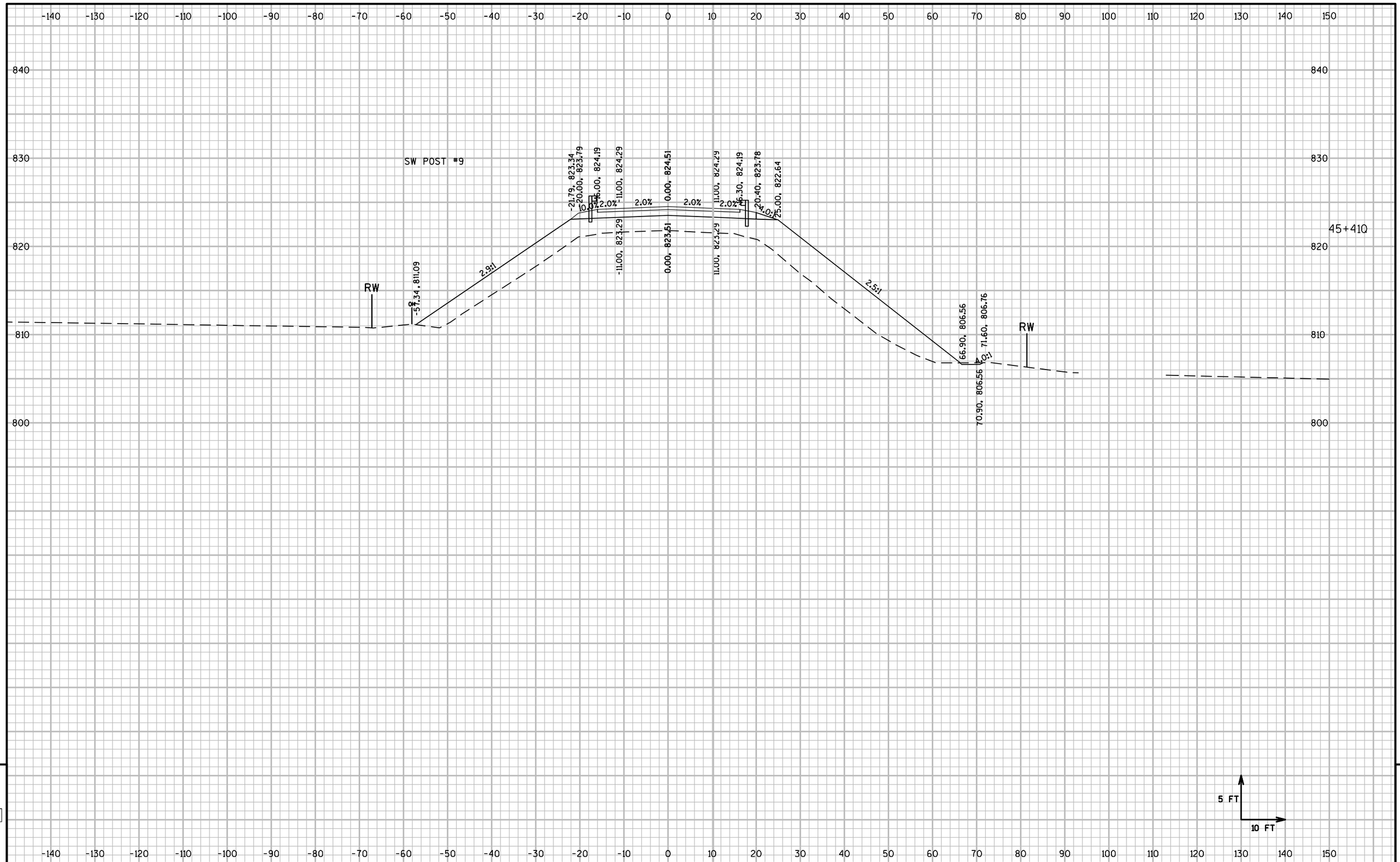
PLOT DATE : 5/27/2009 7:11:55 AM

PLOT BY : MEYER, TERA

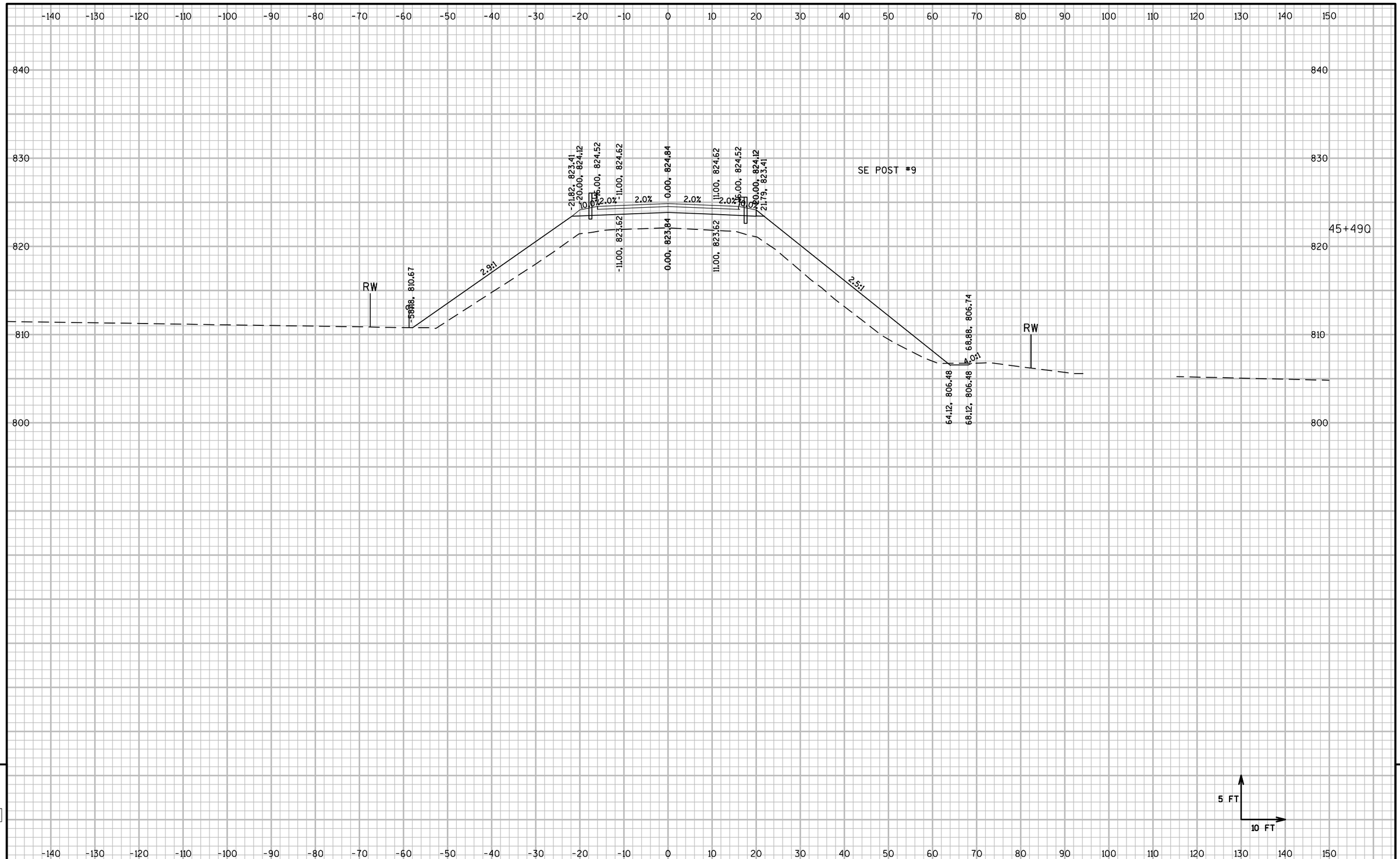
PLOT NAME :

PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49

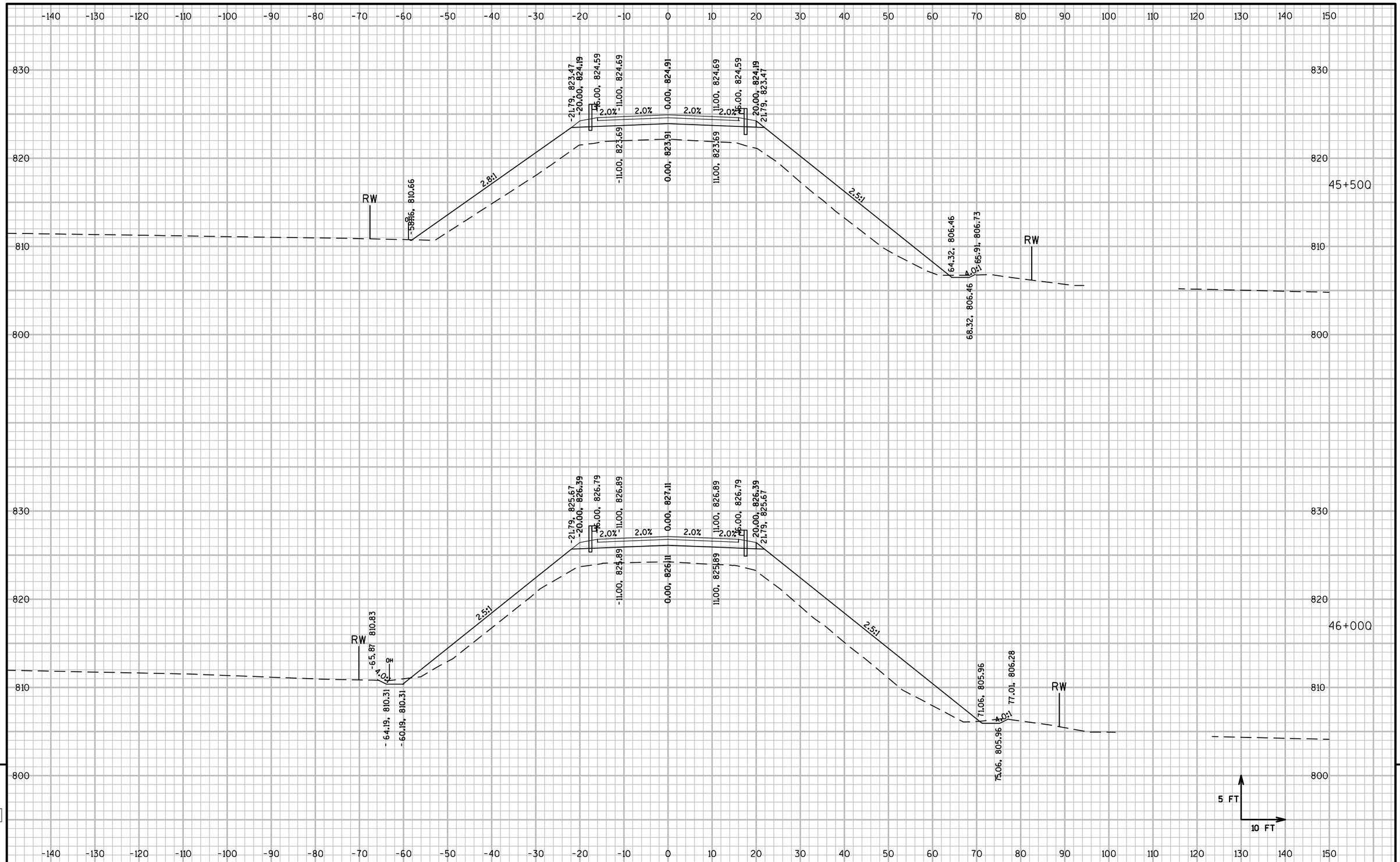


PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: CTH Q	SHEET 248	E



PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: CTH Q	SHEET 249	E

FILE NAME : S:\MAD\1000--1099\1089\397\WEBDGNS\ROADWAY\SHEETS\090206MS.DWG
LAYOUT NAME - 090211_XS
ADDRESSING COMMENTS\090201_XS_EXPLODED FOR UTIL EXTRACTION.DWG
PLOT DATE : 5/27/2009 7:11:55 AM
PLOT BY : MEYER, TERA
PLOT NAME :
PLOT SCALE : 1:20_XREF



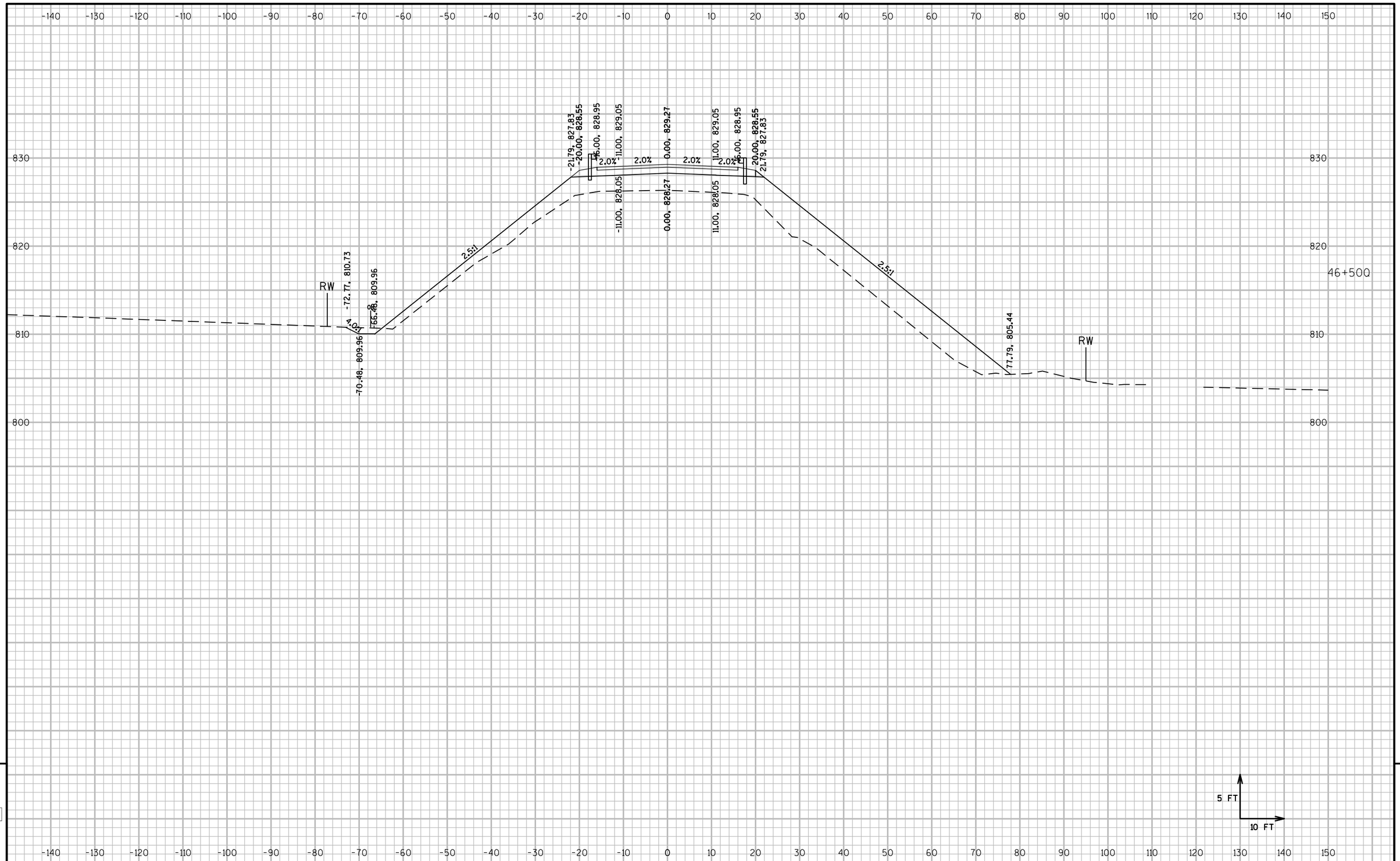
PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: CTH Q	SHEET 250 E

FILE NAME : S:\MAD\1000--1099\1089\397\WEBDGNS\VEIS\ASHEETSRKSNT090206IMS.DWG
LAYOUT NAME - 090212_XS

ADDRESSING COMMENTS\090201_XS_EXPLODED FOR UTIL EXTRACTION.DWG

PLOT DATE : 5/21/2009 12:08 PM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49

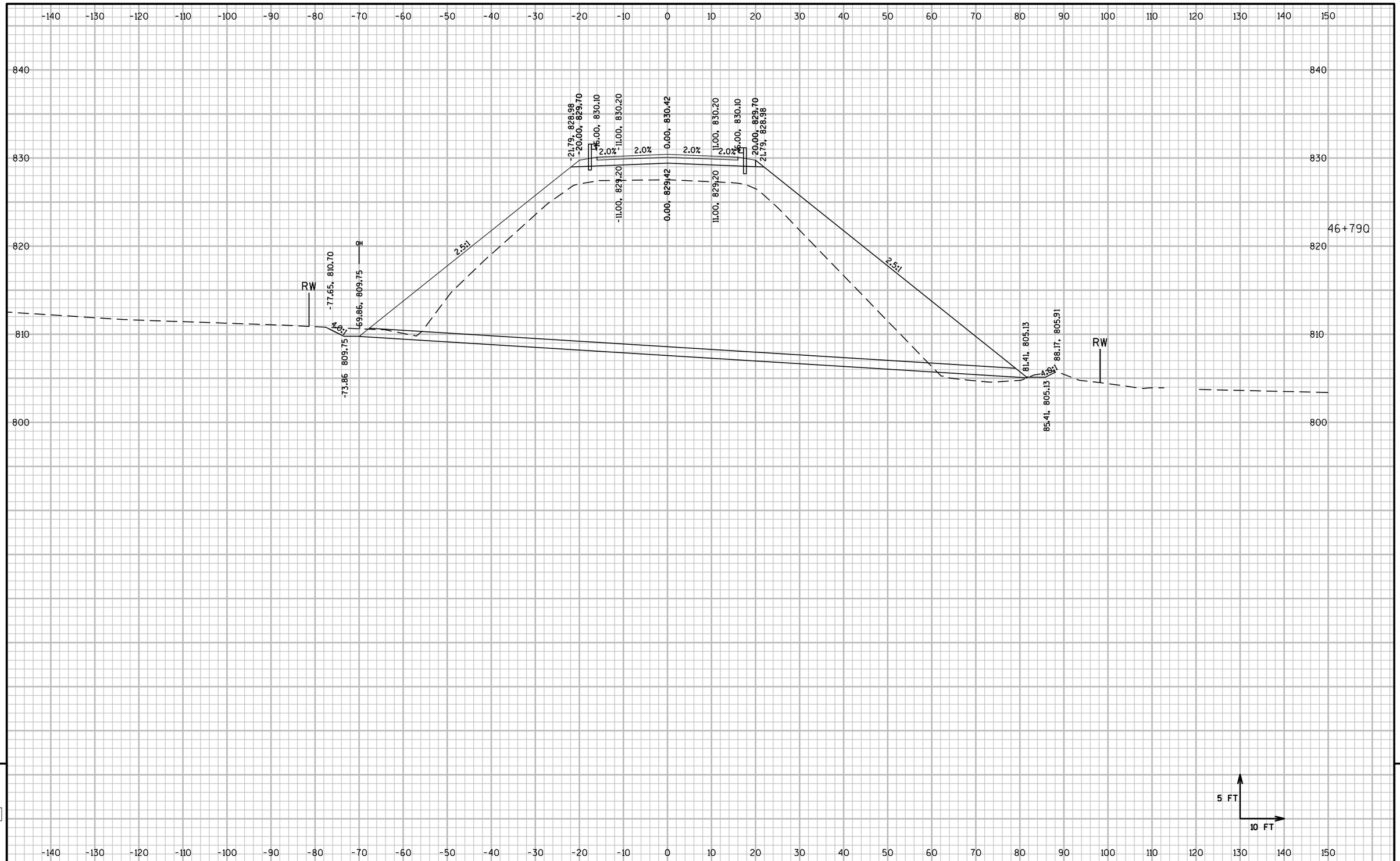


PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: CTH Q	SHEET 251	E

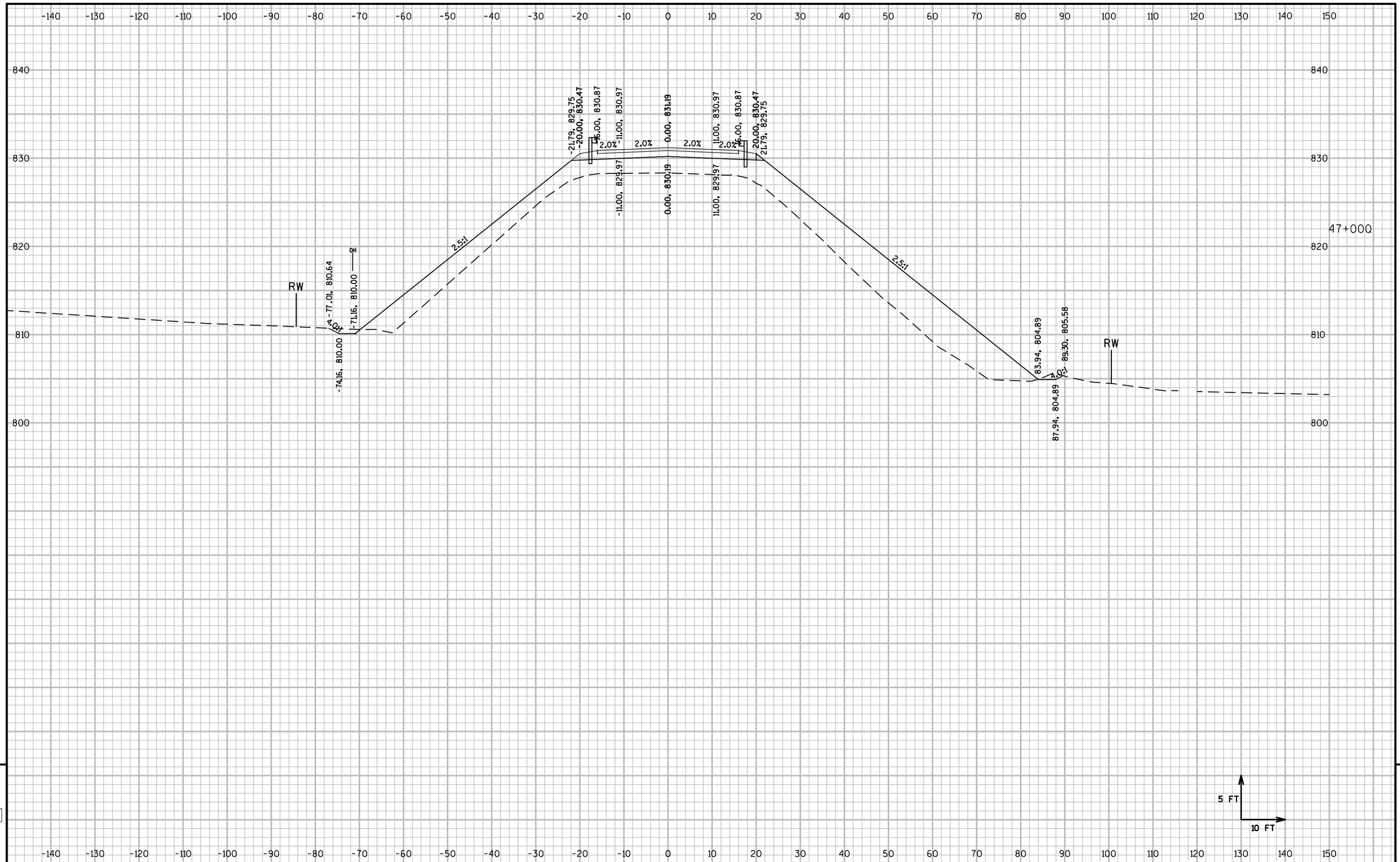
FILE NAME : S:\MAD\1000--1099\1089\397\ACAD\CIVIL3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090213_XS

PLOT DATE : 12/13/2017 2:11 PM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49

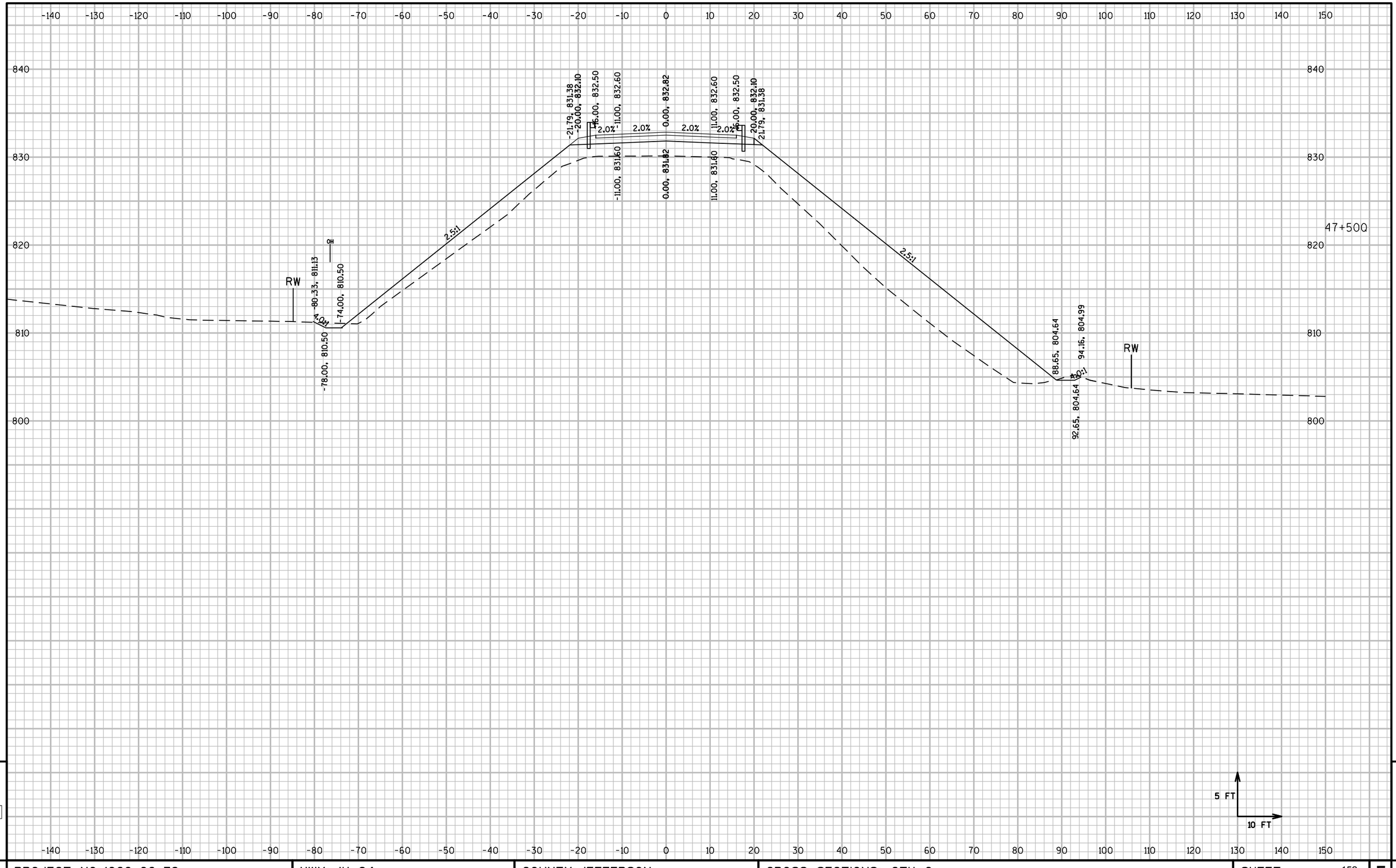


PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: CTH Q	SHEET 252	E



PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: CTH Q	SHEET 253	E

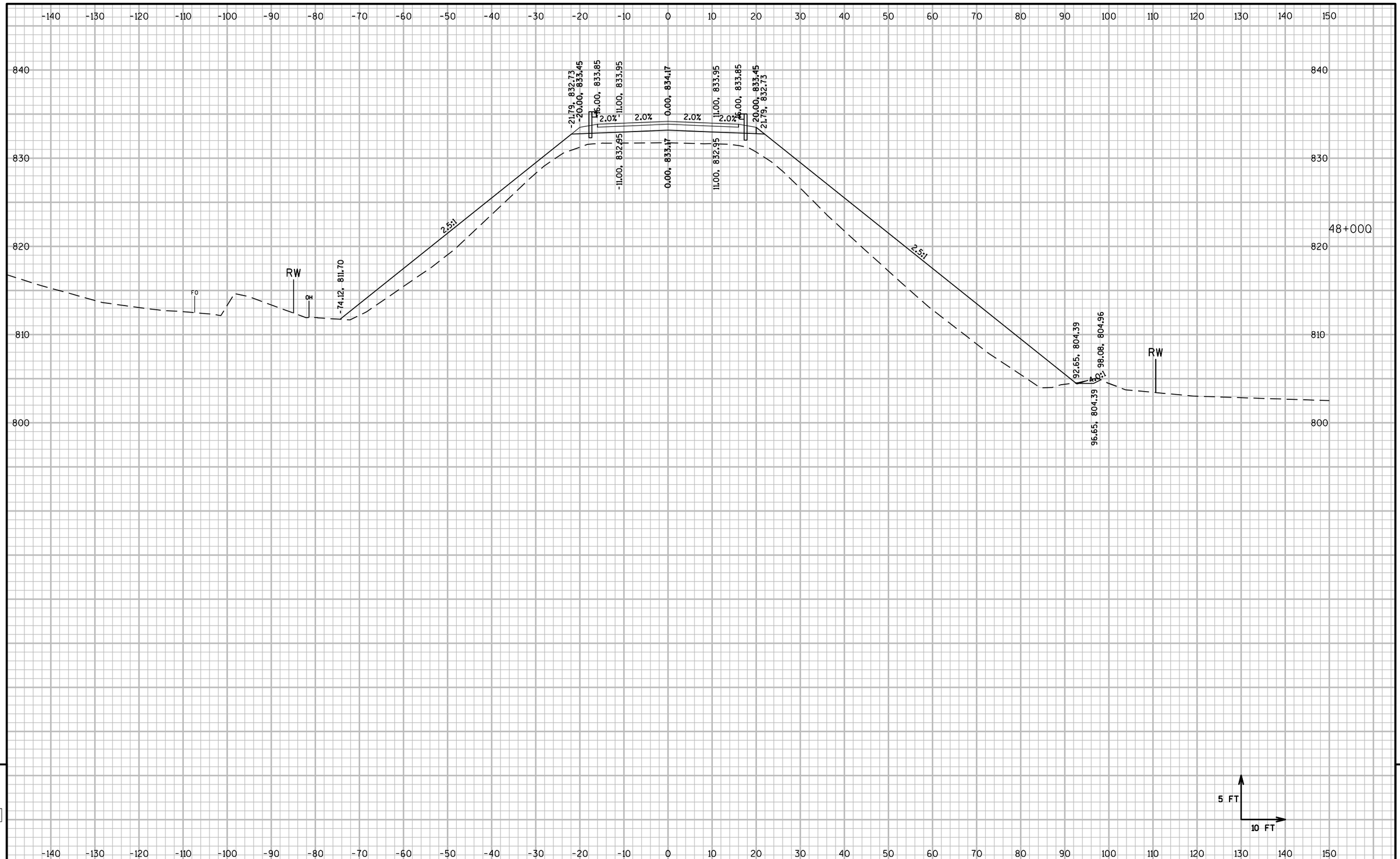
FILE NAME : S:\MAD\1000--1099\1089\397\WEBDGS&SPECIFICATIONS\PLOTSHEETS\090206MS.DWG
LAYOUT NAME - 090215_XS
ADDRESSING COMMENTS\090201_XS_EXPLODED FOR UTIL EXTRACTION.DWG
PLOT DATE : 5/21/2013 12:08 PM
PLOT BY : MEYER, TERA
PLOT NAME :
PLOT SCALE : 1:20_XREF



PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: CTH Q	SHEET 254	E

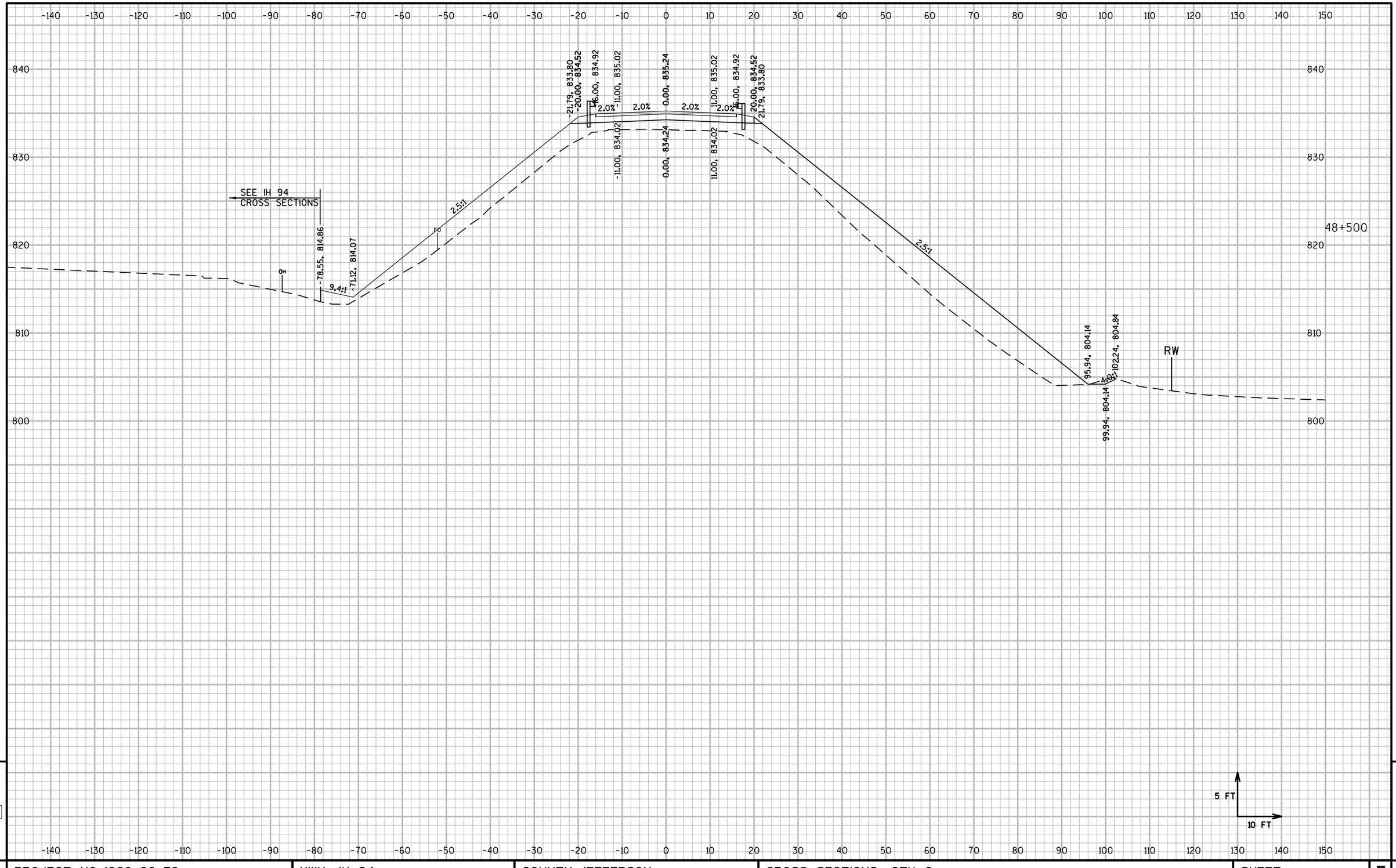
FILE NAME : S:\MAD\1000--1099\1089\397\WEBDGS&SPECIFICATIONS\PLOTSHEETS\090206BIM5.DWG
LAYOUT NAME - 090216_XS
ADDRESSING COMMENTS\090201_XS_EXPLODED FOR UTIL EXTRACTION.DWG
PLOT DATE : 5/27/2009 12:09 PM
PLOT BY : MEYER, TERA
PLOT NAME :
PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49



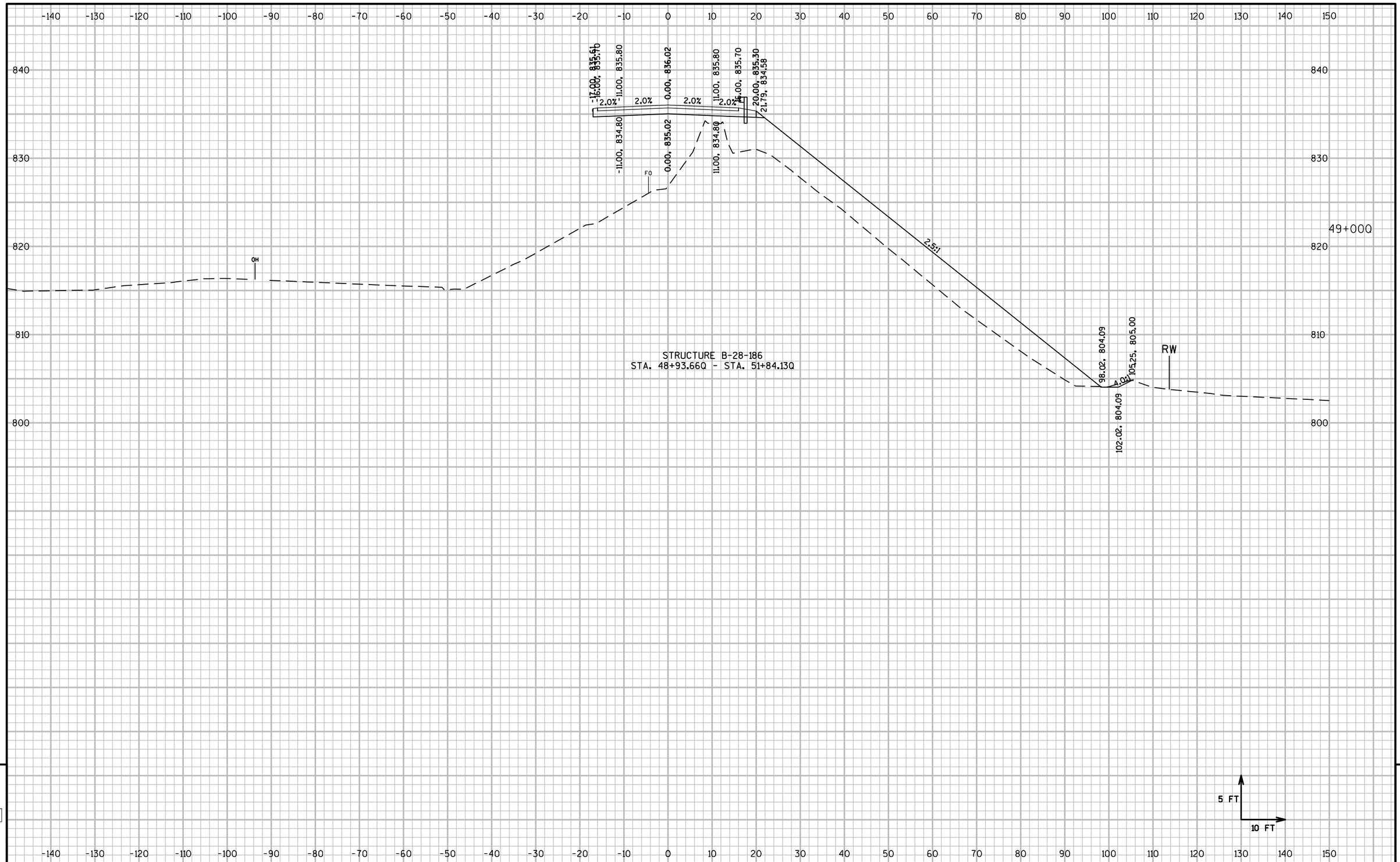
PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: CTH Q	SHEET 255	E

FILE NAME : S:\MAD\1000--1099\1089\397\WEBDGS&SPECIFICATIONS\PLOTSHEETS\090206BIMS.DWG
LAYOUT NAME - 090217_XS
ADDRESSING COMMENTS\090201_XS_EXPLODED FOR UTIL EXTRACTION.DWG
PLOT DATE : 5/21/2013 1:09 PM
PLOT BY : MEYER, TERA
PLOT NAME :
PLOT SCALE : 1:20_XREF



PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: CTH Q	SHEET	E

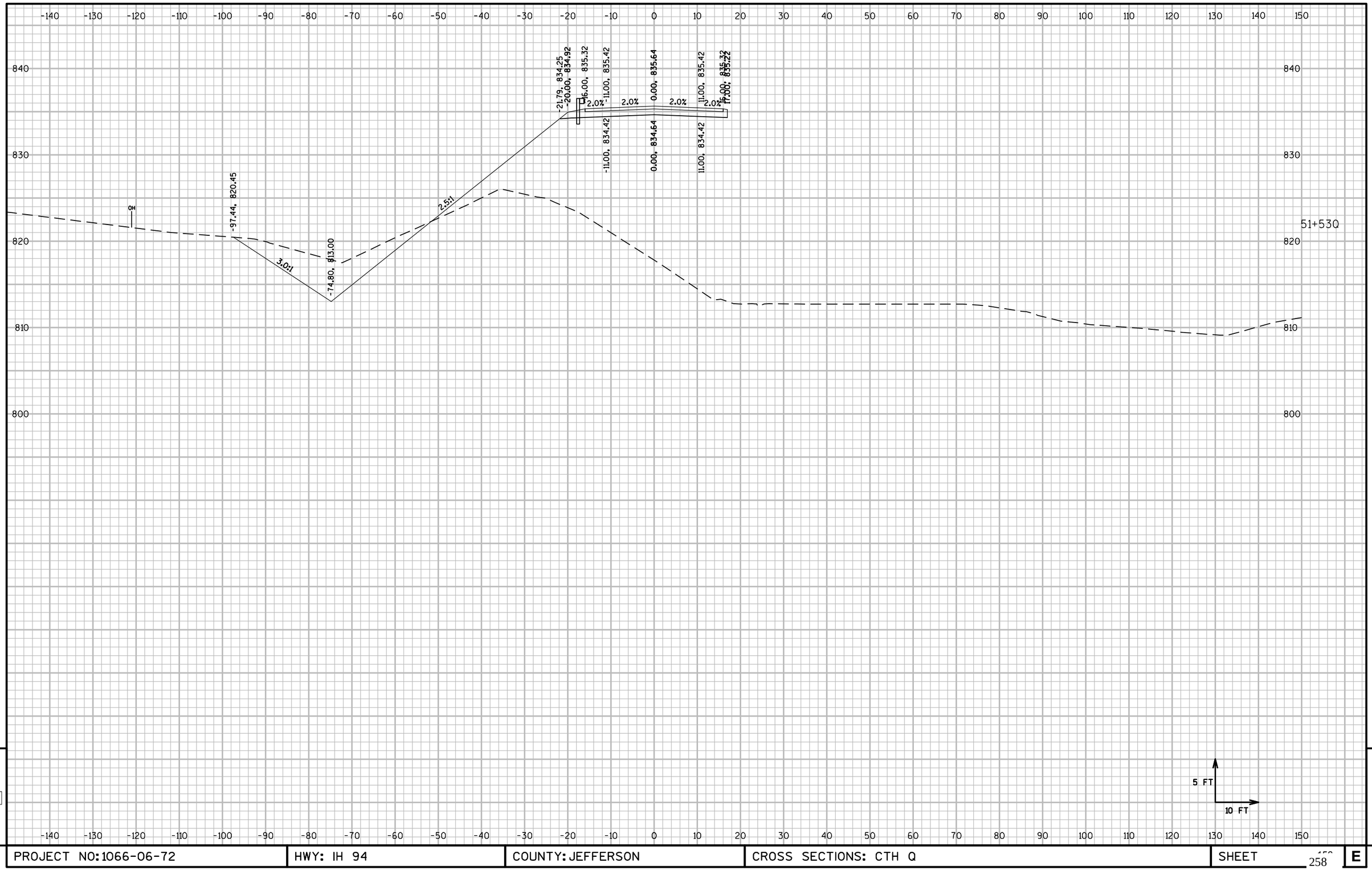
FILE NAME : S:\MAD\1000--1099\1089\397\WEBDGNS&XTEINSHEETSRKSNT090206IMS.DWG
LAYOUT NAME - 090218_XS
ADDRESSING COMMENTS\090201_XS_EXPLODED FOR UTIL EXTRACTION.DWG
PLOT DATE : 5/17/2013 1:09 PM
PLOT BY : MEYER, TERA
PLOT NAME :
PLOT SCALE : 1:20_XREF



PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: CTH Q	SHEET 257	E

FILE NAME : S:\MAD\1000--1099\1089\397\WEBDGS&SPECS\PLANSHEETS\090206BIM5.DWG
LAYOUT NAME - 090219_XS
ADDRESSING COMMENTS\090201_XS_EXPLODED FOR UTIL EXTRACTION.DWG
PLOT DATE : 5/13/2009 1:09 PM
PLOT BY : MEYER, TERA
PLOT NAME :
PLOT SCALE : 1:20_XREF

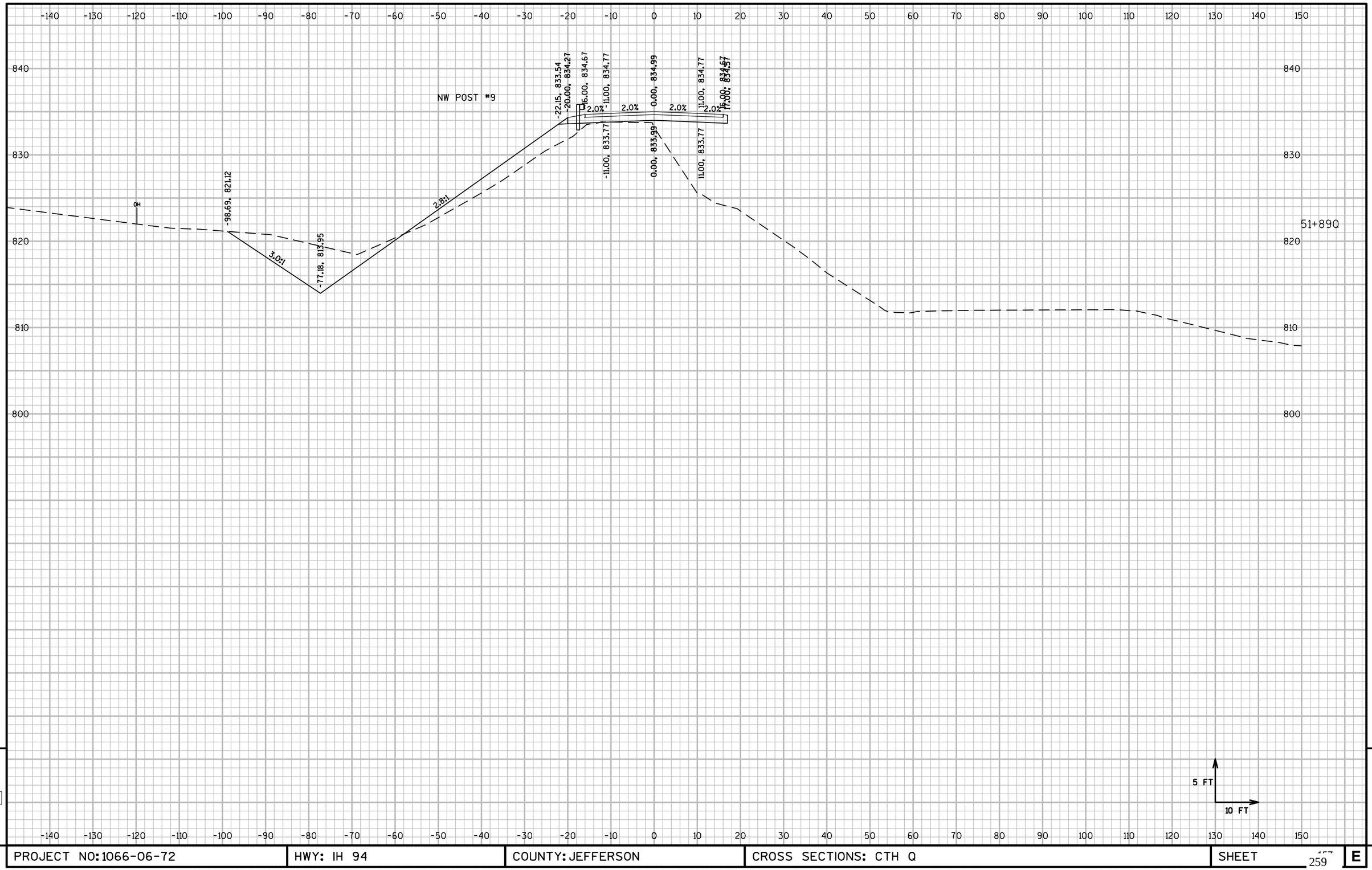
WISDOT/CADDS SHEET 49



PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: CTH Q	SHEET 258	E

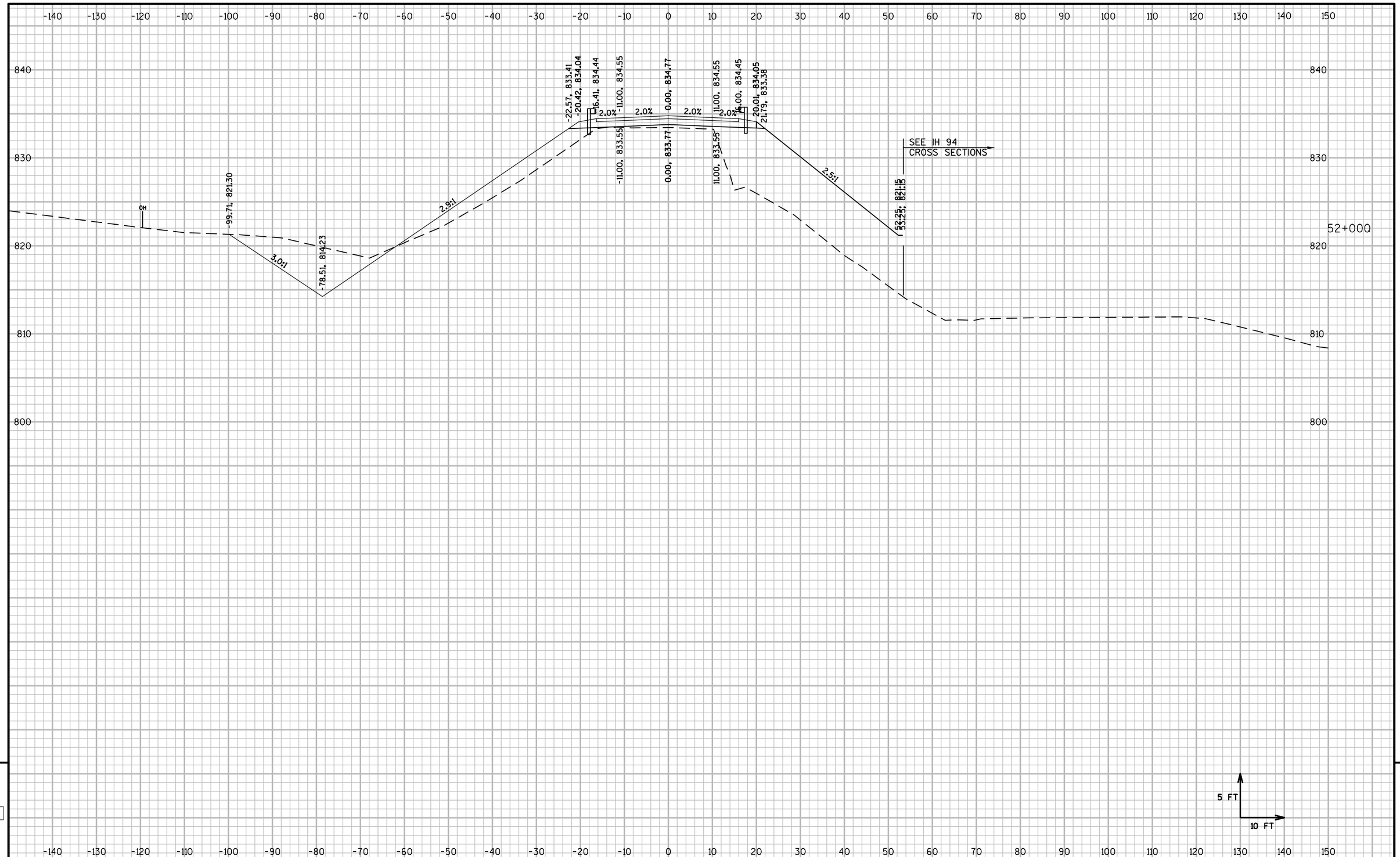
FILE NAME : S:\MAD\1000--1099\1089\397\WEBDGS&SPECS\ASSETS\RKSANT090206MS.DWG
LAYOUT NAME - 090220_XS
ADDRESSING COMMENTS\090201_XS_EXPLODED FOR UTIL EXTRACTION.DWG
PLOT DATE : 5/27/2009 7:11:56 AM
PLOT BY : MEYER, TERA
PLOT NAME :
PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49



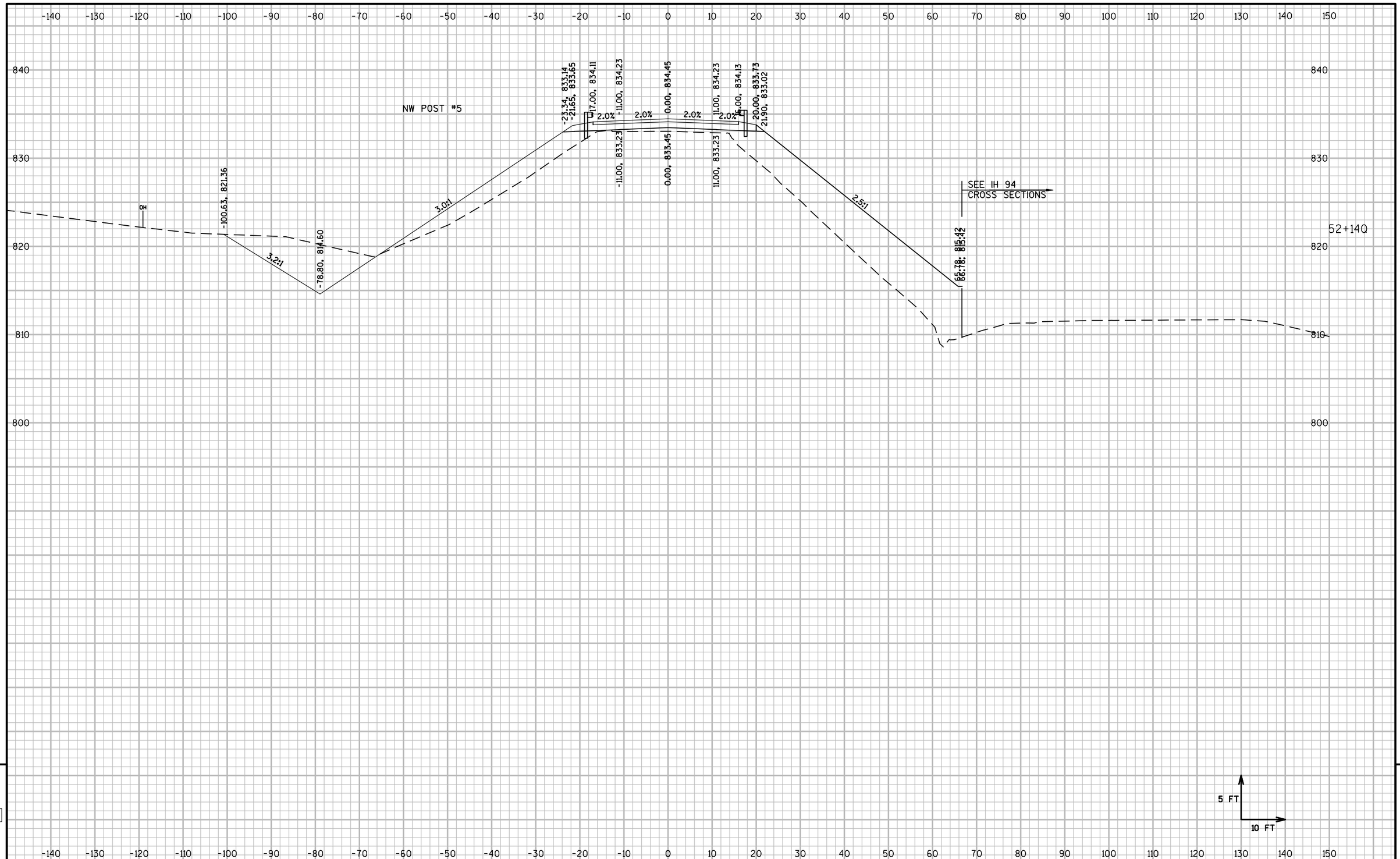
PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: CTH Q	SHEET 259	E

FILE NAME : S:\MAD\1000--1099\1089\397\WEBDGNS&XTEIONSNEDITSRKSNT090206MS.DWG
LAYOUT NAME - 090221_XS
PLOT DATE : 2/13/2009 12:10 PM
PLOT BY : MEYER, TERA
PLOT NAME :
PLOT SCALE : 1:20_XREF
WISDOT/CADDS SHEET 49



PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: CTH Q	SHEET 260	E

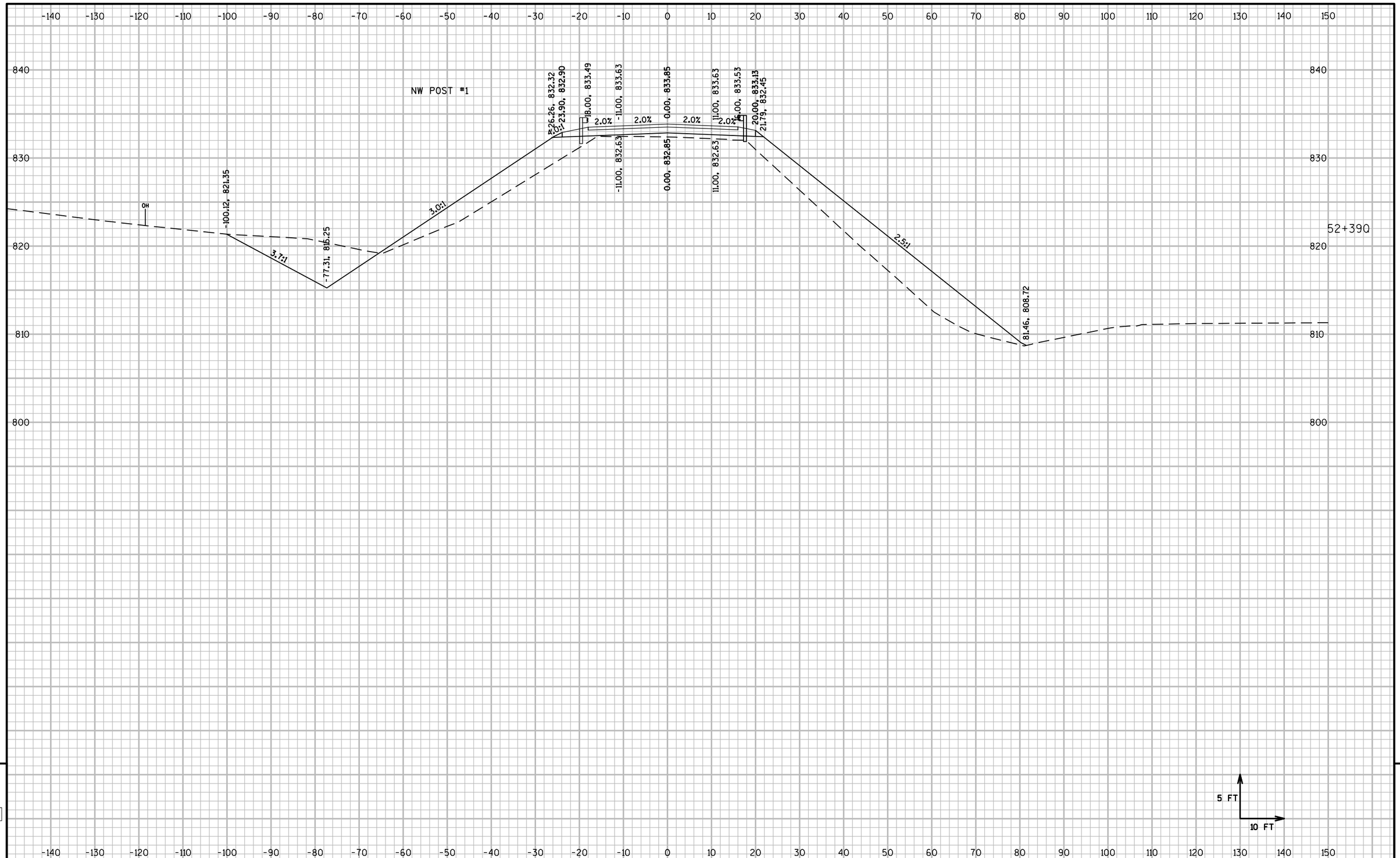
FILE NAME : S:\MAD\1000--1099\1089\397\WEBDGS&SPECIFICATIONS\PLOTSHEETS\090206MS.DWG
LAYOUT NAME - 090222_XS
ADDRESSING COMMENTS\090201_XS_EXPLODED FOR UTIL EXTRACTION.DWG
PLOT DATE : 5/13/2009 12:10 PM
PLOT BY : MEYER, TERA
PLOT NAME :
PLOT SCALE : 1:20_XREF
WISDOT/CADDS SHEET 49



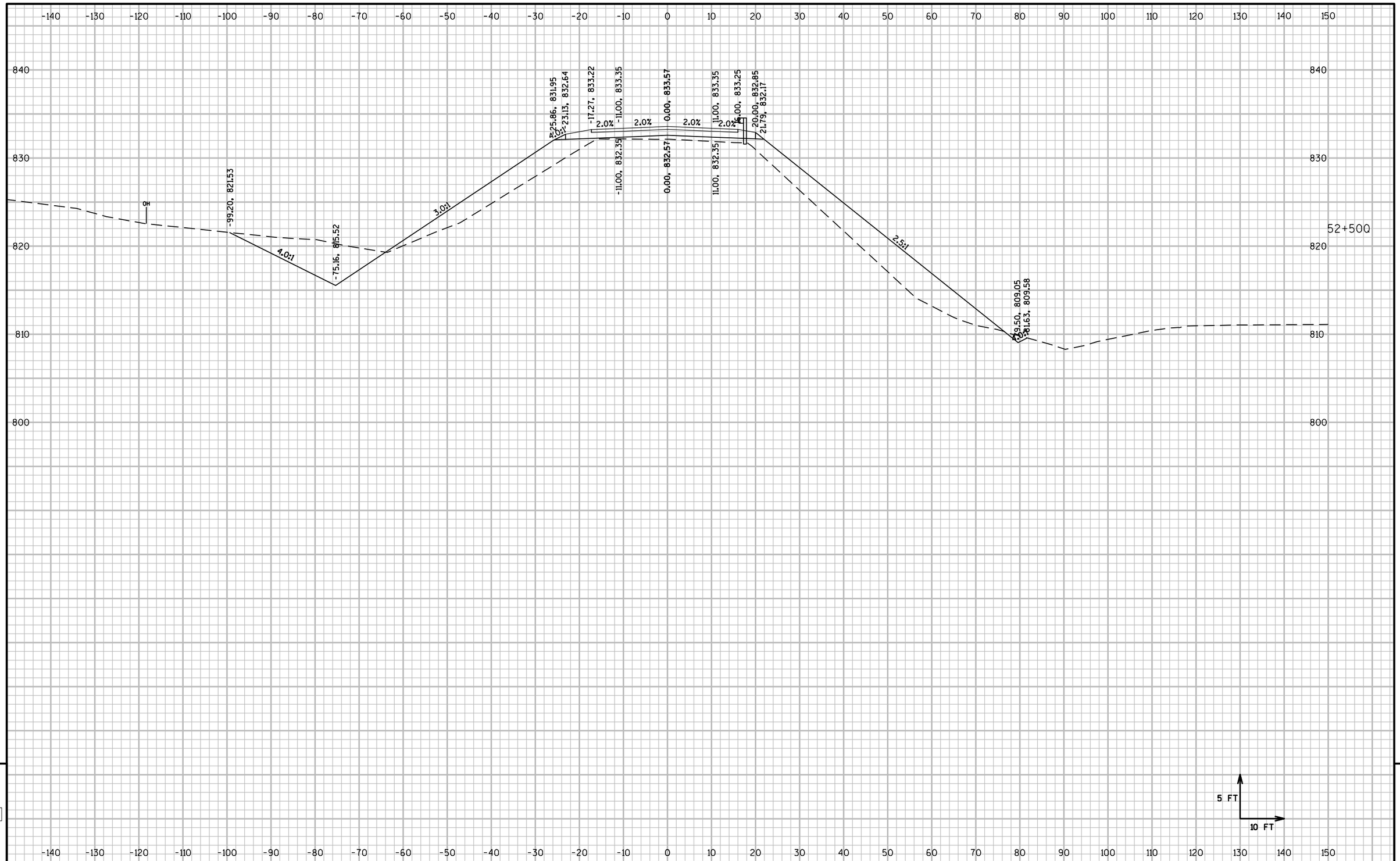
PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: CTH Q	SHEET 261	E

FILE NAME : S:\MAD\1000--1099\1089\397\WEBDGNS&XTEIGNASHEETS\RKSANT090206MS.DWG
LAYOUT NAME - 090223_XS
ADDRESSING COMMENTS\090201_XS_EXPLODED FOR UTIL EXTRACTION.DWG
PLOT DATE : 2/13/2009 12:10 PM
PLOT BY : MEYER, TERA
PLOT NAME :
PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49

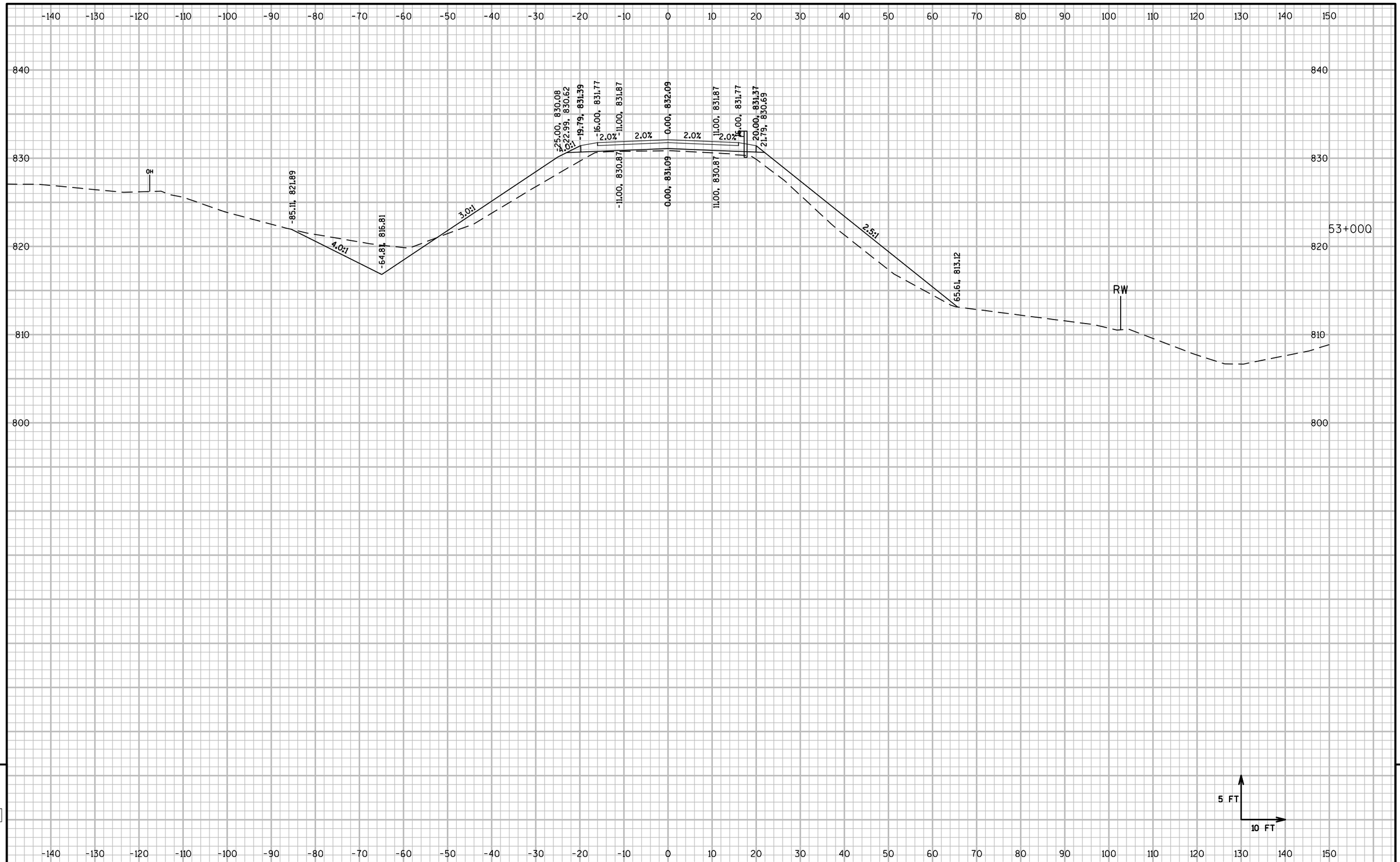


PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: CTH Q	SHEET 262	E



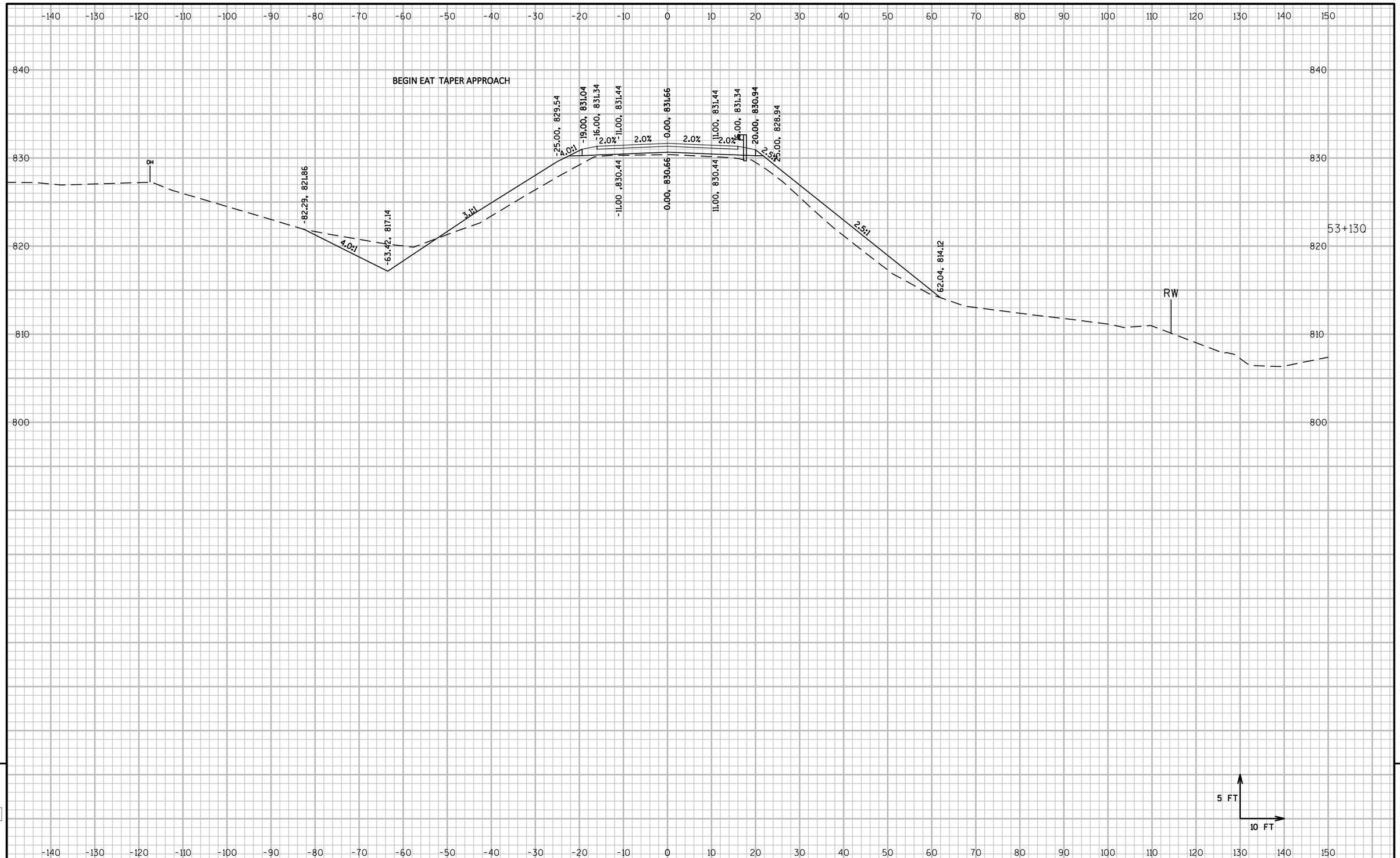
PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: CTH Q	SHEET 263	E

FILE NAME : S:\MAD\1000--1099\1089\397\WEBDGS&SPECIFICATIONS\PLOTSHEETS\090206MS.DWG
LAYOUT NAME - 090225_XS
ADDRESSING COMMENTS\090201_XS_EXPLODED FOR UTIL EXTRACTION.DWG
PLOT DATE : 5/13/2009 12:13 PM
PLOT BY : MEYER, TERA
PLOT NAME :
PLOT SCALE : 1:20_XREF
WISDOT/CADDS SHEET 49



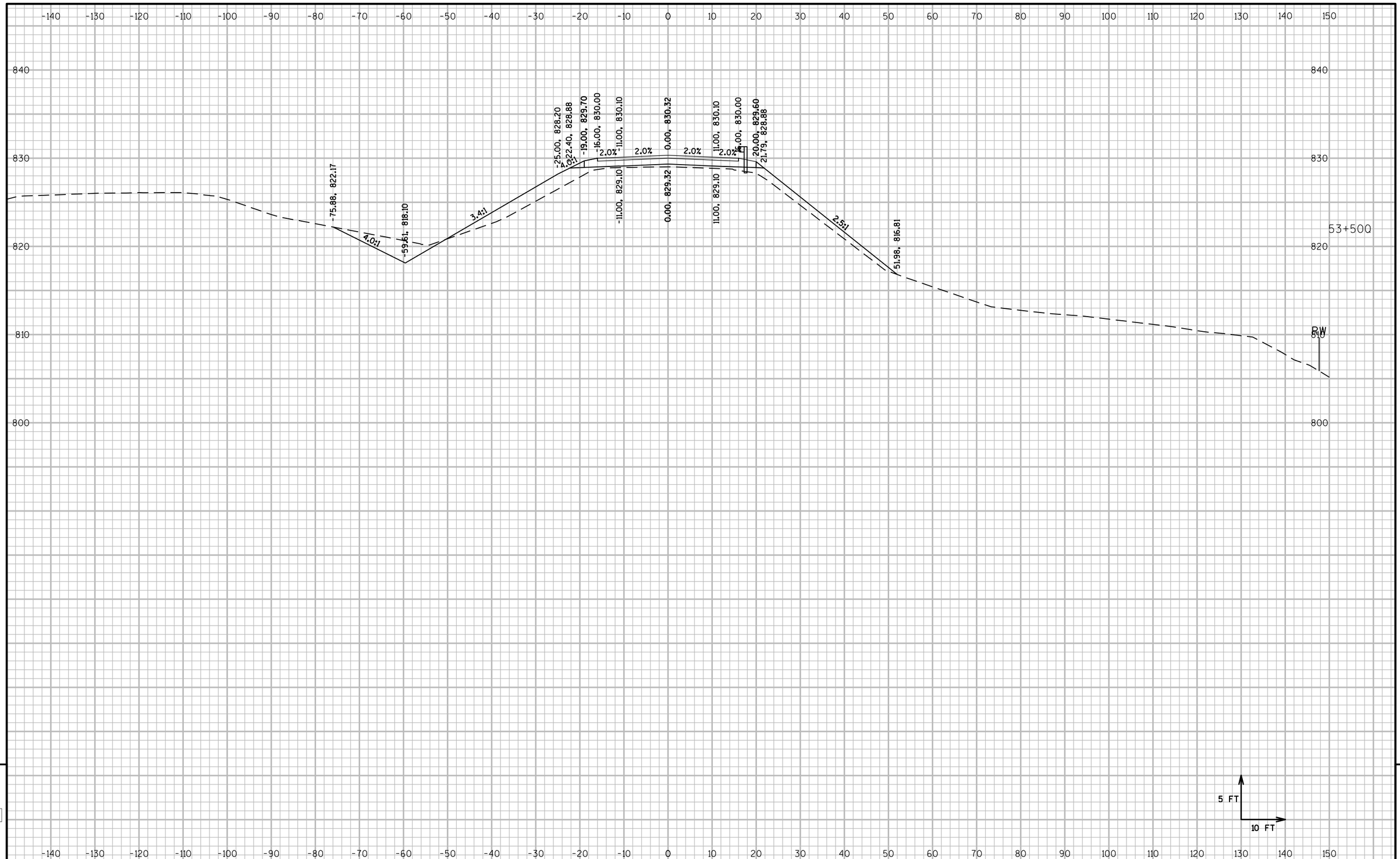
PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: CTH Q	SHEET 264	E

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PLOT DATE : 5/13/2009 12:14 PM
PLOT BY : MEYER, TERA
PLOT NAME :
PLOT SCALE : 1:20_XREF
WISDOT/CADDS SHEET 49



PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: CTH Q	SHEET 265	E

FILE NAME : S:\MAD\1000--1099\1089\397\ACAD\CIVIL3D\SHEETSPLAN\090201_XS_EXTRA CROSS SECTIONS AT BEGIN TAPER OF EAT_20180515.DWG PLOT DATE : 5/15/2018 2:59 PM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF
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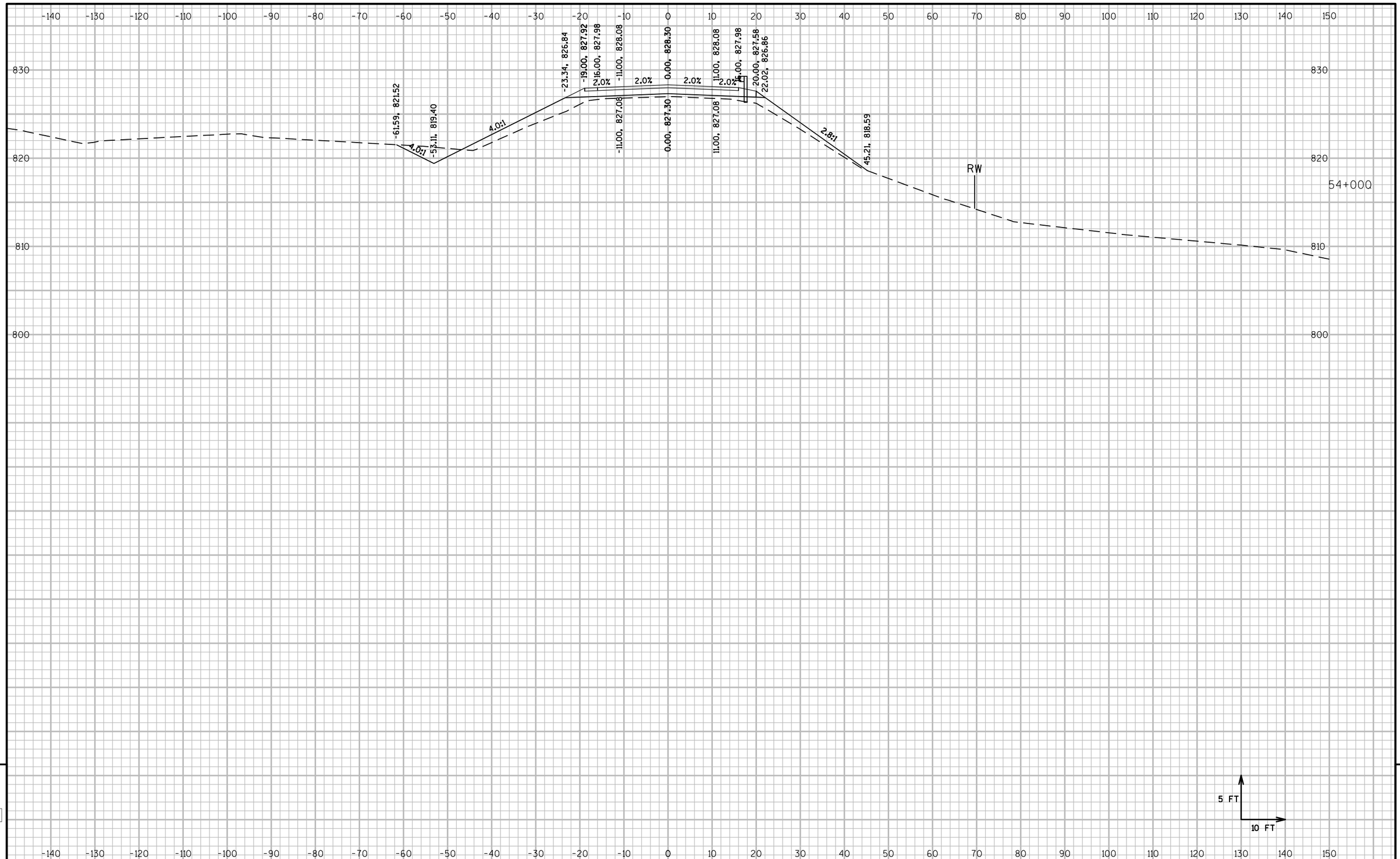


PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: CTH Q	SHEET 266	E

FILE NAME : S:\MAD\1000--1099\1089\397\ACAD\CIVIL3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090227_XS

PLOT DATE : 12/28/2017 10:57 AM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49

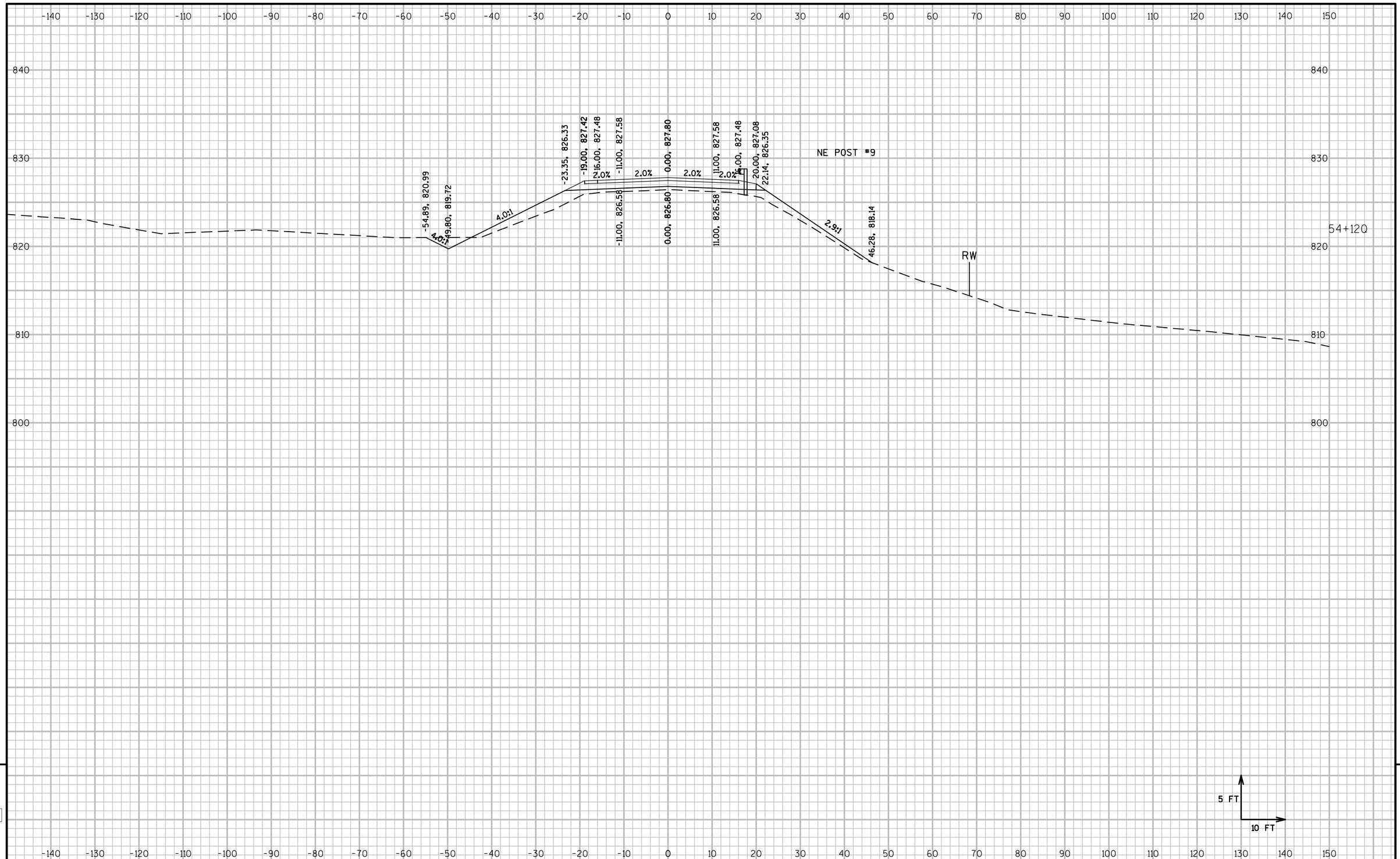


PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: CTH Q	SHEET 267	E

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LAYOUT NAME - 090228_XS

PLOT DATE : 12/28/2017 10:57 AM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49

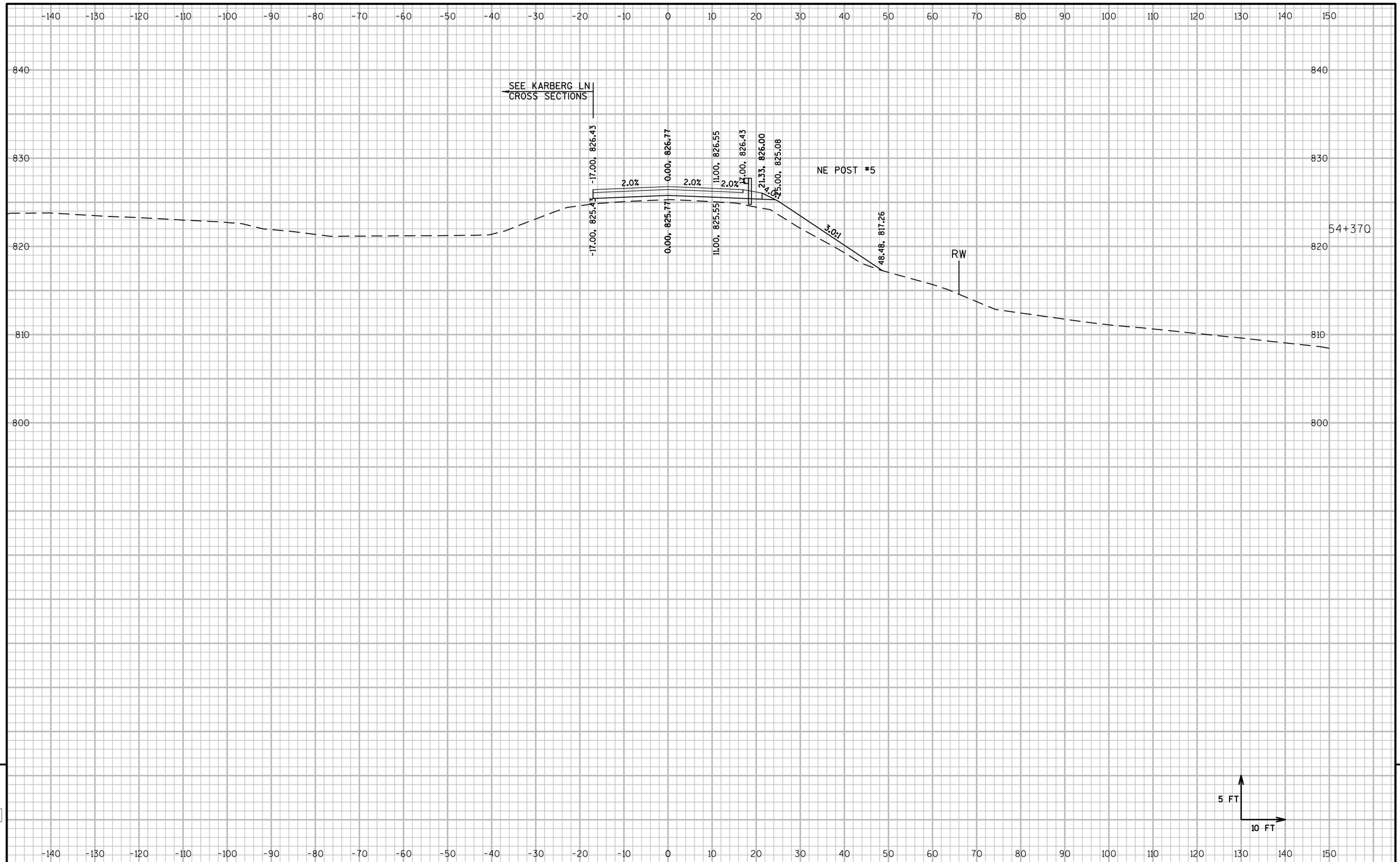


PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: CTH Q	SHEET 268	E

FILE NAME : S:\MAD\1000--1099\1089\397\ACAD\CIVIL3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090229_XS

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WISDOT/CADDS SHEET 49

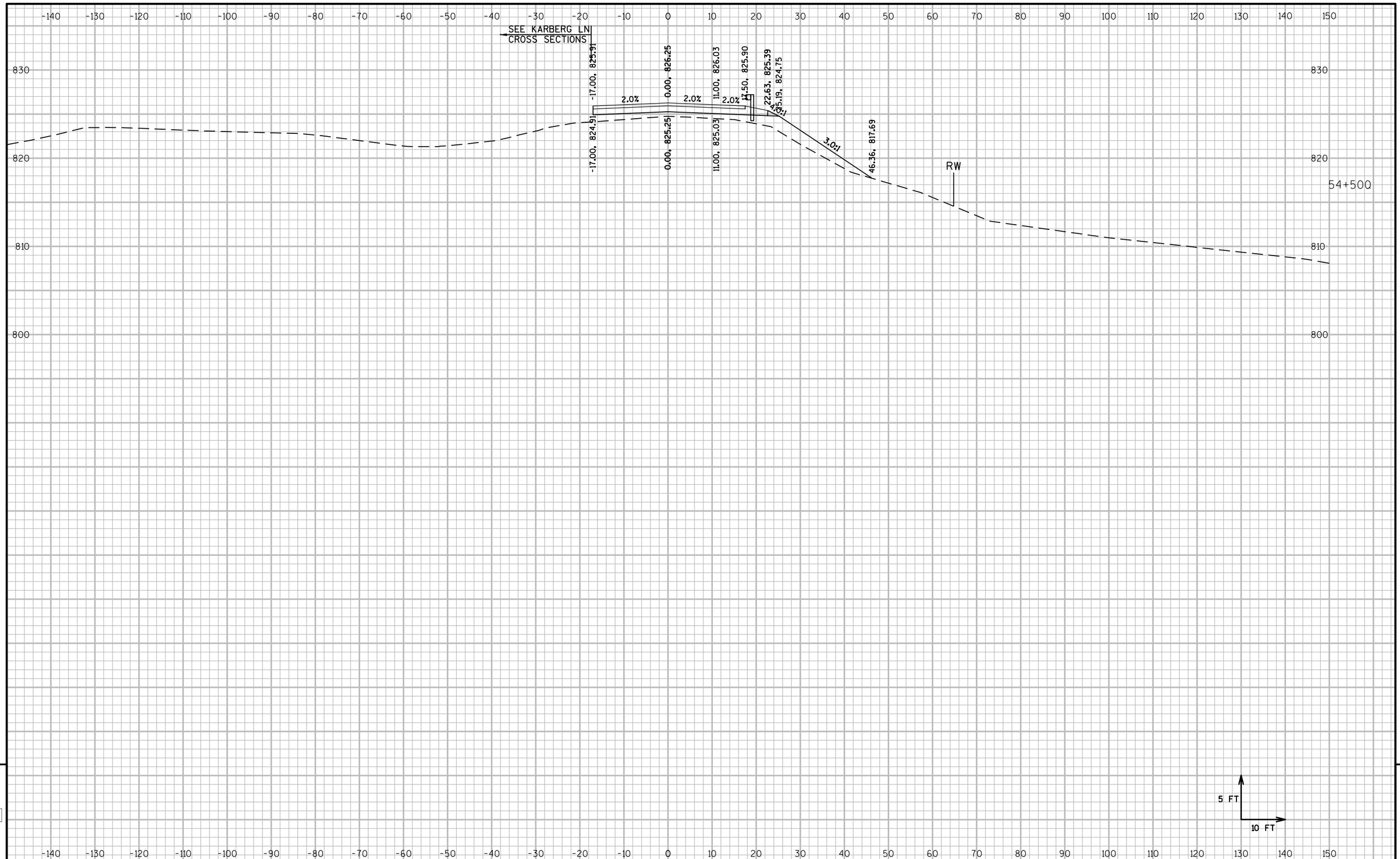


PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: CTH Q	SHEET 269	E

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WISDOT/CADDS SHEET 49

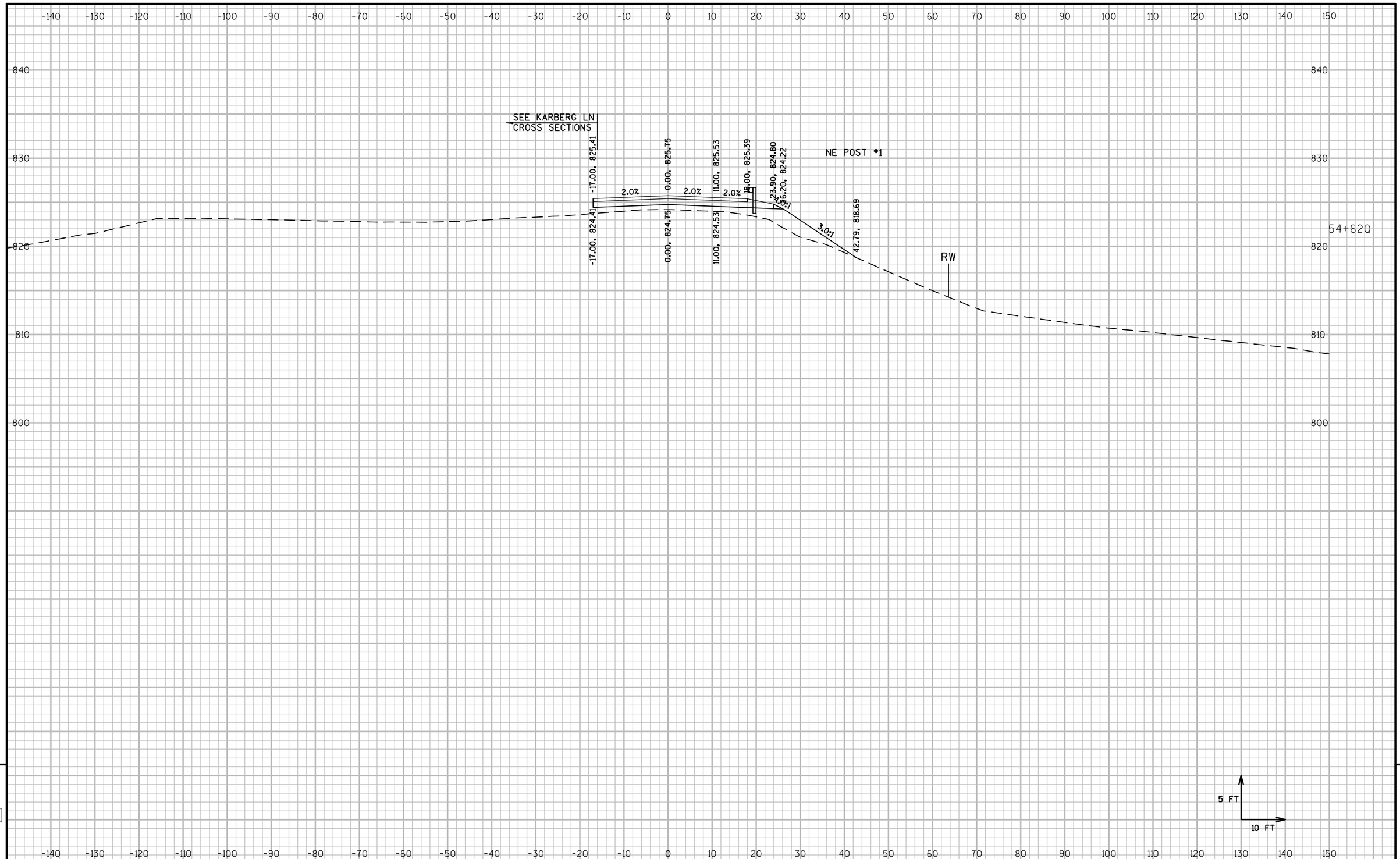


PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: CTH Q	SHEET 270	E

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PLOT DATE : 12/28/2017 10:58 AM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49

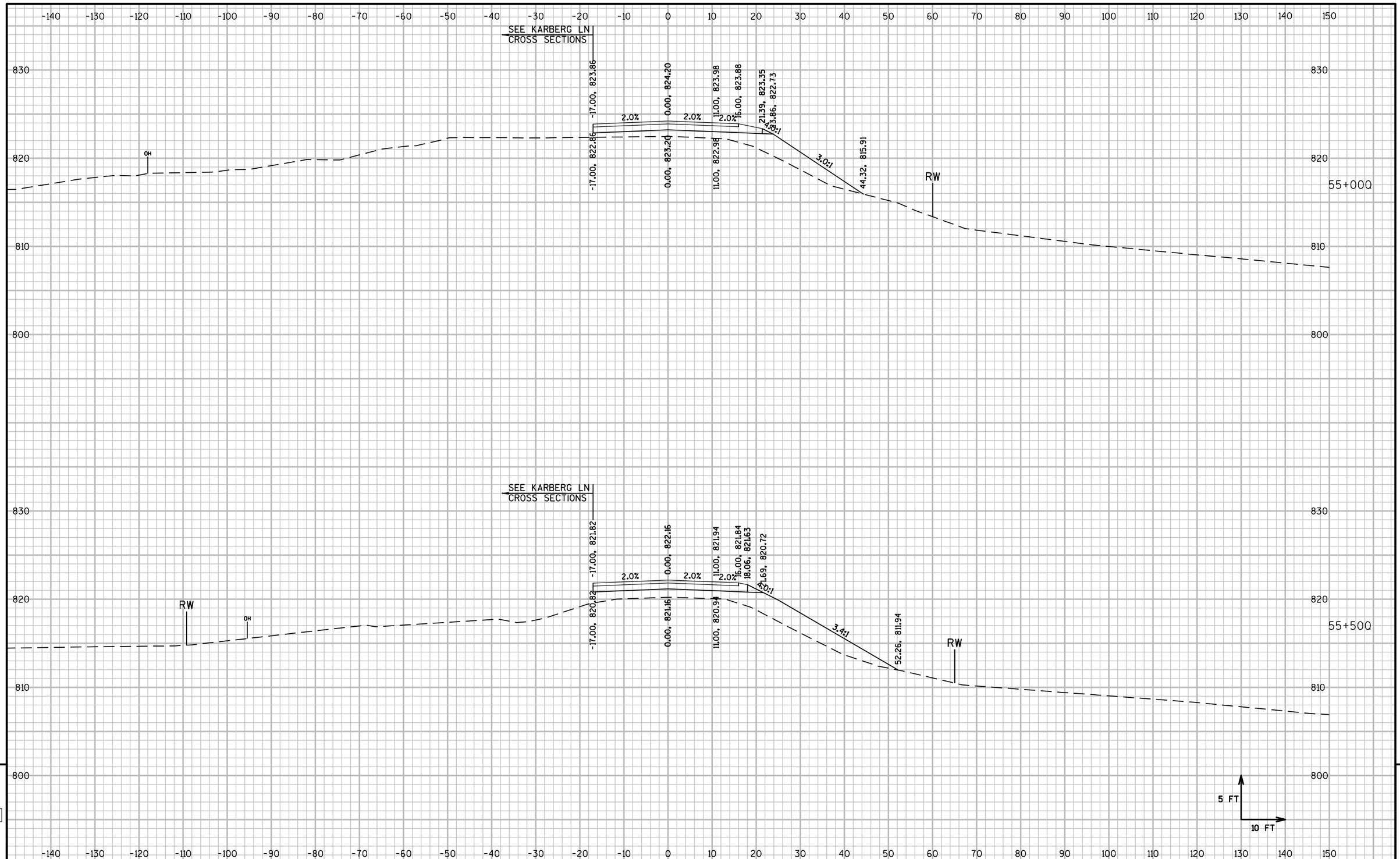


PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: CTH Q	SHEET 271	E

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LAYOUT NAME - 090232_XS

PLOT DATE : 12/28/2017 10:58 AM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49



PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: CTH Q	SHEET 272	E

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LAYOUT NAME - 090233_XS

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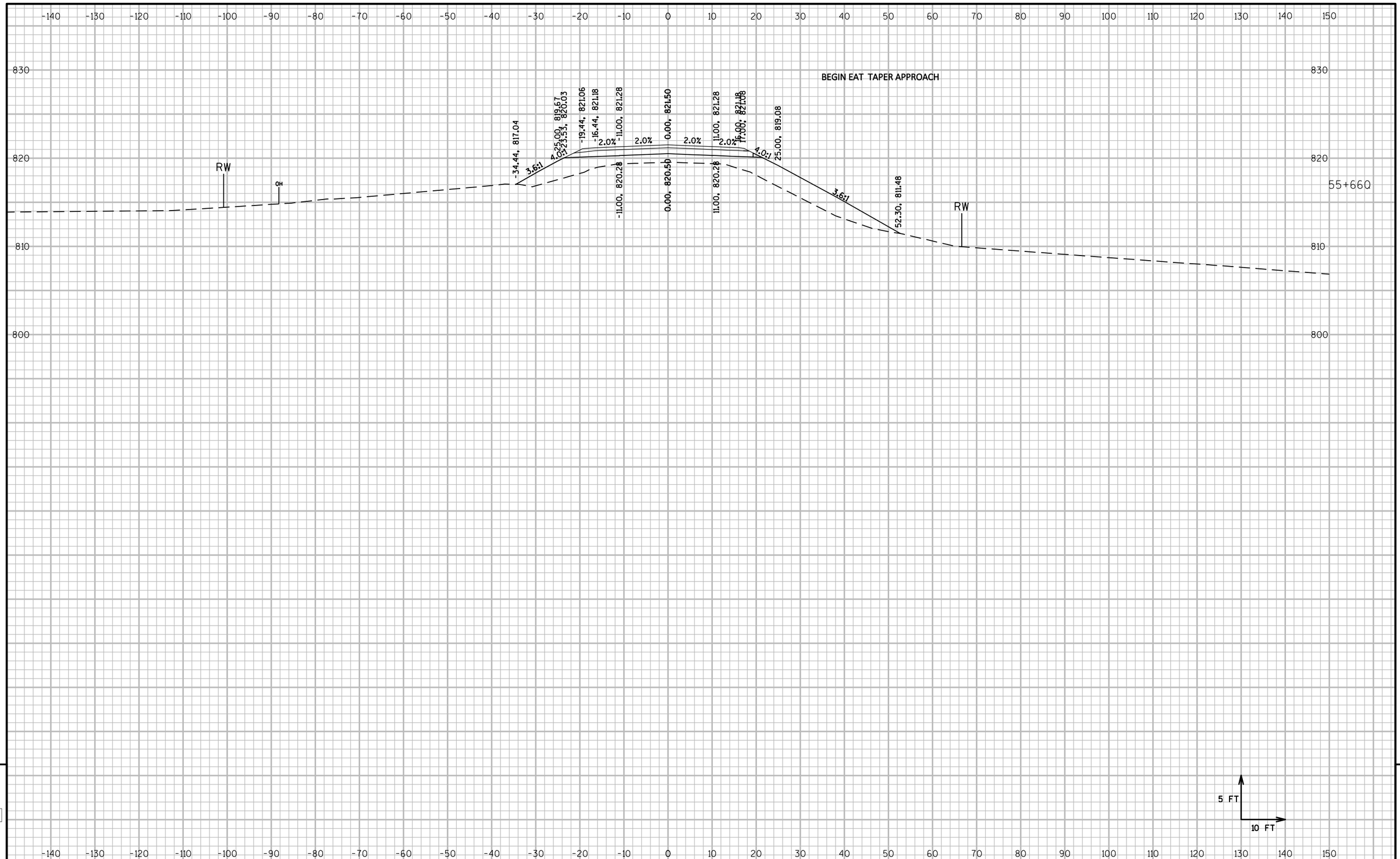
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PLOT BY : MEYER, TERA

PLOT NAME :

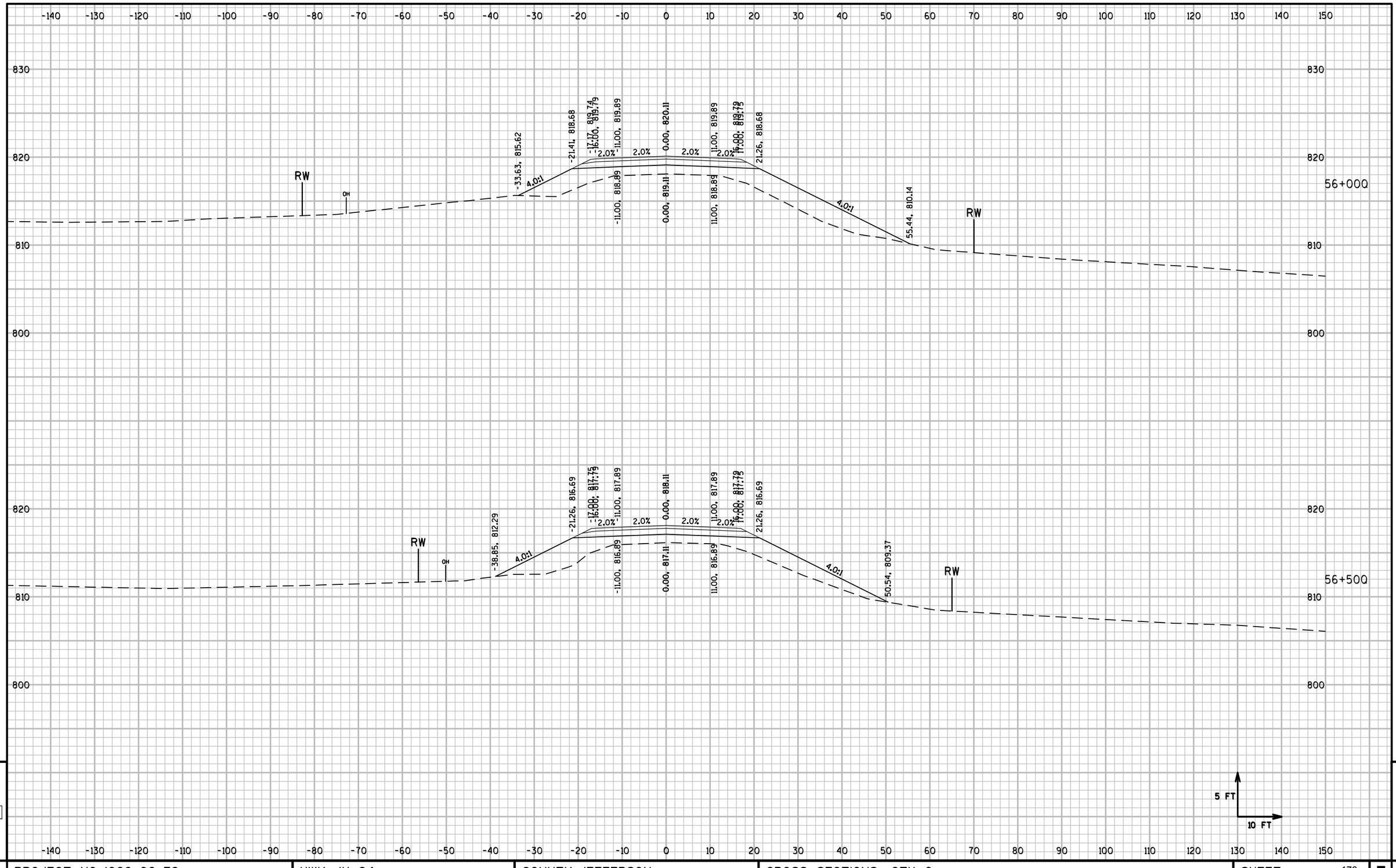
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WISDOT/CADDS SHEET 49



PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: CTH Q	SHEET 273	E

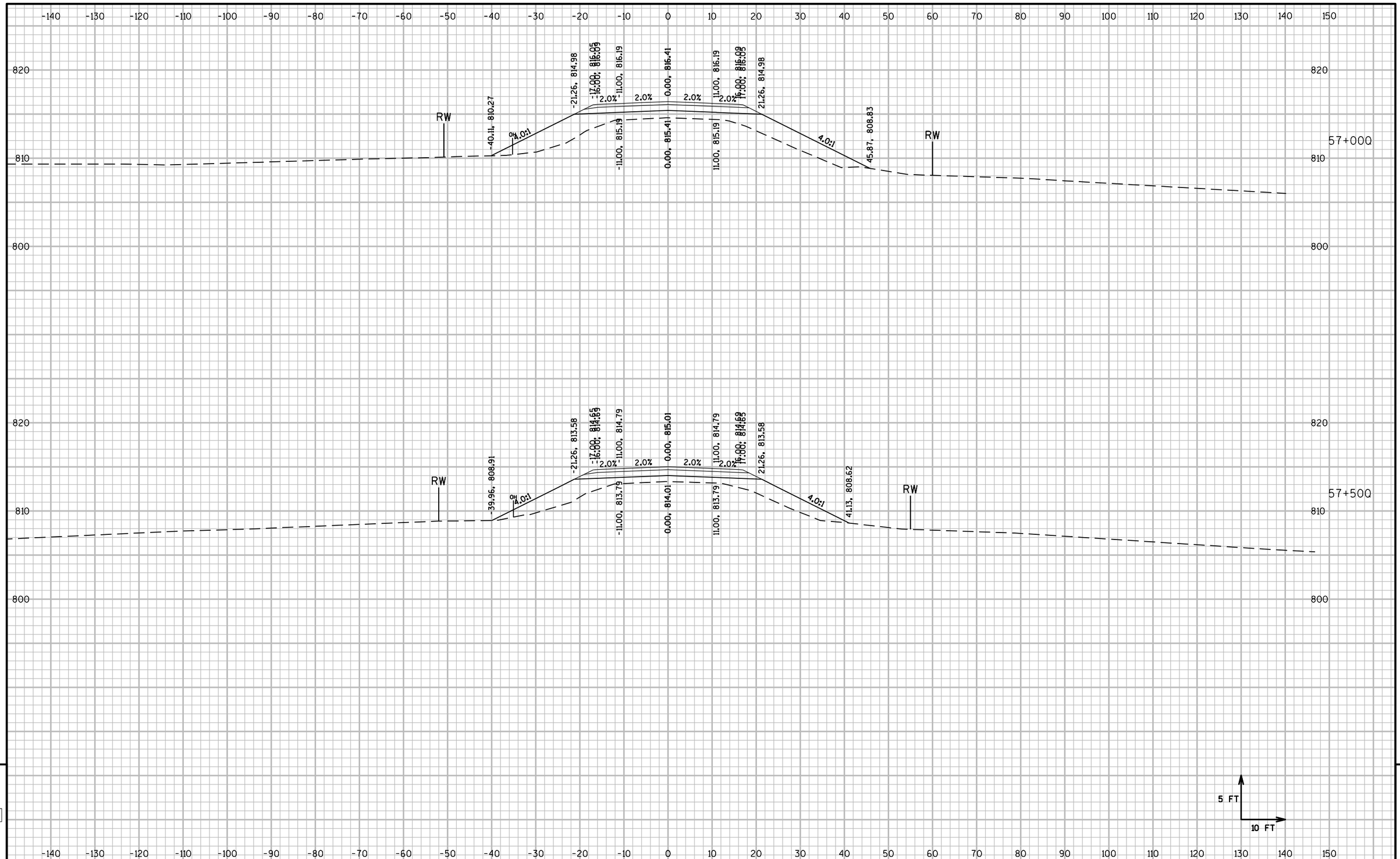
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PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: CTH Q	SHEET 274	E

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LAYOUT NAME - 090234_XS
PLOT DATE : 5/27/2009 12:15 PM
PLOT BY : MEYER, TERA
PLOT NAME :
PLOT SCALE : 1:20_XREF

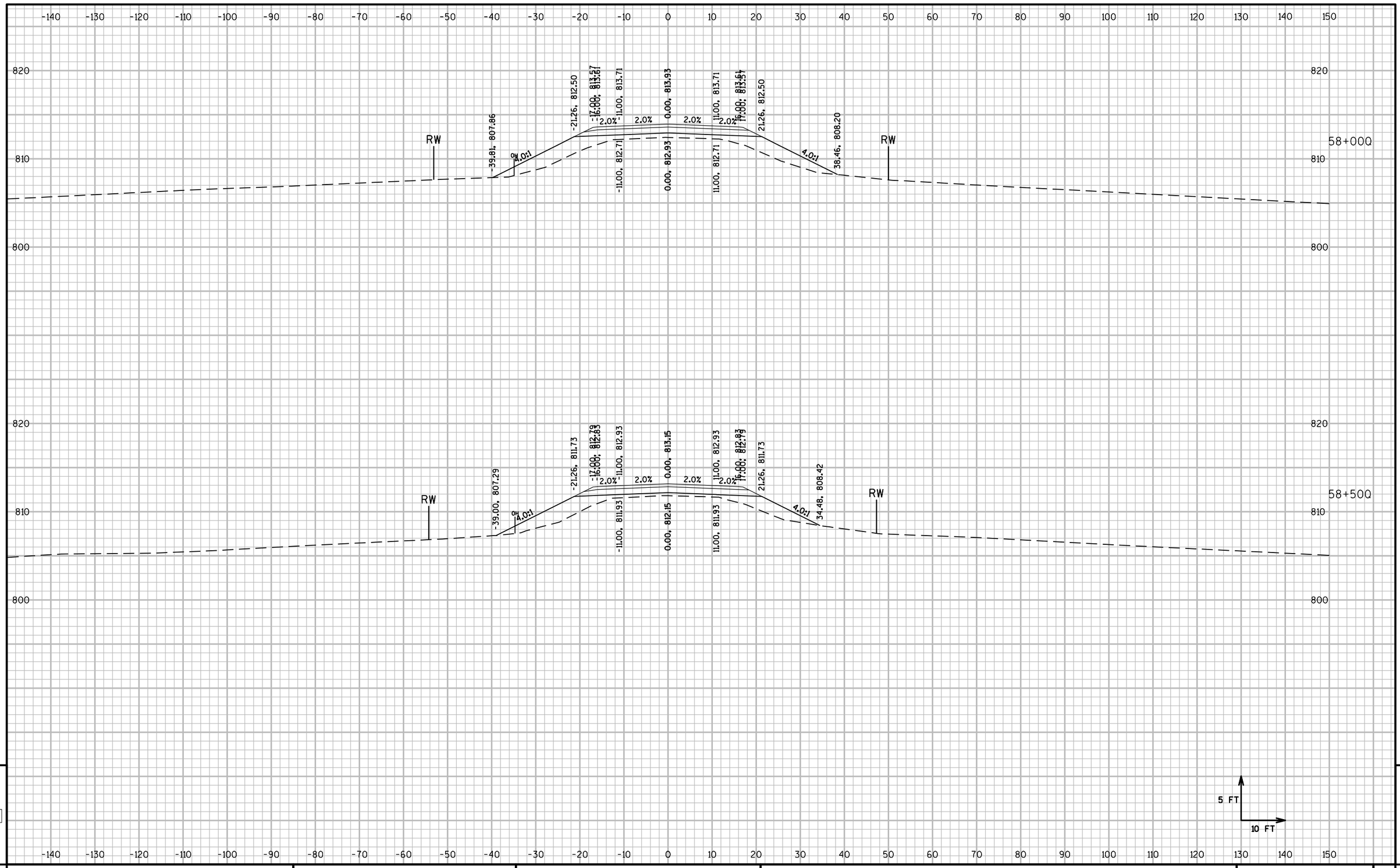
WISDOT/CADDS SHEET 49



PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: CTH Q	SHEET 275	E

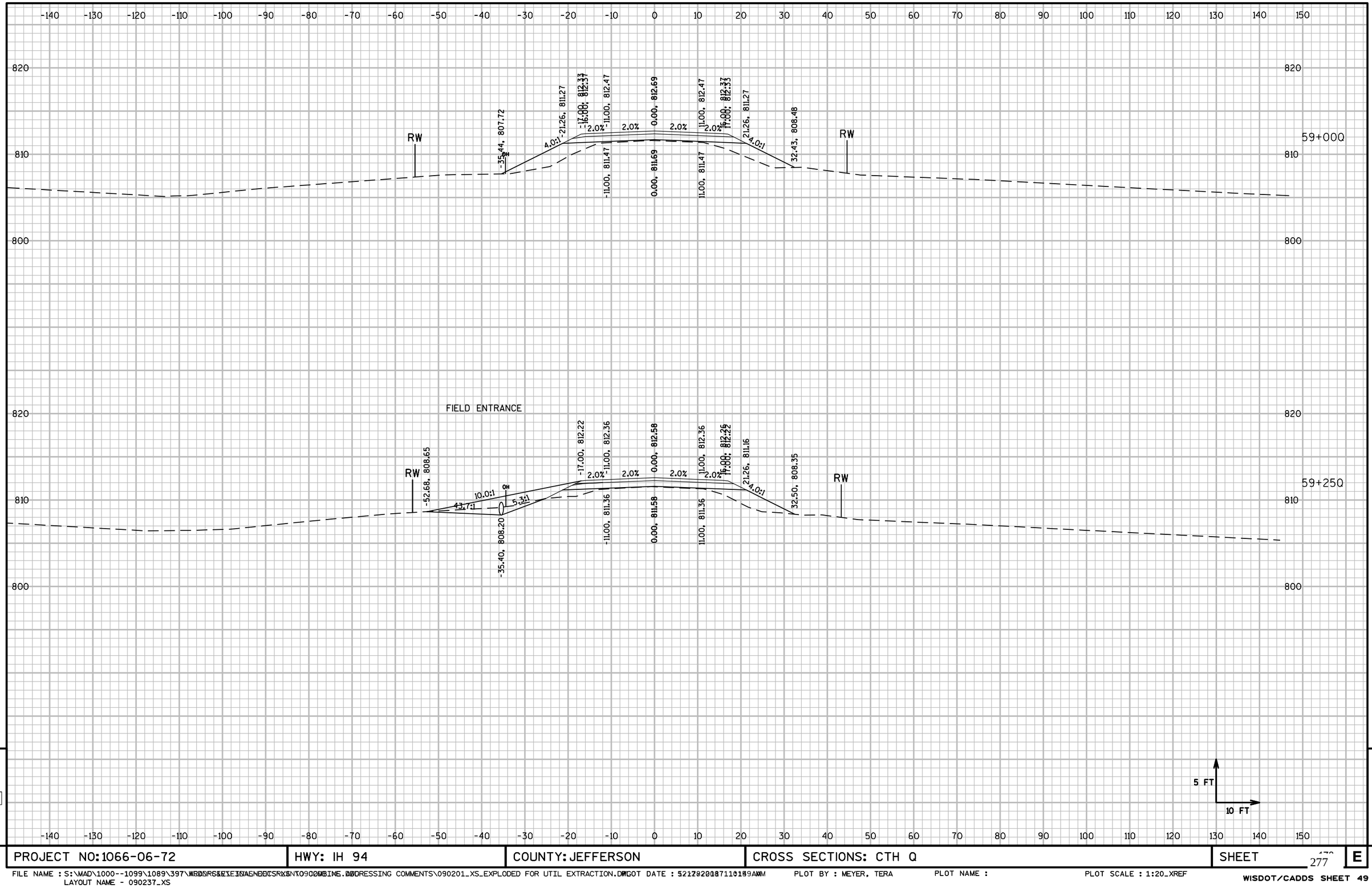
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PLOT BY : MEYER, TERA
PLOT NAME :
PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49



PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: CTH Q	SHEET 276	E

FILE NAME : S:\MAD\1000--1099\1089\397\WRDS\ADDRESSING COMMENTS\090201_XS_EXPLODED FOR UTIL EXTRACTION.DWG PLOT DATE : 5/17/2010 12:19 PM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF
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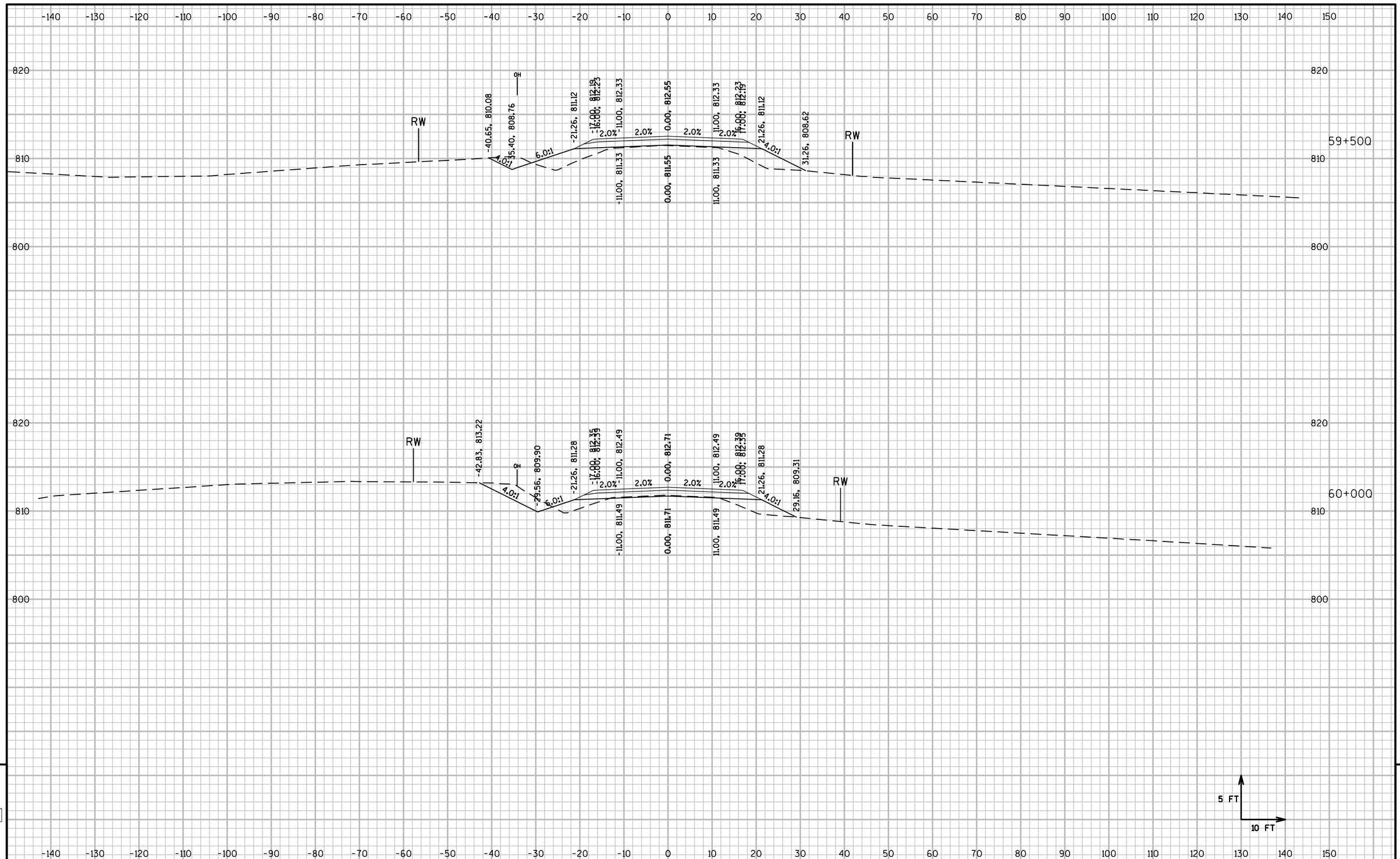


PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: CTH Q	SHEET 277	E

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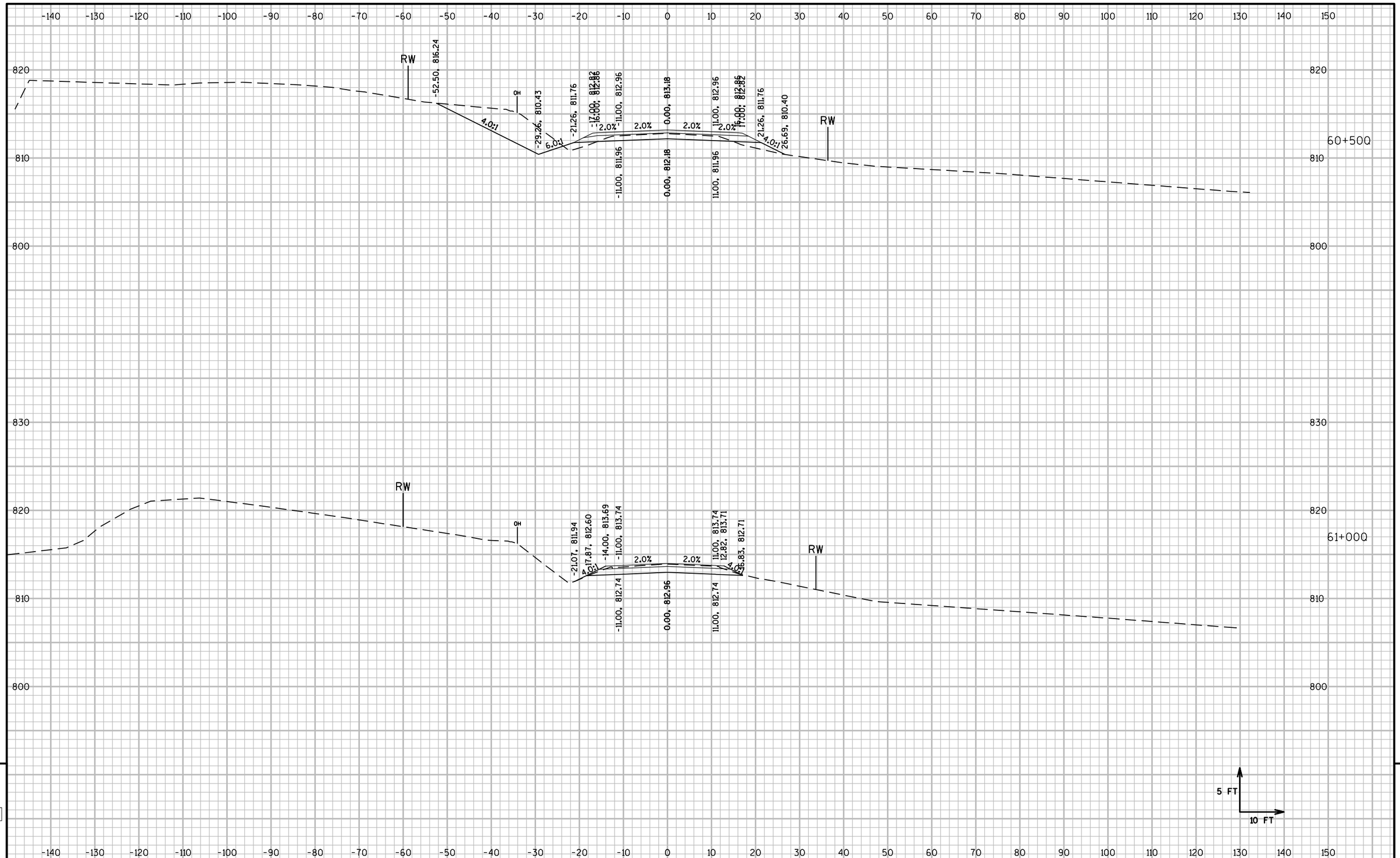
WISDOT/CADDS SHEET 49



PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: CTH Q	SHEET 278	E

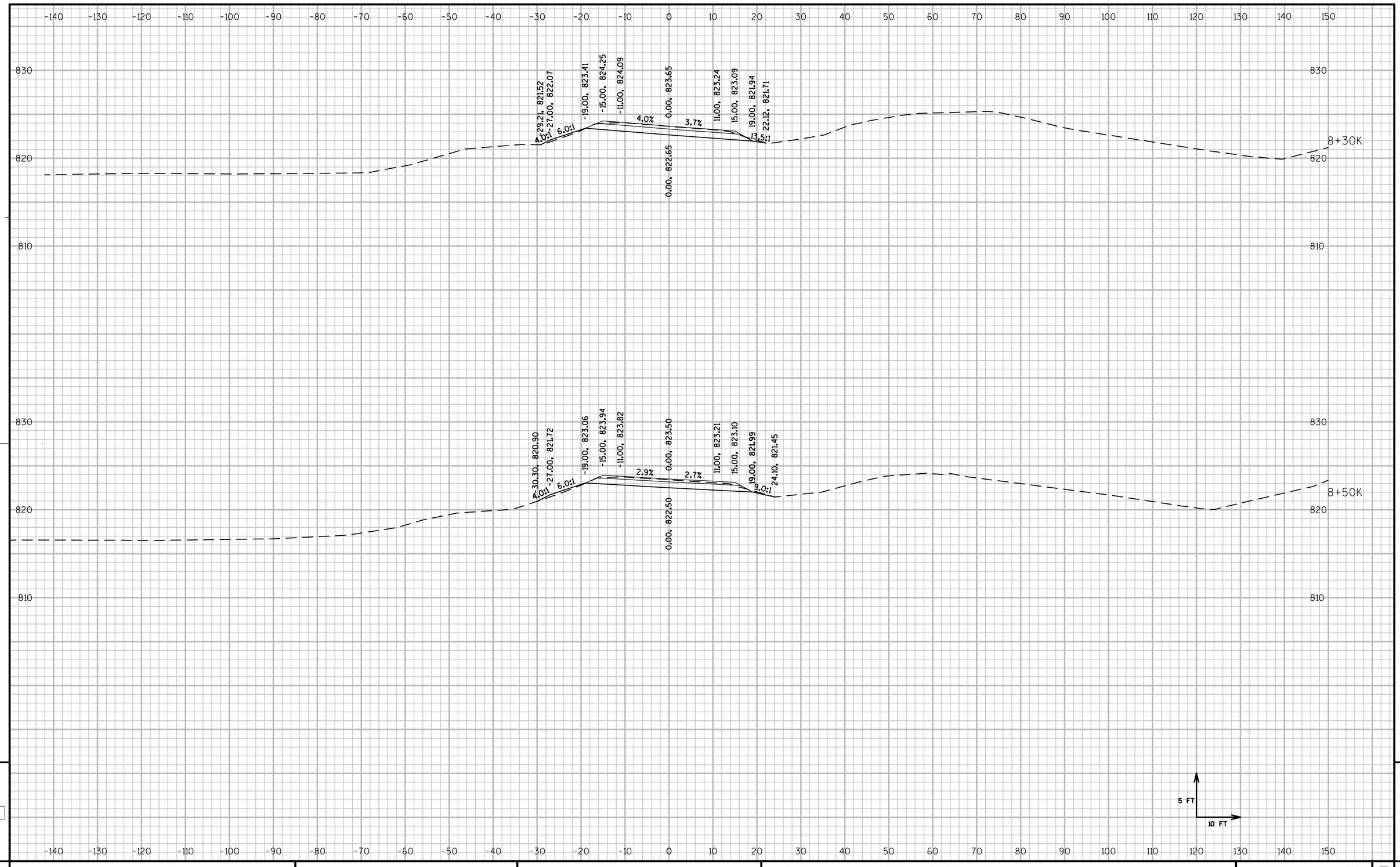
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PLOT DATE : 5/27/2009 7:11:19 AM
PLOT BY : MEYER, TERA
PLOT NAME :
PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49



PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: CTH Q	SHEET 279	E

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LAYOUT NAME - 090239_XS
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PLOT BY : MEYER, TERA
PLOT NAME :
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WISDOT/CADDS SHEET 49

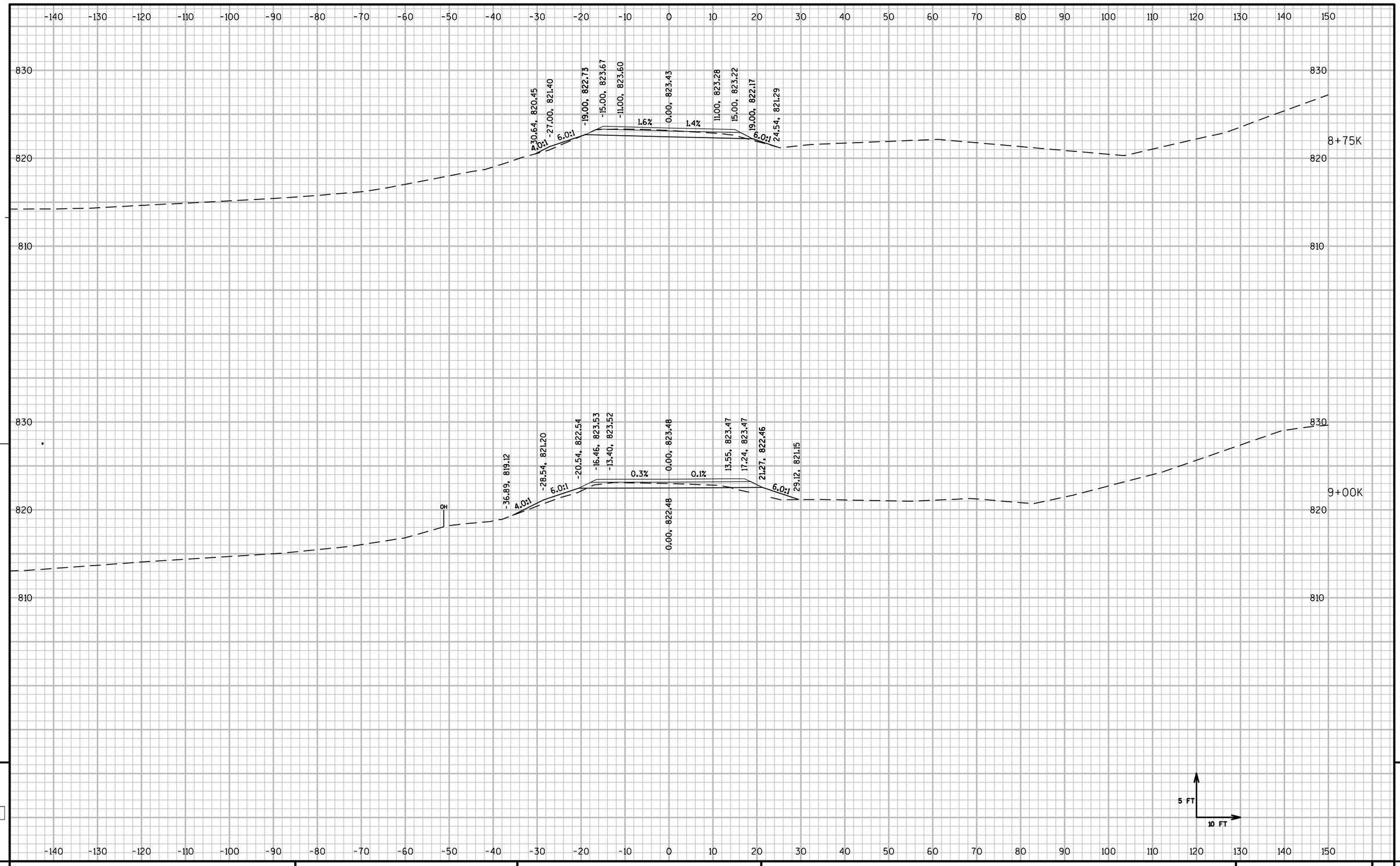


PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	KARBERG LANE CROSS SECTIONS	SHEET 280	E

FILE NAME : S:\MAD\1000--1099\1089\397\ACAD\CIVIL3D\SHEETSPLAN\090237_XS.DWG
LAYOUT NAME - 090237_XS

PLOT DATE : 1/10/2018 11:19 AM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

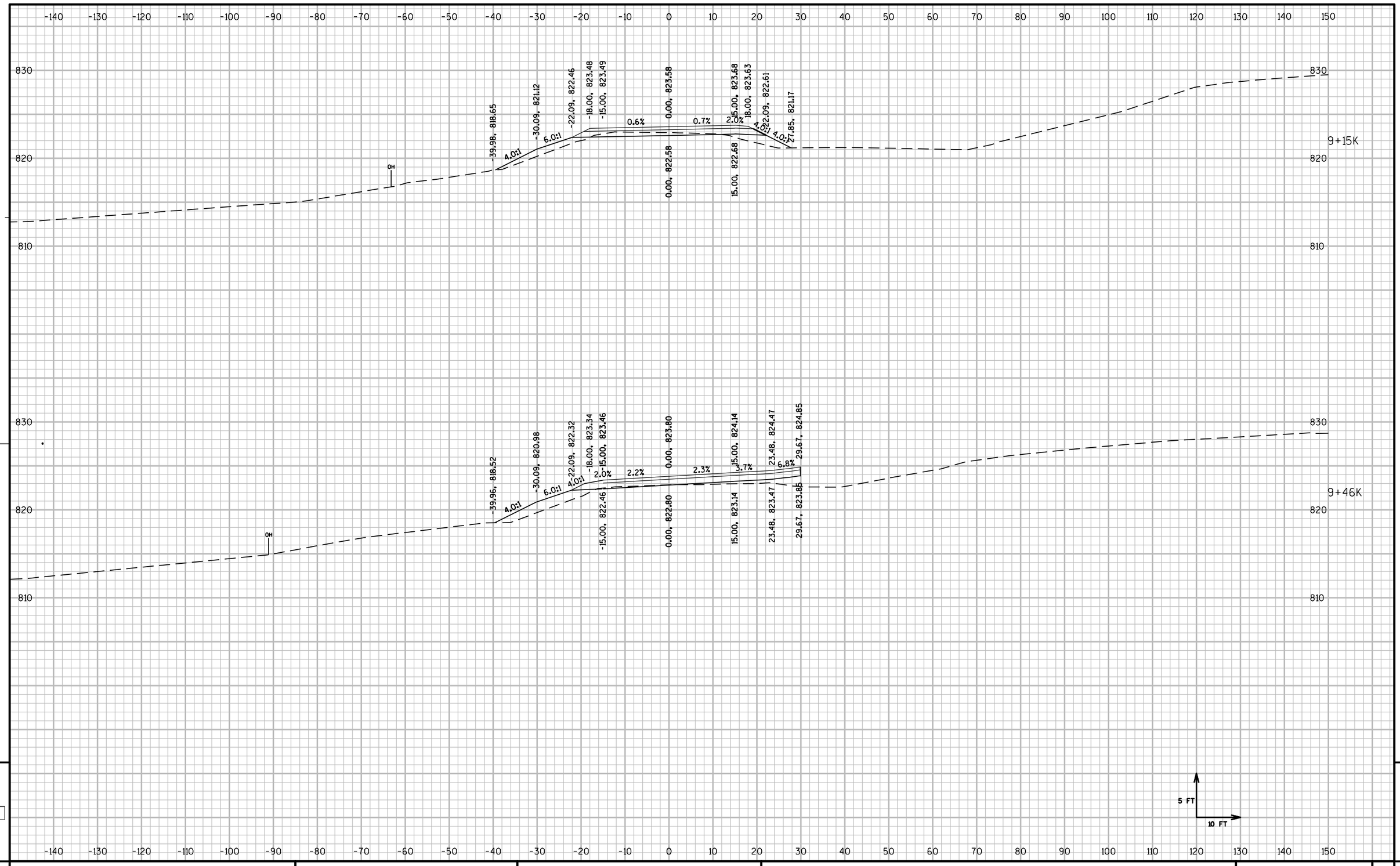
WISDOT/CADDS SHEET 49



PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	KARBERG LANE CROSS SECTIONS	SHEET 281	E

FILE NAME : S:\MAD\1000--1099\1089\397\WORKING\ENGINEERING\CROSS SECTIONS\090238.DWG
LAYOUT NAME - 090238_XS
PLOT DATE : 5/10/2018 11:19 AM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

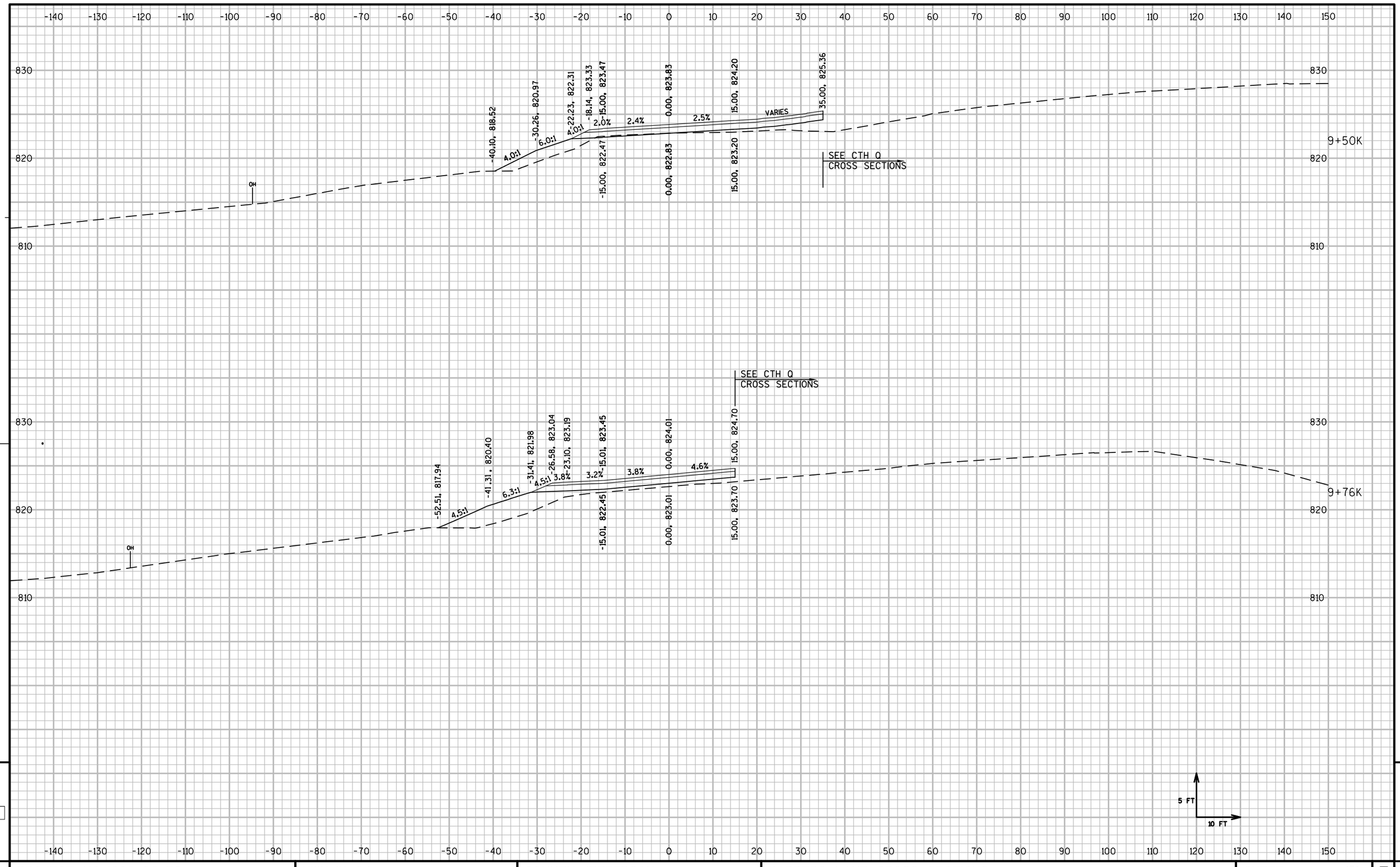
WISDOT/CADDS SHEET 49



PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	KARBERG LANE CROSS SECTIONS	SHEET 282	E

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PLOT BY : MEYER, TERA
PLOT NAME :
PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49



PROJECT NO: 1066-06-72	HWY: IH 94	COUNTY: JEFFERSON	KARBERG LANE CROSS SECTIONS	SHEET 283	E

FILE NAME : S:\MAD\1000--1099\1089\397\WORKING\ENGINEERING\CROSS SECTIONS\090237_XS_EXPLODED FOR UTIL EXTRACTION.DWG
LAYOUT NAME - 090240_XS
PLOT DATE : 5/10/2018 11:19 AM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov

MAD

FEBRUARY 2020

PROJECT ID: 1067-02-76

WITH: 1066-06-72 and 1067-04-71

COUNTY: JEFFERSON

ORDER OF SHEETS

Section No.	1	Title
Section No.	2	Typical Sections and Details
Section No.	3	Estimate of Quantities
Section No.	3	Miscellaneous Quantities
~~Section No.~~	~~4~~	~~Right of Way Plat~~
Section No.	5	Plan and Profile
Section No.	6	Standard Detail Drawings
Section No.	7	Sign Plates
Section No.	8	Structure Plans
Section No.	9	Computer Earthwork Data
Section No.	9	Cross Sections

TOTAL SHEETS = 224



01

DESIGN DESIGNATION

		1067-02-76
A.A.D.T.	(2018)	= 35,800
A.A.D.T.	(2038)	= 44,300
D.H.V.	(2038)	= 4,652
D.D.		= 58/42
T.		= 24.9%
DESIGN SPEED		= 70 MPH
ESALS		= 41,000,000

CONVENTIONAL SYMBOLS

PLAN

- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE

- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (95.36)
- CULVERT (Profile View)

UTILITIES

- ELECTRIC (E)
- FIBER OPTIC (FO)
- GAS (G)
- SANITARY SEWER (SAN)
- STORM SEWER (SS)
- TELEPHONE (T)
- WATER (W)
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

LAKE MILLS - OCONOMOWOC

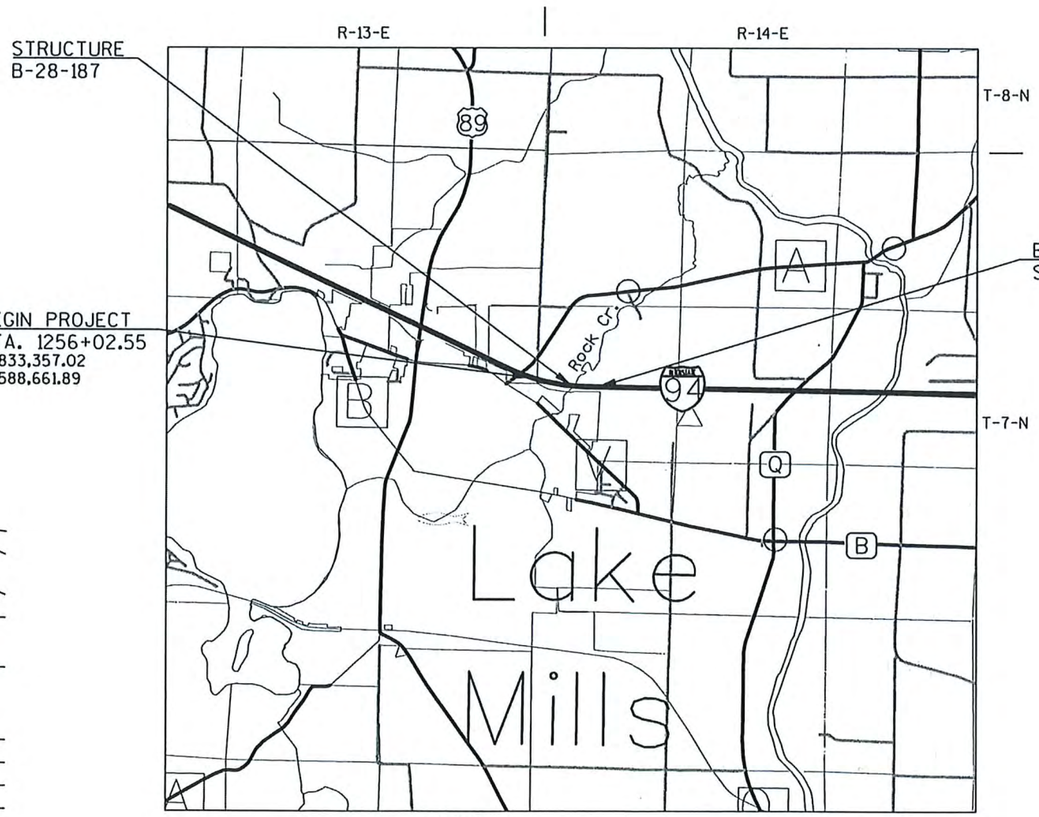
Rock Creek Bridge B-28-0187

IH 94

JEFFERSON COUNTY

STATE PROJECT NUMBER
1067-02-76

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1067-02-76	WISC 2020032	1



LAYOUT

SCALE 0 1 MILE

TOTAL NET LENGTH OF CENTERLINE = 0.071 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, JEFFERSON COUNTY, NAD83 (2011, IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM (NGVD29).

ORIGINAL PLANS PREPARED BY:

STRAND ASSOCIATES

WISCONSIN
DAVID J. WALKER
E-23400
VERONA
WI
PROFESSIONAL ENGINEER

9/24/19

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	STRAND ASSOCIATES, INC.
Designer	STRAND ASSOCIATES, INC.
Project Manager	JOHN JENKINS
Regional Examiner	SW REGION
Regional Supervisor	JAMES OETTINGER

APPROVED FOR THE DEPARTMENT

DATE: 10/01/19 (Signature)

E

FILE NAME : S:\MAD\1000--1099\1089\399\ACAD\CIVIL3D\SHEETSPLAN\010101_TI.DWG
LAYOUT NAME - 010101_TI - TITLE SHEET 1 IN EQ 0.5 MI

PLOT DATE : 9/24/2019 11:34 AM PLOT BY : GRIMME, SARA PLOT NAME :

WISDOT/CADDS SHEET 10

GENERAL NOTES

EROSION CONTROL FEATURES AS SHOWN IN THE PLANS ARE AT SUGGESTED LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE CONTRACTOR'S EROSION CONTROL IMPLEMENTATION PLAN (ECIP) AND APPROVED BY THE ENGINEER IN CONSULTATION WITH THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES. MAINTAIN ALL EROSION CONTROL MEASURES UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.

ALL SIGN LOCATIONS SHALL BE REVIEWED BY THE ENGINEER PRIOR TO INSTALLATION.

ALL EXISTING SIGNS SHALL REMAIN IN PLACE UNTIL CONSTRUCTION OPERATIONS REQUIRE THEIR REMOVAL OR UNLESS THE ENGINEER APPROVES THEIR REMOVAL.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY SHALL BE RESTORED AS DIRECTED BY THE ENGINEER.

REMOVAL ITEMS SHALL BE REMOVED TO AN EXISTING JOINT, SAWCUT WHERE SHOWN ON PLANS, OR AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR'S PAVING OPERATIONS SHALL BE CONSISTENT WITH THE PLAN TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT HMA LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN THE DRIVING LANE.

NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.

EXCAVATION BELOW SUBGRADE (EBS) IS NOT USED TO BALANCE YARDAGE BUT IS MEASURED AND PAID FOR AS EXCAVATION COMMON.

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

UTILITY/MUNICIPALITY	CONTACT/ADDRESS	UTILITY TYPE
AT&T LEGACY	KENNETH M. NINE 110 N. MAIN STREET CULVER, IN 46511 574-842-8830 (OFFICE) 574-904-6336 (MOBILE) KENNTHNINE@ATT.NET	COMMUNICATION

ABBREVIATIONS

AEW	APRON END WALL
AFG	ABOVE FINISHED GROUND
B.	BARN
B.P.	BREAK POINT
COR.	CORNER
C.S.C.P.	CORRUGATED STEEL CULVERT PIPE
S.S.P.A.	CORRUGATED STEEL PIPE ARCH
DIM.	DIMENSION
e.	EXTERNAL DISTANCE
E.O.P.	EDGE OF PAVEMENT
H.P.	HIGH POINT
D.	LANE DISTRIBUTION
L.P.	LOW POINT
MAX.	MAXIMUM
M.D.	MEDIAN DRAIN
MIN.	MINIMUM
NOR.	NORMAL
T.	PERCENT OF TRUCKS
R.C.C.P.	REINFORCED CONCRETE CULVERT PIPE
S.	SHED
S.P.B.G.	STEEL PLATE BEAM GUARD
SL. ST.	SLOPED STEEL
T.O.C.	TOP OF CURB

DESIGN CONTACT

BRETT OFTEDAHL P.E.
STRAND ASSOCIATES, INC.
910 W WINGRA DR
MADISON, WI 53715
PH: (608) 251-4843
BRETT.OFTEDAHL@STRAND.COM

WISDOT CONTACT

JOHN JENKINS, P.E.
WISDOT SW REGION-MADISON OFFICE
2101 WRIGHT ST.
MADISON, WI 53704
PH: (608) 246-3866
JOHN.JENKINS@DOT.WI.GOV

DNR LIASON

LAURA BUB
SOUTH CENTRAL REGION
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711
PH: (608) 275-3485
LAURA.BUB@WISCONSIN.GOV

SECTION 2 ORDER OF SHEETS

GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
LAYOUT PLAN DETAILS
EROSION CONTROL
PERMANENT SIGNING/PAVEMENT MARKING
CONSTRUCTION STAGING
ALIGNMENT DATA SHEET
CONTROL POINT DATA SHEET

DIGGERS HOTLINE
Dial 811 or (800)242-8511
www.DiggersHotline.com

N

TOWN OF LAKE MILLS

TOWN OF MILFORD

BEGIN CONSTRUCTION
PROJECT ID 1067-04-71

BEGIN CONSTRUCTION
STA. 1236+82.59

END CONSTRUCTION
PROJECT ID 1067-04-71

EXISTING STRUCTURE B-28-42

ROCK CREEK

CTH A

WB I-94

EB I-94

1235

1240

1245

1250

1255

1260

1265

1270

1275

BEGIN PROJECT 1067-02-76
STA. 1256+02.55
X=833,357.02
Y=588,661.89

END PROJECT 1067-02-76
STA. 1259+79.85

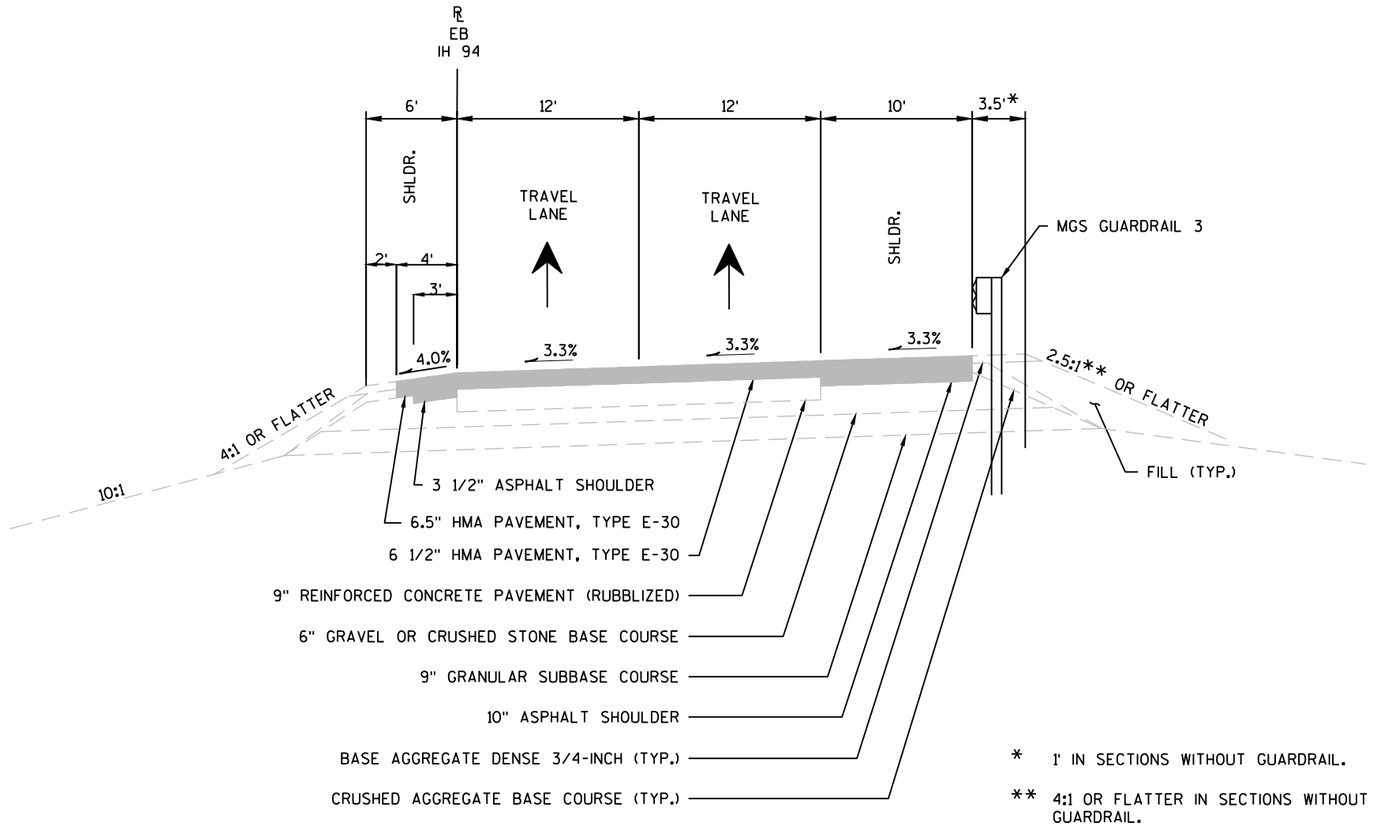
END CONSTRUCTION
STA. 1275+65.84

CITY OF LAKE MILLS

TOWN OF AZTALAN

TOWN
OF
AZTALAN

PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	PROJECT OVERVIEW	SHEET 3	E



* 1' IN SECTIONS WITHOUT GUARDRAIL.

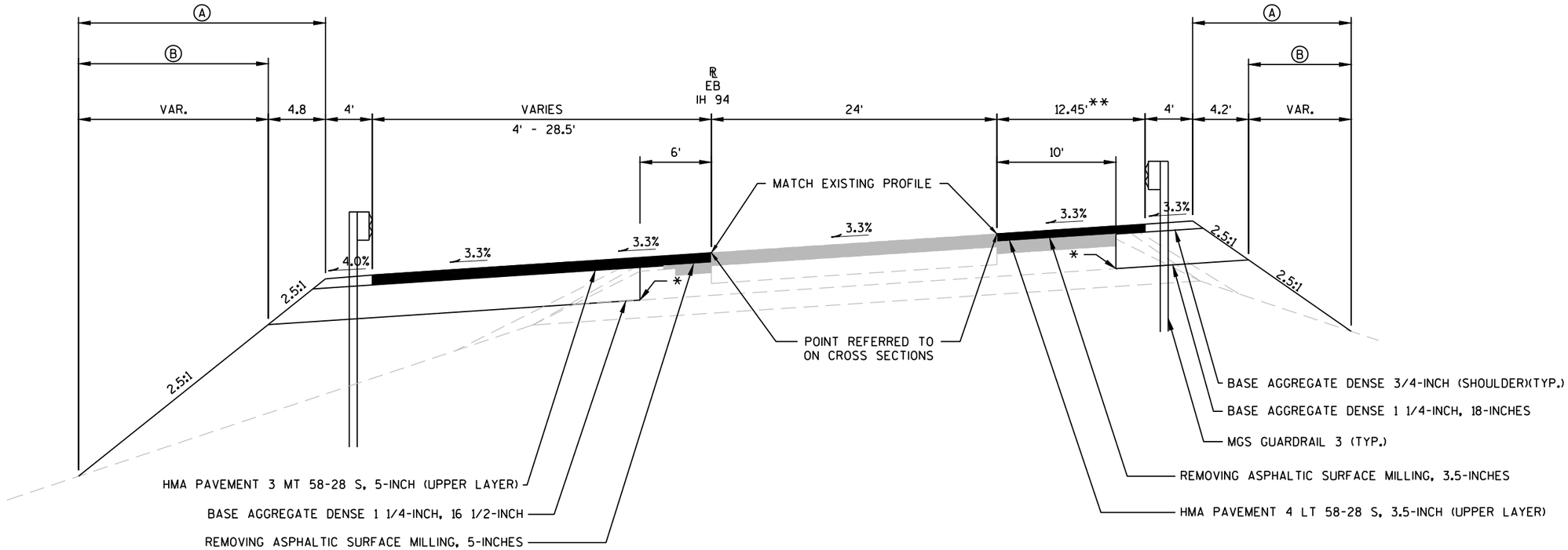
** 4:1 OR FLATTER IN SECTIONS WITHOUT GUARDRAIL.

EXISTING TYPICAL SECTION
IH 94 EASTBOUND

PROJECT NO:1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	TYPICAL SECTIONS	SHEET 4	E

Ⓐ SEEDING TEMPORARY;
FERTILIZER TYPE B;
SEEDING MIXTURE NO. 20

Ⓑ SALVAGED TOPSOIL
AND MULCHING

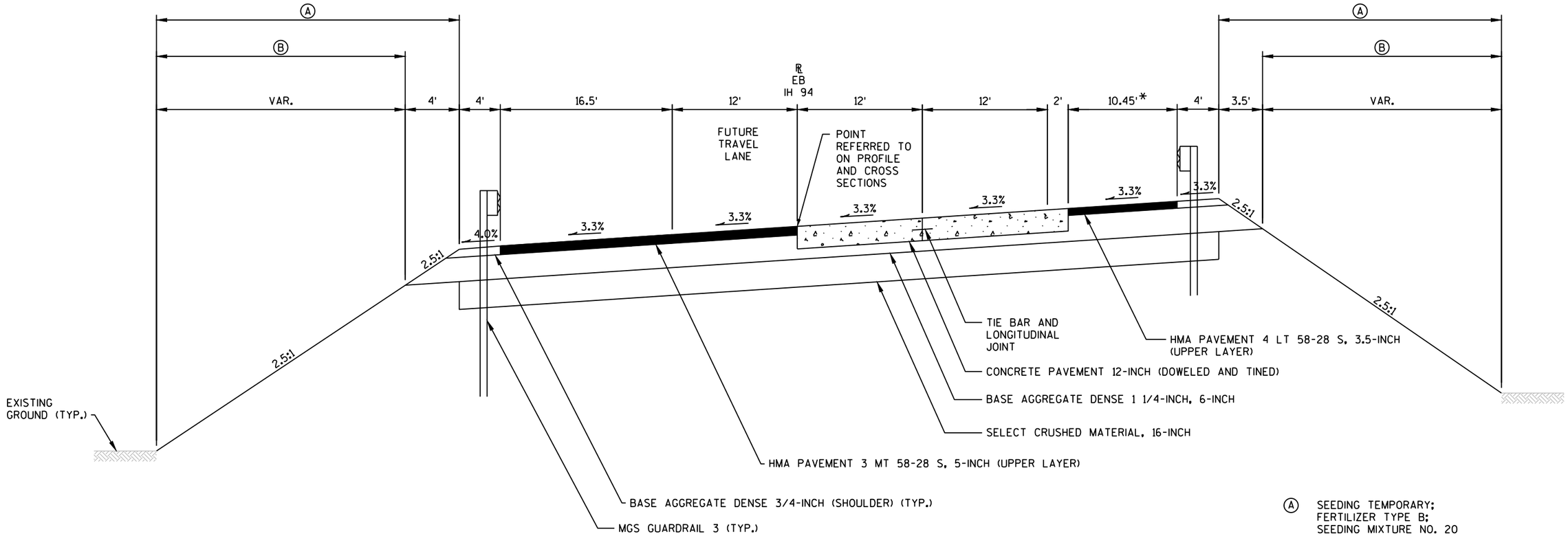


TYPICAL FINISHED SECTION

STA. 1249+42.31 - STA. 1256+02.55 RT
STA. 1252+70.09 - STA. 1256+02.55 LT

* MATCH EXISTING DEPTH OF GRAVEL
OR CRUSHED STONE BASE COURSE.

** MATCH OFFSET DISTANCE TO FACE
OF PARAPET OF B-28-187.



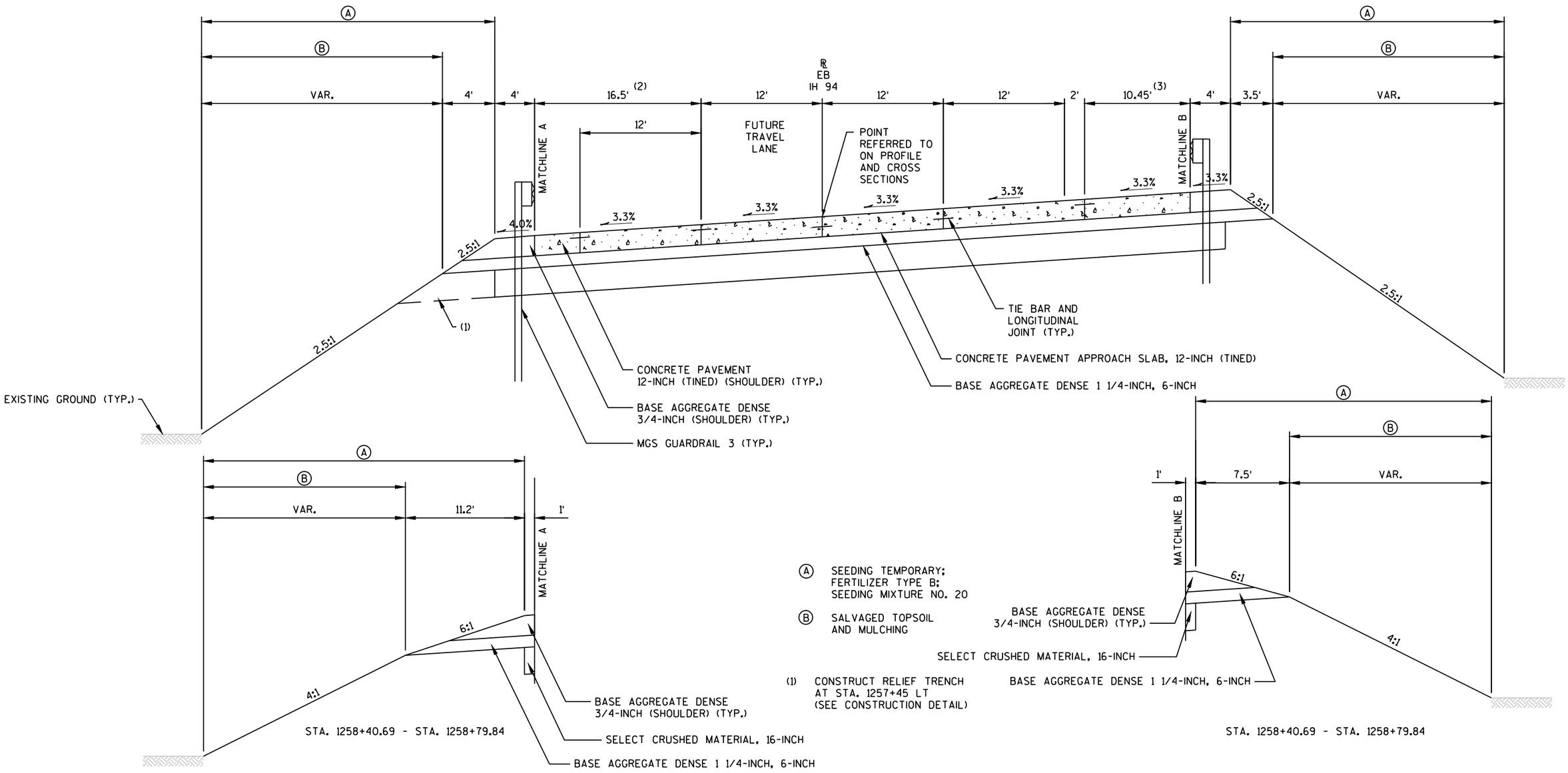
Ⓐ SEEDING TEMPORARY;
FERTILIZER TYPE B;
SEEDING MIXTURE NO. 20

Ⓑ SALVAGED TOPSOIL
AND MULCHING

TYPICAL FINISHED SECTION

STA. 1256+02.55 - STA. 1257+02.55

* MATCH OFFSET DISTANCE TO FACE
OF PARAPET OF B-28-187.



Ⓐ SEEDING TEMPORARY;
FERTILIZER TYPE B;
SEEDING MIXTURE NO. 20

Ⓑ SALVAGED TOPSOIL
AND MULCHING

(1) CONSTRUCT RELIEF TRENCH
AT STA. 1257+45 LT
(SEE CONSTRUCTION DETAIL)

(2) 16.1' STA. 1258+40.69 - STA. 1258+79.84

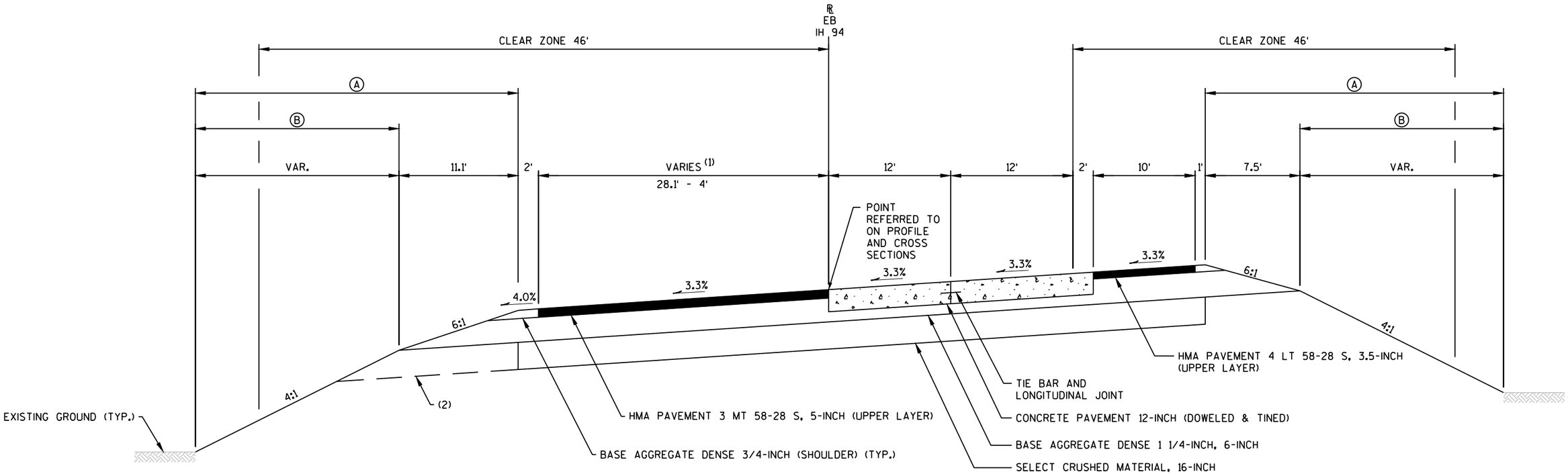
(3) 10' STA. 1258+40.69 - STA. 1258+79.84

TYPICAL FINISHED SECTION

STA. 1257+02.55 - STA. 1257+47.42
STA. 1257+47.42 - STA. 1258+40.69 (STRUCTURE B-28-187)
STA. 1258+40.69 - STA. 1258+79.84

Ⓐ SEEDING TEMPORARY;
FERTILIZER TYPE B;
SEEDING MIXTURE NO. 20

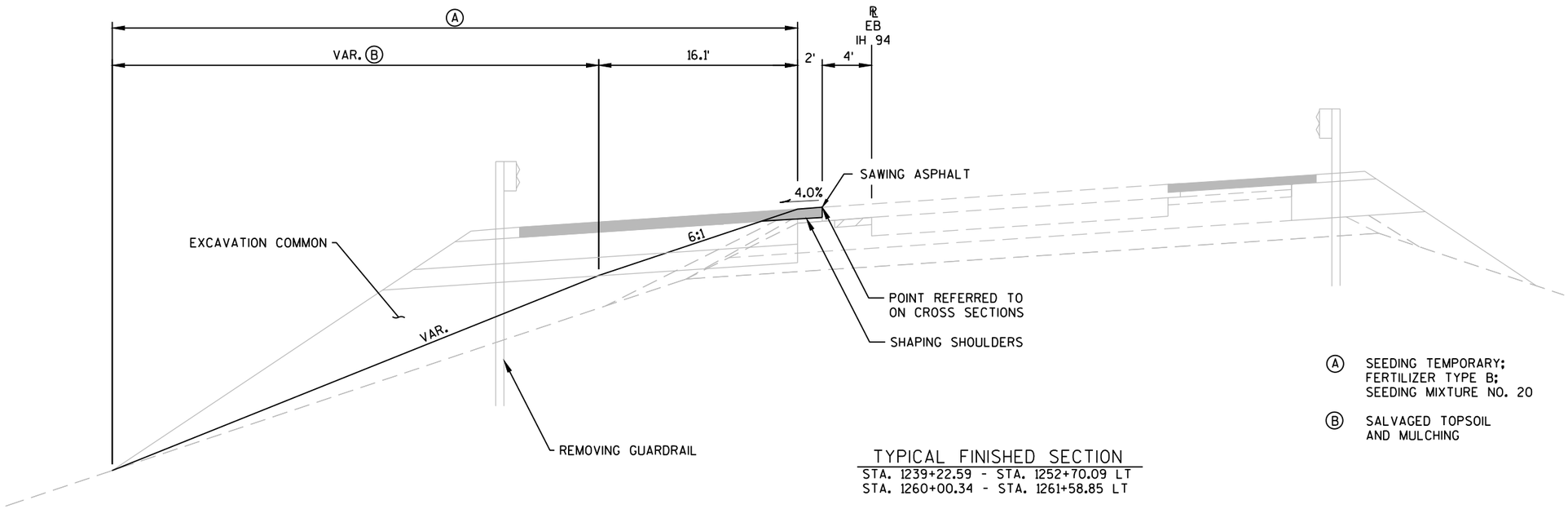
Ⓑ SALVAGED TOPSOIL
AND MULCHING



(1) VARIES 28.1' - 4'
STA. 1258+79.84 TO STA. 1260+00.34

(2) CONSTRUCT RELIEF TRENCH
AT STA. 1259+75 LT
(SEE CONSTRUCTION DETAIL)

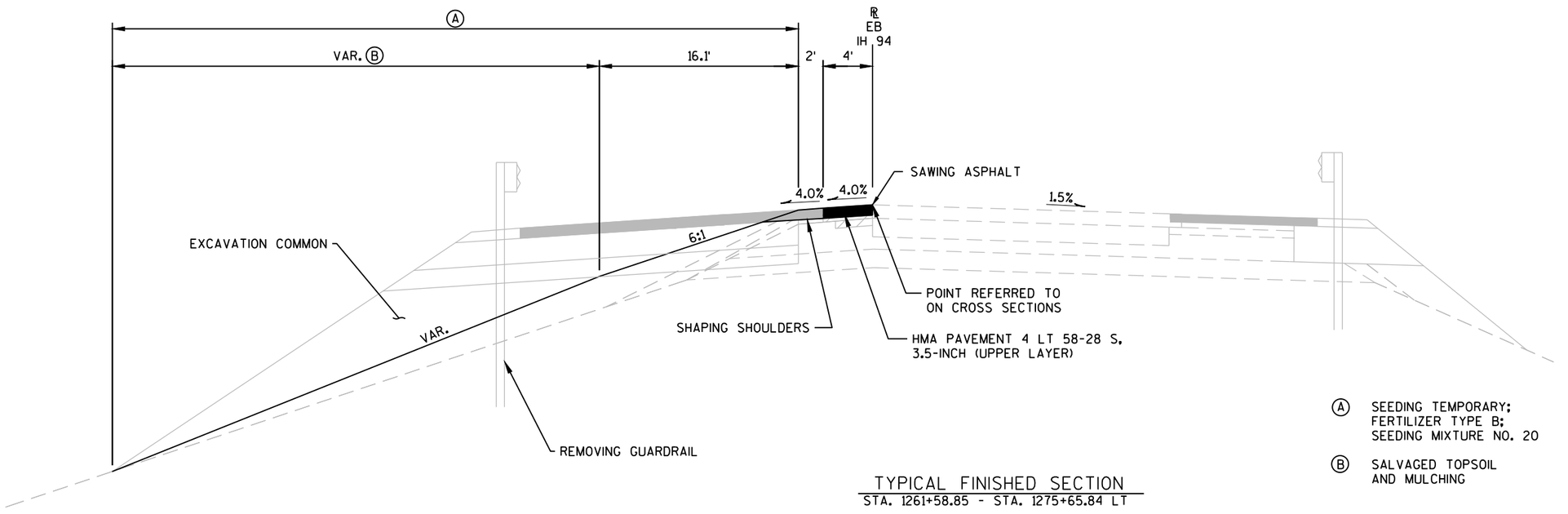
TYPICAL FINISHED SECTION
STA. 1258+79.84 - STA. 1259+79.85



TYPICAL FINISHED SECTION
STA. 1239+22.59 - STA. 1252+70.09 LT
STA. 1260+00.34 - STA. 1261+58.85 LT

(A) SEEDING TEMPORARY;
FERTILIZER TYPE B;
SEEDING MIXTURE NO. 20

(B) SALVAGED TOPSOIL
AND MULCHING



TYPICAL FINISHED SECTION
STA. 1261+58.85 - STA. 1275+65.84 LT

(A) SEEDING TEMPORARY;
FERTILIZER TYPE B;
SEEDING MIXTURE NO. 20

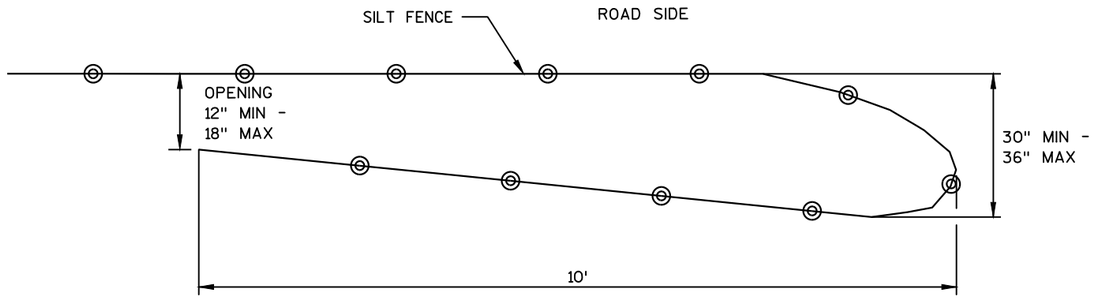
(B) SALVAGED TOPSOIL
AND MULCHING

PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	TYPICAL SECTIONS	SHEET 9	E

RUNOFF COEFFICIENT TABLE

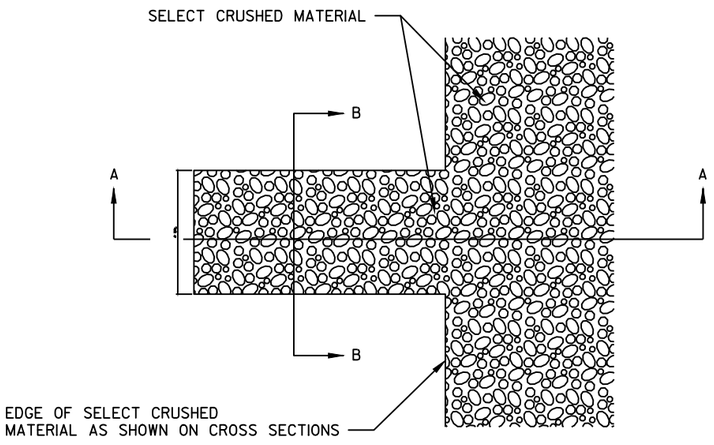
	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .50	.19 .34	.28 .41	.38 .56
MEDIAN STRIP-TURF	.19 .24	.20 .26	.24 .30	.19 .25	.22 .28	.26 .33	.20 .26	.23 .30	.30 .37	.20 .27	.25 .32	.30 .40
SIDE SLOPE-TURF			.25 .32			.27 .34			.28 .36			.30 .38
PAVEMENT:												
ASPHALT	.70 - .95											
CONCRETE	.80 - .95											
BRICK	.70 - .80											
DRIVES, WALKS	.75 - .85											
ROOFS	.75 - .95											
GRAVEL ROADS, SHOULDERS	.40 - .60											

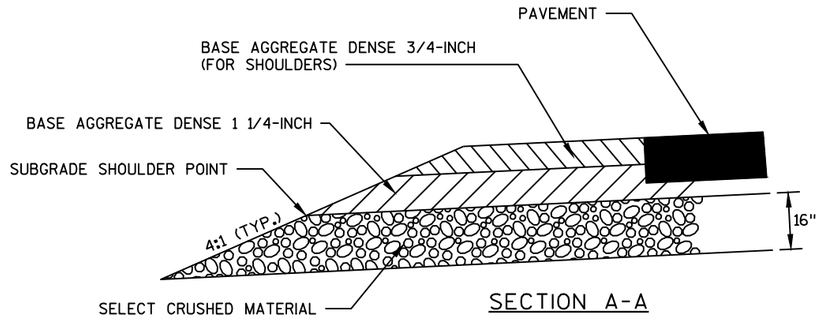
TOTAL PROJECT AREA = 22.7 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 4.6 ACRES



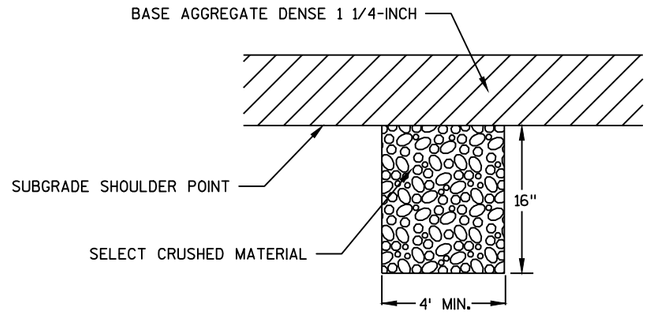
TEMPORARY SMALL ANIMAL TURN-AROUND

NOTE:
SILT FENCE POSTS FOR THE TURN-AROUND SHOULD BE ON THE OUTSIDE OF THE TURN-AROUND AND TRENCHED IN ACCORDING TO SILT FENCE REQUIREMENTS.





SECTION A-A

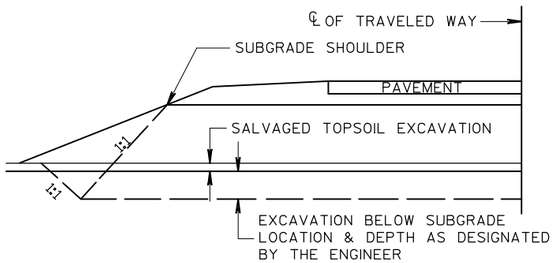


SECTION B-B

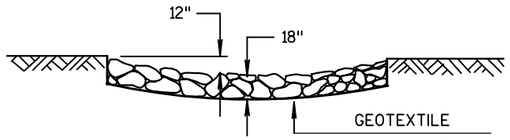
RELIEF TRENCH DETAIL

STA. 1257+45 LT.
STA. 1259+75 LT.

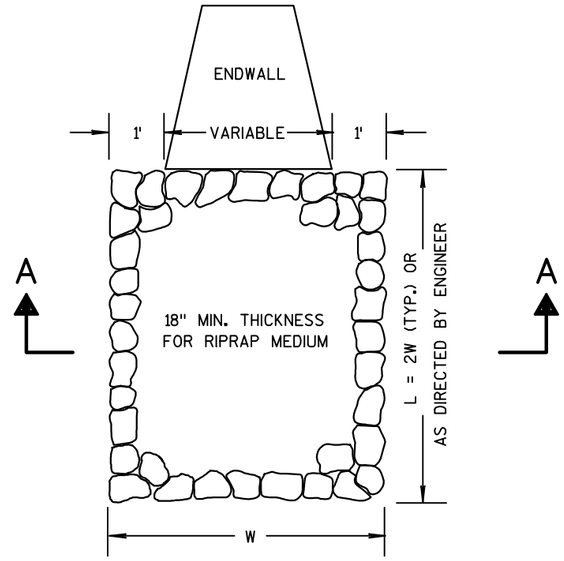
EXCAVATION REQUIRED TO CONSTRUCT RELIEF TRENCH IS INCLUDED IN BID ITEM SELECT CRUSHED MATERIAL.



DETAIL FOR EXCAVATION BELOW SUBGRADE

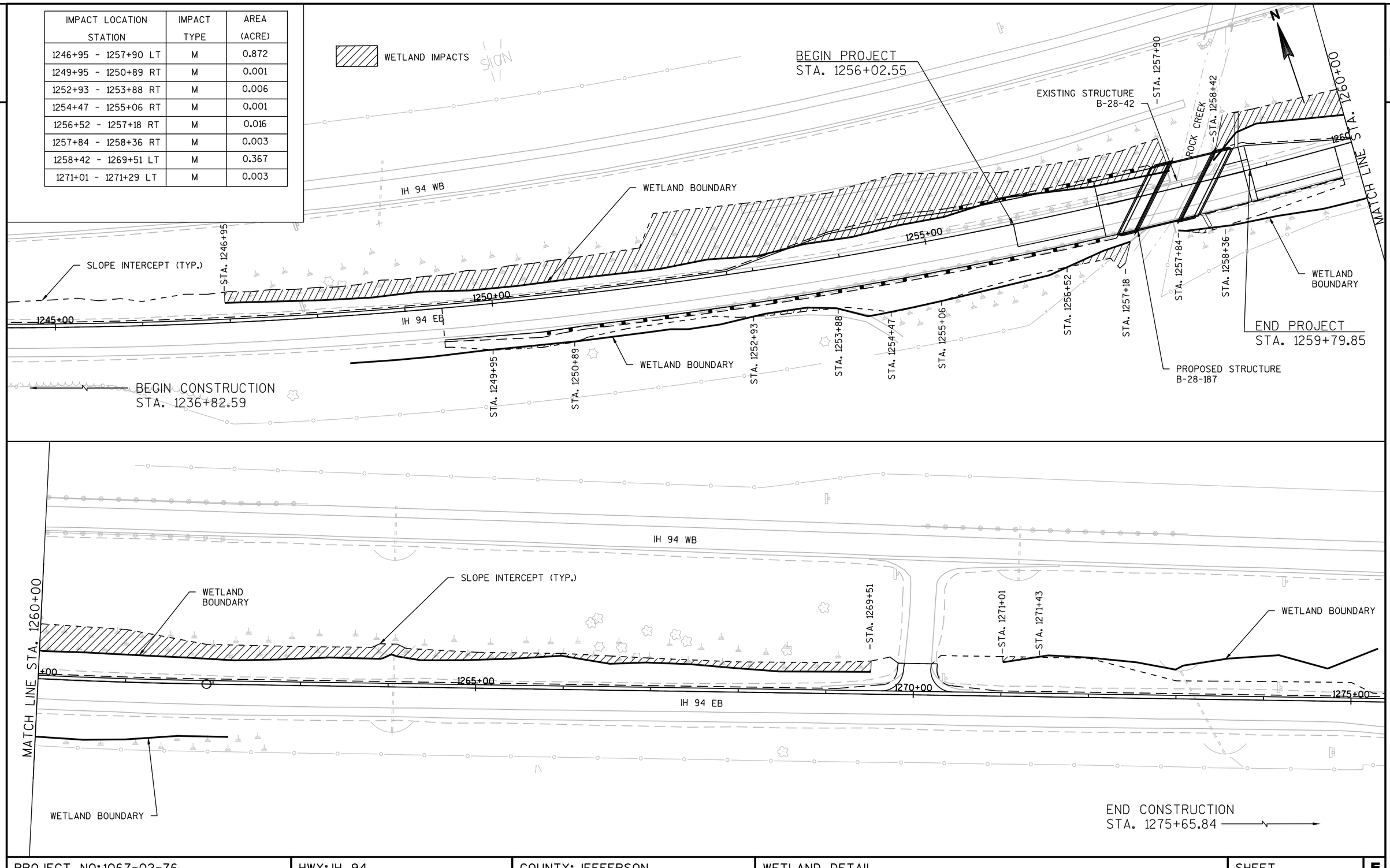


SECTION A-A

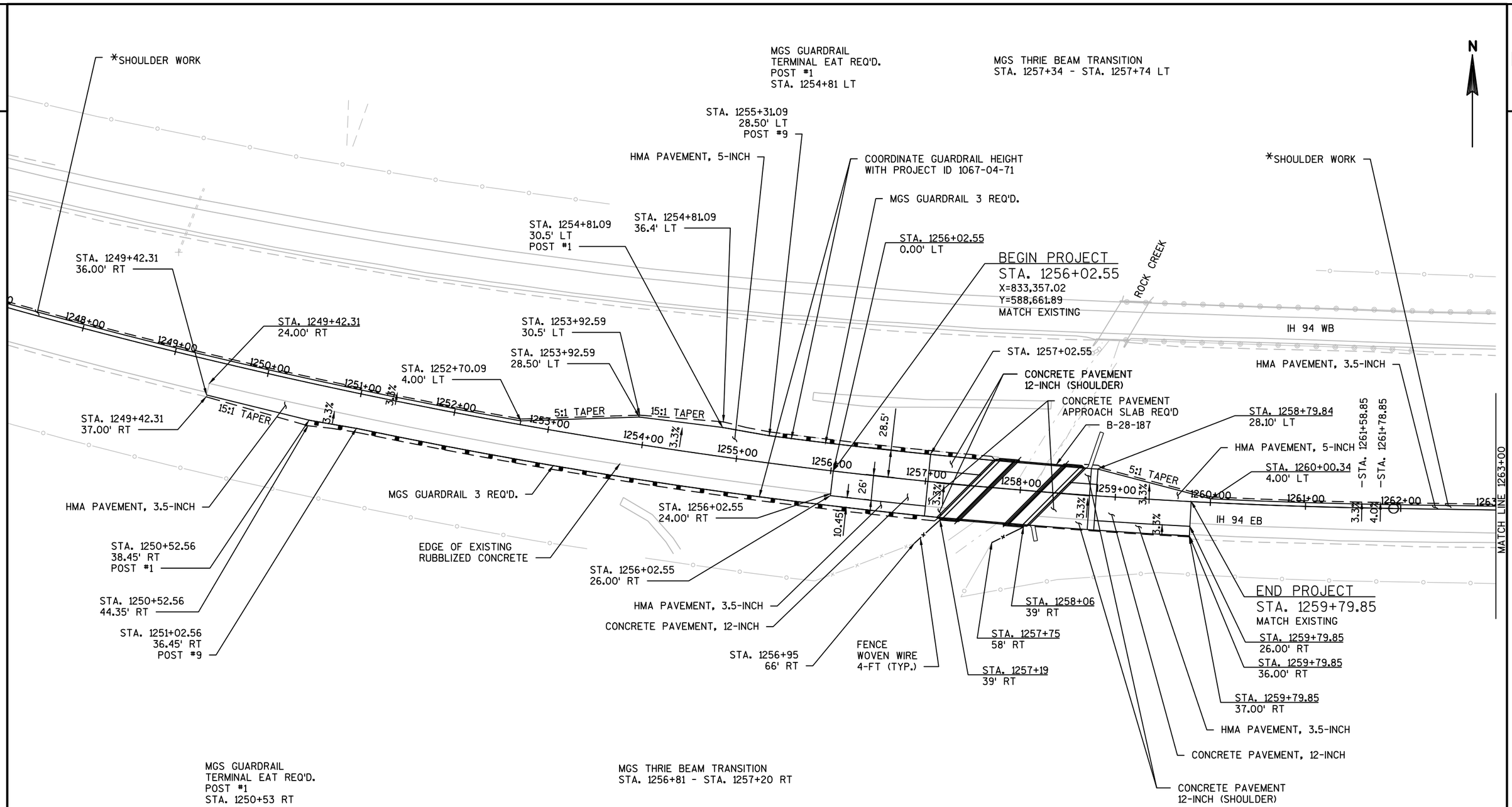


RIPRAP MEDIUM TREATMENT AT CULVERTS

IMPACT LOCATION STATION	IMPACT TYPE	AREA (ACRE)
1246+95 - 1257+90 LT	M	0.872
1249+95 - 1250+89 RT	M	0.001
1252+93 - 1253+88 RT	M	0.006
1254+47 - 1255+06 RT	M	0.001
1256+52 - 1257+18 RT	M	0.016
1257+84 - 1258+36 RT	M	0.003
1258+42 - 1269+51 LT	M	0.367
1271+01 - 1271+29 LT	M	0.003

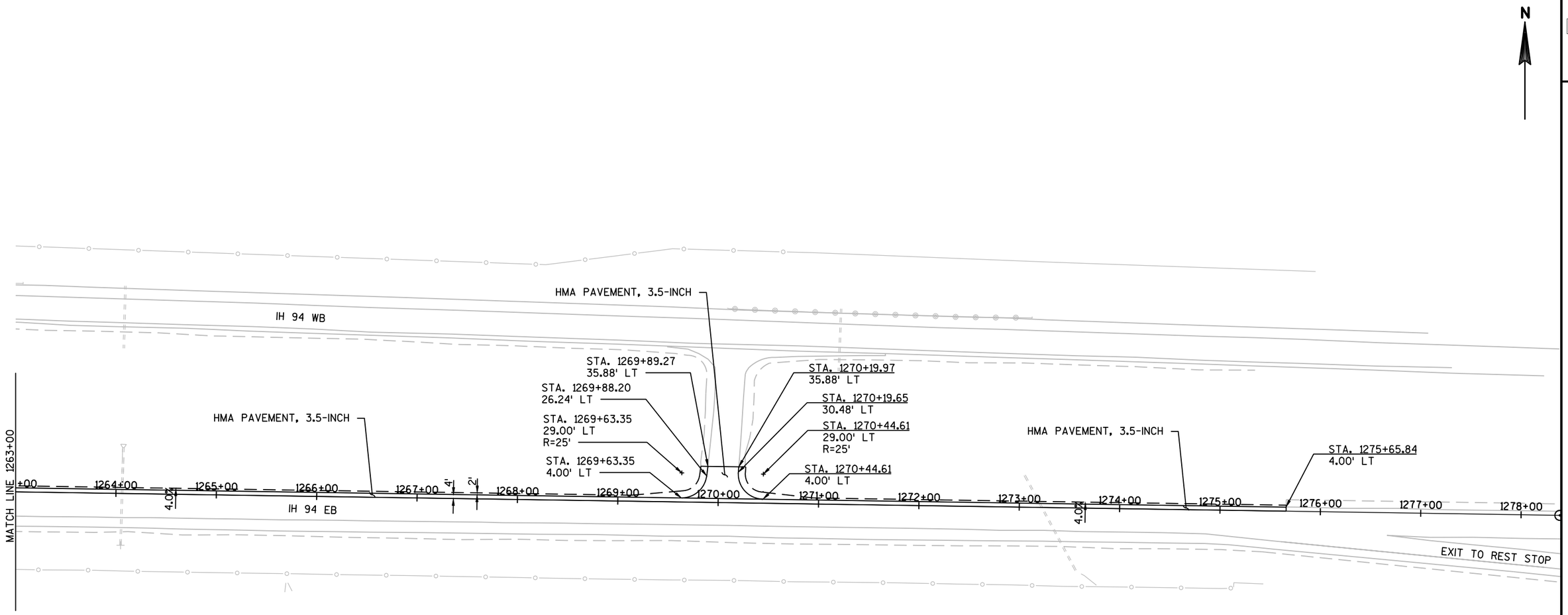


PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	WETLAND DETAIL	SHEET 12	E

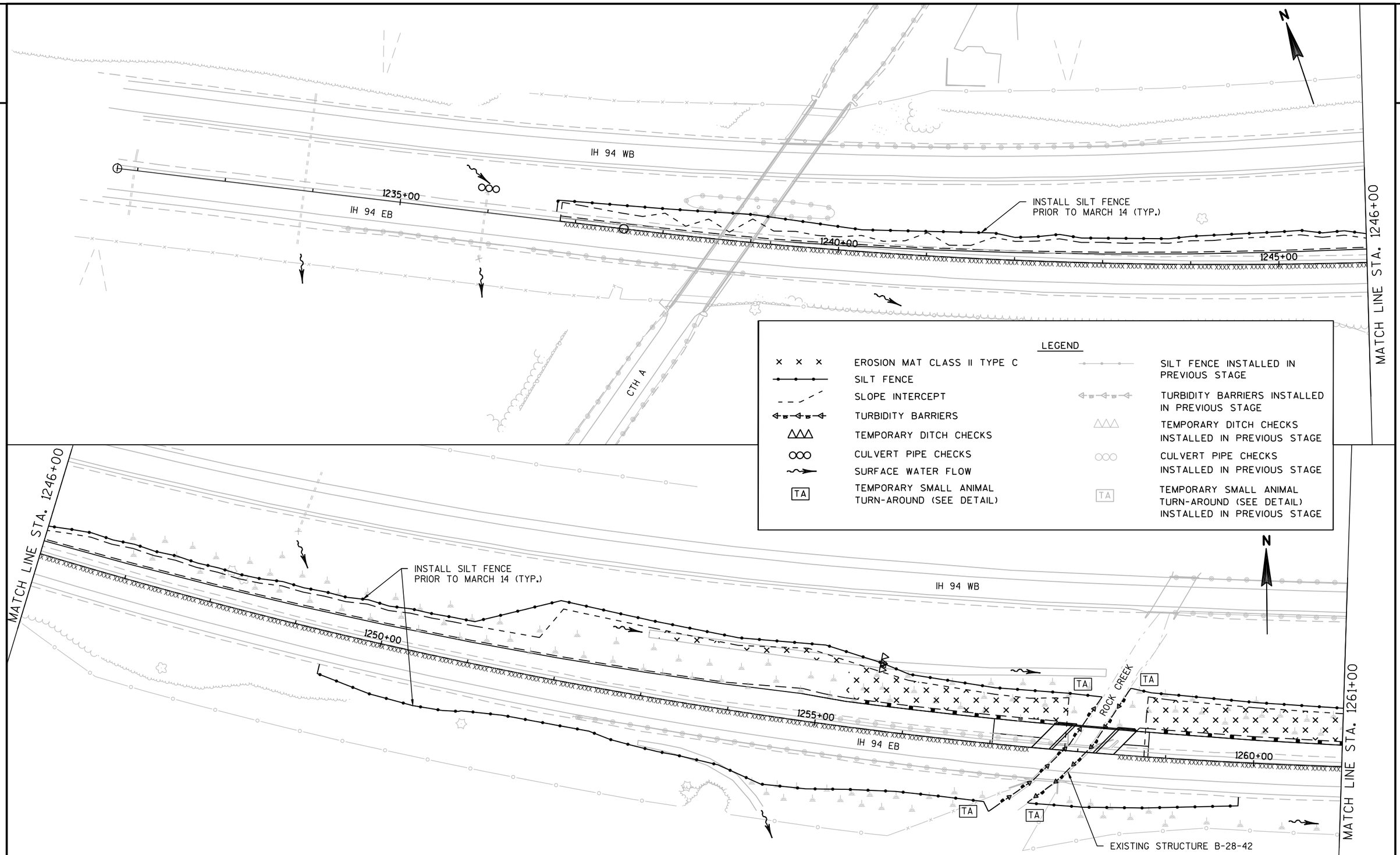


*SHOULDER WORK-SEE TYPICAL SECTION FOR SHAPING SHOULDERS
STA. 1239+22.59 - STA. 1252+70.09 LT
STA. 1260+00.34 - STA. 1275+65.84 LT

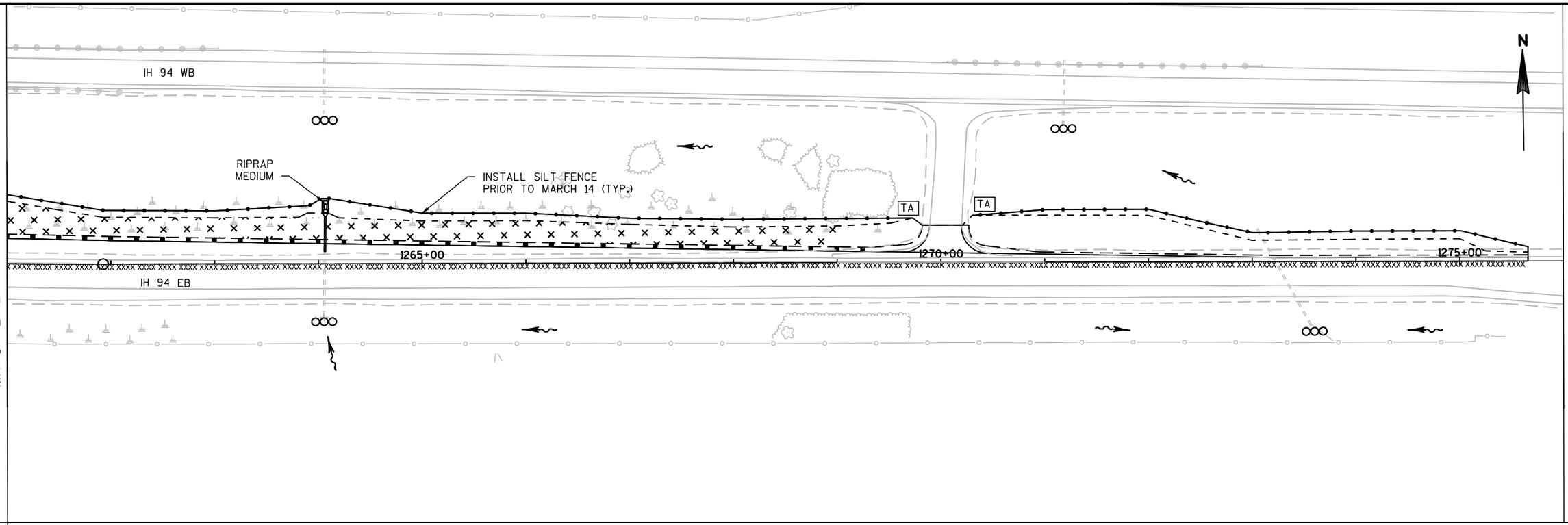
PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	LAYOUT PLAN DETAIL	SHEET 13	E

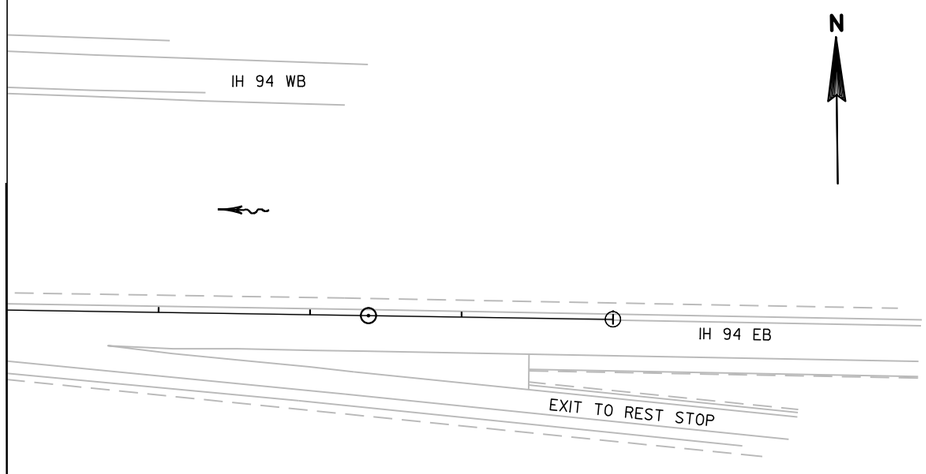


PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	LAYOUT PLAN DETAIL	SHEET 14	E



PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	EROSION CONTROL - STAGE 1	SHEET 15	E

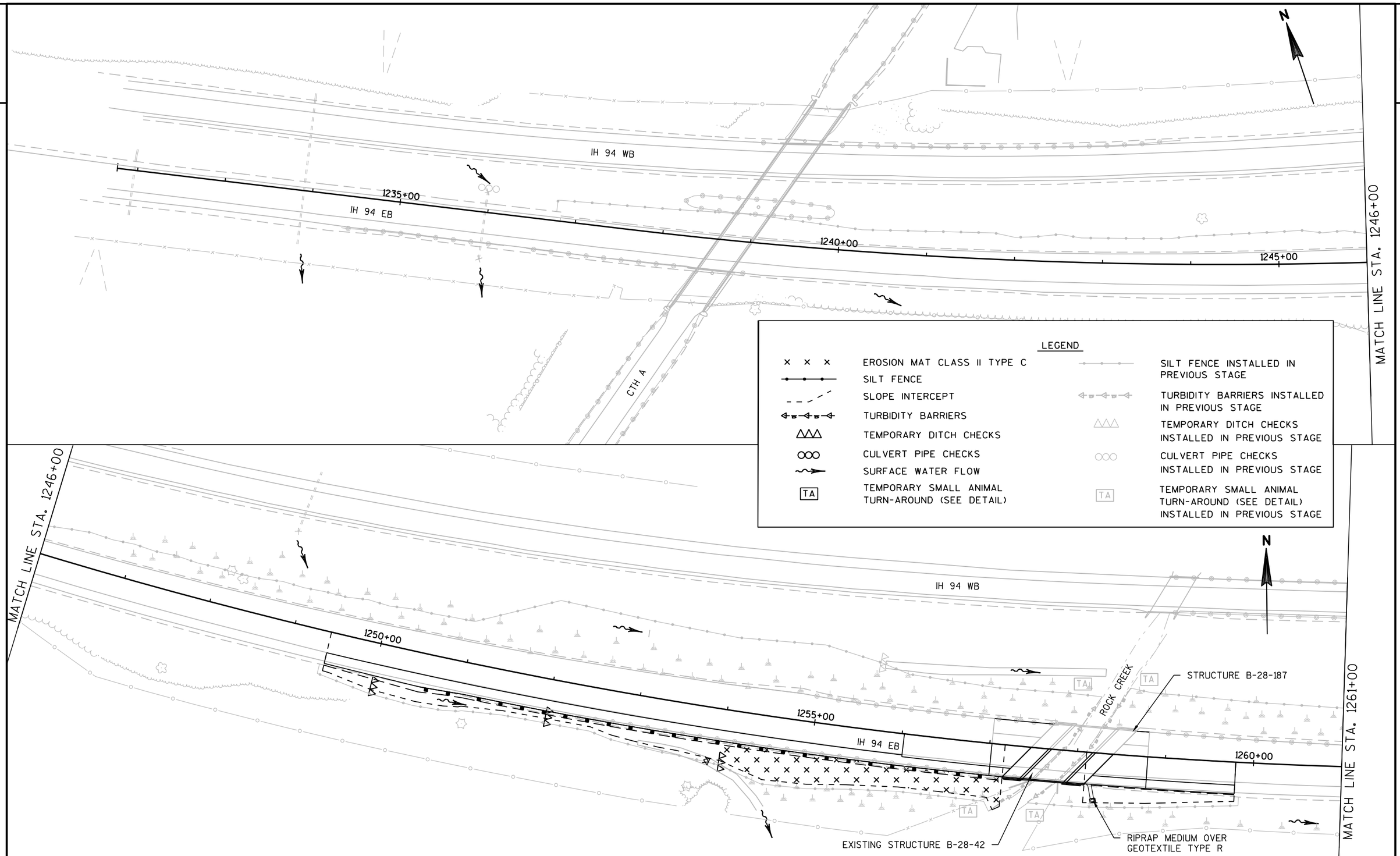




LEGEND

× × ×	EROSION MAT CLASS II TYPE C
	SILT FENCE
	SLOPE INTERCEPT
	TURBIDITY BARRIERS
△△△	TEMPORARY DITCH CHECKS
○○○	CULVERT PIPE CHECKS
	SURFACE WATER FLOW
TA	TEMPORARY SMALL ANIMAL TURN-AROUND (SEE DETAIL)
	SILT FENCE INSTALLED IN PREVIOUS STAGE
	TURBIDITY BARRIERS INSTALLED IN PREVIOUS STAGE
△△△	TEMPORARY DITCH CHECKS INSTALLED IN PREVIOUS STAGE
○○○	CULVERT PIPE CHECKS INSTALLED IN PREVIOUS STAGE
TA	TEMPORARY SMALL ANIMAL TURN-AROUND (SEE DETAIL) INSTALLED IN PREVIOUS STAGE

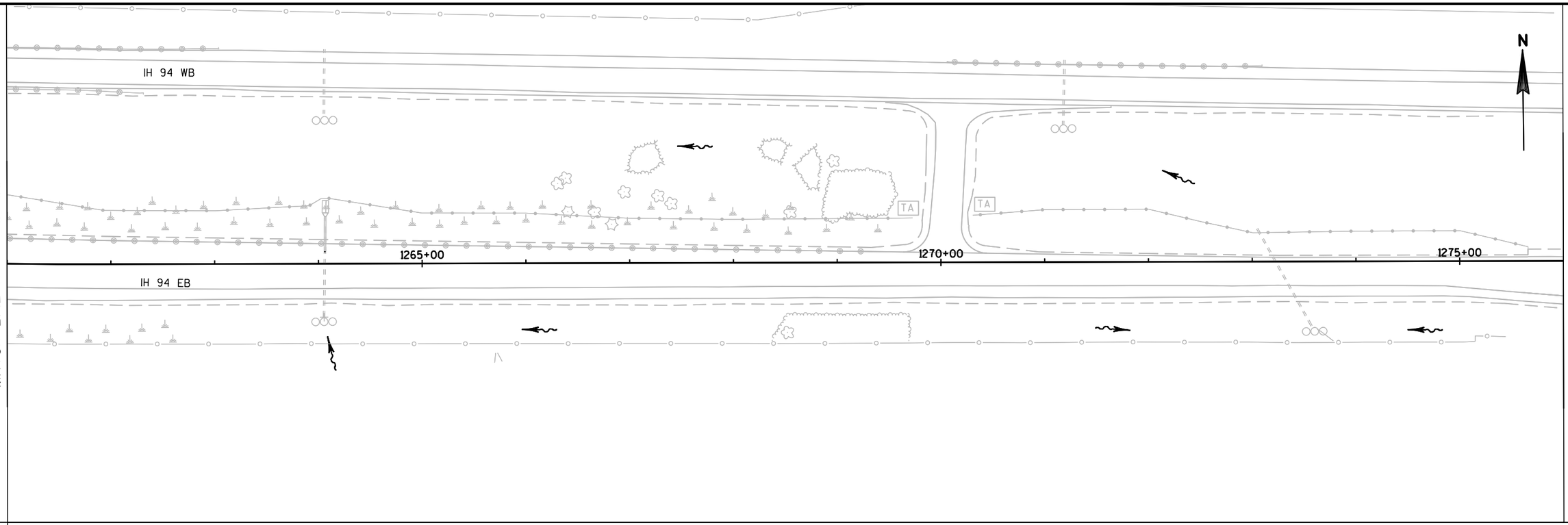
PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	EROSION CONTROL - STAGE 1	SHEET 16	E

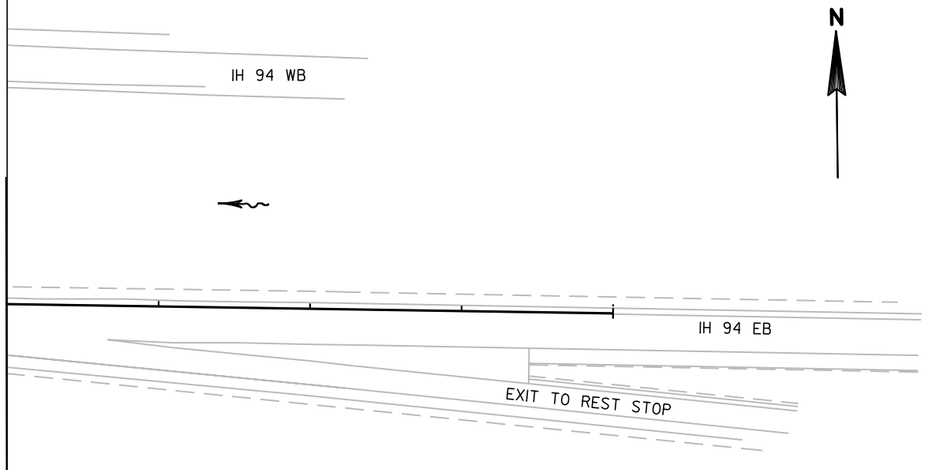


PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	EROSION CONTROL - STAGE 2	SHEET	E

FILE NAME : S:\MAD\1000--1099\1089\399\ACAD\CIVIL3D\SHEETSPLAN\022003_EC2.DWG
LAYOUT NAME - 022003_EC2 - 022003_EC2

PLOT DATE : 6/19/2018 4:20 PM PLOT BY : GRIMME, SARA PLOT NAME : PLOT SCALE : **********

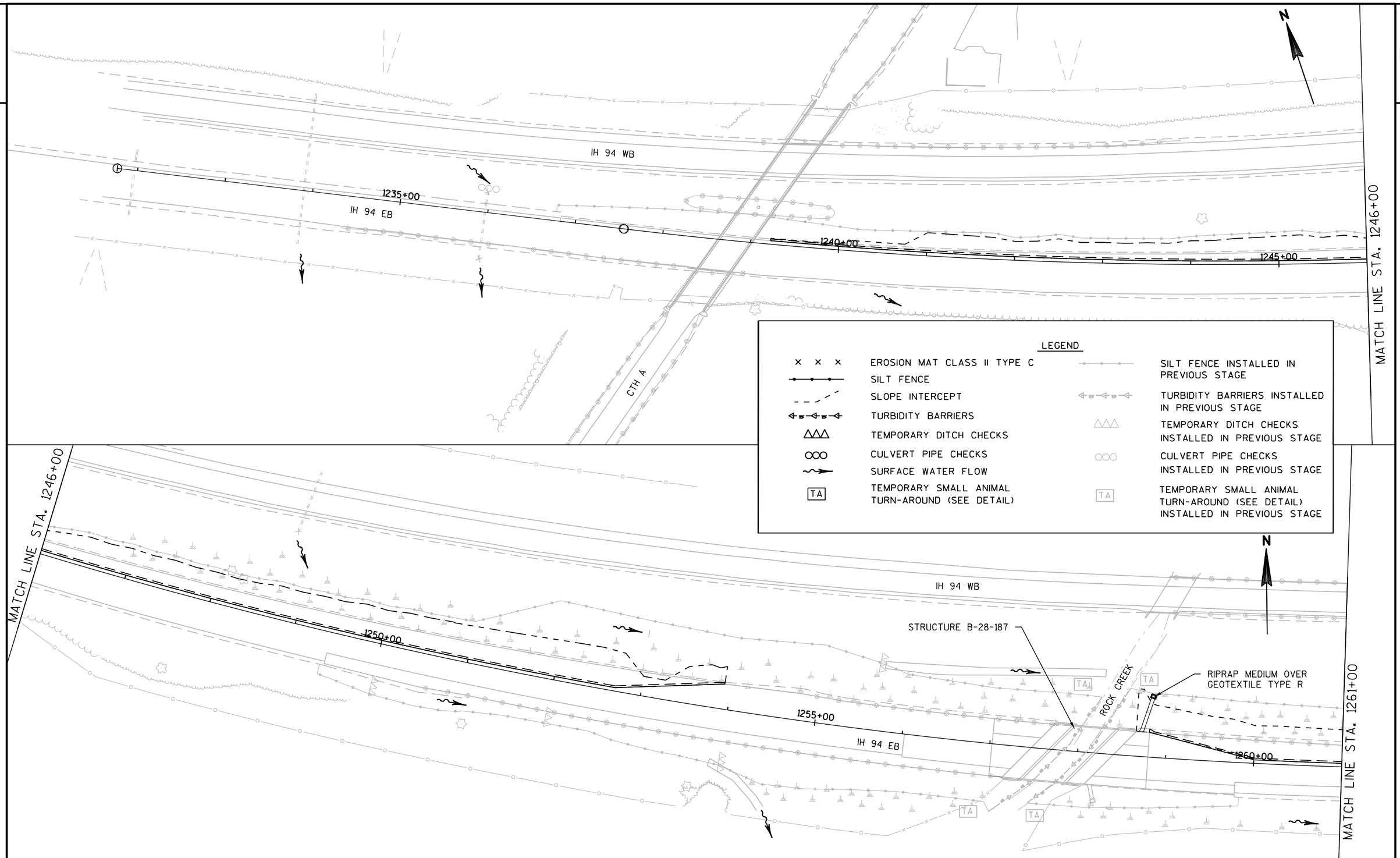




LEGEND

× × ×	EROSION MAT CLASS II TYPE C		SILT FENCE INSTALLED IN PREVIOUS STAGE
	SILT FENCE		
	SLOPE INTERCEPT		TURBIDITY BARRIERS INSTALLED IN PREVIOUS STAGE
	TURBIDITY BARRIERS	△△△	TEMPORARY DITCH CHECKS INSTALLED IN PREVIOUS STAGE
△△△	TEMPORARY DITCH CHECKS	○○○	CULVERT PIPE CHECKS INSTALLED IN PREVIOUS STAGE
○○○	CULVERT PIPE CHECKS		
	SURFACE WATER FLOW		
TA	TEMPORARY SMALL ANIMAL TURN-AROUND (SEE DETAIL)	TA	TEMPORARY SMALL ANIMAL TURN-AROUND (SEE DETAIL) INSTALLED IN PREVIOUS STAGE

PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	EROSION CONTROL - STAGE 2	SHEET 18	E

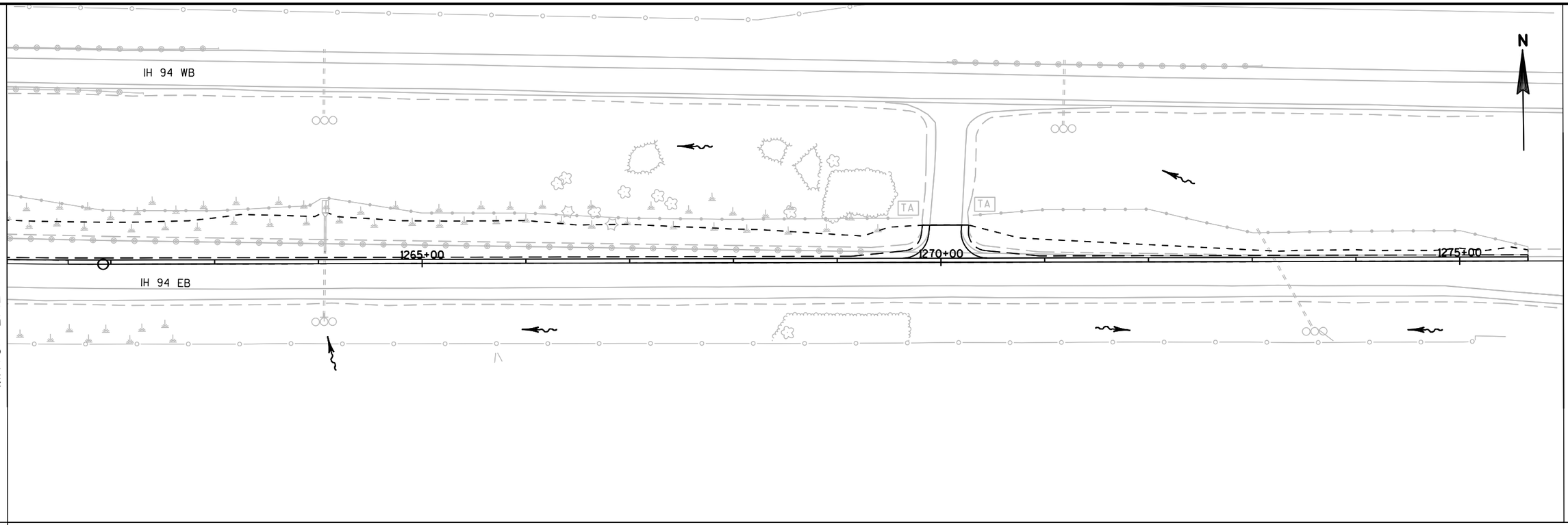


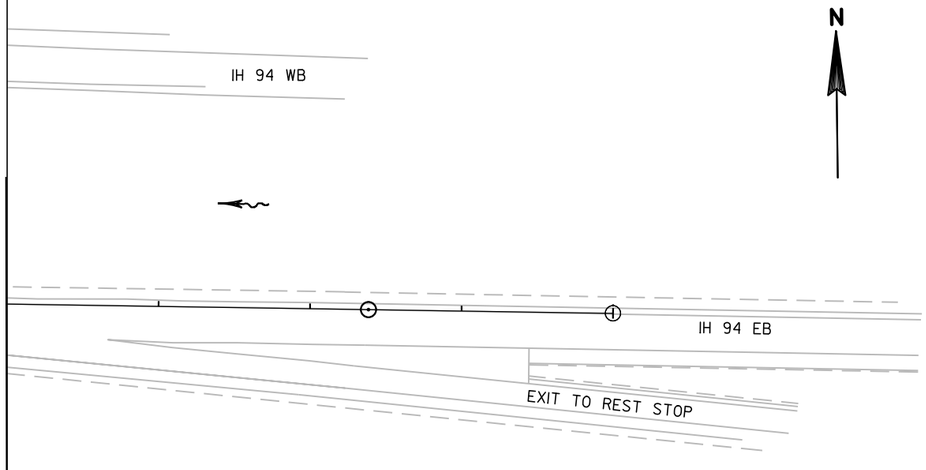
PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	EROSION CONTROL - STAGE 3	SHEET	E

FILE NAME : S:\MAD\1000--1099\1089\399\ACAD\CIVIL3D\SHEETSPLAN\022005_EC3.DWG
LAYOUT NAME - 022005_EC3 - 022005_EC3

PLOT DATE : 6/19/2018 4:21 PM PLOT BY : GRIMME, SARA PLOT NAME : PLOT SCALE : **********

WISDOT/CADDS SHEET 42

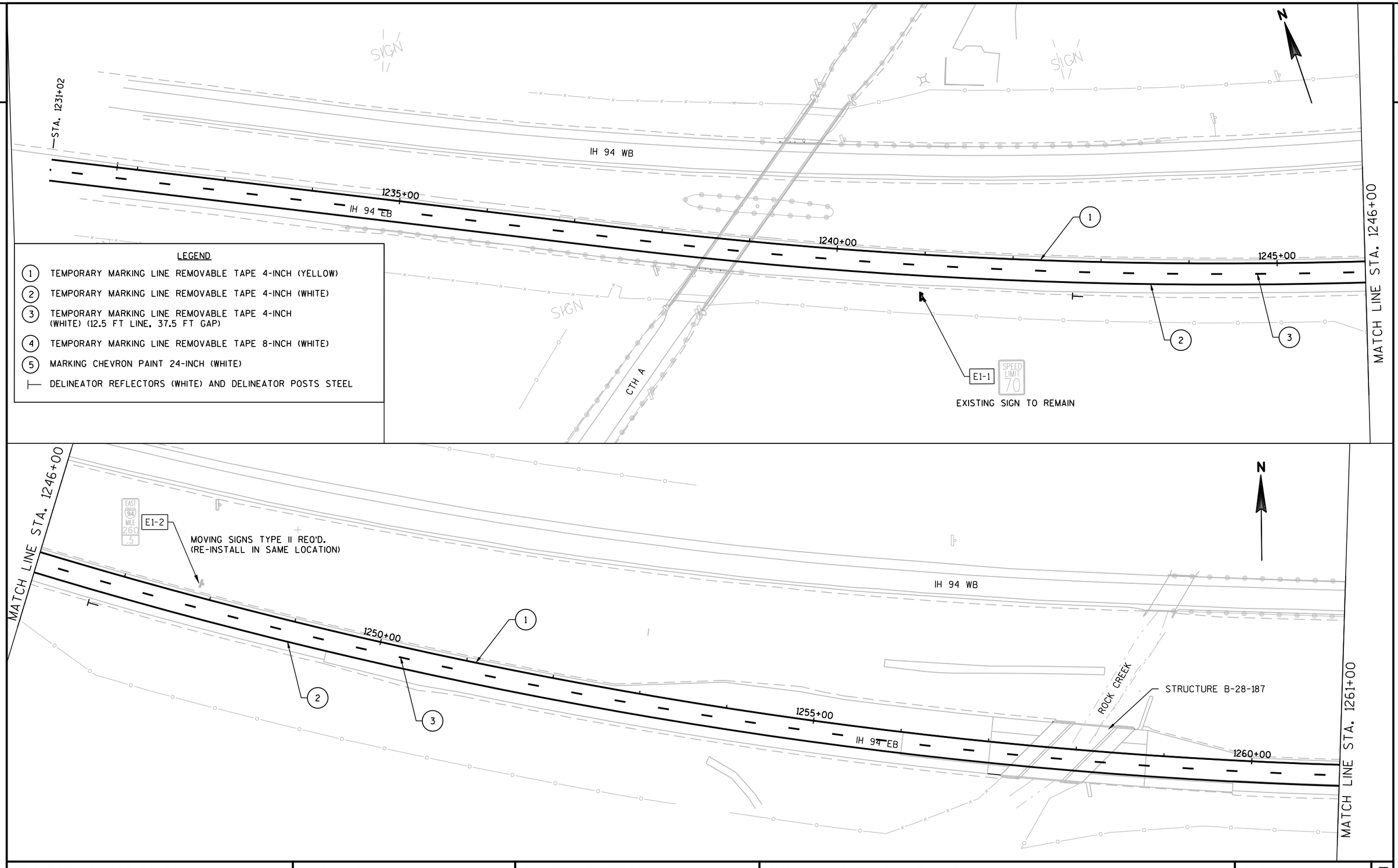




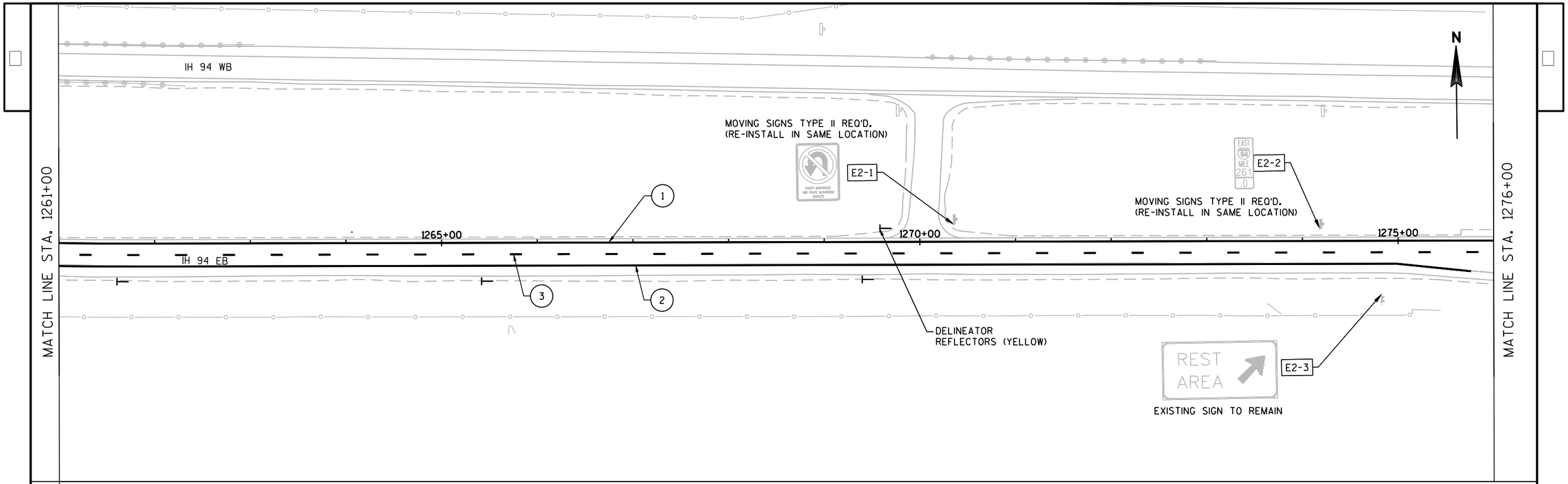
LEGEND

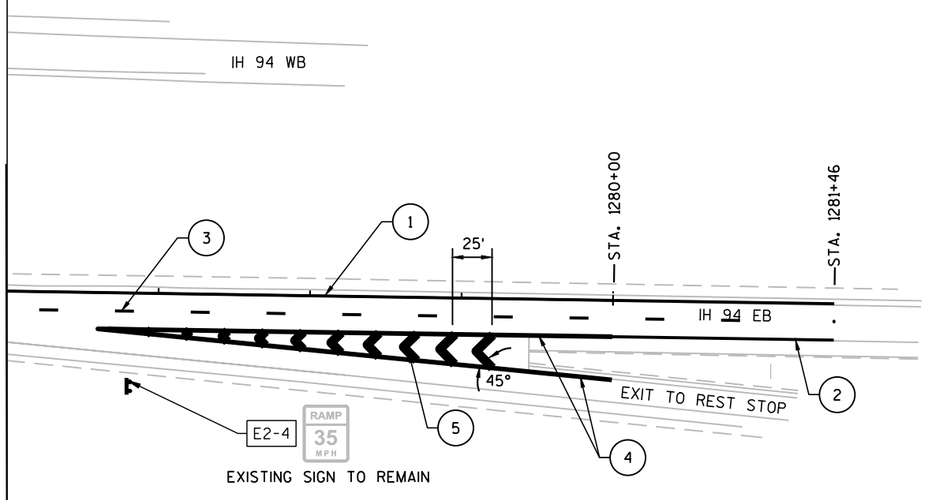
× × ×	EROSION MAT CLASS II TYPE C		SILT FENCE INSTALLED IN PREVIOUS STAGE
	SILT FENCE		
	SLOPE INTERCEPT		TURBIDITY BARRIERS INSTALLED IN PREVIOUS STAGE
	TURBIDITY BARRIERS		
△△△	TEMPORARY DITCH CHECKS	△△△	TEMPORARY DITCH CHECKS INSTALLED IN PREVIOUS STAGE
○○○	CULVERT PIPE CHECKS	○○○	CULVERT PIPE CHECKS INSTALLED IN PREVIOUS STAGE
	SURFACE WATER FLOW		
TA	TEMPORARY SMALL ANIMAL TURN-AROUND (SEE DETAIL)	TA	TEMPORARY SMALL ANIMAL TURN-AROUND (SEE DETAIL) INSTALLED IN PREVIOUS STAGE

PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	EROSION CONTROL - STAGE 3	SHEET 20	E



PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	SIGNING AND PAVEMENT MARKING	SHEET 21	E







LEGEND

1. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
2. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
3. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE) (12.5 FT LINE, 37.5 FT GAP)
4. TEMPORARY MARKING LINE REMOVABLE TAPE 8-INCH (WHITE)
5. MARKING CHEVRON PAINT 24-INCH (WHITE)

├— DELINEATOR REFLECTORS (WHITE) AND DELINEATOR POSTS STEEL

SEE STANDARD DETAIL DRAWING PAVEMENT MARKING (RAMPS AND GORES), PAVEMENT MARKING FOR EXIT RAMP FOR LAYOUT DETAILS

PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	SIGNING AND PAVEMENT MARKING	SHEET 22	E

FILE NAME : S:\MAD\1000--1099\1089\399\ACAD\CIVIL3D\SHEETSPLAN\024501_PM.DWG
LAYOUT NAME - 024501_PM - 024502_PM
PLOT DATE : 10/1/2019 9:01 AM PLOT BY : GRIMME, SARA PLOT NAME : PLOT SCALE : **********
WISDOT/CADDS SHEET 42

GENERAL NOTES FOR TRAFFIC CONTROL

1. THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

2. DRAWINGS SHOW TRAFFIC CONTROL FOR A TYPICAL SITUATION. ADDITIONAL TRAFFIC CONTROL DEVICES MAY BE REQUIRED AND/OR LAYOUT DETAILS MODIFIED DEPENDING ON CONTRACTORS METHODS OR SEQUENCES OF OPERATION.

3. ADJUST SPACING BETWEEN SIGNS TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) DISTANCE TO EXISTING SIGNS.

4. REMOVE OR COVER ANY TEMPORARY SIGNS WHICH CONFLICT WITH TRAFFIC CONTROL "IN-USE" AS NEEDED OR AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

5. EXISTING TRAFFIC SIGNS MAY REQUIRE RELOCATION DURING STAGES OF CONSTRUCTION AND SHALL BE LOCATED AS REQUIRED BY THE ENGINEER IN THE FIELD.

6. MOVE, REMOVE, OR INSTALL ROUTE MARKER SIGNS AS REQUIRED TO MAINTAIN NECESSARY ROUTE GUIDANCE THROUGHOUT CONSTRUCTION.

7. CONSIDER GEOMETRICS WHEN LOCATING SIGNS, ARROW BOARDS AND SIGN MESSAGE BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARDS, SIGN MESSAGE BOARDS, AND LANE CLOSURE DRUMS FOR A MINIMUM OF 1500 FEET IN FRONT OF THE DEVICE.

8. INSTALL LANE CLOSURE SERIES AS A COMPLETE UNIT WHICH INCLUDES ALL ADVANCED WARNING SIGNS, DRUMS, AND ARROW BOARDS.

9. FOR ANY LANE CLOSURES THAT ARE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS. TRAFFIC CONTROL SIGNS MOUNTED ON PORTABLE SUPPORTS MUST BE MOUNTED AT A MINIMUM OF 5 FEET FROM THE TOP OF PAVEMENT TO THE BOTTOM OF SIGN.

10. THE TURNING OF TRAFFIC CONTROL DEVICES WHEN NOT IN USE TO OBSCURE THE MESSAGE WILL NOT BE ALLOWED.

11. PAVEMENT MARKING CONFLICTING WITH STAGED TRAFFIC PATTERNS SHALL BE REMOVED.

12. USE ROAD MACHINERY, TRUCK ENTRANCE, FLAGMEN AHEAD, ETC., SIGNS AS NEEDED AND REMOVE OR COVER THEM WHEN THE ACTIVITY OR CONDITION DOES NOT EXIST. NO WARNING LIGHT SHALL BE USED WITH A COVERED SIGN.

13. ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

14. "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

15. DETAILS OF TRAFFIC CONTROL NOT SHOWN SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, APPLICABLE SPECIAL PROVISIONS, AND THE WISCONSIN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

16. FOR NIGHTTIME OPERATION ALL DRUMS IN TAPERS SHALL HAVE A TRAFFIC CONTROL WARNING LIGHTS TYPE C.

17. ALL TYPE III BARRICADES SHALL BE 8' WIDE, UNLESS OTHERWISE NOTED, AND EQUIPPED WITH TWO TRAFFIC CONTROL WARNING LIGHTS TYPE A.

18. ANCHOR CONCRETE BARRIER TEMPORARY PRECAST PER SDD "CONCRETE BARRIER TEMPORARY PRECAST".

19. CONCRETE BARRIER TEMPORARY PRECAST LOCATIONS IN TRAFFIC CONTROL PLANS ARE TYPICAL AND MAY VARY.

20. TEMPORARY SHORING LOCATIONS AND LENGTHS SHOWN ON THE PLANS ARE FOR INFORMATIONAL PURPOSE ONLY. CONTRACTOR TO VERIFY LOCATION AND SIZE OF TEMPORARY SHORING.

21. PROTECTION OF THE EXCAVATION IS THE CONTRACTORS RESPONSIBILITY AND IS INCIDENTAL TO THE OPERATION FOR WHICH IT IS REQUIRED.

22. CONTRACTORS EQUIPMENT AND MATERIAL STOCKPILES MAY NOT BE STORED WITH IN THE MEDIAN OR CLEAR ZONE OF IH 94 UNLESS PROTECTED BY CONCRETE BARRIER TEMPORARY PRECAST.

LEGEND: TEMPORARY PAVEMENT MARKING (ALL STAGES)

(RT-4W)	TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
(RT-8W)	TEMPORARY MARKING LINE REMOVABLE TAPE 8-INCH (WHITE)
(TM-4Y)	TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
(TM-4W-LL)	TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE) (LANE LINE) (12.5' LINE, 37.5' GAP)

LEGEND: SYMBOLS ALL STAGES

	TRAFFIC CONTROL BARRICADES TYPE III
	TRAFFIC CONTROL BARRICADES TYPE III, W/TRAFFIC CONTROL SIGNS
	TRAFFIC CONTROL DRUMS
	TRAFFIC CONTROL DRUMS W/TRAFFIC CONTROL WARNING LIGHTS TYPE C
	TRAFFIC CONTROL ARROW BOARDS
	TRAFFIC CONTROL SIGNS ON PERMANENT SUPPORT
	TRAFFIC CONTROL SIGNS ON TEMPORARY SUPPORT
PCMS	TRAFFIC CONTROL SIGNS PCMS
	CONCRETE BARRIER TEMPORARY PRECAST (SEE PLAN SHEETS FOR PAY ITEMS)
XXXX XXXX XXXX	SAWING ASPHALT
	MARKING REMOVAL

	WORK ZONE
	WORK ZONE TEMPORARY PAVEMENT
	TEMPORARY PAVEMENT
	DIRECTION OF TRAFFIC
CC	CRASH CUSHION TEMPORARY

TRAFFIC CONTROL NOTES

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 7 CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE ½ THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

* OPTIONAL - USE WHEN WARRANTED BY ROADWAY GEOMETRICS OR TRAFFIC VOLUMES

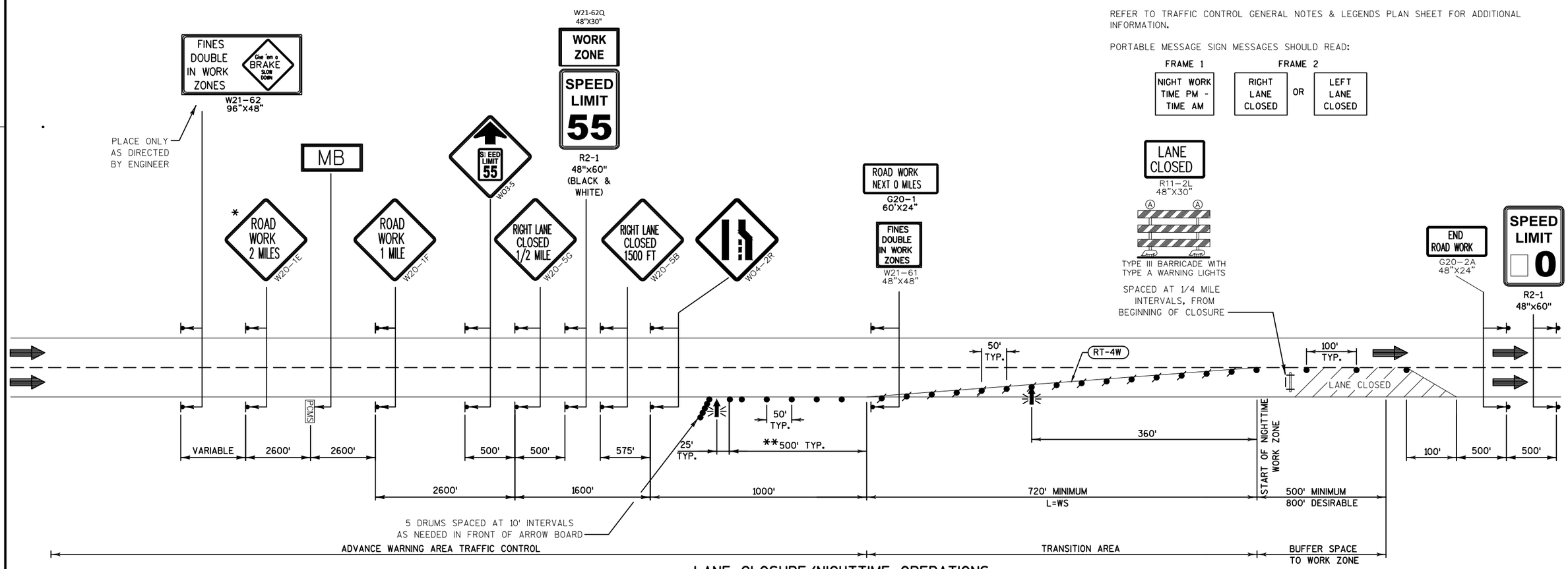
** CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM OF 1500 FEET IN FRONT OF THE DRUMS.

COVERING AND REMOVAL OF MATERIAL COVERING TEMPORARY REGULATORY SPEED LIMIT SIGNS AND EXISTING SPEED LIMIT SIGNS RELATED TO TEMPORARY AND/OR PERIODIC LANE CLOSURES SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.

REFER TO TRAFFIC CONTROL GENERAL NOTES & LEGENDS PLAN SHEET FOR ADDITIONAL INFORMATION.

PORTABLE MESSAGE SIGN MESSAGES SHOULD READ:

FRAME 1	FRAME 2		
NIGHT WORK TIME PM - TIME AM	RIGHT LANE CLOSED	OR	LEFT LANE CLOSED



LANE CLOSURE/NIGHTTIME OPERATIONS

(SEE TRAFFIC CONTROL PLANS FOR LOCATIONS)

PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	TRAFFIC CONTROL DETAILS	SHEET	E

FILE NAME : S:\MAD\1000--1099\1089\399\ACAD\CIVIL3D\SHEETSPLAN\025001_TC.DWG PLOT DATE : 10/1/2019 9:12 AM PLOT BY : GRIMME, SARA PLOT NAME : PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 42

TRAFFIC CONTROL NOTES

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 7 CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

* OPTIONAL - USE WHEN WARRANTED BY ROADWAY GEOMETRICS OR TRAFFIC VOLUMES

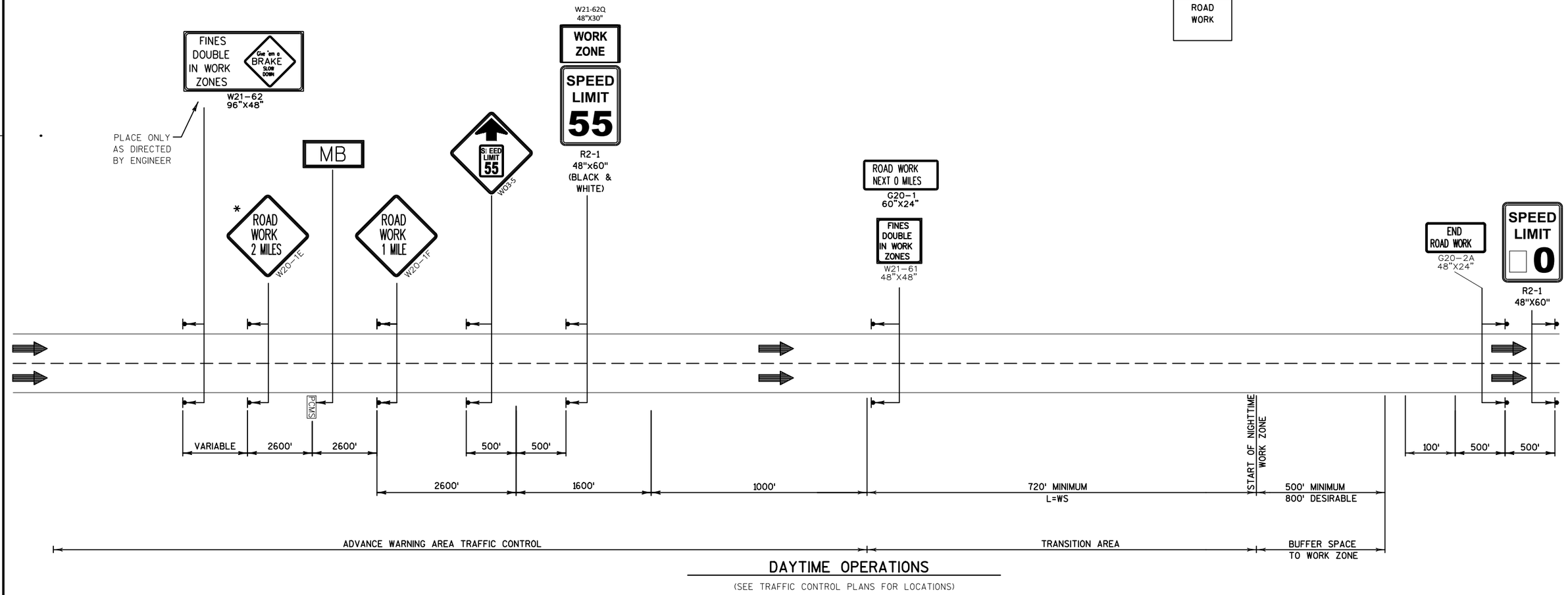
COVERING AND REMOVAL OF MATERIAL COVERING TEMPORARY REGULATORY SPEED LIMIT SIGNS AND EXISTING SPEED LIMIT SIGNS RELATED TO TEMPORARY AND/OR PERIODIC LANE CLOSURES SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.

REFER TO TRAFFIC CONTROL GENERAL NOTES & LEGENDS PLAN SHEET FOR ADDITIONAL INFORMATION.

PORTABLE MESSAGE SIGN MESSAGE SHOULD READ:

FRAME 1

ROAD
WORK

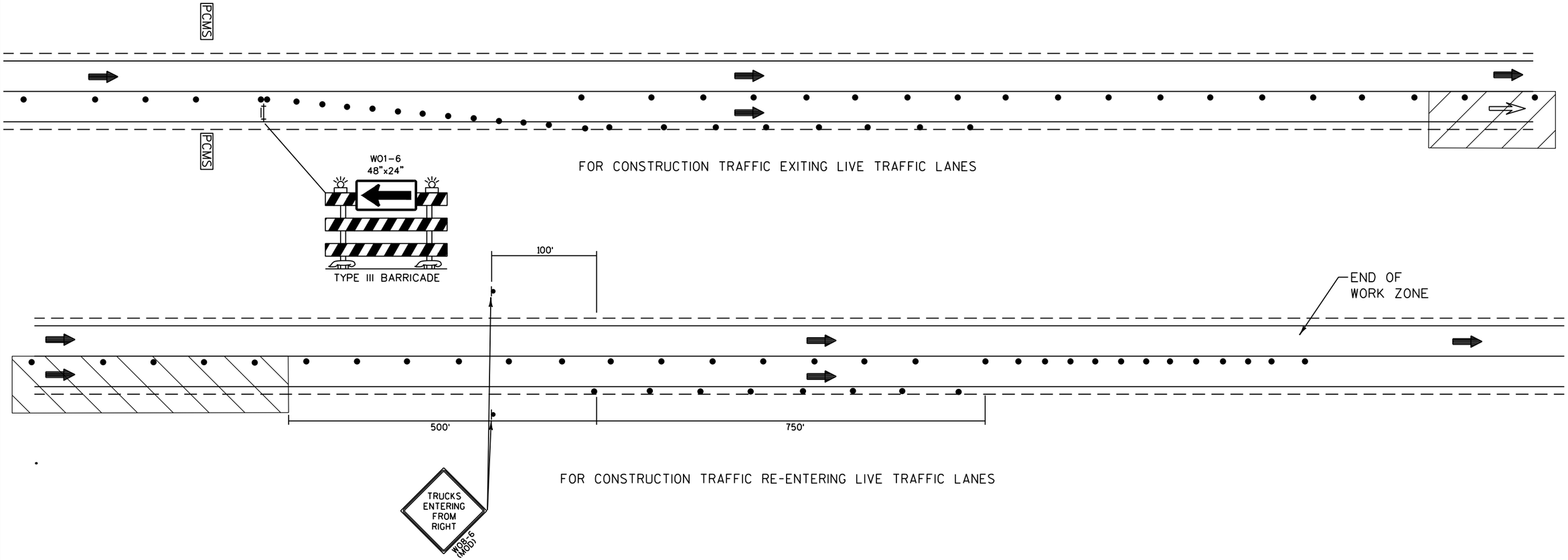


DAYTIME OPERATIONS

(SEE TRAFFIC CONTROL PLANS FOR LOCATIONS)

PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	TRAFFIC CONTROL DETAILS	SHEET	E

FILE NAME : S:\MAD\1000--1099\1089\399\ACAD\CIVIL3D\SHEETSPLAN\025001_TC.DWG PLOT DATE : 10/1/2019 9:12 AM PLOT BY : GRIMME, SARA PLOT NAME : PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 42



NOTE:
SPACING AND LOCATIONS OF DEVICES IN THE FIELD
SUBJECT TO REVIEW AND APPROVAL BY THE ENGINEER

SEE OTHER TRAFFIC CONTROL DETAILS AND STANDARD
DETAIL DRAWINGS FOR LANE CLOSURE DETAILS

PORTABLE MESSAGE SIGN MESSAGES SHOULD READ:

FRAME 1	FRAME 2
TRUCKS EXITING RIGHT	TRAFFIC STAY LEFT

LEGEND

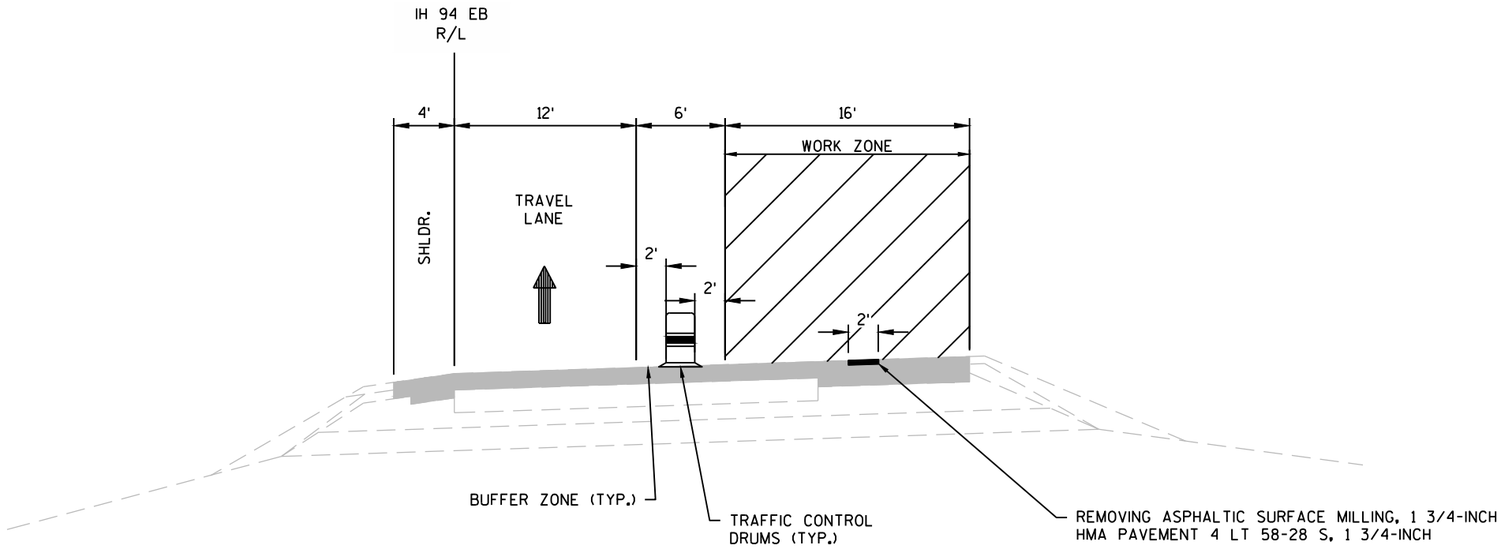
- TRAFFIC CONTROL BARRICADES TYPE III WITH TRAFFIC CONTROL SIGNS
- TRAFFIC CONTROL DRUMS
- TRAFFIC CONTROL SIGNS
- IH 94 TRAFFIC
- CONSTRUCTION TRAFFIC
- WORK ZONE
- PCMS — TRAFFIC CONTROL SIGNS PCMS

TRAFFIC CONTROL DETAIL FOR CONSTRUCTION ACCESS AT LANE CLOSURES

NIGHT USE ONLY

PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	PLAN: TRAFFIC CONTROL DETAILS	SHEET	E

FILE NAME : S:\MAD\1000--1099\1089\399\ACAD\CIVIL3D\SHEETSPLAN\025001_TC.DWG PLOT DATE : 6/19/2018 4:25 PM PLOT BY : GRIMME, SARA PLOT NAME : PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 42



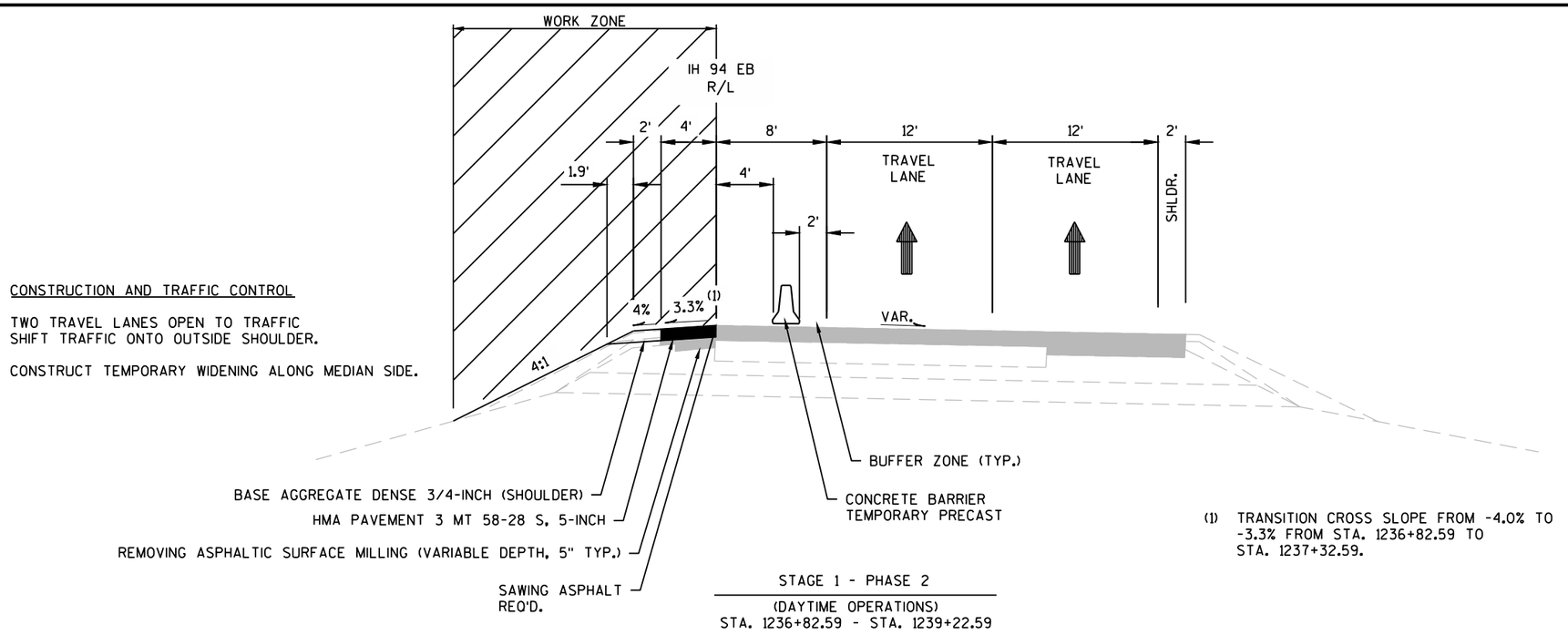
STAGE 1 - PHASE 1

(NIGHTTIME OPERATIONS)
STA. 1231+02.00 - STA. 1281+46.00

CONSTRUCTION AND TRAFFIC CONTROL

CLOSE OUTSIDE TRAVEL LANE DURING NIGHTTIME WORK HOURS.

MILL AND FILL OUTSIDE SHOULDER RUMBLE STRIP.



CONSTRUCTION AND TRAFFIC CONTROL

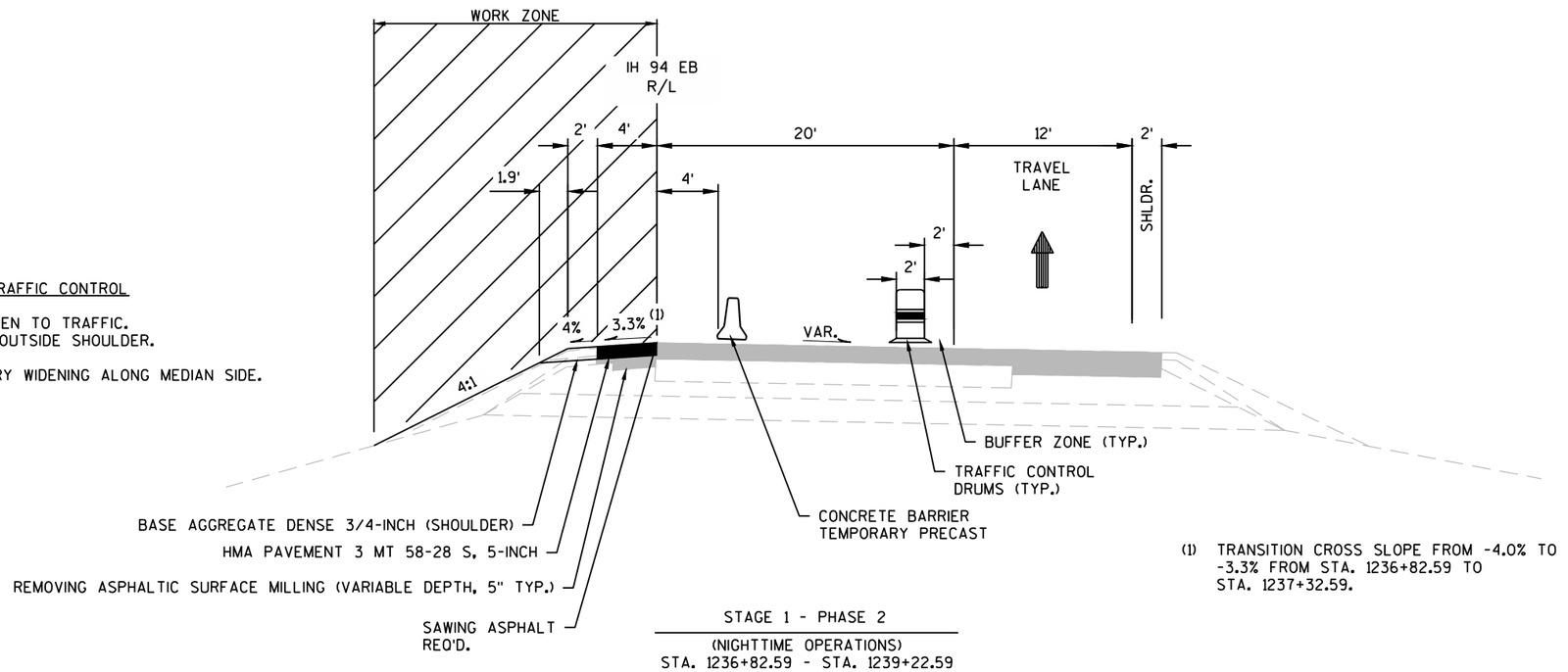
TWO TRAVEL LANES OPEN TO TRAFFIC
SHIFT TRAFFIC ONTO OUTSIDE SHOULDER.

CONSTRUCT TEMPORARY WIDENING ALONG MEDIAN SIDE.

STAGE 1 - PHASE 2

(DAYTIME OPERATIONS)
STA. 1236+82.59 - STA. 1239+22.59

(1) TRANSITION CROSS SLOPE FROM -4.0% TO -3.3% FROM STA. 1236+82.59 TO STA. 1237+32.59.



CONSTRUCTION AND TRAFFIC CONTROL

ONE TRAVEL LANE OPEN TO TRAFFIC.
SHIFT TRAFFIC ONTO OUTSIDE SHOULDER.

CONSTRUCT TEMPORARY WIDENING ALONG MEDIAN SIDE.

STAGE 1 - PHASE 2

(NIGHTTIME OPERATIONS)
STA. 1236+82.59 - STA. 1239+22.59

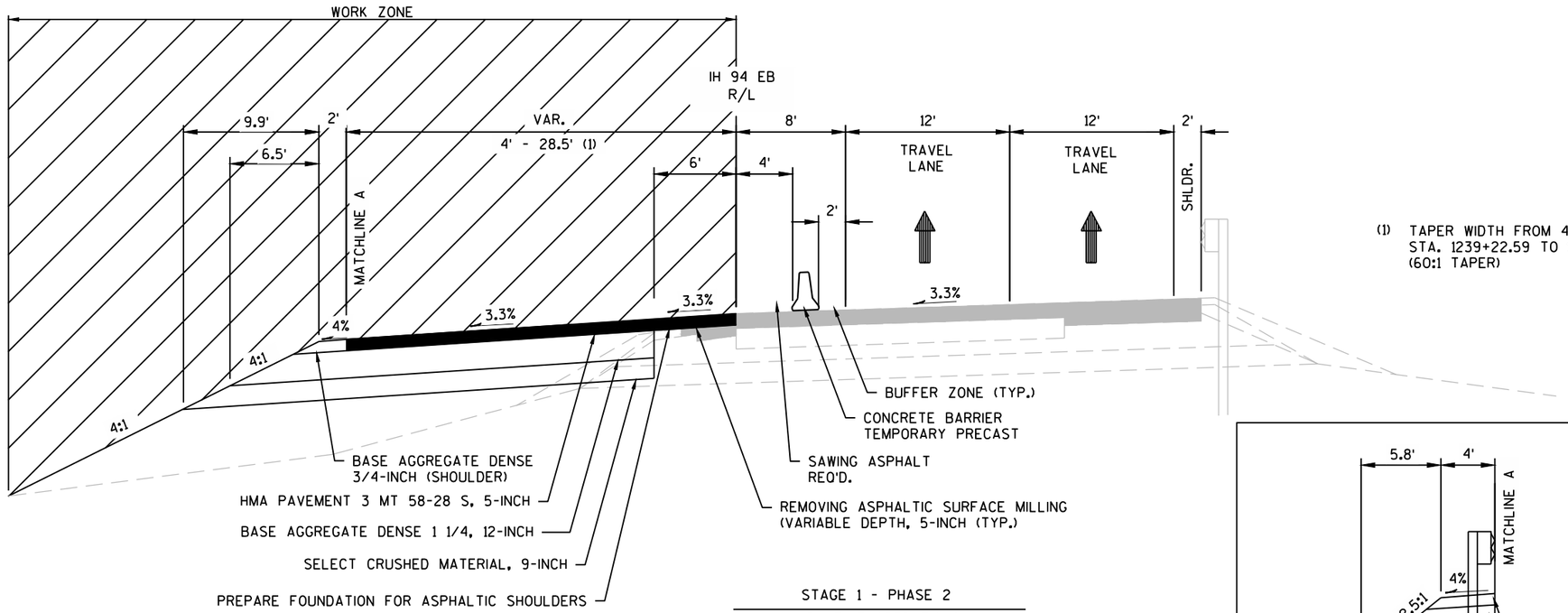
(1) TRANSITION CROSS SLOPE FROM -4.0% TO -3.3% FROM STA. 1236+82.59 TO STA. 1237+32.59.

PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	TRAFFIC CONTROL: TYPICAL SECTIONS	SHEET 28	E

CONSTRUCTION AND TRAFFIC CONTROL

TWO TRAVEL LANES OPEN TO TRAFFIC.
SHIFT TRAFFIC ONTO OUTSIDE SHOULDER.

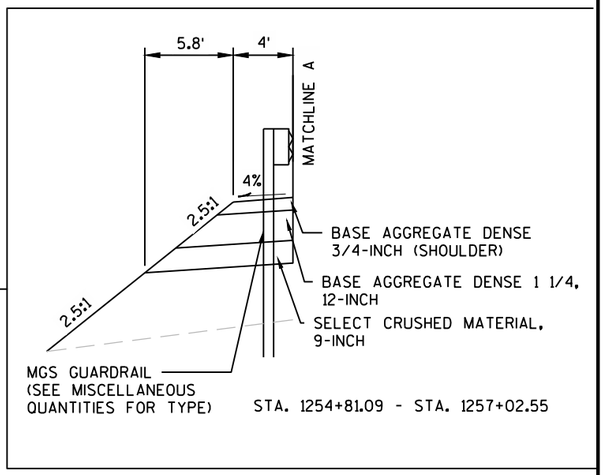
CONSTRUCT TEMPORARY WIDENING ALONG MEDIAN SIDE.



(1) TAPER WIDTH FROM 4' TO 28.5' FROM STA. 1239+22.59 TO STA. 1253+92.59. (60:1 TAPER)

STAGE 1 - PHASE 2

(DAYTIME OPERATIONS)
STA. 1239+22.59 - STA. 1257+02.55

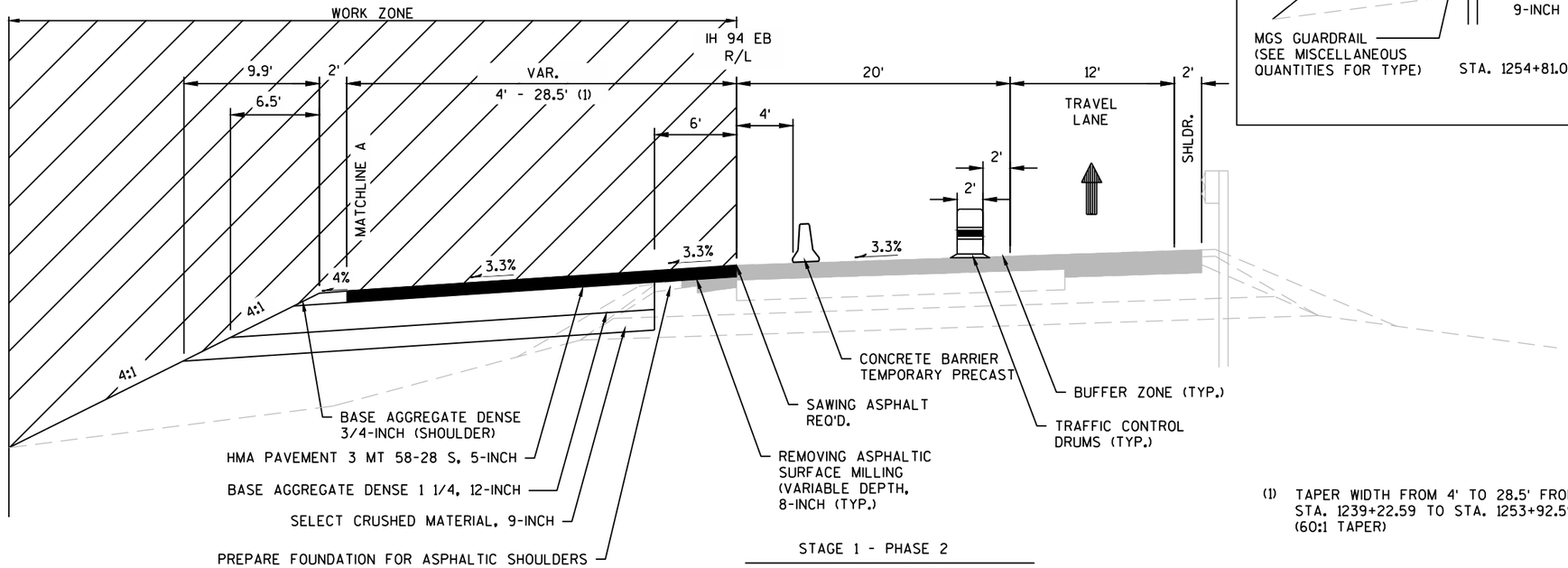


STA. 1254+81.09 - STA. 1257+02.55

CONSTRUCTION AND TRAFFIC CONTROL

CLOSE INSIDE TRAVEL LANE DURING NIGHTTIME WORK HOURS AND SHIFT TRAFFIC ONTO OUTSIDE SHOULDER.

CONSTRUCT TEMPORARY WIDENING ALONG MEDIAN SIDE.



(1) TAPER WIDTH FROM 4' TO 28.5' FROM STA. 1239+22.59 TO STA. 1253+92.59. (60:1 TAPER)

STAGE 1 - PHASE 2

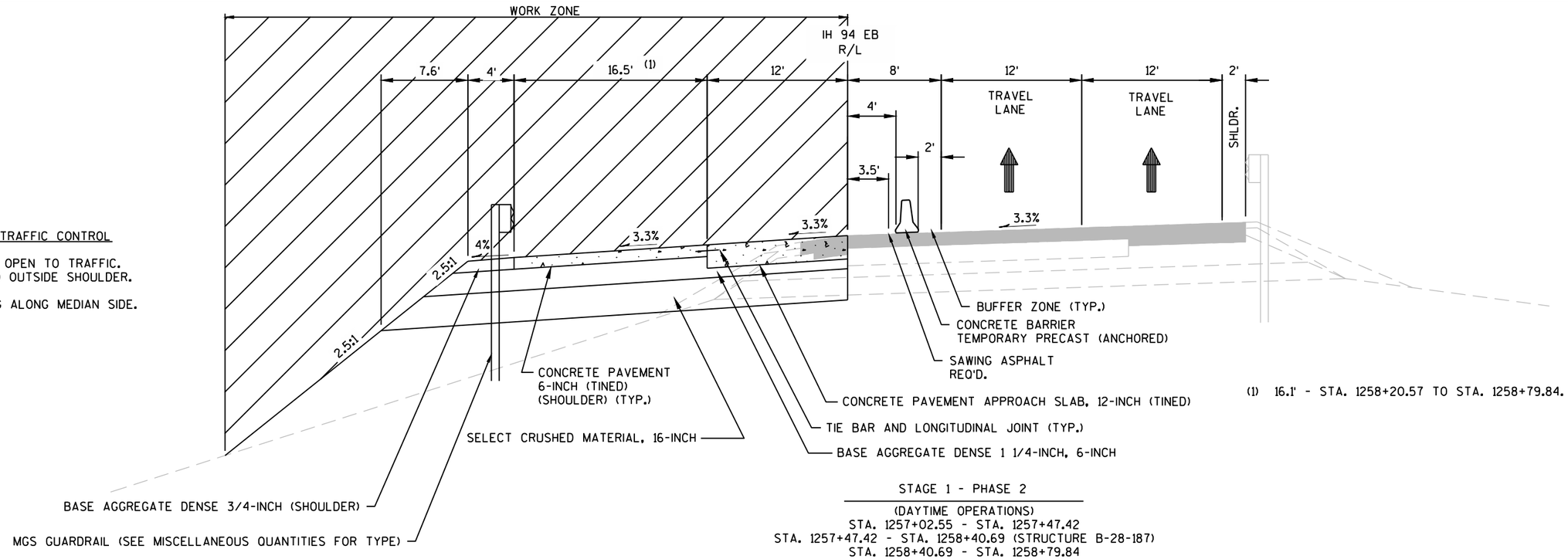
(NIGHTTIME OPERATIONS)
STA. 1239+22.59 - STA. 1257+02.55

PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	TRAFFIC CONTROL: TYPICAL SECTIONS	SHEET 29	E

CONSTRUCTION AND TRAFFIC CONTROL

TWO TRAVEL LANES OPEN TO TRAFFIC.
SHIFT TRAFFIC ONTO OUTSIDE SHOULDER.

CONSTRUCT WIDENING ALONG MEDIAN SIDE.



(1) 16.1' - STA. 1258+20.57 TO STA. 1258+79.84.

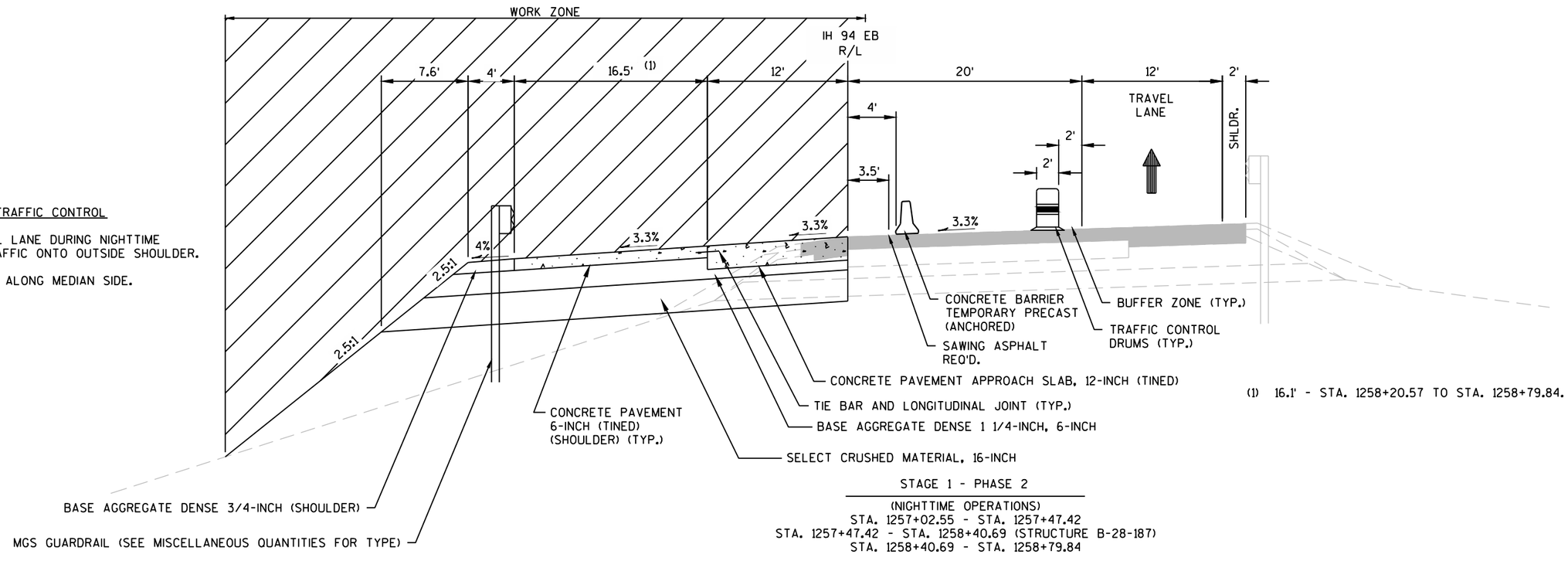
STAGE 1 - PHASE 2

(DAYTIME OPERATIONS)
STA. 1257+02.55 - STA. 1257+47.42
STA. 1257+47.42 - STA. 1258+40.69 (STRUCTURE B-28-187)
STA. 1258+40.69 - STA. 1258+79.84

CONSTRUCTION AND TRAFFIC CONTROL

CLOSE INSIDE TRAVEL LANE DURING NIGHTTIME
WORK AND SHIFT TRAFFIC ONTO OUTSIDE SHOULDER.

CONSTRUCT WIDENING ALONG MEDIAN SIDE.

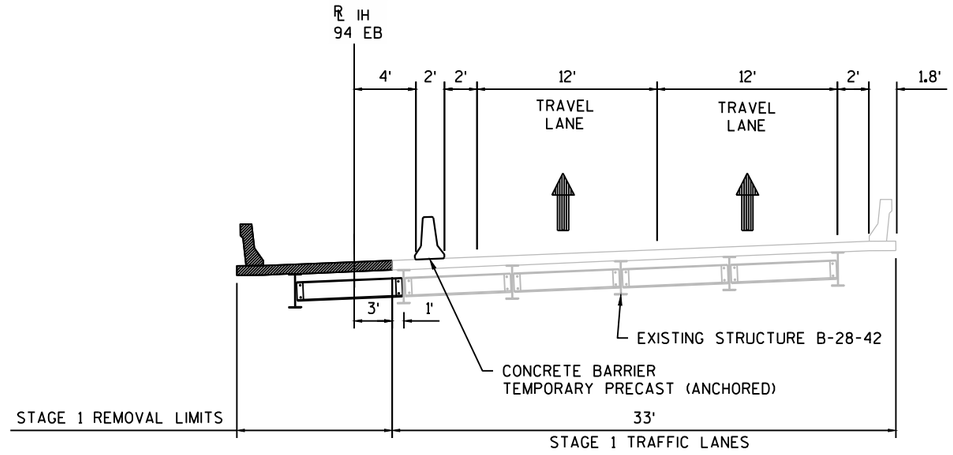


(1) 16.1' - STA. 1258+20.57 TO STA. 1258+79.84.

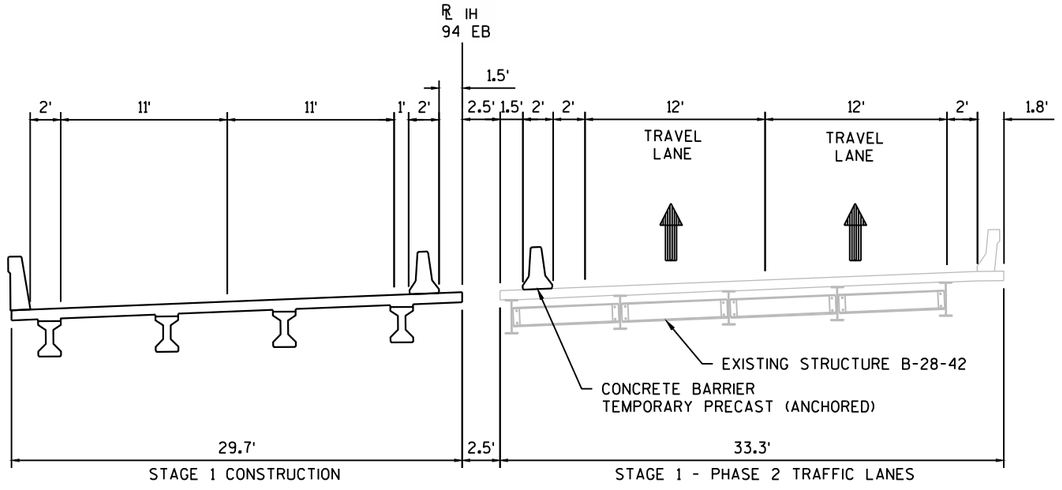
STAGE 1 - PHASE 2

(NIGHTTIME OPERATIONS)
STA. 1257+02.55 - STA. 1257+47.42
STA. 1257+47.42 - STA. 1258+40.69 (STRUCTURE B-28-187)
STA. 1258+40.69 - STA. 1258+79.84

PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	TRAFFIC CONTROL: TYPICAL SECTIONS	SHEET 30	E



STAGE 1 - PHASE 2
STRUCTURE B-28-42

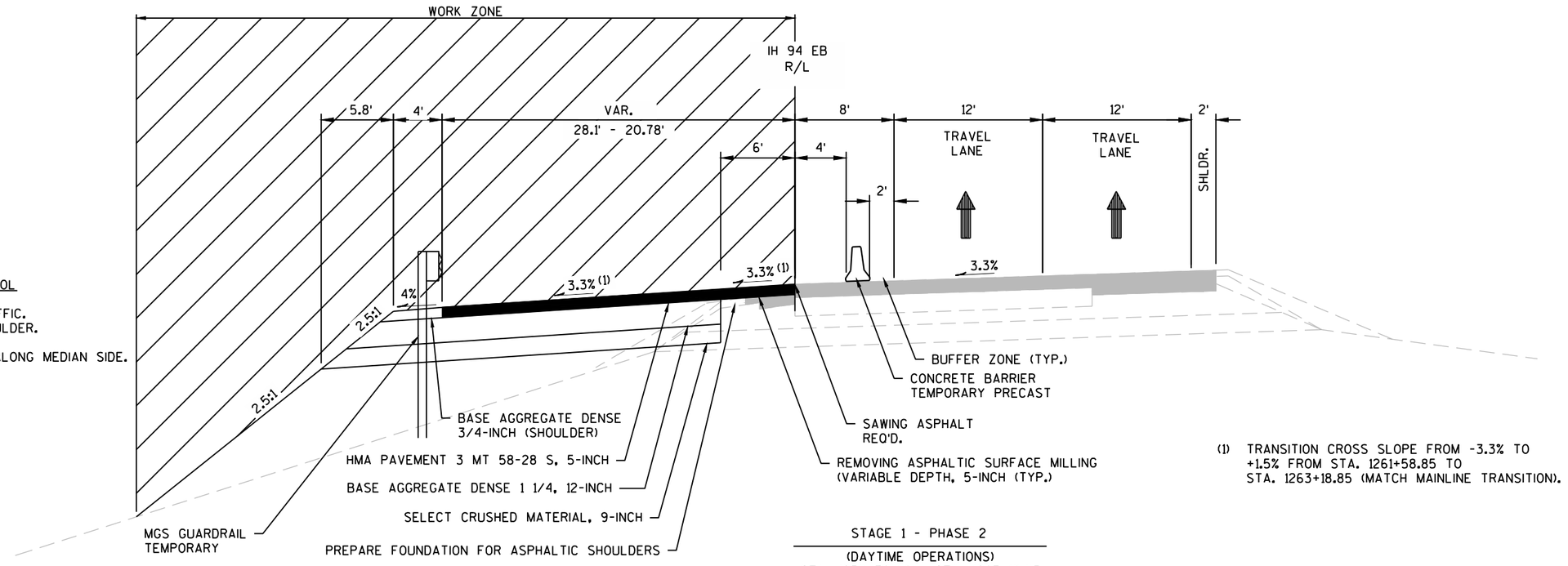


STAGE 1 - PHASE 2
STRUCTURE B-28-42

CONSTRUCTION AND TRAFFIC CONTROL

TWO TRAVEL LANES OPEN TO TRAFFIC.
SHIFT TRAFFIC ONTO OUTSIDE SHOULDER.

CONSTRUCT TEMPORARY WIDENING ALONG MEDIAN SIDE.



STAGE 1 - PHASE 2

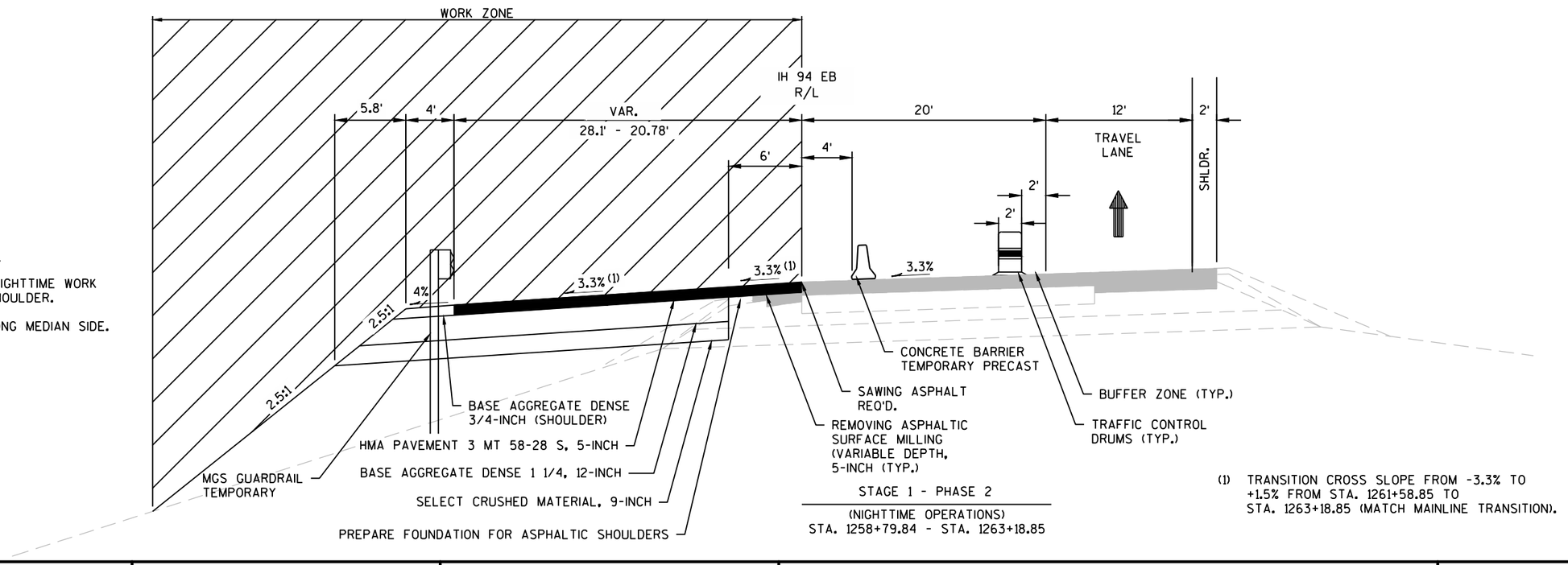
(DAYTIME OPERATIONS)
STA. 1258+79.84 - STA. 1263+18.85

(1) TRANSITION CROSS SLOPE FROM -3.3% TO +1.5% FROM STA. 1261+58.85 TO STA. 1263+18.85 (MATCH MAINLINE TRANSITION).

CONSTRUCTION AND TRAFFIC CONTROL

CLOSE INSIDE TRAVEL LANE DURING NIGHTTIME WORK AND SHIFT TRAFFIC ONTO OUTSIDE SHOULDER.

CONSTRUCT TEMPORARY WIDENING ALONG MEDIAN SIDE.



STAGE 1 - PHASE 2

(NIGHTTIME OPERATIONS)
STA. 1258+79.84 - STA. 1263+18.85

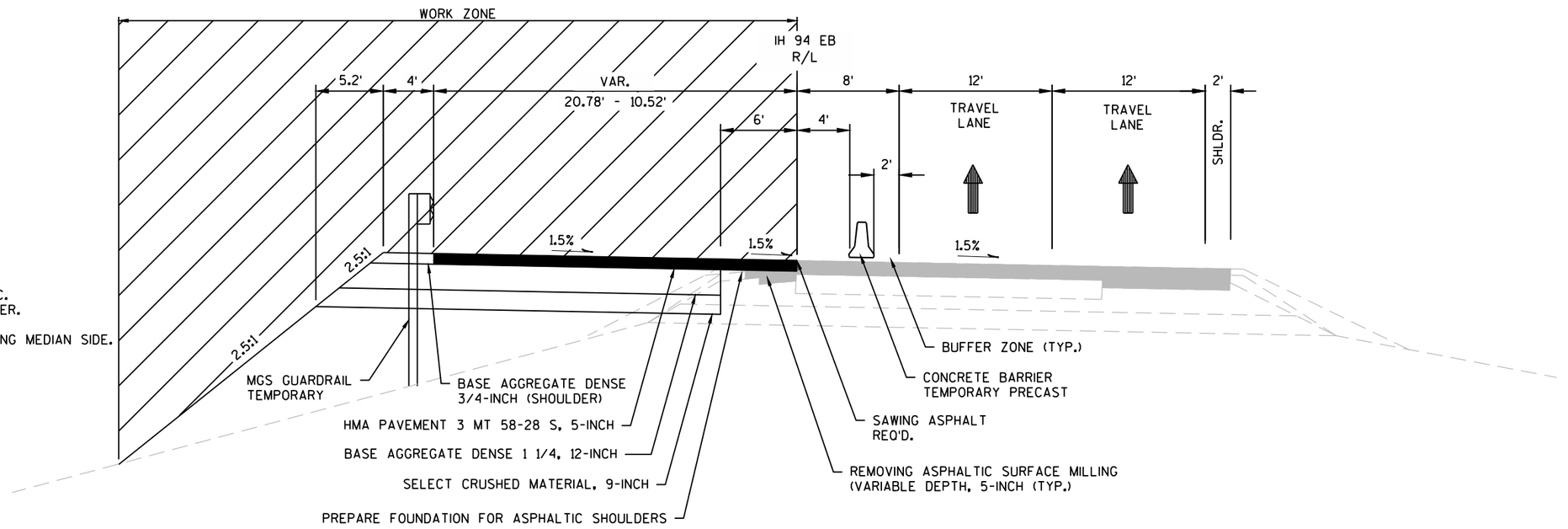
(1) TRANSITION CROSS SLOPE FROM -3.3% TO +1.5% FROM STA. 1261+58.85 TO STA. 1263+18.85 (MATCH MAINLINE TRANSITION).

PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	TRAFFIC CONTROL: TYPICAL SECTIONS	SHEET 32	E

CONSTRUCTION AND TRAFFIC CONTROL

TWO TRAVEL LANES OPEN TO TRAFFIC.
SHIFT TRAFFIC ONTO OUTSIDE SHOULDER.

CONSTRUCT TEMPORARY WIDENING ALONG MEDIAN SIDE.



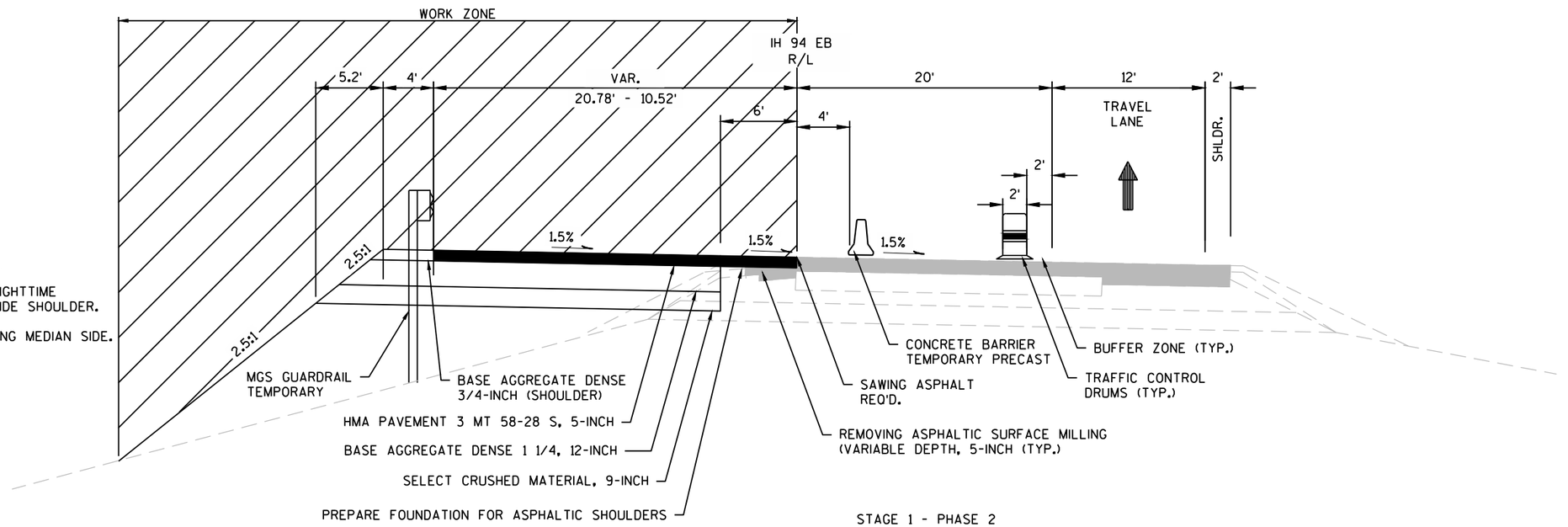
STAGE 1 - PHASE 2

(DAYTIME OPERATIONS)
STA. 1263+18.85 - STA. 1269+34.44

CONSTRUCTION AND TRAFFIC CONTROL

CLOSE INSIDE TRAVEL LANE DURING NIGHTTIME
WORK AND SHIFT TRAFFIC ONTO OUTSIDE SHOULDER.

CONSTRUCT TEMPORARY WIDENING ALONG MEDIAN SIDE.



STAGE 1 - PHASE 2

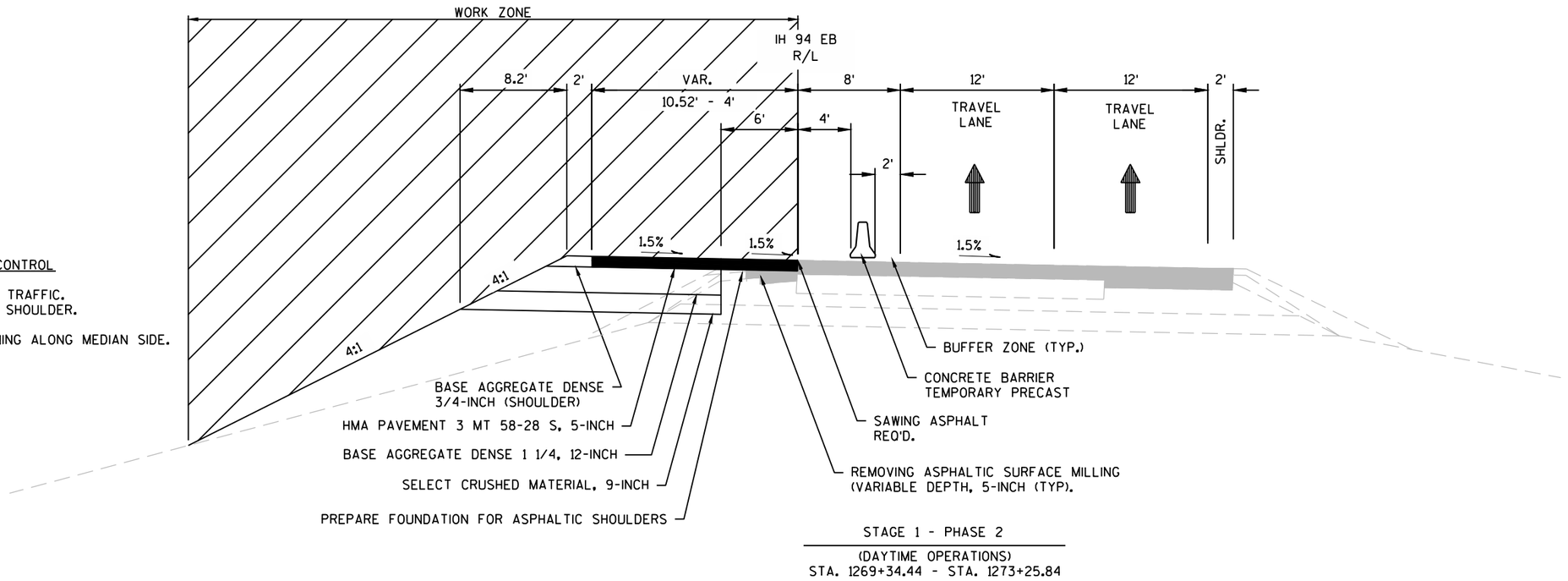
(NIGHTTIME OPERATIONS)
STA. 1263+18.85 - STA. 1269+34.44

PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	TRAFFIC CONTROL: TYPICAL SECTIONS	SHEET 33	E

CONSTRUCTION AND TRAFFIC CONTROL

TWO TRAVEL LANES OPEN TO TRAFFIC.
SHIFT TRAFFIC ONTO OUTSIDE SHOULDER.

CONSTRUCT TEMPORARY WIDENING ALONG MEDIAN SIDE.



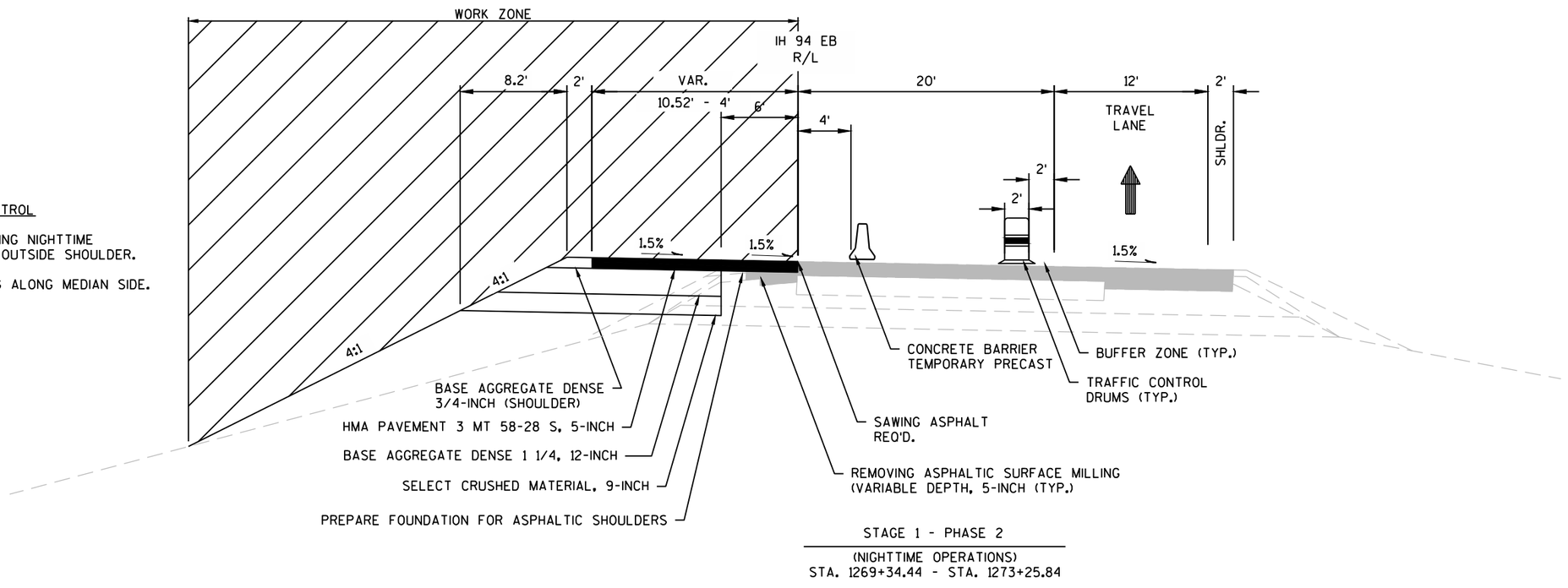
STAGE 1 - PHASE 2

(DAYTIME OPERATIONS)
STA. 1269+34.44 - STA. 1273+25.84

CONSTRUCTION AND TRAFFIC CONTROL

CLOSE INSIDE TRAVEL LANE DURING NIGHTTIME
WORK AND SHIFT TRAFFIC ONTO OUTSIDE SHOULDER.

CONSTRUCT TEMPORARY WIDENING ALONG MEDIAN SIDE.



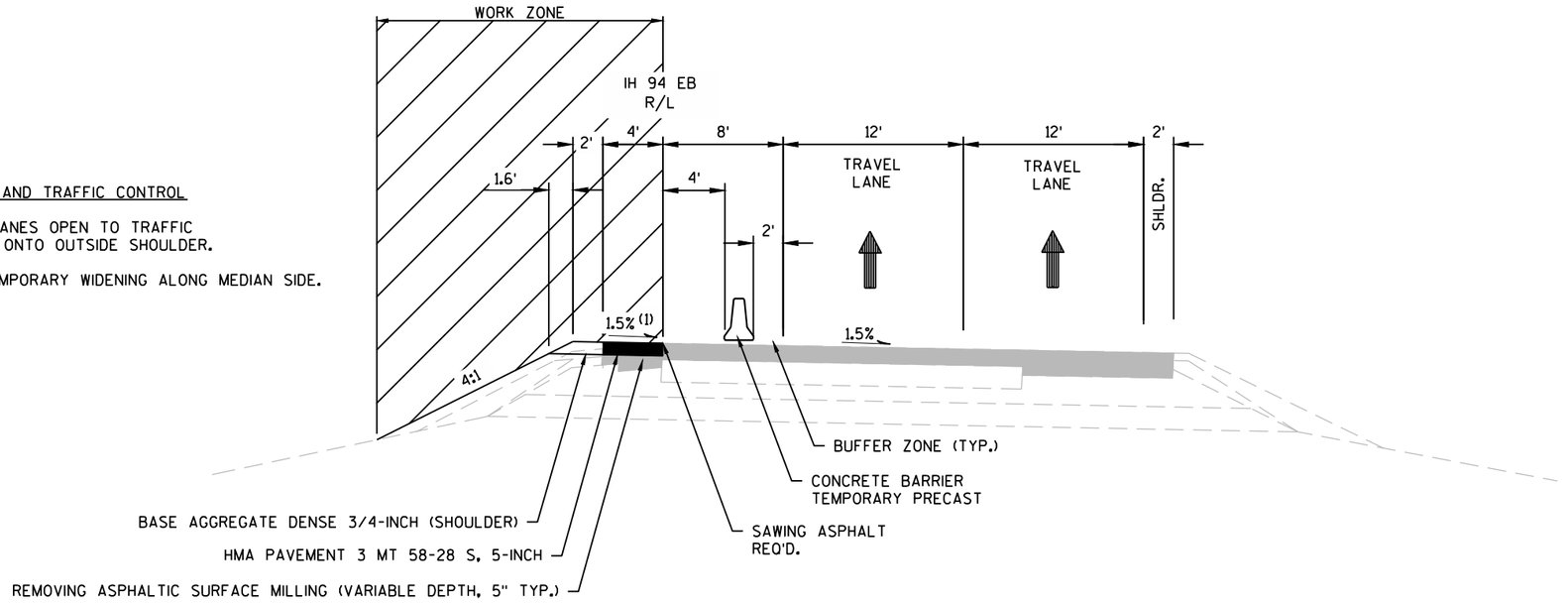
STAGE 1 - PHASE 2

(NIGHTTIME OPERATIONS)
STA. 1269+34.44 - STA. 1273+25.84

CONSTRUCTION AND TRAFFIC CONTROL

TWO TRAVEL LANES OPEN TO TRAFFIC
SHIFT TRAFFIC ONTO OUTSIDE SHOULDER.

CONSTRUCT TEMPORARY WIDENING ALONG MEDIAN SIDE.



STAGE 1 - PHASE 2

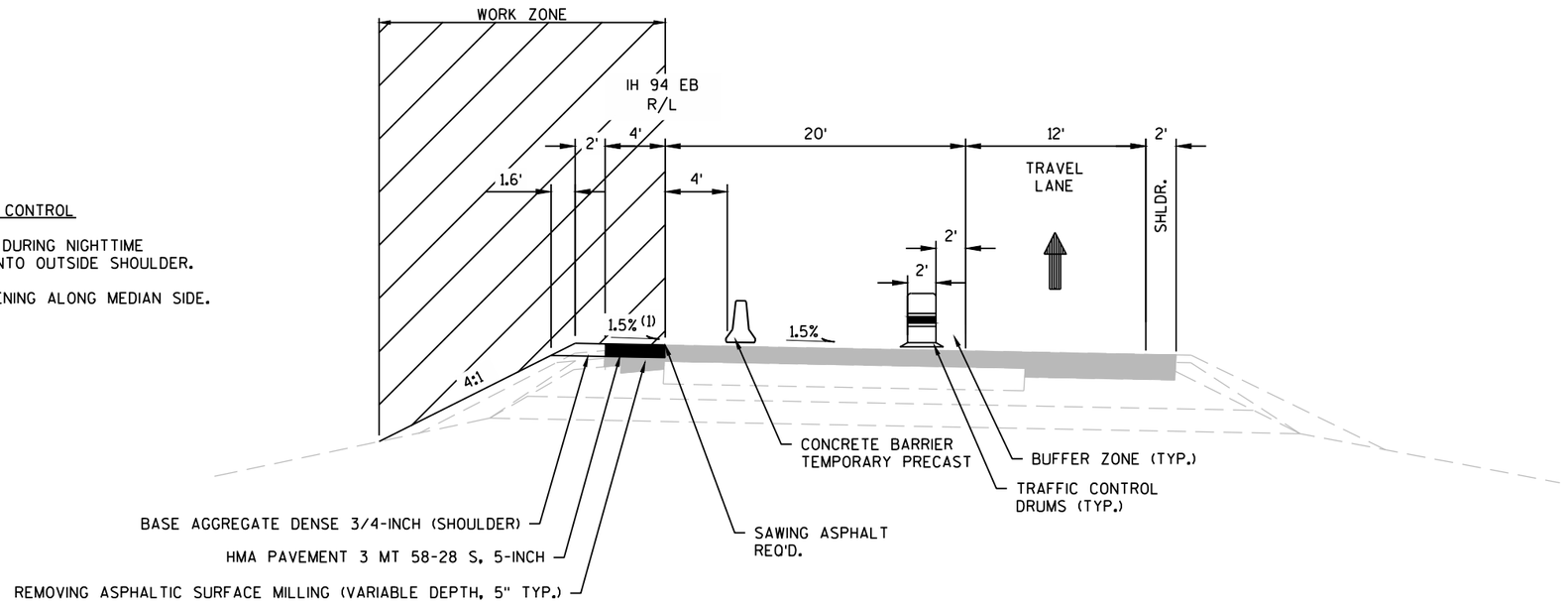
(DAYTIME OPERATIONS)
STA. 1273+25.84 - STA. 1275+65.84

(1) TRANSITION CROSS SLOPE FROM +1.5% TO -4.0% FROM STA. 1275+15.84 TO STA. 1275+65.84.

CONSTRUCTION AND TRAFFIC CONTROL

CLOSE INSIDE TRAVEL LANE DURING NIGHTTIME
WORK AND SHIFT TRAFFIC ONTO OUTSIDE SHOULDER.

CONSTRUCT TEMPORARY WIDENING ALONG MEDIAN SIDE.

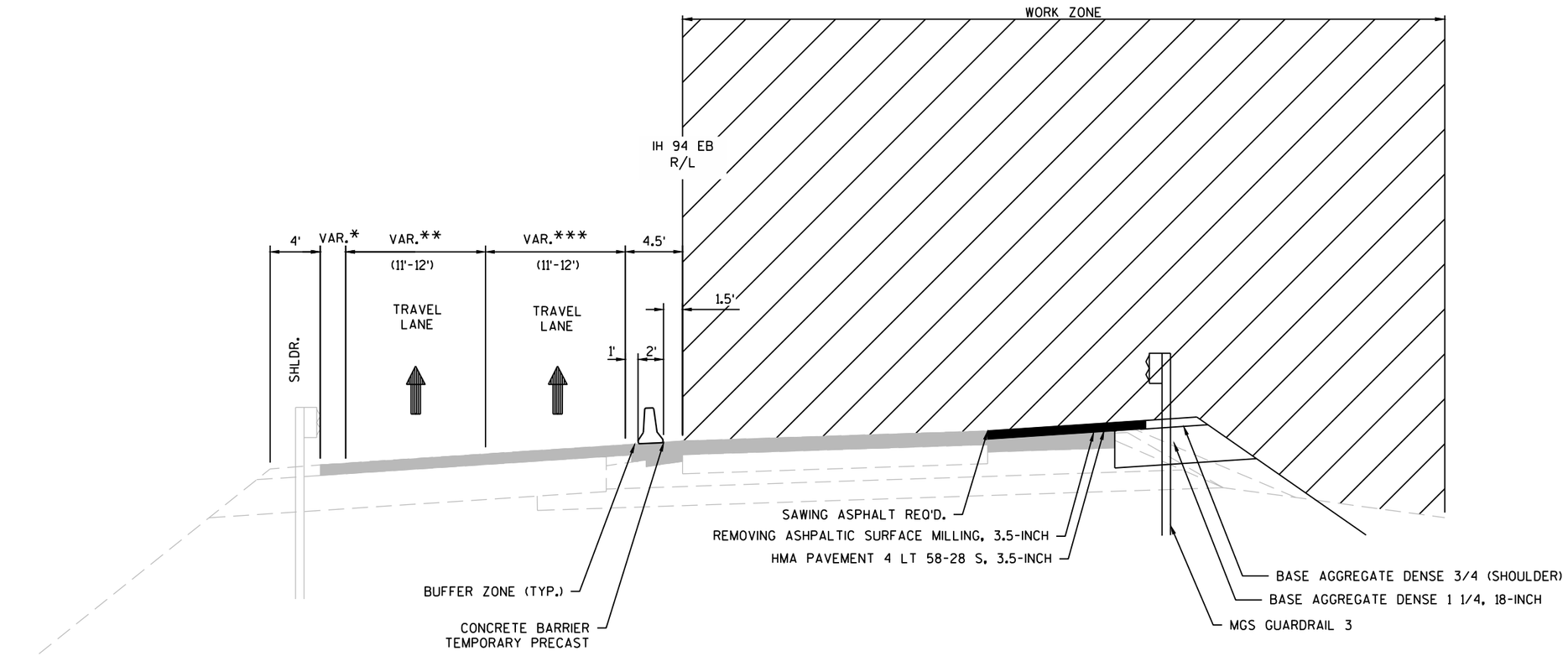


STAGE 1 - PHASE 2

(NIGHTTIME OPERATIONS)
STA. 1273+25.84 - STA. 1275+65.84

(1) TRANSITION CROSS SLOPE FROM +1.5% TO -4.0% FROM STA. 1275+15.84 TO STA. 1275+65.84.

PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	TRAFFIC CONTROL: TYPICAL SECTIONS	SHEET 35	E



STAGE 2

(DAYTIME/NIGHTTIME OPERATIONS)
STA. 1249+42.31 - STA. 1259+79.85

* 0' STA. 1249+42.31 - STA. 1252+72.59
0'-2' STA. 1252+72.59 - STA. 1253+92.59
2' STA. 1253+92.59 - STA. 1258+17.37
2'-1.6' STA. 1258+17.37 - STA. 1258+79.84
1.6'-0' STA. 1258+79.84 - STA. 1259+75.84

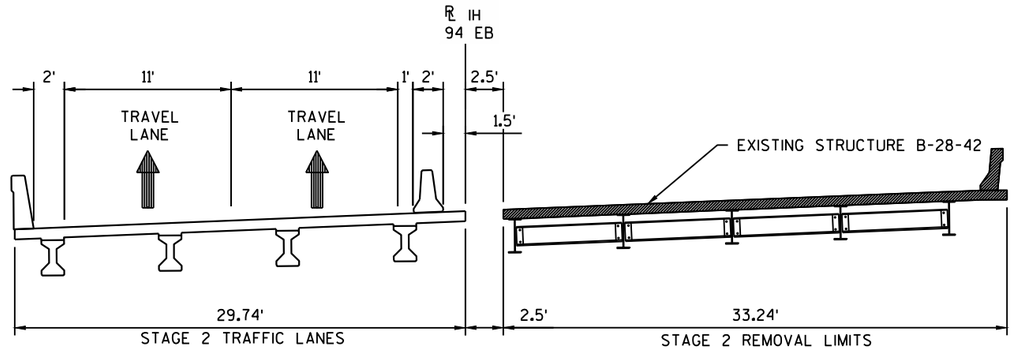
** 12' STA. 1249+42.31 - STA. 1252+72.59
12'-11' STA. 1252+72.59 - STA. 1253+32.69
11' STA. 1253+32.69 - STA. 1259+15.84
11'-12' STA. 1259+15.84 - STA. 1259+79.84

*** 12' STA. 1249+42.31 - STA. 1253+32.69
12'-11' STA. 1253+32.69 - STA. 1253+92.59
11' STA. 1253+92.59 - STA. 1258+79.84
11'-12' STA. 1258+79.84 - STA. 1258+89.84

CONSTRUCTION AND TRAFFIC CONTROL

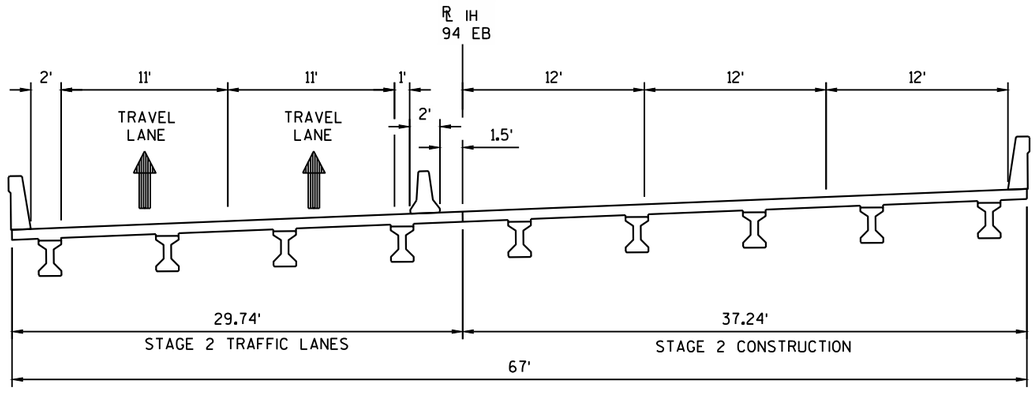
TWO TRAVEL LANES OPEN TO TRAFFIC.

CONSTRUCT PERMANENT PAVEMENT FROM THE I-94 EASTBOUND REFERENCE LINE TO THE RIGHT INCLUDING RECONSTRUCTING SHOULDERS TO PROVIDE A 12-FOOT WIDE SHOULDER, REPLACE EXISTING GUARDRAIL WITH MGS GUARDRAIL, AND COMPLETE CONSTRUCTION OF THE RIGHT SIDE OF THE PROPOSED BRIDGE STRUCTURE.



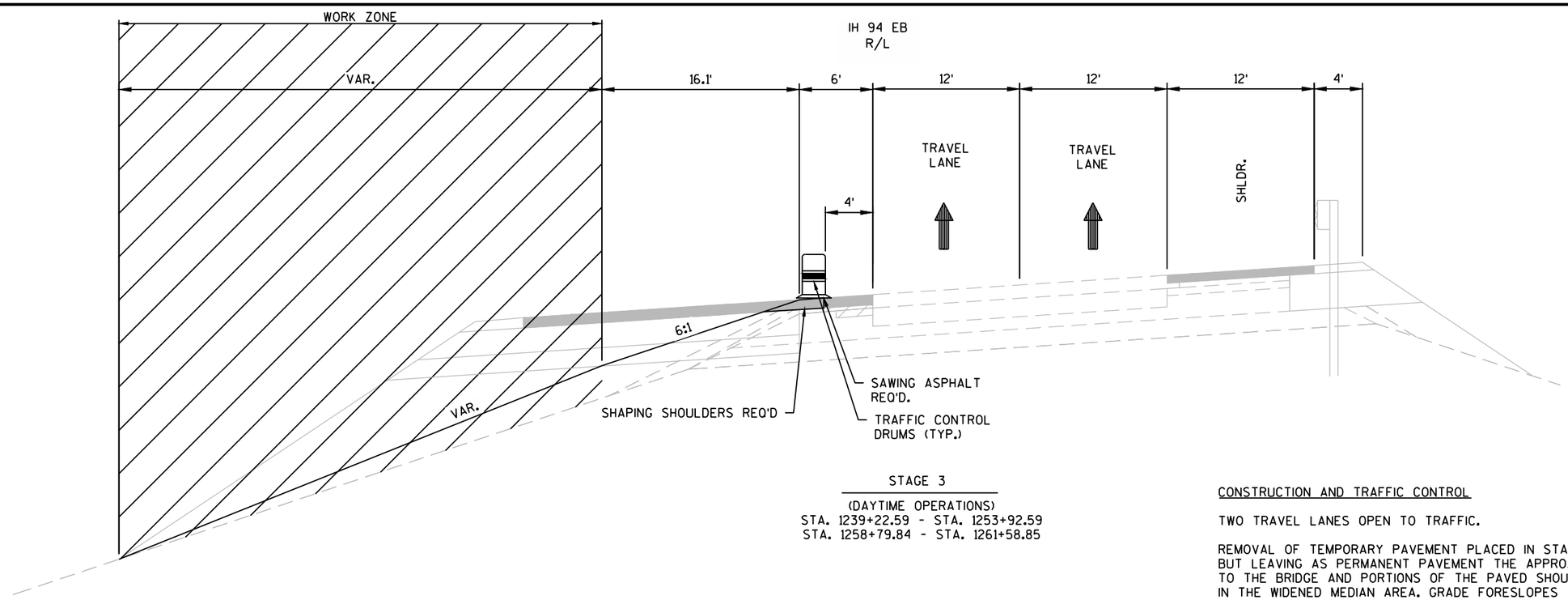
STAGE 2

STRUCTURE B-28-187



STAGE 2

STRUCTURE B-28-187



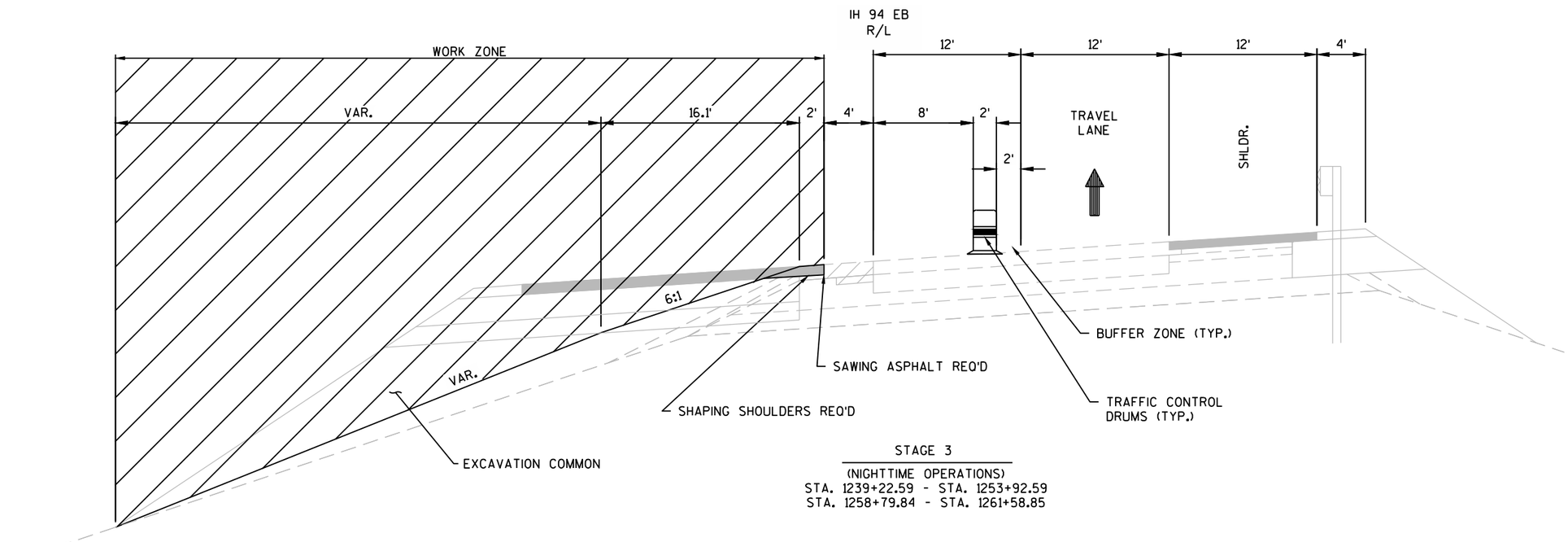
STAGE 3

(DAYTIME OPERATIONS)
STA. 1239+22.59 - STA. 1253+92.59
STA. 1258+79.84 - STA. 1261+58.85

CONSTRUCTION AND TRAFFIC CONTROL

TWO TRAVEL LANES OPEN TO TRAFFIC.

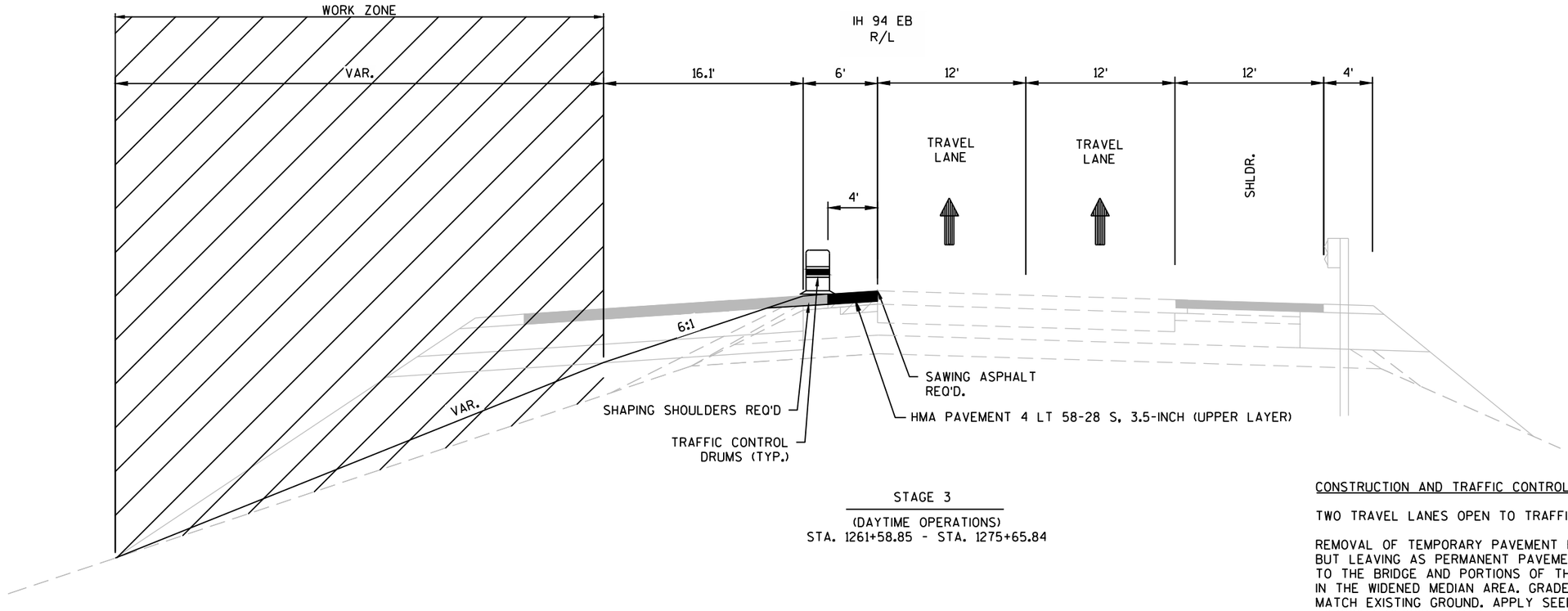
REMOVAL OF TEMPORARY PAVEMENT PLACED IN STAGE 1, BUT LEAVING AS PERMANENT PAVEMENT THE APPROACHES TO THE BRIDGE AND PORTIONS OF THE PAVED SHOULDER IN THE WIDENED MEDIAN AREA. GRADE FORESLOPES TO MATCH EXISTING GROUND. APPLY SEEDING AND SALVAGED TOPSOIL/MULCHING. SHAPE SHOULDERS.



STAGE 3

(NIGHTTIME OPERATIONS)
STA. 1239+22.59 - STA. 1253+92.59
STA. 1258+79.84 - STA. 1261+58.85

PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	TRAFFIC CONTROL: TYPICAL SECTIONS	SHEET 38	E



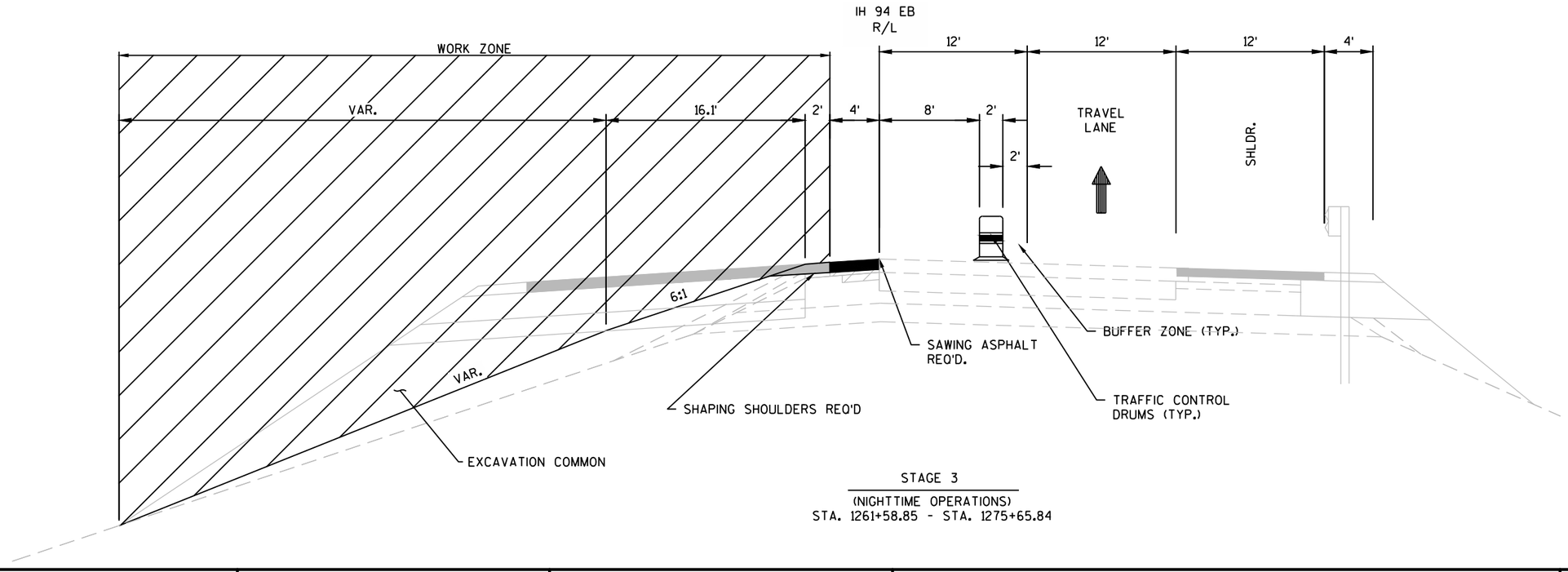
STAGE 3

(DAYTIME OPERATIONS)
STA. 1261+58.85 - STA. 1275+65.84

CONSTRUCTION AND TRAFFIC CONTROL

TWO TRAVEL LANES OPEN TO TRAFFIC.

REMOVAL OF TEMPORARY PAVEMENT PLACED IN STAGE 1, BUT LEAVING AS PERMANENT PAVEMENT THE APPROACHES TO THE BRIDGE AND PORTIONS OF THE PAVED SHOULDER IN THE WIDENED MEDIAN AREA. GRADE FORESLOPES TO MATCH EXISTING GROUND. APPLY SEEDING AND SALVAGED TOPSOIL/MULCHING. SHAPE SHOULDERS.

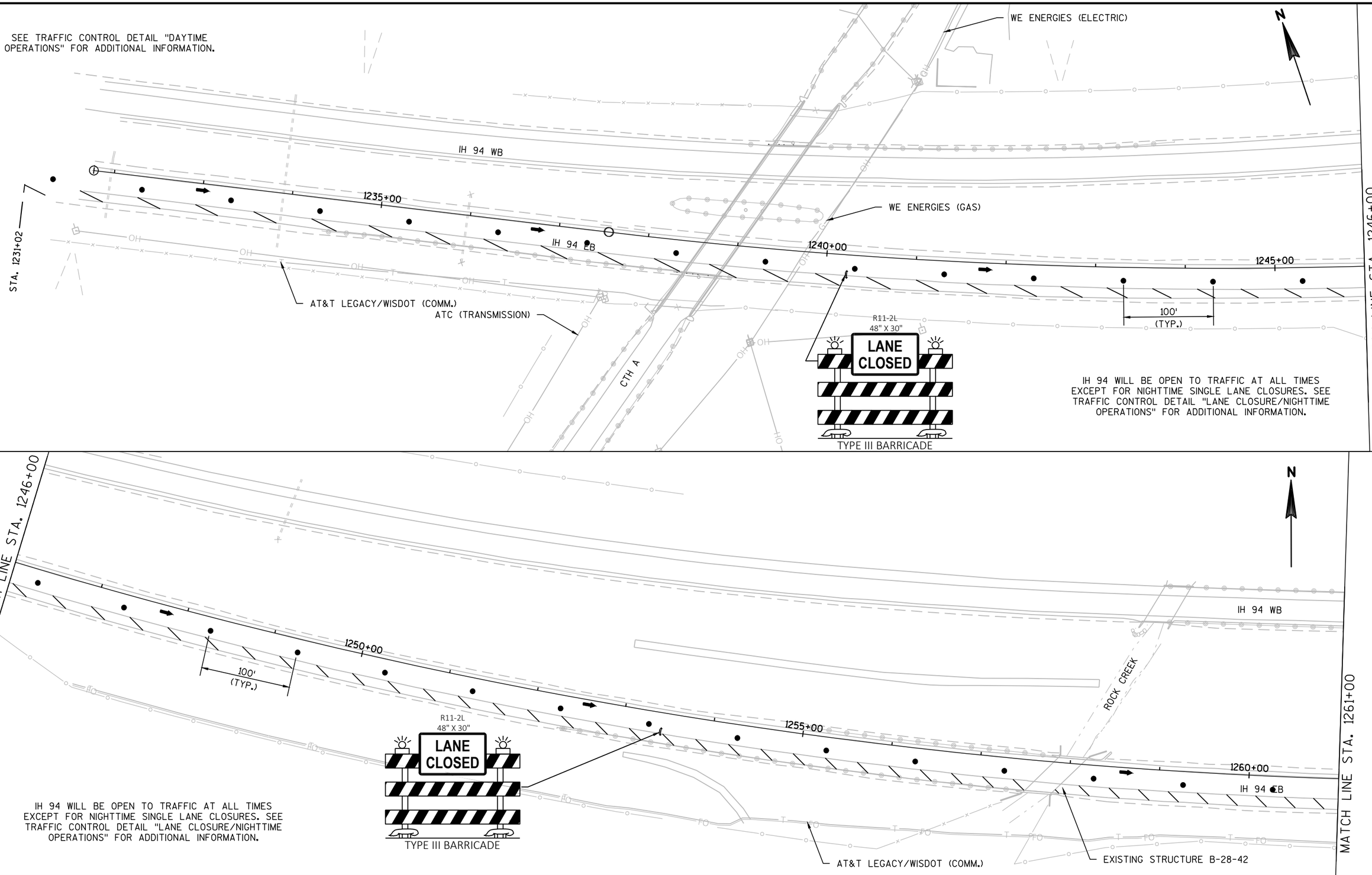


STAGE 3

(NIGHTTIME OPERATIONS)
STA. 1261+58.85 - STA. 1275+65.84

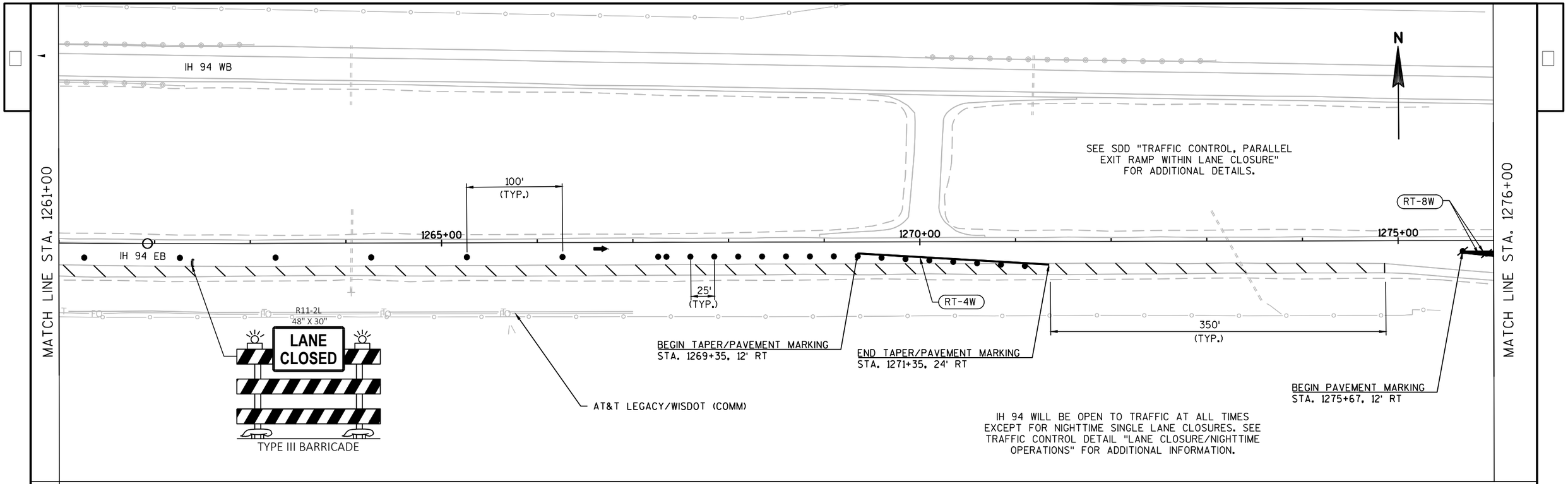
PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	TRAFFIC CONTROL: TYPICAL SECTIONS	SHEET 39	E

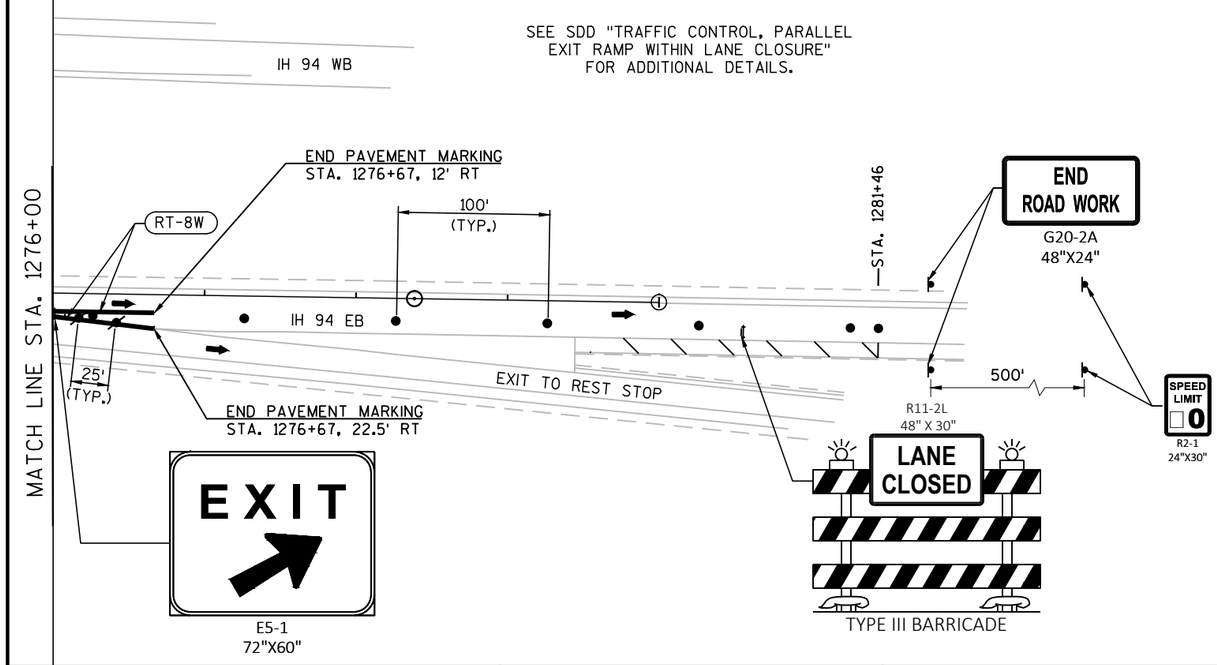
SEE TRAFFIC CONTROL DETAIL "DAYTIME OPERATIONS" FOR ADDITIONAL INFORMATION.



PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	TRAFFIC CONTROL STAGE 1 PHASE 1	SHEET 40	E

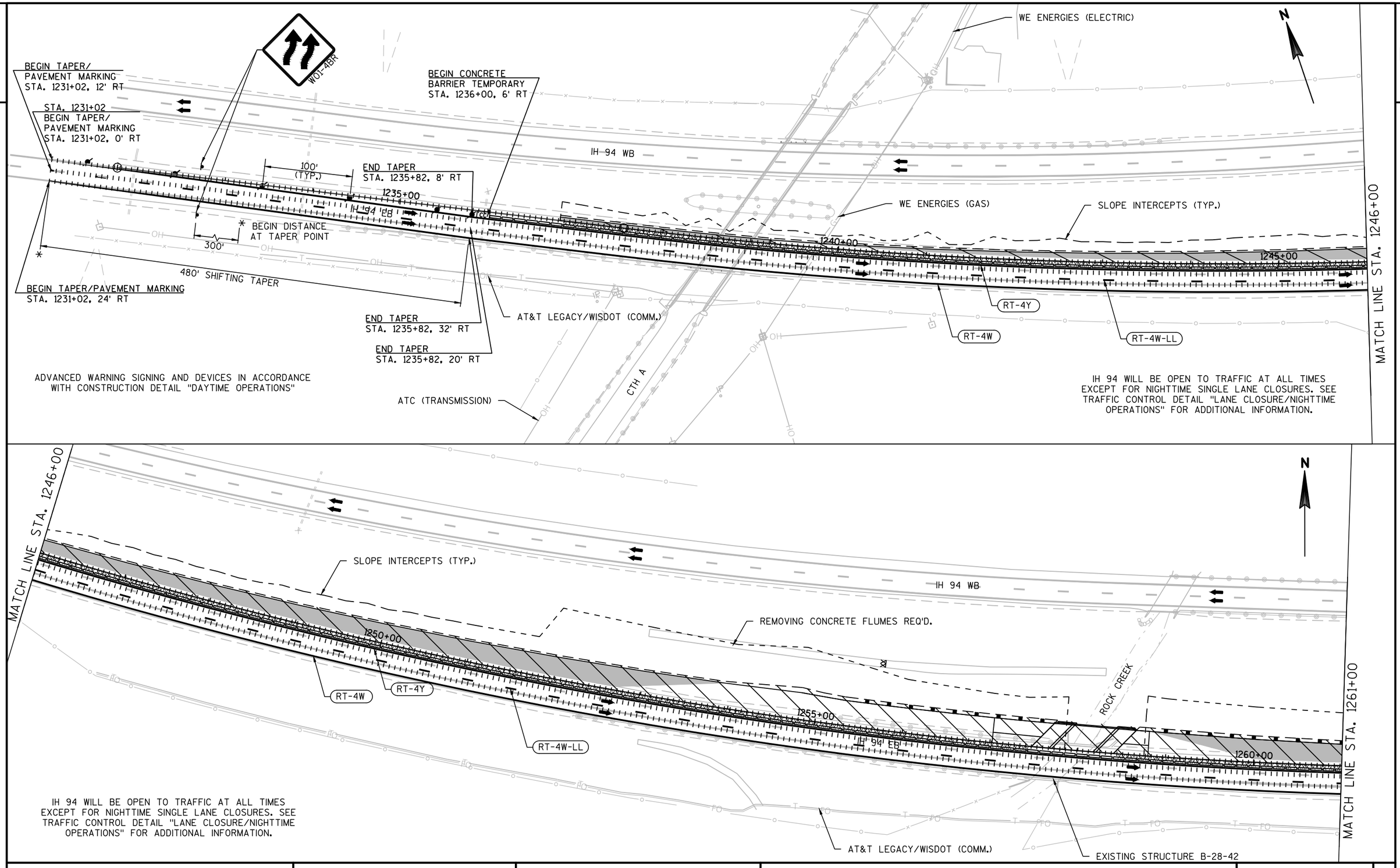
FILE NAME : S:\MAD\1000--1099\1089\399\ACAD\CIVIL3D\SHEETSPLAN\026001_S1.DWG
LAYOUT NAME - 026001_S1 - 026001_S1
PLOT DATE : 6/21/2018 1:20 PM PLOT BY : GRIMME, SARA PLOT NAME : PLOT SCALE : **********
WISDOT/CADDS SHEET 42





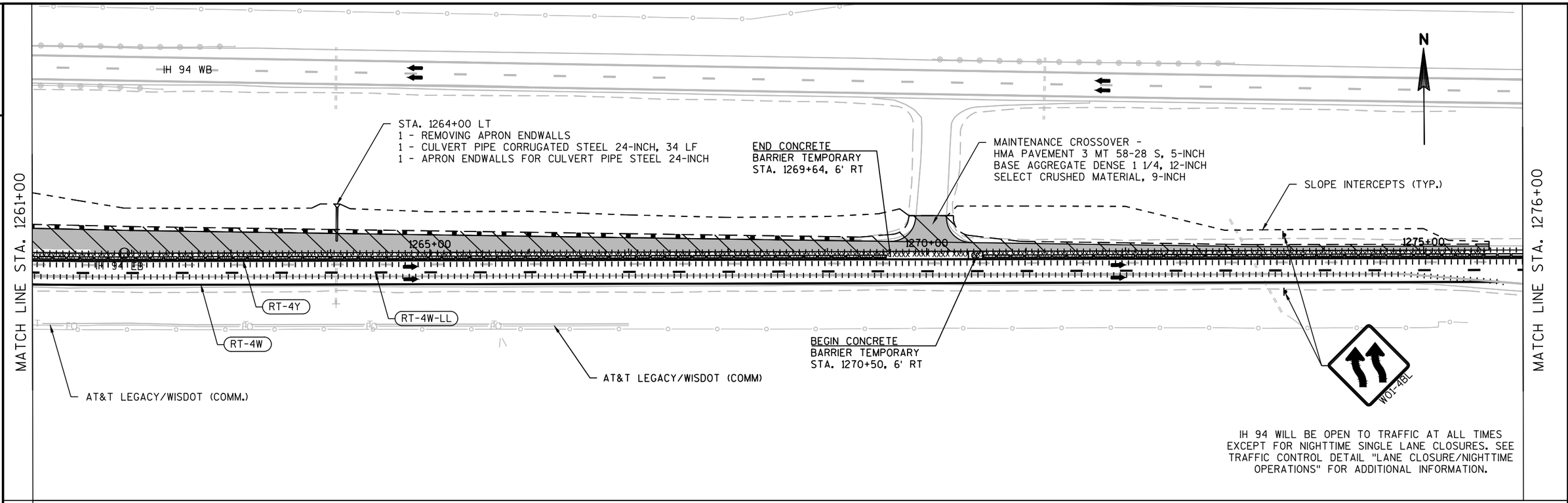
PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	TRAFFIC CONTROL STAGE 1 PHASE 1	SHEET 41	E

FILE NAME : S:\MAD\1000--1099\1089\399\ACAD\CIVIL3D\SHEETSPLAN\026001_S1.DWG
LAYOUT NAME - 026001_S1 - 026002_S1
PLOT DATE : 6/21/2018 1:20 PM PLOT BY : GRIMME, SARA PLOT NAME : PLOT SCALE : **********

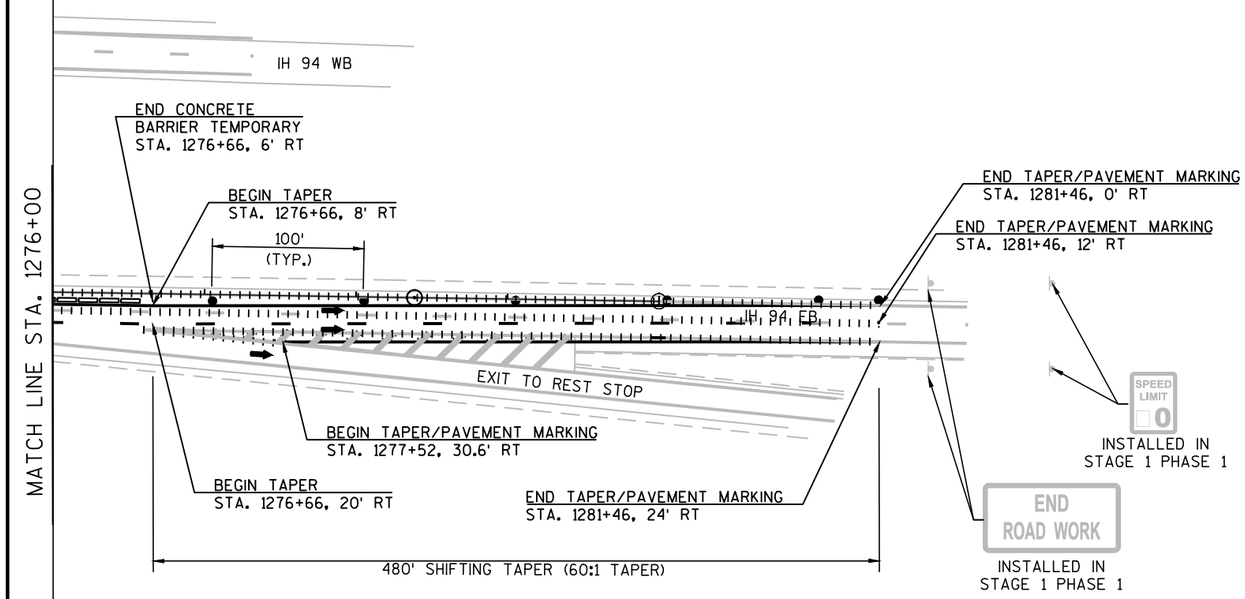


PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	TRAFFIC CONTROL STAGE 1 PHASE 2	SHEET 42	E

FILE NAME : S:\MAD\1000--1099\1089\399\ACAD\CIVIL3D\SHEETSPLAN\026003_S1.DWG
LAYOUT NAME - 026003_S1 - 026003_S1
PLOT DATE : 6/21/2018 1:21 PM PLOT BY : GRIMME, SARA PLOT NAME : PLOT SCALE : **********
WISDOT/CADDS SHEET 42



IH 94 WILL BE OPEN TO TRAFFIC AT ALL TIMES EXCEPT FOR NIGHTTIME SINGLE LANE CLOSURES. SEE TRAFFIC CONTROL DETAIL "LANE CLOSURE/NIGHTTIME OPERATIONS" FOR ADDITIONAL INFORMATION.

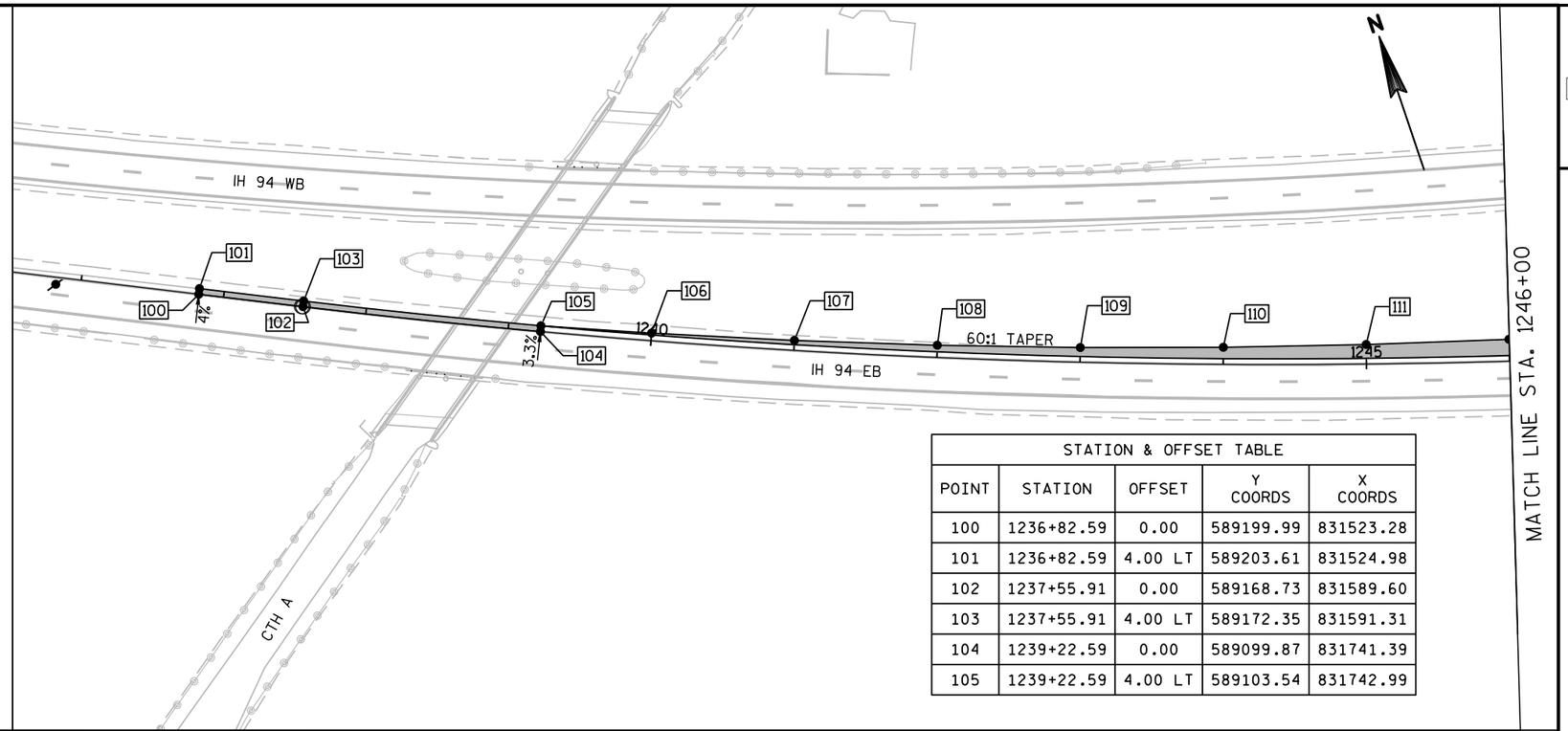


IH 94 WILL BE OPEN TO TRAFFIC AT ALL TIMES EXCEPT FOR NIGHTTIME SINGLE LANE CLOSURES. SEE TRAFFIC CONTROL DETAIL "LANE CLOSURE/NIGHTTIME OPERATIONS" FOR ADDITIONAL INFORMATION.

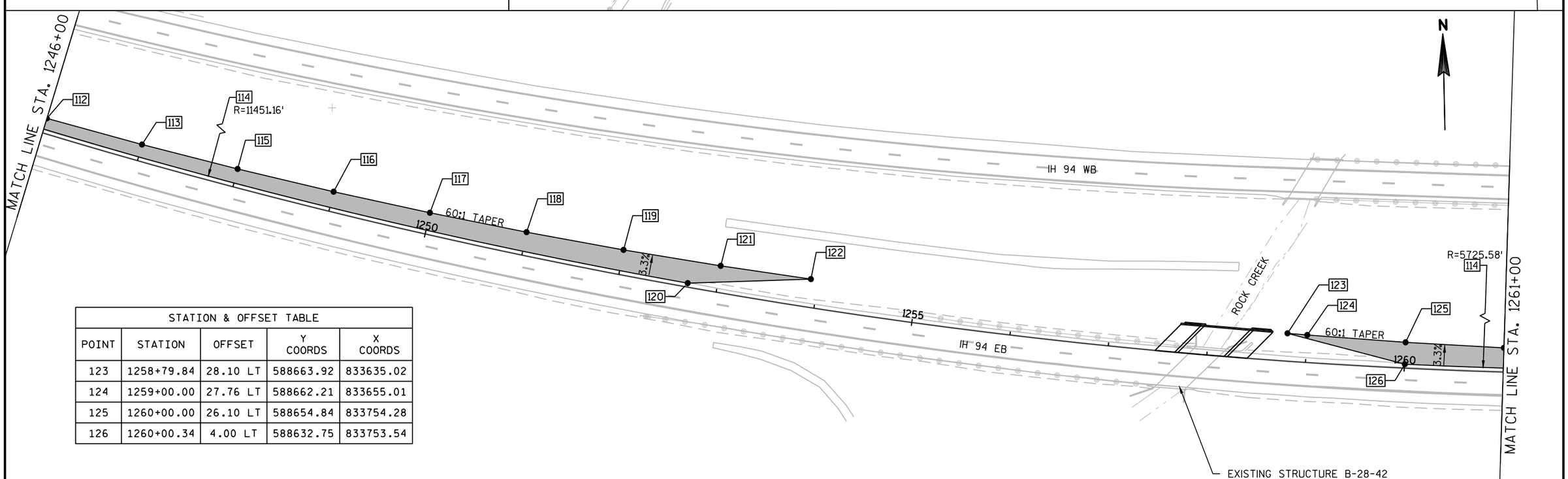
PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	TRAFFIC CONTROL STAGE 1 PHASE 2	SHEET 43	E

FILE NAME : S:\MAD\1000--1099\1089\399\ACAD\CIVIL3D\SHEETSPLAN\026003_S1.DWG
LAYOUT NAME - 026003_S1 - 026004_S1
PLOT DATE : 6/21/2018 1:21 PM PLOT BY : GRIMME, SARA PLOT NAME : PLOT SCALE : **********

STATION & OFFSET TABLE				
POINT	STATION	OFFSET	Y COORDS	X COORDS
106	1240+00.00	5.29 LT	589074.28	831814.59
107	1241+00.00	6.95 LT	589037.92	831907.65
108	1242+00.00	8.62 LT	589003.21	832001.30
109	1243+00.00	10.29 LT	588970.15	832095.52
110	1244+00.00	11.95 LT	588938.75	832190.27
111	1245+00.00	13.62 LT	588909.01	832285.52
112	1246+00.00	15.29 LT	588880.95	832381.26
113	1247+00.00	16.96 LT	588854.58	832477.44
114	1261+92.15	5729.58 LT	594351.54	834032.25
115	1248+00.00	18.62 LT	588829.89	832574.03
116	1249+00.00	20.29 LT	588806.90	832671.02
117	1250+00.00	21.96 LT	588785.61	832768.36
118	1251+00.00	23.62 LT	588766.03	832866.04
119	1252+00.00	25.29 LT	588748.17	832964.01
120	1252+70.09	4.00 LT	588714.56	833028.90
121	1253+00.00	26.96 LT	588732.02	833062.24
122	1253+92.59	28.50 LT	588718.61	833153.42



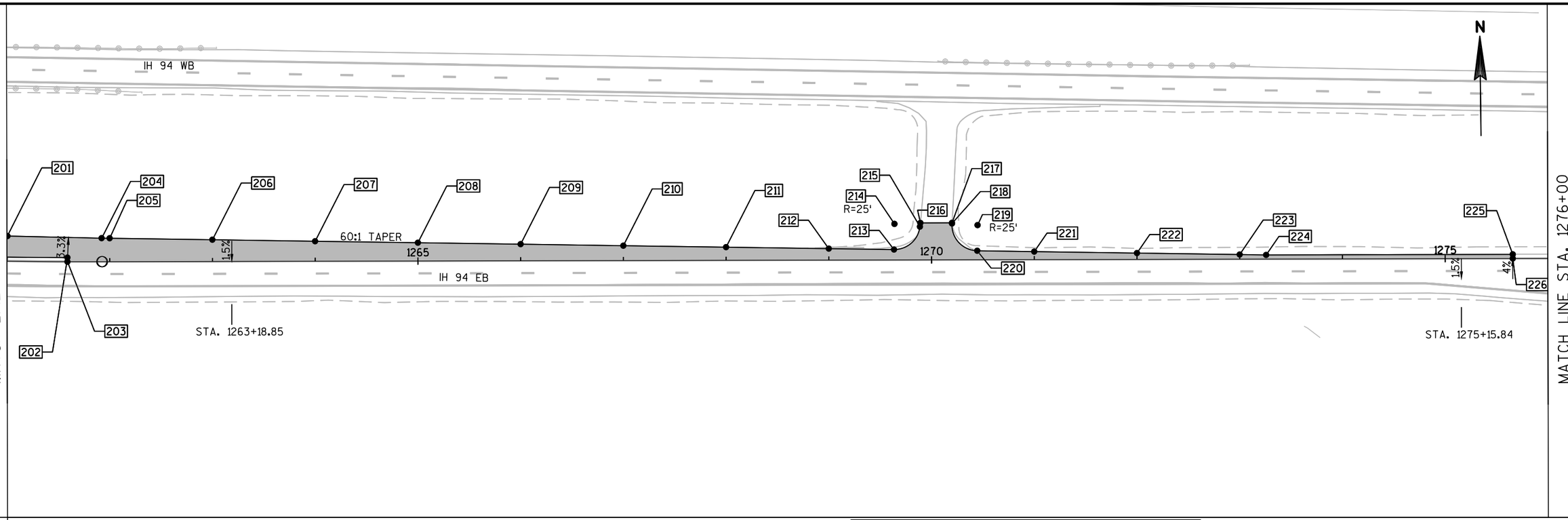
STATION & OFFSET TABLE				
POINT	STATION	OFFSET	Y COORDS	X COORDS
100	1236+82.59	0.00	589199.99	831523.28
101	1236+82.59	4.00 LT	589203.61	831524.98
102	1237+55.91	0.00	589168.73	831589.60
103	1237+55.91	4.00 LT	589172.35	831591.31
104	1239+22.59	0.00	589099.87	831741.39
105	1239+22.59	4.00 LT	589103.54	831742.99

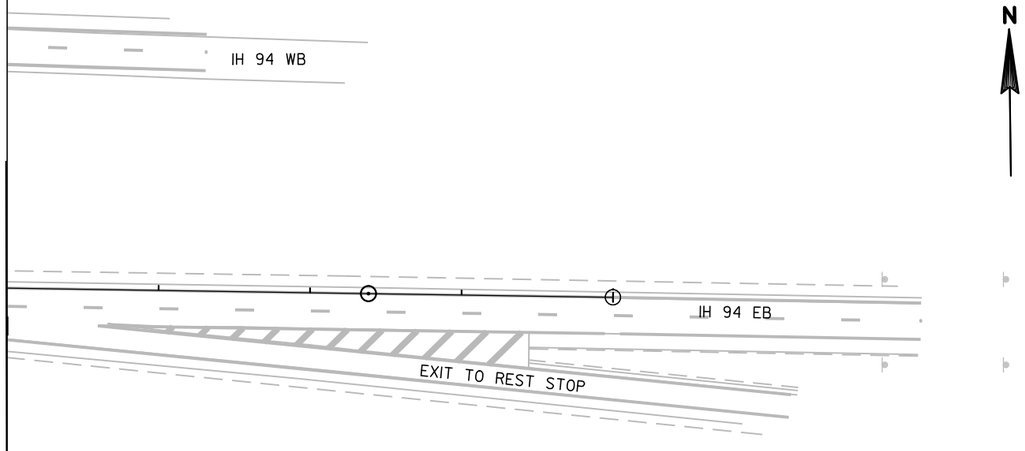


STATION & OFFSET TABLE				
POINT	STATION	OFFSET	Y COORDS	X COORDS
123	1258+79.84	28.10 LT	588663.92	833635.02
124	1259+00.00	27.76 LT	588662.21	833655.01
125	1260+00.00	26.10 LT	588654.84	833754.28
126	1260+00.34	4.00 LT	588632.75	833753.54

PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	TRAFFIC CONTROL STAGE 1 PHASE 2 - TEMP. PVT. LAYOUT	SHEET 44	E

FILE NAME : S:\MAD\1000--1099\1089\399\ACAD\CIVIL3D\SHEETSPLAN\026005_S1.DWG
LAYOUT NAME - 026005_S1 - 026005_S1
PLOT DATE : 6/21/2018 1:22 PM PLOT BY : GRIMME, SARA PLOT NAME : PLOT SCALE : **********
WISDOT/CADDS SHEET 42



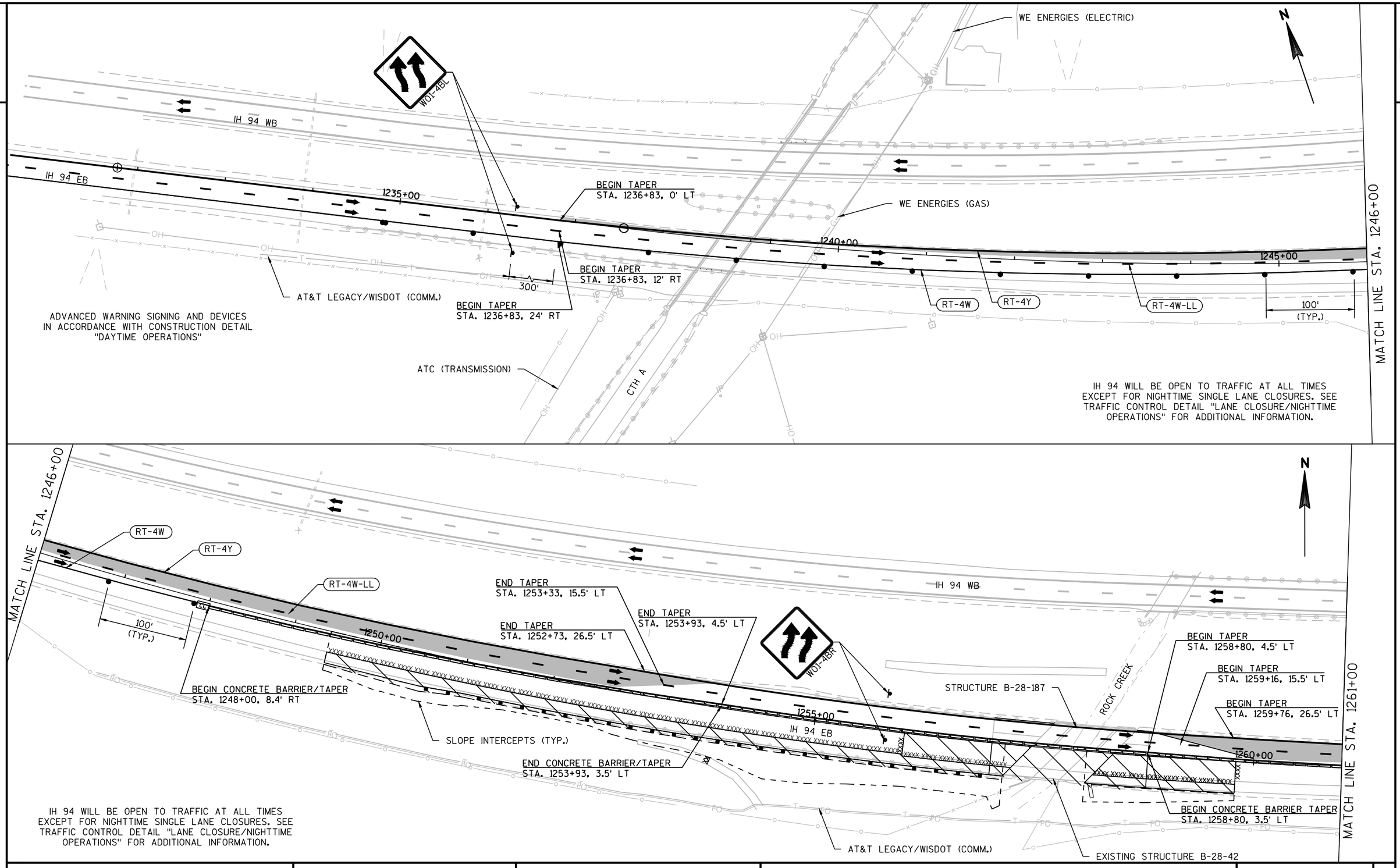


STATION & OFFSET TABLE				
POINT	STATION	OFFSET	Y COORDS	X COORDS
201	1261+00.00	24.43 LT	588649.19	833853.69
202	1261+58.85	4.00 LT	588627.23	833911.84
203	1261+58.85	0.00	588623.23	833911.76
204	1261+92.15	22.89 LT	588645.51	833945.40
205	1262+00.00	22.76 LT	588645.26	833953.25
206	1263+00.00	21.10 LT	588642.08	834053.21
207	1264+00.00	19.43 LT	588638.89	834153.17
208	1265+00.00	17.76 LT	588635.70	834253.14
209	1266+00.00	16.10 LT	588632.52	834353.10
210	1267+00.00	14.43 LT	588629.32	834453.06
211	1268+00.00	12.76 LT	588626.13	834553.02
212	1269+00.00	11.10 LT	588622.95	834652.99
213	1269+63.57	10.03 LT	588620.92	834716.53
214	1269+63.98	35.03 LT	588645.91	834717.33
215	1269+88.83	32.28 LT	588642.78	834742.13
216	1269+89.27	35.88 LT	588646.37	834742.62
217	1270+19.97	35.88 LT	588645.90	834773.33
218	1270+19.99	35.35 LT	588645.37	834773.33
219	1270+44.93	33.68 LT	588643.32	834798.25

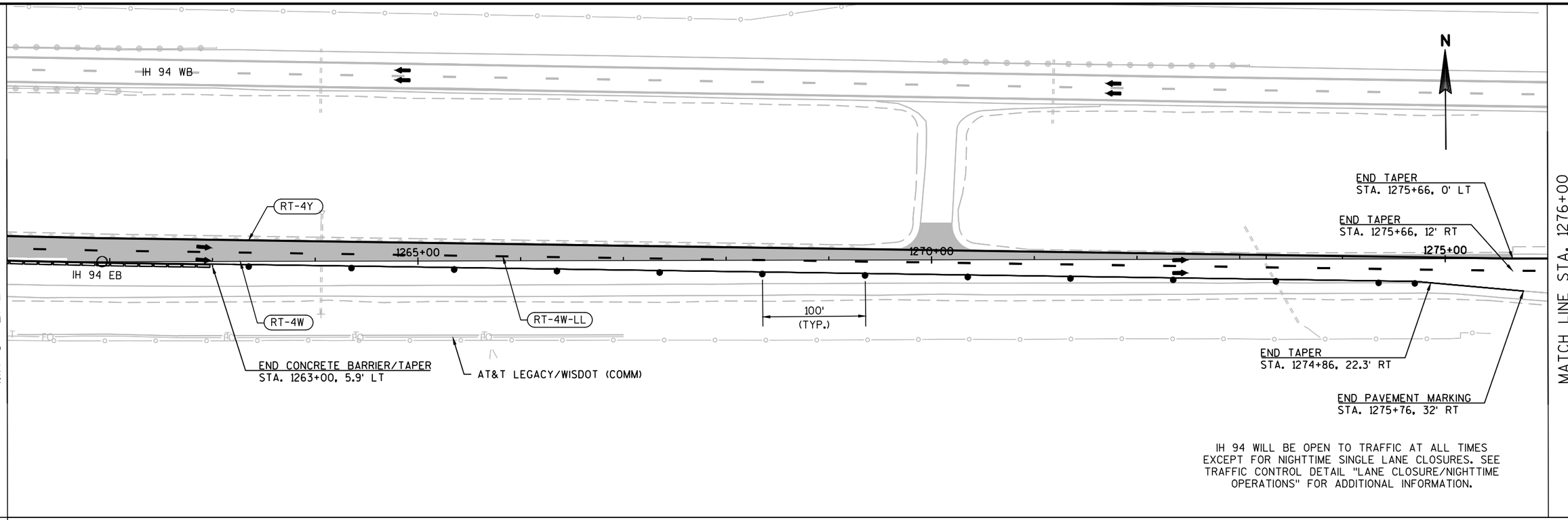
STATION & OFFSET TABLE				
POINT	STATION	OFFSET	Y COORDS	X COORDS
220	1270+44.52	8.68 LT	588618.34	834797.45
221	1271+00.00	7.76 LT	588616.57	834852.91
222	1272+00.00	6.10 LT	588613.39	834952.88
223	1273+00.00	4.43 LT	588610.19	835052.84
224	1273+25.75	4.00 LT	588609.37	835078.58
225	1275+65.84	4.00 LT	588605.72	835318.64
226	1275+65.84	0.00	588601.72	835318.58

PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	TRAFFIC CONTROL STAGE 1 PHASE 2 - TEMP. PVT. LAYOUT	SHEET 45	E

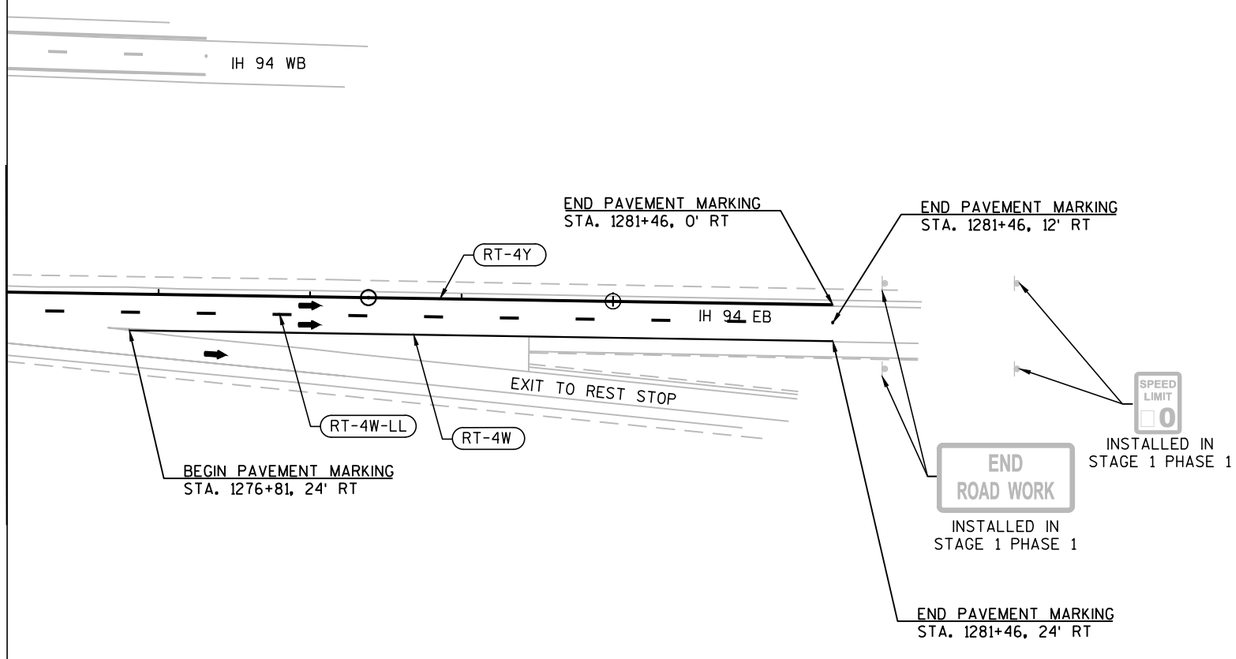
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LAYOUT NAME - 026005_S1 - 026006_S1
PLOT DATE : 6/21/2018 1:22 PM PLOT BY : GRIMME, SARA PLOT NAME : PLOT SCALE : **********
WISDOT/CADDS SHEET 42



PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	TRAFFIC CONTROL STAGE 2	SHEET 46	E



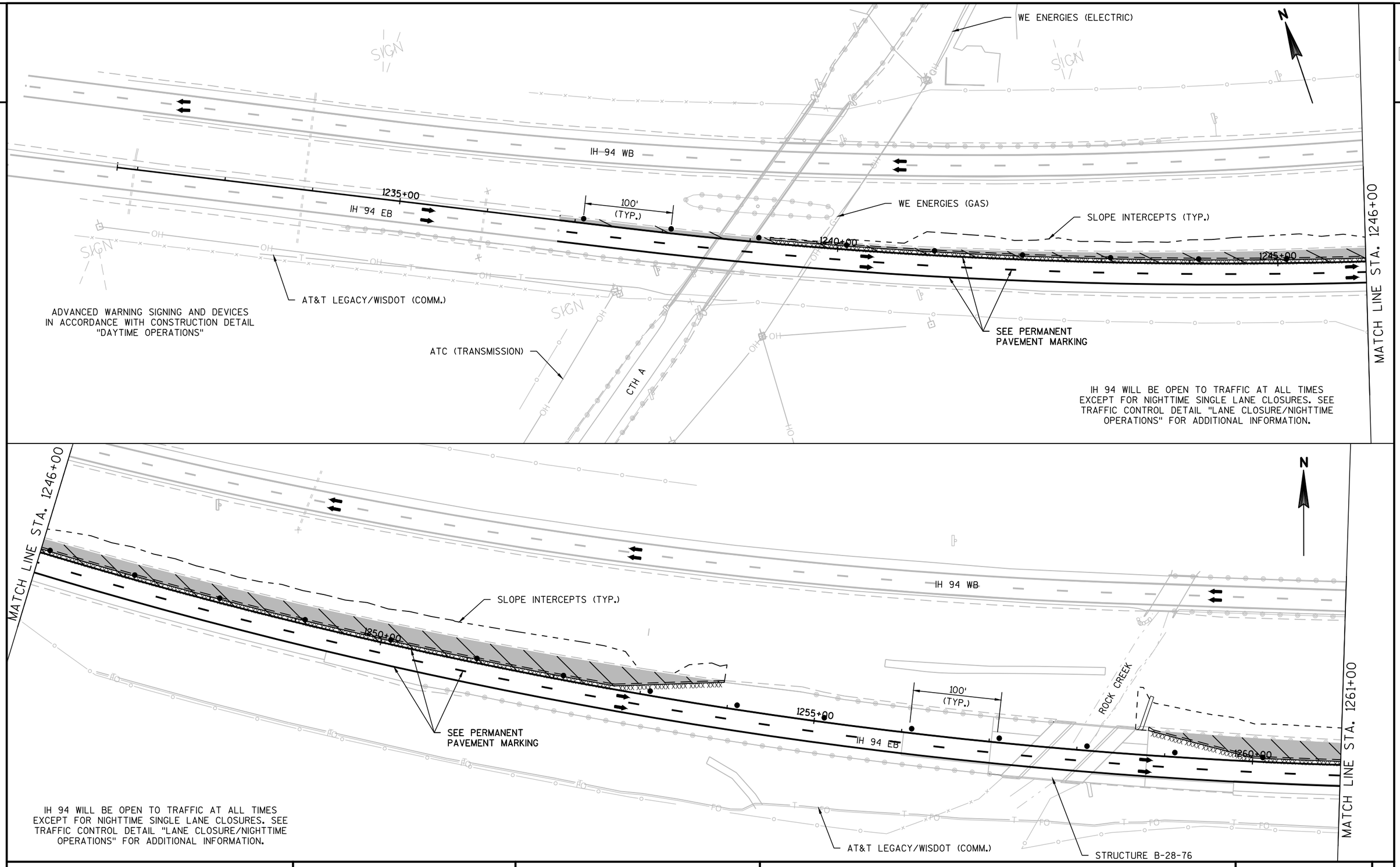
IH 94 WILL BE OPEN TO TRAFFIC AT ALL TIMES EXCEPT FOR NIGHTTIME SINGLE LANE CLOSURES. SEE TRAFFIC CONTROL DETAIL "LANE CLOSURE/NIGHTTIME OPERATIONS" FOR ADDITIONAL INFORMATION.



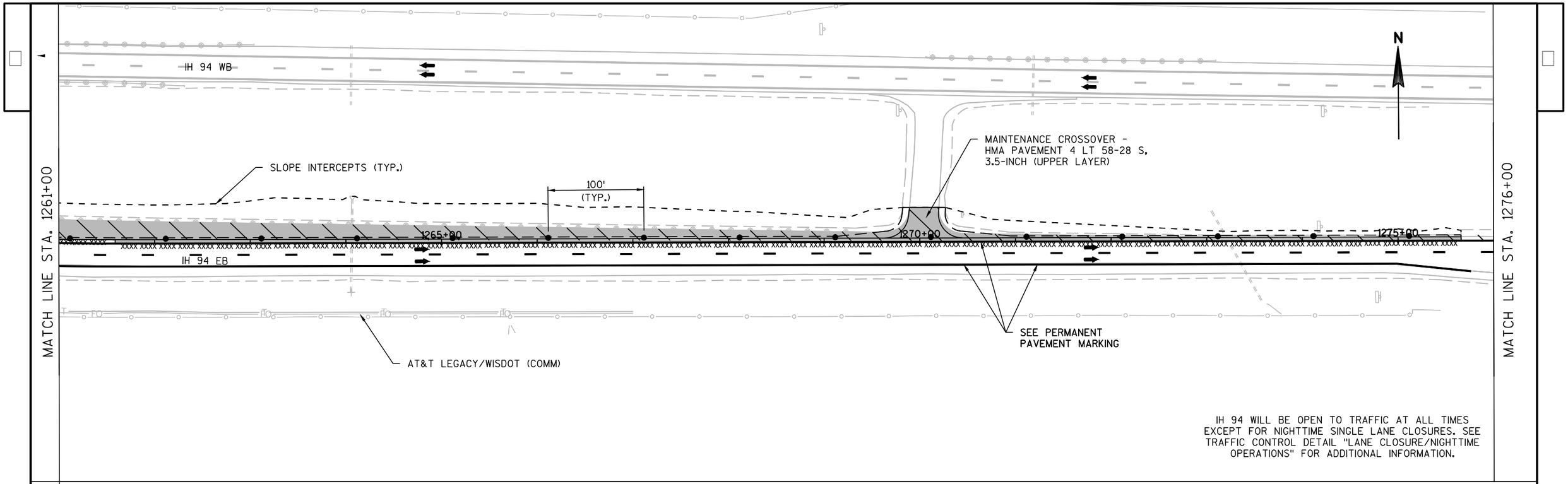
IH 94 WILL BE OPEN TO TRAFFIC AT ALL TIMES EXCEPT FOR NIGHTTIME SINGLE LANE CLOSURES. SEE TRAFFIC CONTROL DETAIL "LANE CLOSURE/NIGHTTIME OPERATIONS" FOR ADDITIONAL INFORMATION.

PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	TRAFFIC CONTROL STAGE 2	SHEET 47	E

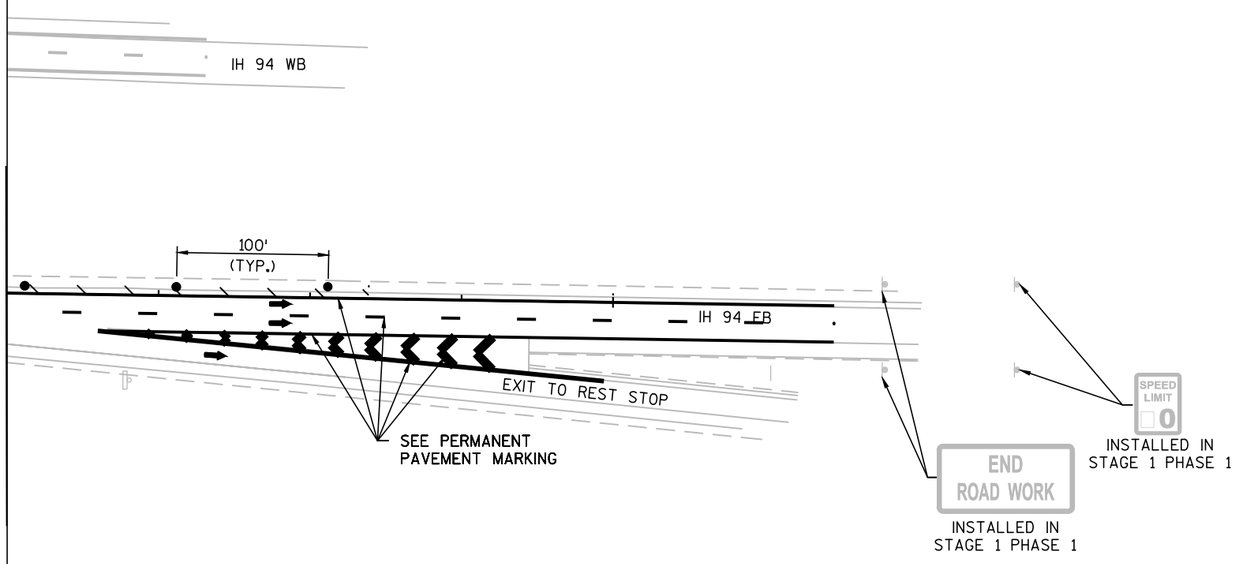
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LAYOUT NAME - 026007_S2 - 026008_S2
PLOT DATE : 6/21/2018 1:26 PM PLOT BY : GRIMME, SARA PLOT NAME : PLOT SCALE : **********
WISDOT/CADDS SHEET 42



PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	TRAFFIC CONTROL STAGE 3	SHEET 48	E



IH 94 WILL BE OPEN TO TRAFFIC AT ALL TIMES EXCEPT FOR NIGHTTIME SINGLE LANE CLOSURES. SEE TRAFFIC CONTROL DETAIL "LANE CLOSURE/NIGHTTIME OPERATIONS" FOR ADDITIONAL INFORMATION.



IH 94 WILL BE OPEN TO TRAFFIC AT ALL TIMES EXCEPT FOR NIGHTTIME SINGLE LANE CLOSURES. SEE TRAFFIC CONTROL DETAIL "LANE CLOSURE/NIGHTTIME OPERATIONS" FOR ADDITIONAL INFORMATION.

PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	TRAFFIC CONTROL STAGE 3	SHEET 49	E

FILE NAME : S:\MAD\1000--1099\1089\399\ACAD\CIVIL3D\SHEETSPLAN\026009_S3.DWG
LAYOUT NAME - 026009_S3 - 026010_S3
PLOT DATE : 6/21/2018 1:27 PM PLOT BY : GRIMME, SARA PLOT NAME : PLOT SCALE : **********
WISDOT/CADDS SHEET 42

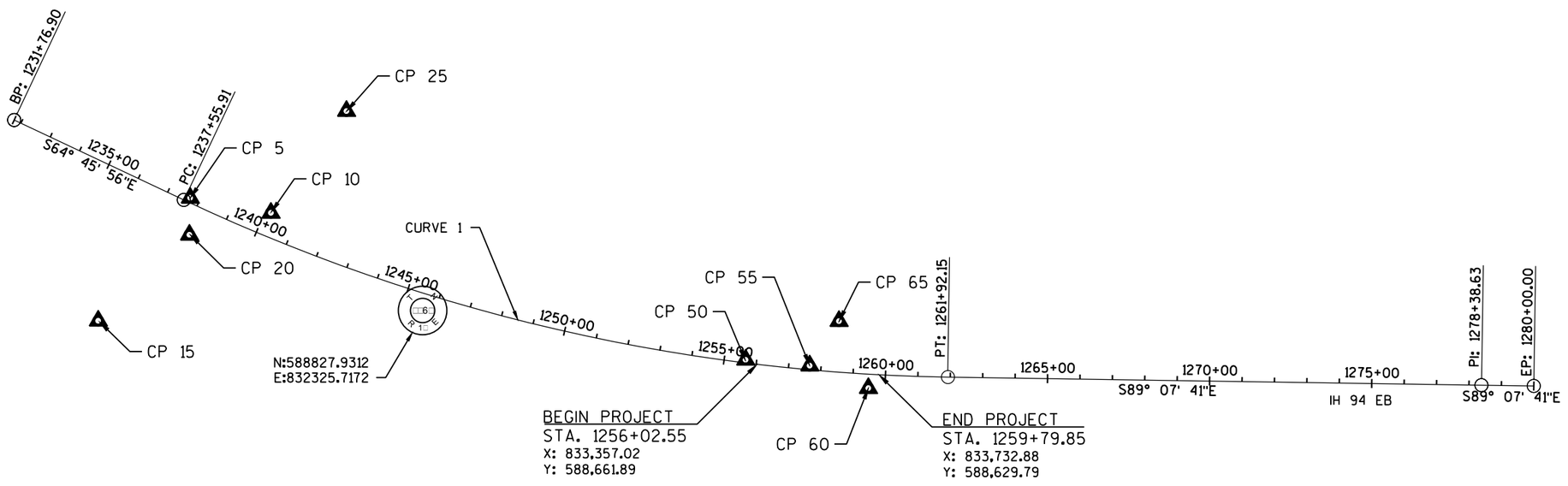
PI = 1231+76.90
X = 831,065.845
Y = 589,415.575

CURVE 1

PI = 1249+92.72
X = 832,708.385
Y = 588,641.448
= 24° 21' 44.69"
D = 1° 0' 0.00"
R = 5729.578
T = 1236.812
L = 2436.241
E = 131.972
PC = 1237+55.91
X = 831,589.602
Y = 589,168.729
PT = 1261+92.15
X = 833,945.054
Y = 588,622.625
S.E. = 3.3%
L = 100 '
T = 160 '

PI = 1278+38.63
X = 835,591.340
Y = 588,597.568

PI = 1280+00.00
X = 835,752.691
Y = 588,595.112



CONTROL POINT SUMMARY			
POINT NAME	DESCRIPTION	X	Y
CP 5	SPIKE	831608.77	589175.35
CP 10	SPIKE	831857.63	589129.01
CP 15	MAG NAIL	831325.14	588796.24
CP 20	MAG NAIL	831606.24	589061.38
CP 25	MAG NAIL	832090.72	589443.20
CP 50	SPIKE	833321.67	588675.87
CP 55	SPIKE	833519.21	588657.78
CP 60	SPIKE	833700.18	588588.34
CP 65	SPIKE	833609.81	588795.15

1067-02-76

Line	Item	Item Description	Unit	Total	Qty
0010	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 1257+78	LS	1.000	1.000
0016	204.0120	Removing Asphaltic Surface Milling	SY	3,997.000	3,997.000
0018	204.0165	Removing Guardrail	LF	822.000	822.000
0020	204.0170	Removing Fence	LF	50.000	50.000
0022	204.0180	Removing Delineators and Markers	EACH	5.000	5.000
0024	204.9060.S	Removing (item description) 01. Apron Endwalls	EACH	1.000	1.000
0026	204.9180.S	Removing (item description) 01. Concrete Flume	SY	250.000	250.000
0028	205.0100	Excavation Common	CY	34,935.000	34,935.000
0032	206.1000	Excavation for Structures Bridges (structure) 02. B-28-187	LS	1.000	1.000
0034	208.0100	Borrow	CY	2,099.000	2,099.000
0038	210.1500	Backfill Structure Type A	TON	772.000	772.000
0046	213.0100	Finishing Roadway (project) 02. 1067-02-76	EACH	1.000	1.000
0050	305.0110	Base Aggregate Dense 3/4-Inch	TON	572.000	572.000
0052	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	7,900.000	7,900.000
0054	305.0500	Shaping Shoulders	STA	34.000	34.000
0056	312.0110	Select Crushed Material	TON	54,755.000	54,755.000
0058	415.0120	Concrete Pavement 12-Inch	SY	833.000	833.000
0060	415.0410	Concrete Pavement Approach Slab	SY	355.000	355.000
0062	416.1010	Concrete Surface Drains	CY	3.000	3.000
0064	416.1110	Concrete Shoulder Rumble Strips	LF	200.000	200.000
0066	455.0605	Tack Coat	GAL	250.000	250.000
0072	460.2000	Incentive Density HMA Pavement	DOL	1,500.000	1,500.000
0080	460.5224	HMA Pavement 4 LT 58-28 S	TON	487.000	487.000
0082	460.6223	HMA Pavement 3 MT 58-28 S	TON	1,846.000	1,846.000
0094	502.0100	Concrete Masonry Bridges	CY	595.000	595.000
0098	502.3200	Protective Surface Treatment	SY	725.000	725.000
0100	502.3210	Pigmented Surface Sealer	SY	93.000	93.000
0102	503.0128	Prestressed Girder Type I 28-Inch	LF	459.000	459.000
0106	505.0400	Bar Steel Reinforcement HS Structures	LB	12,660.000	12,660.000
0108	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	64,970.000	64,970.000
0110	505.0800.S	Bar Steel Reinforcement HS Stainless Structures	LB	2,310.000	2,310.000
0112	505.0904	Bar Couplers No. 4	EACH	14.000	14.000
0114	505.0905	Bar Couplers No. 5	EACH	249.000	249.000
0116	505.0906	Bar Couplers No. 6	EACH	50.000	50.000
0118	505.0908	Bar Couplers No. 8	EACH	24.000	24.000
0120	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	18.000	18.000
0126	506.4000	Steel Diaphragms (structure) 02. B-28-187	EACH	8.000	8.000
0128	511.1200	Temporary Shoring (structure) 01. B-28-187	SF	505.000	505.000

1067-02-76

Line	Item	Item Description	Unit	Total	Qty
0132	516.0500	Rubberized Membrane Waterproofing	SY	38.000	38.000
0140	521.1024	Apron Endwalls for Culvert Pipe Steel 24-Inch	EACH	1.000	1.000
0142	521.3124	Culvert Pipe Corrugated Steel 24-Inch	LF	34.000	34.000
0152	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	2,250.000	2,250.000
0156	603.8000	Concrete Barrier Temporary Precast Delivered	LF	4,870.000	4,870.000
0158	603.8125	Concrete Barrier Temporary Precast Installed	LF	4,870.000	4,870.000
0164	606.0200	Riprap Medium	CY	6.000	6.000
0166	606.0300	Riprap Heavy	CY	372.000	372.000
0176	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	272.000	272.000
0178	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0186	614.0905	Crash Cushions Temporary	EACH	2.000	2.000
0192	614.1000	MGS Guardrail Temporary	LF	1,062.500	1,062.500
0194	614.1100	MGS Guardrail Temporary Thrie Beam Transition	LF	39.400	39.400
0196	614.2300	MGS Guardrail 3	LF	775.000	775.000
0200	614.2500	MGS Thrie Beam Transition	LF	78.800	78.800
0202	614.2610	MGS Guardrail Terminal EAT	EACH	2.000	2.000
0204	614.2620	MGS Guardrail Terminal Type 2	EACH	1.000	1.000
0206	616.0100	Fence Woven Wire (height) 01. 4-FT	LF	75.000	75.000
0214	618.0100	Maintenance And Repair of Haul Roads (project) 02. 1067-02-76	EACH	1.000	1.000
0218	619.1000	Mobilization	EACH	0.160	0.160
0220	624.0100	Water	MGAL	187.500	187.500
0222	625.0500	Salvaged Topsoil	SY	5,924.000	5,924.000
0224	627.0200	Mulching	SY	15,520.000	15,520.000
0226	628.1504	Silt Fence	LF	6,210.000	6,210.000
0228	628.1520	Silt Fence Maintenance	LF	12,420.000	12,420.000
0230	628.1905	Mobilizations Erosion Control	EACH	9.000	9.000
0232	628.1910	Mobilizations Emergency Erosion Control	EACH	5.000	5.000
0238	628.2027	Erosion Mat Class II Type C	SY	5,055.000	5,055.000
0240	628.6005	Turbidity Barriers	SY	570.000	570.000
0244	628.7504	Temporary Ditch Checks	LF	52.000	52.000
0246	628.7555	Culvert Pipe Checks	EACH	19.000	19.000
0248	629.0210	Fertilizer Type B	CWT	9.000	9.000
0250	630.0120	Seeding Mixture No. 20	LB	264.000	264.000
0252	630.0200	Seeding Temporary	LB	615.000	615.000
0254	630.0300	Seeding Borrow Pit	LB	4.000	4.000
0256	630.0500	Seed Water	MGAL	328.000	328.000
0258	633.0100	Delineator Posts Steel	EACH	6.000	6.000
0260	633.0500	Delineator Reflectors	EACH	6.000	6.000
0264	638.2102	Moving Signs Type II	EACH	3.000	3.000

1067-02-76

Line	Item	Item Description	Unit	Total	Qty
0272	642.5201	Field Office Type C	EACH	0.160	0.160
0274	643.0300	Traffic Control Drums	DAY	8,946.000	8,946.000
0276	643.0420	Traffic Control Barricades Type III	DAY	257.000	257.000
0278	643.0705	Traffic Control Warning Lights Type A	DAY	474.000	474.000
0280	643.0715	Traffic Control Warning Lights Type C	DAY	2,879.000	2,879.000
0282	643.0800	Traffic Control Arrow Boards	DAY	370.000	370.000
0284	643.0900	Traffic Control Signs	DAY	5,047.000	5,047.000
0290	643.1050	Traffic Control Signs PCMS	DAY	201.000	201.000
0292	643.4100.S	Traffic Control Interim Lane Closure	EACH	145.000	145.000
0294	643.5000	Traffic Control	EACH	0.160	0.160
0296	645.0111	Geotextile Type DF Schedule A	SY	158.000	158.000
0298	645.0120	Geotextile Type HR	SY	741.000	741.000
0310	646.7205	Marking Chevron Paint 24-Inch	LF	175.000	175.000
0316	646.9010	Marking Removal Line Water Blasting 4-Inch	LF	11,300.000	11,300.000
0320	649.0150	Temporary Marking Line Removable Tape 4-Inch	LF	38,465.000	38,465.000
0322	649.0250	Temporary Marking Line Removable Tape 8-Inch	LF	870.000	870.000
0326	650.4500	Construction Staking Subgrade	LF	4,164.000	4,164.000
0328	650.5000	Construction Staking Base	LF	4,164.000	4,164.000
0330	650.6000	Construction Staking Pipe Culverts	EACH	1.000	1.000
0338	650.6500	Construction Staking Structure Layout (structure) 04. B-28-187	LS	1.000	1.000
0340	650.7000	Construction Staking Concrete Pavement	LF	466.000	466.000
0346	650.9910	Construction Staking Supplemental Control (project) 02. 1067-02-76	LS	1.000	1.000
0350	650.9920	Construction Staking Slope Stakes	LF	7,800.000	7,800.000
0352	690.0150	Sawing Asphalt	LF	8,776.000	8,776.000
0354	715.0415	Incentive Strength Concrete Pavement	DOL	500.000	500.000
0356	715.0502	Incentive Strength Concrete Structures	DOL	1,190.000	1,190.000

REMOVING ASPHALTIC SURFACE MILLING

CATEGORY	STAGE	STATION - STATION	LOCATION	204.0120 SY
0010	STAGE 1 - PHASE 1	1231+03 - 1281+45	LT	1,114
		SUBTOTALS (STAGE 1 - PHASE 1)		1,114
	STAGE 1 - PHASE 2	1236+83 - 1257+03	LT	894
		1258+80 - 1275+66	LT	749
		SUBTOTALS (STAGE 1 - PHASE 2)		1,643
	STAGE 2	1249+42 - 1259+80	RT	1,240
		SUBTOTALS (STAGE 2)		1,240
		TOTAL		3,997

REMOVING GUARDRAIL

CATEGORY	STATION - STATION	LOCATION	204.0165 LF	REMARKS
0010	1254+85 - 1257+83	LT	300	
	1252+29 - 1257+49	RT	520	
	1269+33 - 1269+34	LT	2	MGS GUARDRAIL TERMINAL TYPE 2
	TOTAL		822	

REMOVING FENCE

CATEGORY	STATION - STATION	LOCATION	204.0170 LF
0010	1256+95 - 1257+29	RT	40
	1257+75 - 1257+79	RT	10
		TOTAL	50

REMOVING DELINEATORS AND MARKERS

CATEGORY	STATION	LOCATION	204.0180 EACH
0010	1242+69	RT	1
	1246+68	RT	1
	1261+61	RT	1
	1265+42	RT	1
	1269+40	RT	1
		TOTAL	5

REMOVING APRON ENDWALLS

CATEGORY	STAGE	STATION	LOCATION	204.9060.S.01 EACH
0010	STAGE 1 PHASE 2	1264+00	LT	1

REMOVING CONCRETE FLUME

CATEGORY	STATION - STATION	LOCATION	204.9180.S.01 SY
0010	1252+98 - 1255+70	LT	250

SHAPING SHOULDERS

CATEGORY	STAGE	STATION - STATION	305.0500 STA
0010	STAGE 3	1239+23 - 1253+93	15
		1258+80 - 1261+59	4
		1261+59 - 1275+66	15
		TOTAL	34

BASE AGGREGATE SUMMARY

CATEGORY	STAGE	STATION - STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	*312.0110 SELECT CRUSHED MATERIAL TON	*624.0100 WATER MGAL
0010	STAGE 1 PHASE 2	1236+83 - 1257+47	LT	225	3,200	180	57.4
		1258+41 - 1275+66	LT	250	2,650	75	48.7
		SUBTOTALS (STAGE 1 PHASE 2)		475	5,850	255	106.1
	2	1249+42 - 1257+47	RT	85	1,700	490	30.0
		1258+41 - 1259+80	RT	12	350	540	6.1
		SUBTOTALS (STAGE 2)		97	2,050	1,030	36.1
		TOTALS		572	7,900	1,285	142.2

*ADDITIONAL QUANTITIES LISTED ELSEWHERE.

CONCRETE PAVEMENT

CATEGORY	STAGE	STATION - STATION	LOCATION	415.0120 12-INCH SY
0010	STAGE 1 - PHASE 2	1257+03 - 1257+47	LT	115
		1528+41 - 1258+80	LT	39
		SUBTOTALS (STAGE 1 - PHASE 2)		154
	STAGE 2	1256+03 - 1257+03	RT	290
		1257+03 - 1257+47	RT	23
		1528+41 - 1258+80	RT	76
		1258+80 - 1259+80	RT	290
		SUBTOTALS (STAGE 2)		679
		TOTALS		833

EARTHWORK

CATEGORY	STAGE	STATION - STATION	205.0100 EXCAVATION COMMON (1) CUT CY	205.0100 EXCAVATION COMMON (1) EBS EXCAVATION (2)(7) CY	UNUSABLE PAVEMENT MATERIAL CY	AVAILABLE MATERIAL (3) CY	UNEXPANDED FILL CY	EXPANDED FILL (4) FACTOR 1.25 CY	MASS ORDINATE +/- (5)	208.0100 BORROW CY	WASTE CY	* 312.0110 SELECT CRUSHED MATERIAL (6) TON	* 624.0100 WATER MGAL
0010	STAGE 1	1236+83 - 1257+40	1,043	16,468	0	1,043	1,249	1,561	-518	518	16,468	31,300	35.0
		1258+75 - 1275+66	850	11,416	0	850	1,945	2,431	-1,581	1,581	11,416	21,700	24.5
		SUBTOTALS	1,893	27,884	0	1,893	3,194	3,992	-2,099	2,099	27,884	53,000	35.0
	STAGE 2	1249+43 - 1257+10	575	29	57	518	346	432	86	---	86	55	1.2
		1258+10 - 1259+80	679	34	67	611	38	48	563	---	563	65	1.4
		SUBTOTALS	1,254	63	124	1,129	384	480	649	0	649	120	2.6
	STAGE 3	1239+22 - 1253+93	1,277	64	252	1,026	1	2	1,024	---	1,024	120	2.7
		1258+79 - 1275+66	2,381	119	353	2,029	66	83	1,946	---	1,946	230	5.0
		SUBTOTALS	3,659	183	604	3,054	68	85	2,970	0	2,970	350	7.7
		TOTALS		34,935						2,099		53,470	45.3

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

NOTES:

1) EXCAVATION COMMON IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100. UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
2) EBS EXCAVATION TO BE BACKFILLED WITH SELECT CRUSHED MATERIAL. ALL EBS MATERIAL IS ASSUMED TO BE WASTED OFFSITE.
3) AVAILABLE MATERIAL = CUT - UNUSABLE PAVEMENT MATERIAL
4) EXPANDED FILL = UNEXPANDED FILL * EXPANDED FILL FACTOR. EXPANDED FILL FACTOR = 1.25.
5) MASS ORDINATE = CUT - (FILL * FILL FACTOR)
   PLUS MASS ORDINATE QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS MASS ORDINATE QUANTITY INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.
6) USED FOR BACKFILL OF EBS. CALCULATED AS 1.9 * EBS EXCAVATION.
(7) NUMBERS SHOWN FOR EBS STAGE 1 REFLECT VOLUME SHOWN IN CROSS SECTIONS. NUMBERS SHOWN FOR EBS IN STAGE 2 AND 3 WERE CALCULATED AS 5% OF CUT.

CONCRETE PAVEMENT APPROACH SLAB

CATEGORY	STAGE	STATION - STATION	LOCATION	415.0410 SY
0010	STAGE 1 - PHASE 2	1257+03 - 1257+47	LT	66
		1258+41 - 1258+80	LT	45
		SUBTOTALS (STAGE 1 - PHASE 2)		111
	STAGE 2	1257+03 - 1257+47	RT	99
		1258+41 - 1258+80	RT	145
		SUBTOTALS (STAGE 2)		244
			TOTALS	355

CONCRETE SURFACE DRAINS SUMMARY

CATEGORY	STATION	LOCATION	416.1010 CONCRETE SURFACE DRAINS CY	*606.0200 RIPRAP MEDIUM CY	*645.0120 GEOTEXTILE TYPE HR SY
0010	1258+12	RT	2	1	2
	1258+67	LT	1	1	2
		TOTALS	3	2	4

*ADDITIONAL QUANTITIES LISTED ELSEWHERE.

ASPHALTIC ITEMS

CATEGORY	STAGE	STATION - STATION	LOCATION	*455.0605 TACK COAT GAL	460.5224 HMA PAVEMENT 4 LT 58-28 S TON	*460.6223 HMA PAVEMENT 3 MT 58-28 S TON
0010	STAGE 1 - PHASE 1	1236+83 - 1257+03	LT	30	110	---
		SUBTOTALS (STAGE 1 - PHASE 1)		30	110	---
	STAGE 1 - PHASE 2	1236+83 - 1257+03	LT	50	---	540
		1258+80 - 1261+59	LT	7	---	81
		SUBTOTALS (STAGE 1 - PHASE 2)		57	---	621
	STAGE 2	1249+42 - 1257+03	RT	30	205	0
		1258+80 - 1259+80	RT	3	22	0
		SUBTOTALS (STAGE 2)		33	227	---
	STAGE 3	1261+59 - 1275+66	LT	20	150	---
		SUBTOTALS (STAGE 3)		20	150	---
		TOTALS		140	487	621

NOTES: A UNIT WEIGHT OF 112 POUNDS PER SQUARE YARD PER INCH OF THICKNESS WAS USED TO ESTIMATE ALL ASPHALT QUANTITIES.

* ADDITIONAL QUANTITIES LISTED ELSEWHERE

SHOULDER RUMBLE STRIPS SUMMARY

CATEGORY	STATION - STATION	LOCATION	416.1110 CONCRETE SHOULDER RUMBLE STRIPS LF
0010	1231+03 - 1256+03	RT	---
	1256+03 - 1257+03	RT	100
	1258+80 - 1259+80	RT	100
	1259+80 - 1281+45	RT	---
	1236+83 - 1257+03	LT	---
	1258+80 - 1275+66	LT	---
		TOTAL	200

CULVERT PIPE SUMMARY

CATEGORY	STAGE	STATION	LOCATION	521.1024 APRON ENDWALLS FOR CULVERT PIPE STEEL 24-INCH EACH	521.3124 CULVERT PIPE CORRUGATED STEEL 24-INCH LF	650.6000 CONSTRUCTION STAKING PIPE CULVERTS EACH
0010	STAGE 1 PHASE 2	1264+00	LT	1	34	1

TEMPORARY ASPHALTIC ITEMS

CATEGORY	STAGE	STATION - STATION	LOCATION	*455.0605 TACK COAT GAL	*460.6223 HMA PAVEMENT 3 MT 58-28 S TON
0010	STAGE 1 - PHASE 2	1239+23 - 1253+93	LT	50	520
		1258+80 - 1275+66	LT	60	705
		TOTALS		110	1,225

NOTES: A UNIT WEIGHT OF 112 POUNDS PER SQUARE YARD PER INCH OF THICKNESS WAS USED TO ESTIMATE ALL ASPHALT QUANTITIES.

* ADDITIONAL QUANTITIES LISTED ELSEWHERE

CONCRETE BARRIER TEMPORARY PRECAST

CATEGORY	STAGE	STATION - STATION	LOCATION	603.8000 DELIVERED LF	603.8125 INSTALLED LF
0010	STAGE 1 - PHASE 2	1236+00 - 1269+66	RT	3,370	3,370
	STAGE 2	1248+00 - 1263+00	RT	1,500	1,500
		TOTALS		4,870	4,870

CRASH CUSHIONS TEMPORARY

CATEGORY	STAGE	STATION	LOCATION	614.0905 EACH	BACK WIDTH FT	OBJECT MARKING PATTERN	CRASH TEST LEVEL	TRAFFIC DIRECTION	TRAFFIC LOCATION	CRASH CUSHION SHIELDS
0010	STAGE 1 - PHASE 2	1236+00	RT	1	2	OM-3L	3	UNIDIRECTIONAL	LT	TEMPORARY BARRIER
	STAGE 2	1248+00	RT	1	2	OM-3R	3	UNIDIRECTIONAL	RT	TEMPORARY BARRIER
		TOTALS		2						

RIPRAP SUMMARY

CATEGORY	STAGE	STATION	LOCATION	*606.0200 RIPRAP MEDIUM CY	*645.0120 GEOTEXTILE TYPE HR SY
0010	STAGE 1	1264+00	LT	4	17

*ADDITIONAL QUANTITIES LISTED ELSEWHERE.

MGS GUARDRAIL SUMMARY

CATEGORY	STATION - STATION	LOCATION	614.2300 MGS GUARDRAIL 3 LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH
0010	1254+81 - 1255+34	LT	---	---	1
	1255+34 - 1257+34	LT	200.0	---	---
	1257+34 - 1257+74	LT	---	39.4	---
	1250+53 - 1251+06	RT	---	---	1
	1251+06 - 1256+81	RT	575.0	---	---
	1256+81 - 1257+20	RT	---	39.4	---
	TOTALS		775.0	78.8	2

FENCE WOVEN WIRE

CATEGORY	STATION - STATION	LOCATION	616.0100.01 4-FT LF
0010	1256+95 - 1257+19	RT	40
	1257+75 - 1258+06	RT	35
		TOTAL	75

SILT FENCE

CATEGORY	STATION - STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF
0010	1236+78 - 1258+23	LT	2,150	4,300
	1249+37 - 1257+06	RT	800	1,600
	1257+49 - 1259+85	RT	245	490
	1258+56 - 1269+82	LT	1,130	2,260
	1270+26 - 1275+71	LT	555	1,110
	1257+06	RT	15	30
	1258+23	LT	15	30
	1257+49	RT	15	30
	1258+56	LT	15	30
	1269+82	LT	15	30
	1270+26	LT	15	30
	UNDISTRIBUTED	---	1,240	2,480
	TOTALS		6,210	12,420

MGS GUARDRAIL TEMPORARY SUMMARY

CATEGORY	STATION - STATION	LOCATION	614.1000 MGS GUARDRAIL TEMPORARY LF	614.1100 MGS GUARDRAIL TEMPORARY THRIE BEAM TRANSITION LF	614.2620 MGS GUARDRAIL TERMINAL TYPE 2 EACH
0010	1258+62 - 1258+70	LT	---	39.4	---
	1258+70 - 1269+33	LT	1062.5	---	---
	1269+33 - 1269+34	LT	---	---	1
		TOTALS	1062.5	39.4	1

EROSION MAT CLASS II TYPE C

CATEGORY	STAGE	STATION - STATION	LOCATION	628.2027 SY
0010	STAGE 1	1252+98 - 1257+85	LT	975
		1258+75 - 1269+00	LT	2,610
		SUBTOTALS (STAGE 1)		3,585
	STAGE 2	1254+00 - 1257+18	RT	1,020
		SUBTOTALS (STAGE 2)		1,020
	UNDISTRIBUTED	---		450
		TOTAL		5,055

FINISHING ITEMS

CATEGORY	STAGE	STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	627.0200 MULCHING SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0200 SEEDING TEMPORARY LB	630.0300 SEEDING BORROW PIT LB	630.0500 SEED WATER MGAL
0010	STAGE 1 PHASE 2	1236+83 - 1257+47	LT	1,537	4,186	1	32	119	0	39
		1258+21 - 1275+66	LT	50	3,896	0	1	105	0	1
		SUBTOTALS (STAGE 1 PHASE 2)		1,587	8,083	1	33	224	0	40
	2	1249+42 - 1257+18	RT	935	935	1	24	36	0	30
		1258+10 - 1259+80	RT	22	22	0	4	6	0	5
		SUBTOTALS (STAGE 2)		957	957	1	28	42	0	35
	3	1239+23 - 1253+93	LT	1,556	1,556	2	71	107	0	89
		1258+80 - 1275+66	LT	1,824	1,824	3	79	118	0	98
		SUBTOTALS (STAGE 3)		3,380	3,380	5	150	225	0	187
		BORROW SITE	---	0	0	0	0	0	15	0
		UNDISTRIBUTED	---	0	3,100	2	53	123	4	66
		TOTALS		5,924	15,520	9	264	615	4	328

TURBIDITY BARRIERS

CATEGORY	STATION - STATION	LOCATION	628.6005 SY
0010	1257+84	RT & LT	240
	1258+09	RT & LT	230
	UNDISTRIBUTED		100
		TOTAL	570

MOBILIZATIONS EROSION CONTROL

CATEGORY	STAGE	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
0010	STAGE 1	5	3
	STAGE 2	2	1
	STAGE 3	2	1
	TOTALS	9	5

DELINEATOR

CATEGORY	STATION	LOCATION	633.0100 POSTS STEEL EACH	633.0500 REFLECTORS EACH	REMARKS
0010	1242+69	RT	1	1	WHITE
	1246+68	RT	1	1	WHITE
	1261+61	RT	1	1	WHITE
	1265+42	RT	1	1	WHITE
	1269+40	RT	1	1	WHITE
	1269+70	LT	1	1	YELLOW
	TOTALS		6	6	

FIELD OFFICE TYPE C

CATEGORY	PROJECT	642.5201 EACH
0010	1067-02-76	0.16

MARKING CHEVRON PAINT 24-INCH

CATEGORY	STATION	-	STATION	LOCATION	646.7205 (WHITE) LF
0010	1276+60	-	1280+00	RT	175

TEMPORARY DITCH CHECKS

CATEGORY	STAGE	STATION	LOCATION	628.7504 LF
0010	1	1255+70	LT	10
	2	1250+00	RT	10
	2	1252+00	RT	12
	2	1254+00	RT	10
		UNDISTRIBUTED	---	10
		TOTAL		52

MOVING SIGNS TYPE II

CATEGORY	SIGN	STATION	LOCATION	638.2102 EACH	REMARKS
0010	E1-2	1247+85	LT	1	RE-INSTALL IN SAME LOCATION
	E2-1	1270+37	LT	1	RE-INSTALL IN SAME LOCATION
	E2-2	1274+20	LT	1	RE-INSTALL IN SAME LOCATION
			TOTAL	3	

MARKING REMOVAL LINE WATER BLASTING 4-INCH

CATEGORY	STAGE	LOCATION	646.9010 LF
0010	STAGE 1 PHASE 2	IH-94 EB	11,300

CULVERT PIPE CHECKS

CATEGORY	STATION	LOCATION	628.7555 EACH
0010	1235+98	LT	2
	1264+05	RT	3
	1264+06	LT	3
	1271+19	LT	3
	1273+60	RT	3
	UNDISTRIBUTED	---	5
	TOTAL		19

TEMPORARY MARKING LINE REMOVABLE TAPE

			649.0150 4-INCH			649.0250 8-INCH
			(WHITE)	(YELLOW)	(WHITE SKIP) 12.5' SEG. 37.5' GAP	(WHITE)
CATEGORY	STAGE	STATION - STATION	LF	LF	LF	LF
0010	STAGE 1 PHASE 1	1269+35 - 1271+35	200	---	---	---
		1275+67 - 1276+67	---	---	---	100
		1275+67 - 1276+67	---	---	---	100
	STAGE 1 PHASE 2	1231+02 - 1281+46	5,040	5,040	1,260	---
		1231+02 - 1275+76	4,470	---	---	---
		1277+52 - 1282+03	450	---	---	---
	STAGE 2	1231+02 - 1275+76	4,470	---	---	---
		1231+02 - 1281+46	---	5,040	1,260	---
		1276+81 - 1281+45	465	---	---	---
	STAGE 3	1231+02 - 1275+76	4,470	---	---	---
		1231+02 - 1281+46	---	5,040	1,260	---
		1276+60 - 1280+00	---	---	---	670
		TOTALS	19,565	15,120	3,780	870
		ITEM TOTALS			38,465	870

TRAFFIC CONTROL SUMMARY

CATEGORY	STAGE	STATION - STATION	DURATION (DAYS)	643.0300 DRUMS EACH	643.0300 DRUMS DAY	643.0420 BARRICADES TYPE III EACH	643.0420 BARRICADES TYPE III DAY	643.0705 WARNING LIGHTS TYPE A EACH	643.0705 WARNING LIGHTS TYPE A DAY	643.0715 WARNING LIGHTS TYPE C EACH	643.0715 WARNING LIGHTS TYPE C DAY	643.0800 ARROW BOARDS EACH	643.0800 ARROW BOARDS DAY	643.0900 SIGNS EACH	643.0900 SIGNS DAY	643.1050 SIGNS PCMS EACH	643.1050 SIGNS PCMS DAY	643.4100.S INTERIM LANE CLOSURE EACH
0010	STAGE 1 PHASE 1	IH-94	4	63	252	4	16	8	32	4	16	0	0	7	28	0	0	4
		EB ADVANCED WARNING/LANE CLOSURES	4	26	104	1	4	2	8	15	60	2	8	27	108	1	4	0
		CONSTRUCTION ACCESS AT LANE CLOSURES	4	27	108	1	4	2	8	0	0	0	0	3	12	1	4	0
		SUBTOTALS (STAGE 1 PHASE 1)			464		24		48		76		8		148		8	4
	STAGE 1 PHASE 2	IH-94	48	12	576	0	0	0	0	6	288	0	0	4	192	0	0	48
		EB ADVANCED WARNING/LANE CLOSURES	48	26	1,248	1	48	2	96	15	720	2	96	27	1,296	1	48	0
		CONSTRUCTION ACCESS AT LANE CLOSURES	4	27	108	1	4	2	8	0	0	0	0	3	12	1	4	0
		SUBTOTALS (STAGE 1 PHASE 2)			1,932		52		104		1,008		96		1,500		52	48
	2	IH-94	66	27	1,782	0	0	0	0	0	---	0	0	4	264	0	0	66
		EB ADVANCED WARNING/LANE CLOSURES	66	26	1,716	1	66	2	132	15	990	2	132	27	1,782	1	66	0
		CONSTRUCTION ACCESS AT LANE CLOSURES	4	27	108	1	4	2	8	0	0	0	0	3	12	1	4	0
		SUBTOTALS (STAGE 2)			3,606		70		140		990		132		2,058		70	66
	3	IH-94	27	42	1,134	0	0	0	0	0	---	0	0	0	0	0	0	27
		EB ADVANCED WARNING/LANE CLOSURES	27	26	702	1	27	2	54	15	405	2	54	27	729	1	27	0
		CONSTRUCTION ACCESS AT LANE CLOSURES	4	27	108	1	4	2	8	0	0	0	0	3	12	1	4	0
		SUBTOTALS (STAGE 3)			1,944		31		62		405		54		741		31	27
		UNDISTRIBUTED	40	25	1,000	2	80	3	120	10	400	2	80	15	600	1	40	0
		TOTALS			8,946		257		474		2,879		370		5,047		201	145

CONSTRUCTION STAKING SUMMARY

CATEGORY	STAGE	STATION - STATION	LOCATION	650.4500 SUBGRADE LF	650.5000 BASE LF	650.7000 CONCRETE PAVEMENT LF	650.9920 SLOPE STAKES LF
0010	STAGE 1 PHASE 2	1236+83 - 1275+66	LT	3,126	3,126	183	3,606
	2	1249+42 - 1259+80	RT	1,038	1038	283	1,038
	3	1236+83 - 1275+66	LT	---	---	---	3,156
			TOTALS	4,164	4,164	466	7,800

SAWING ASPHALT

CATEGORY	STAGE	STATION - STATION	690.0150 LF
0010	STAGE 1 - PHASE 2	1236+83 - 1257+47	2,060
		1255+72	8
		1258+41 - 1275+66	1,730
		SUBTOTAL (STAGE 1 - PHASE 2)	3,798
	STAGE 2	1249+42 - 1256+03	675
		1253+89	8
		1256+03	26
		1256+03 - 1257+26	125
		1258+19 - 1259+80	160
		1259+80	26
		SUBTOTAL (STAGE 2)	1,020
	STAGE 3	1239+23 - 1253+93	1,470
		1258+80 - 1261+59	280
		1261+59 - 1275+66	1,410
		SUBTOTAL (STAGE 3)	3,160
		UNDISTRIBUTED	798
		TOTAL	8,776

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
BM 1	1258+91.90	ALUM. CAP. TOP OF ABUTMENT	812.96
BM 2	1257+48.39	ALUM. CAP. TOP OF BARRIER WALL	821.11

STA. 1254+85 - STA. 1257+83 LT
REMOVING GUARDRAIL REQ'D.

R/W

N

BM 1

EXISTING STRUCTURE B-28-76

IH 94 WB

STA. 1252+98 - STA. 1255+70 LT
REMOVING CONCRETE FLUMES REQ'D.

SLOPE INTERCEPT (TYP.)

ROCK CREEK

STRUCTURE B-28-187

1250+00

1255+00

1260+00

1265+00

BM 2

IH 94 EB

P.L.

BEGIN PROJECT
STA. 1256+02.55
X:833,357.02
Y:588,661.89

R/W

AT&T LEGACY/WISDOT (COMM)

END PROJECT
STA. 1259+79.85

EXISTING STRUCTURE B-28-42

P.L.

STA. 1252+29 - STA. 1257+49 RT
REMOVING GUARDRAIL REQ'D.

5

5

840.00
830.00
820.00
810.00
800.00

VPT STA 1256+05.00
VPT EL 821.51

VPI STA 1266+00
VPI EL 814.70

VPT STA 1268+80
VPT EL 815.67

VCL = 565.00
K = 177.86

VPC STA 1263+20.00
VPC EL 813.09

FINISHED PROFILE

-2.60%

VCL = 1730.00
K = 644.70

EXISTING GROUND

0.58%

VPC STA 1238+75
VPC EL 843.28

VPI STA 1247+40
VPC EL 844.00

VPC STA 1257+17.50
VPC EL 818.59

VPI STA 1260+00.00
VPI EL 811.24

VPT STA 1262+82.50
VPT EL 812.87

VCL = 560.00
K = 2408.64

STA. 1258+00
REMOVE STRUCTURE B-28-42
SINGLE SPAN STEEL GIRDER
34'-6" OVERALL LENGTH
43'-6" OVERALL WIDTH

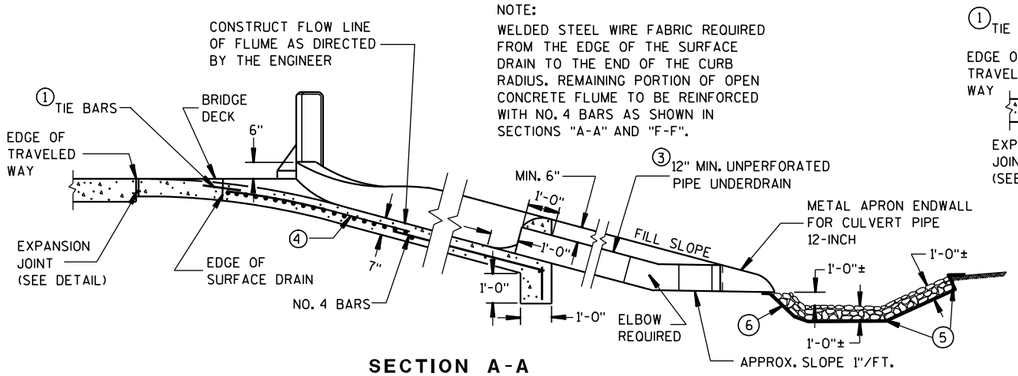
STA. 1258+00
STRUCTURE B-28-187 REQ'D
SINGLE SPAN 28-INCH PRESTRESSED
CONCRETE GIRDER

| | | |

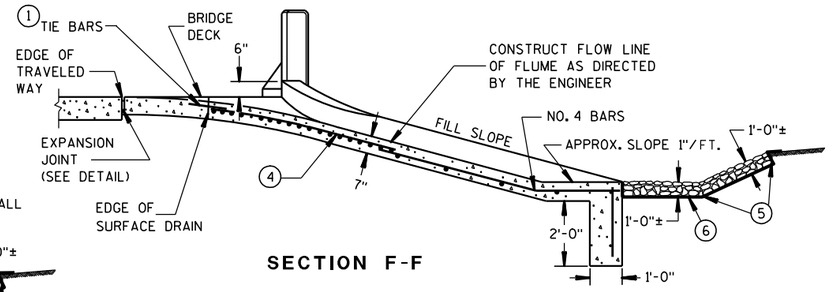
Standard Detail Drawing List

08D02-06	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
11A01-05	MAINTENANCE CROSSOVER FOR FREEWAYS
12A03-10	NAME PLATE (STRUCTURES)
13A03-06	CONCRETE PAVEMENT SHOULDERS
13A05-05A	SHOULDER RUMBLE STRIP, MILLING
13A05-05B	SHOULDER RUMBLE STRIP, MILLING
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13B02-09B	STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C11-12A	RURAL DOWELED CONCRETE PAVEMENT
13C18-07A	CONCRETE PAVEMENT JOINTING
13C18-07B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-07C	CONCRETE PAVEMENT JOINT TYPES
13C18-07D	CONCRETE PAVEMENT JOINT TYPES AT UTILITY FIXTURES
14B07-15A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15I	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B08-02A	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02B	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02C	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02D	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02E	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B42-06A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B47-02A	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-02B	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-02C	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
15A04-04B	DELINEATOR BRACKET WITH REFLECTIVE SHEETING
15A04-04C	DELINEATOR POST WITH REFLECTIVE SHEETING
15B01-08A	FENCE WOVEN WIRE
15B01-08B	FENCE WOVEN WIRE
15C08-19A	LONGITUDINAL MARKING (MAINLINE)
15C11-07B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C31-03A	PAVEMENT MARKING (RAMPS AND GORES)
15D12-07B	TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION
15D15-05E	TRAFFIC CONTROL, PARALLEL EXIT RAMP WITHIN LANE CLOSURE
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS
15D39-02	TRAFFIC CONTROL, DROP-OFF SIGNING

6



SECTION A-A



SECTION F-F

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

(1) NO. 4 X 2'-0" TIE BARS SPACED AT 3'-0" CENTERS TO BE USED ONLY WHEN ADJACENT TO P.C. CONCRETE.

(2) NO. 4 X 2'-0" TIE BARS SPACED AT 12" CENTERS TO BE PLACED BY BRIDGE CONTRACTOR, OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

(3) PIPE UNDERDRAIN MAY BE ANY OF THE MATERIALS LISTED IN SECTION 612.2 OF THE STANDARD SPECIFICATIONS EXCEPT DRAIN TILE.

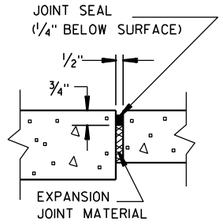
(4) MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.

(5) LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.

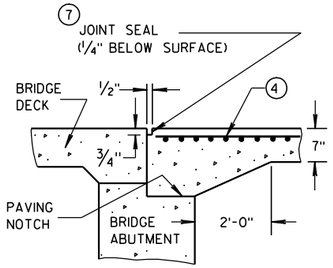
(6) GEOTEXTILE FABRIC, TYPE 'R"

(7) HOT POURED SEALANT UNLESS OTHERWISE SPECIFIED.

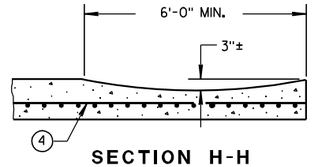
(8) THIS DIMENSION MAY VARY DEPENDING ON THE SPACING OF POSTS FOR THE STEEL PLATE BEAM GUARD. THE TYPICAL LOCATION FOR THE SURFACE DRAIN IS WHERE THE POST SPACING WIDENS TO 3'-1½".



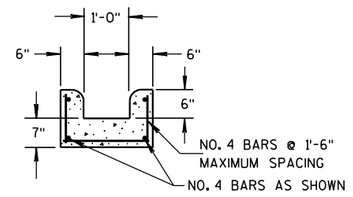
EXPANSION JOINT DETAIL



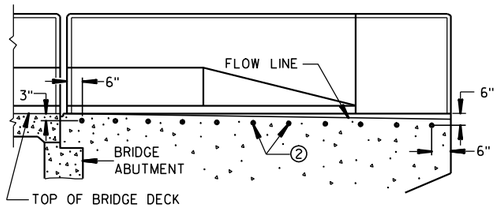
SECTION D-D



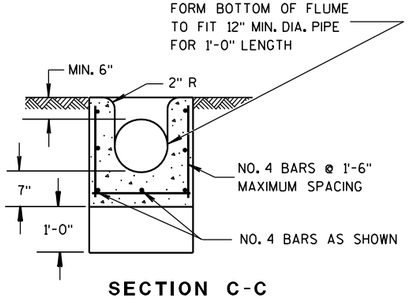
SECTION H-H



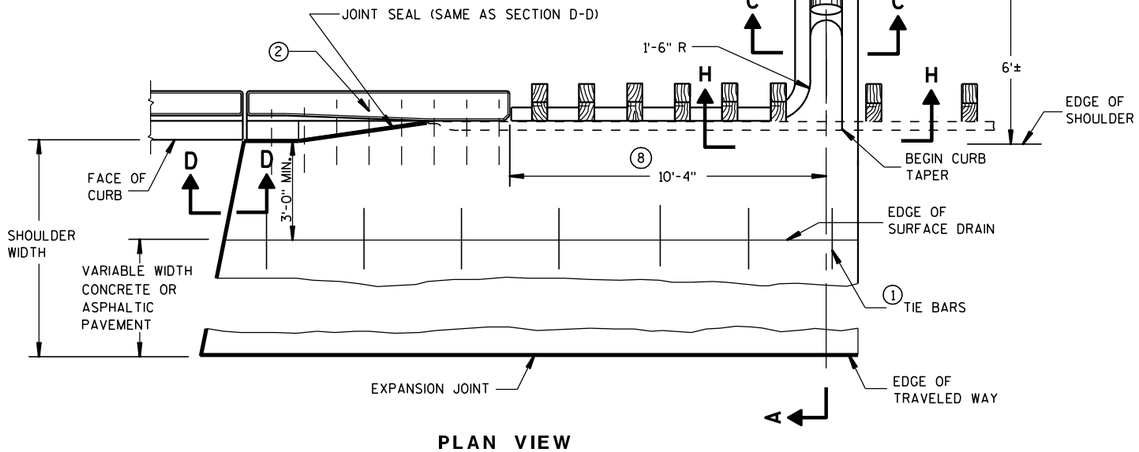
SECTION E-E



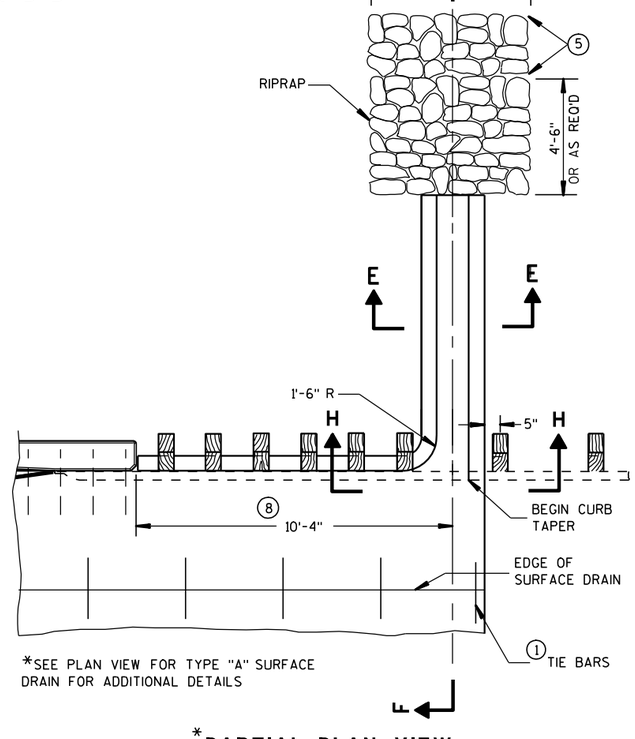
LOCATION OF TIE BARS IN WINGWALL



SECTION C-C



PLAN VIEW
SURFACE DRAIN WITH PIPE
TYPE "A"



*SEE PLAN VIEW FOR TYPE "A" SURFACE DRAIN FOR ADDITIONAL DETAILS

*PARTIAL PLAN VIEW
SURFACE DRAIN WITHOUT PIPE
TYPE "B"

CONCRETE SURFACE DRAINS
FLUME TYPE
AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

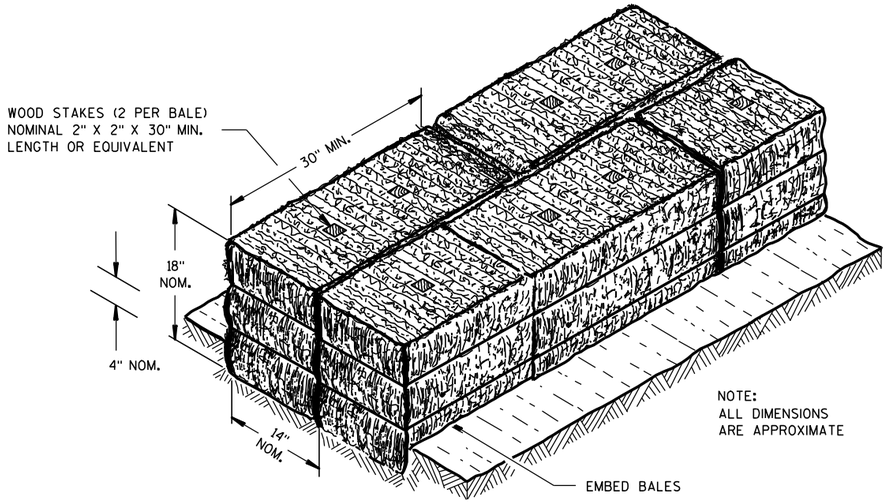
APPROVED
9/4/08
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
62
FHWA

6

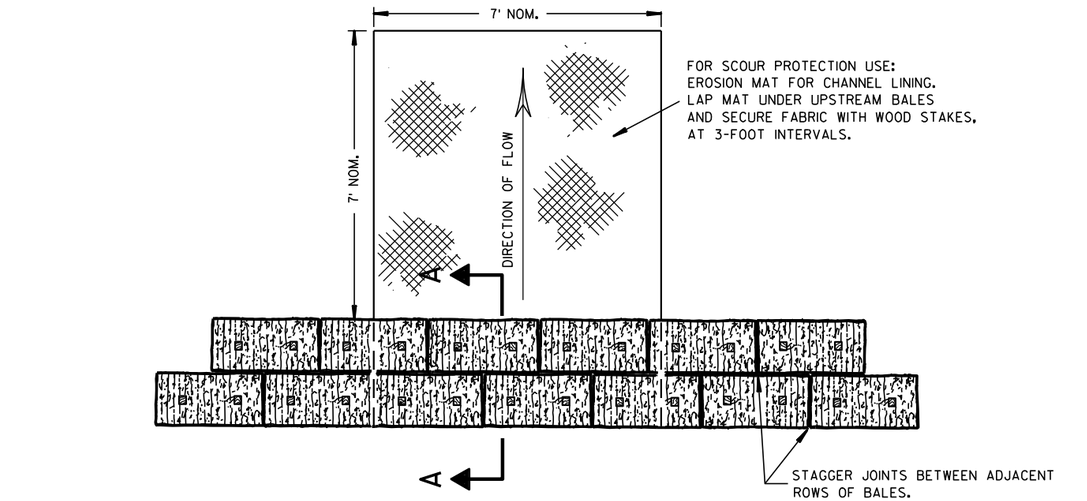
S.D.D. 8 D 2-6

6

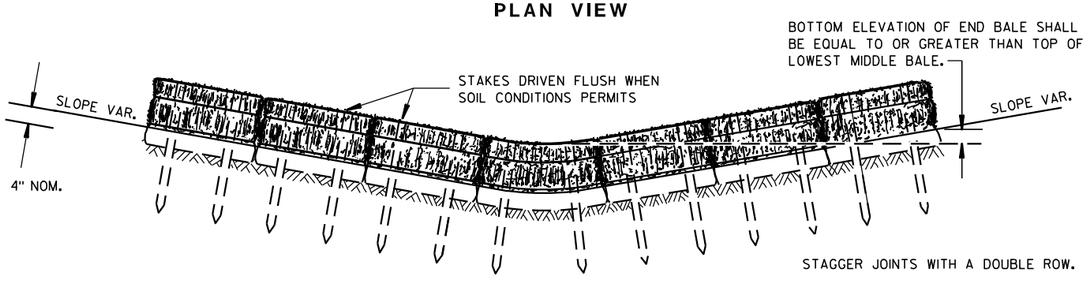
S.D.D. 8 D 2-6



SECTION A-A



PLAN VIEW



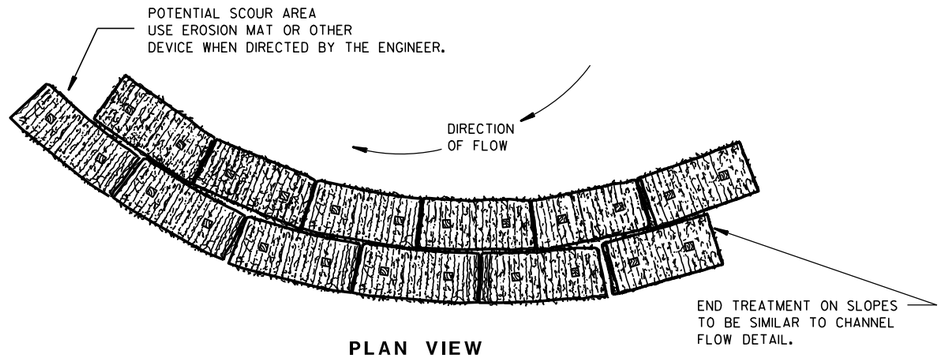
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

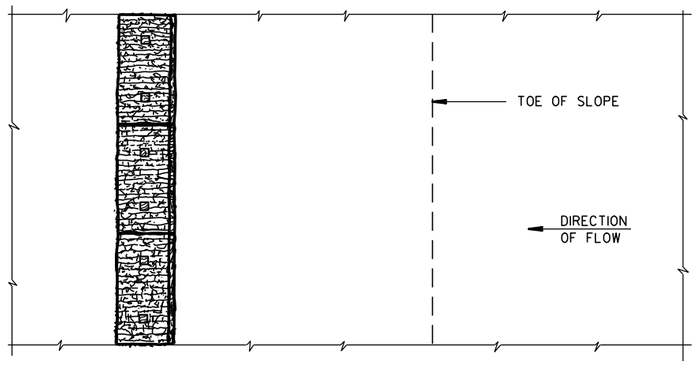
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(1) TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

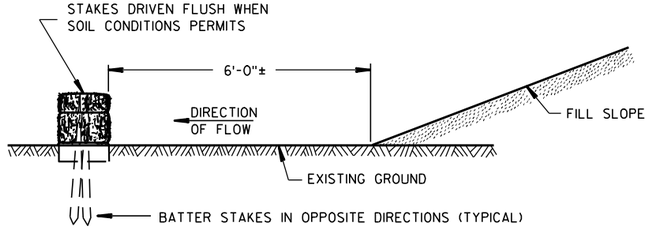


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

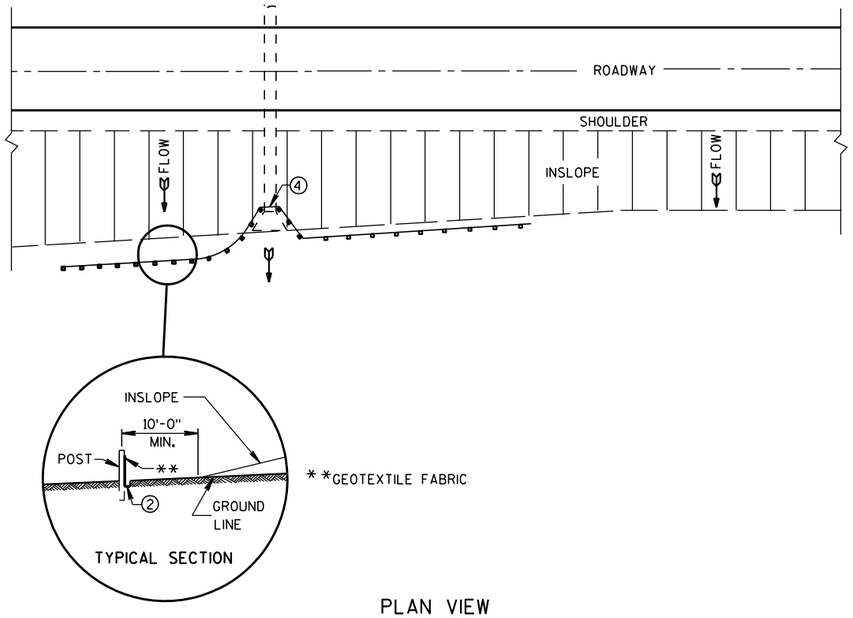
APPROVED
6/04/02 — DATE
/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 E 8-3

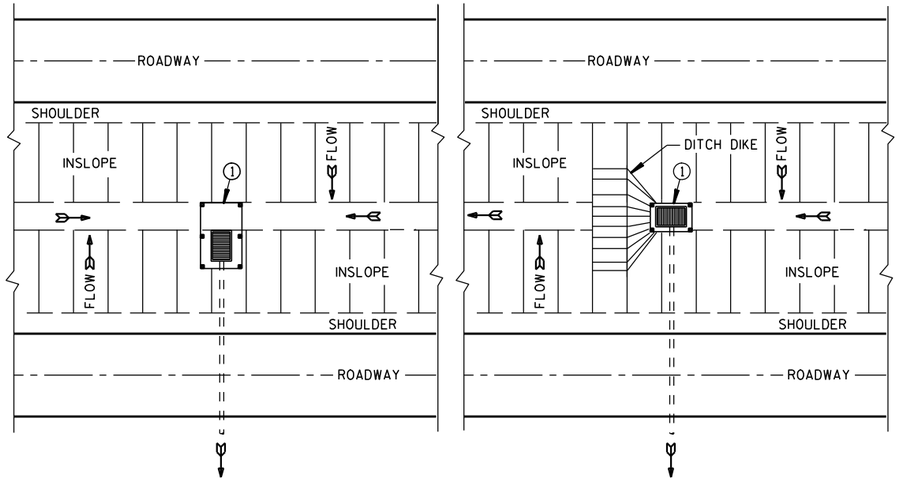
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S.D.D. 8 E 8-3



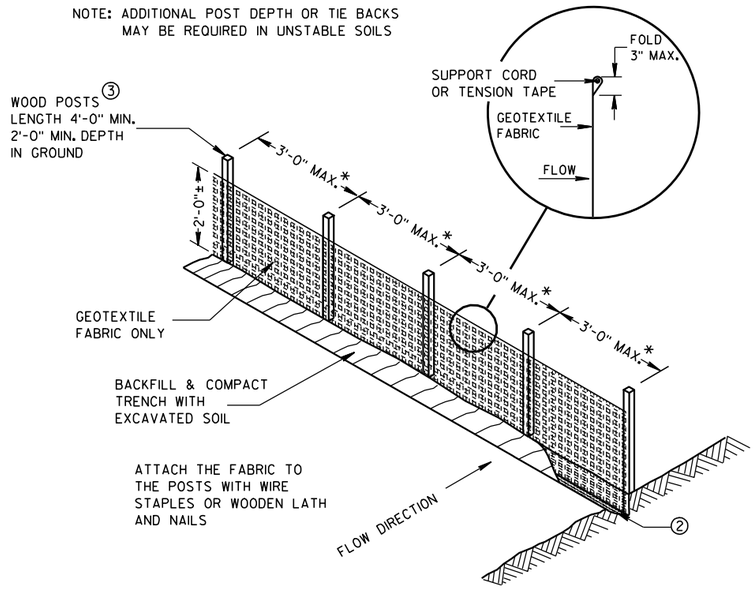
PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



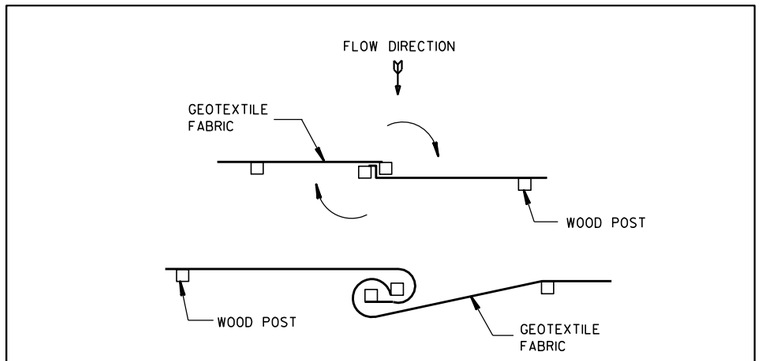
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS



*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

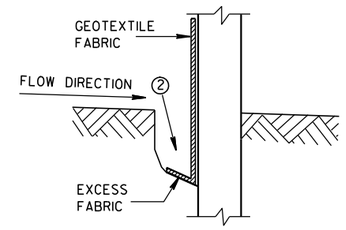


JOINING TWO LENGTHS OF SILT FENCE 5

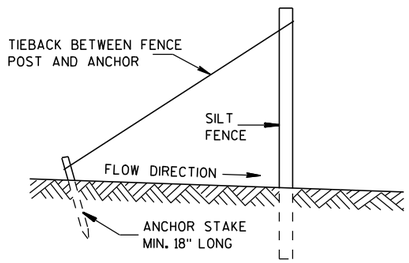
GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.
4. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
5. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



TRENCH DETAIL



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

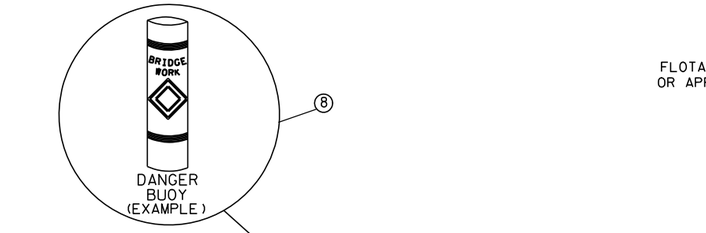
SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

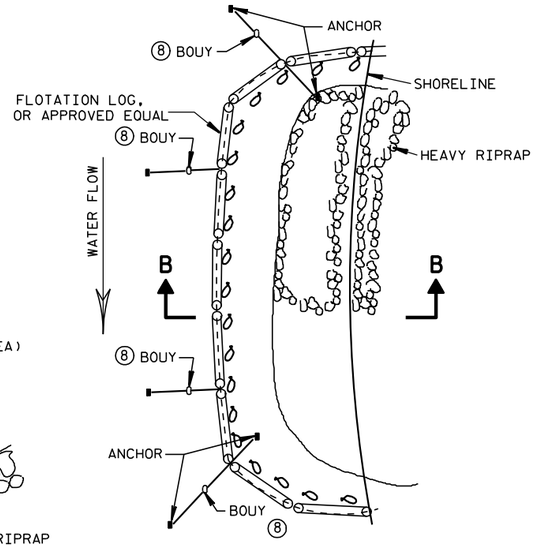
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

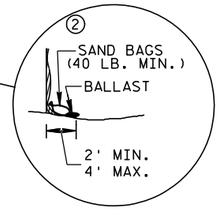
S.D.D. 8 E 9-6

6

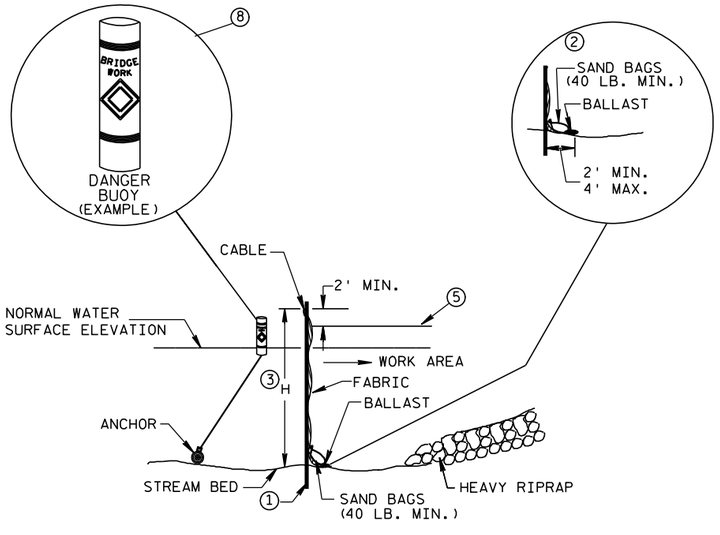


SECTION B-B

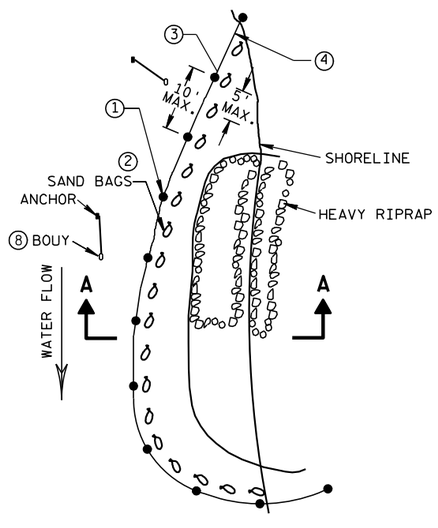




TURBIDITY BARRIER FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A-A



PLAN VIEW

TURBIDITY BARRIER STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

TURBIDITY BARRIER MAY BE REMOVED AT THE ENGINEERS DISCRETION, WHEN PERMANENT EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED.

① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.

② SANDBAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.

③ WHEN BARRIER HEIGHT, H, EXCEEDS 8 FT., POST SPACING MAY NEED TO BE DECREASED.

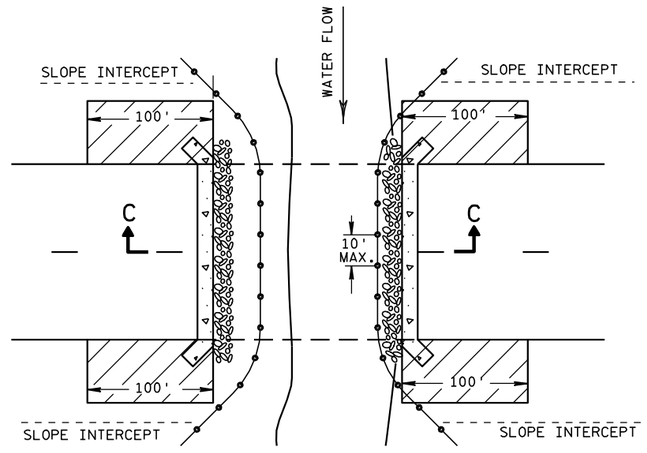
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MIMIMUM BARRIER HEIGHT SHALL BE 2'GREATER THAN EITHER THE O2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WICHEVER IS GREATER.

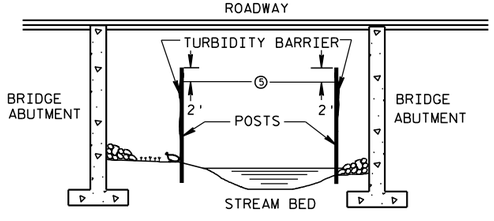
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

⑦ ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.

⑧ USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



PLAN VIEW



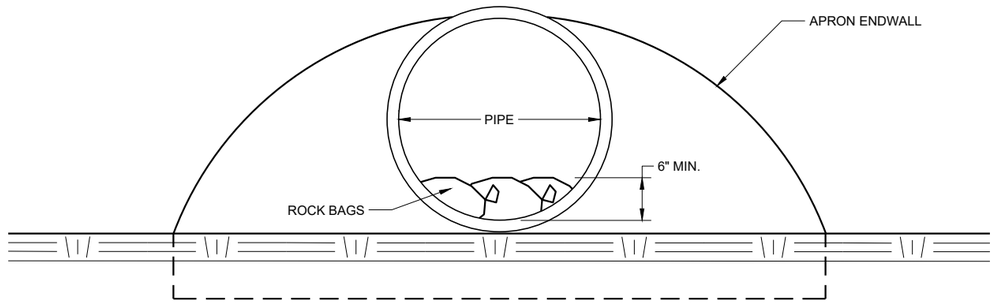
SECTION C-C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

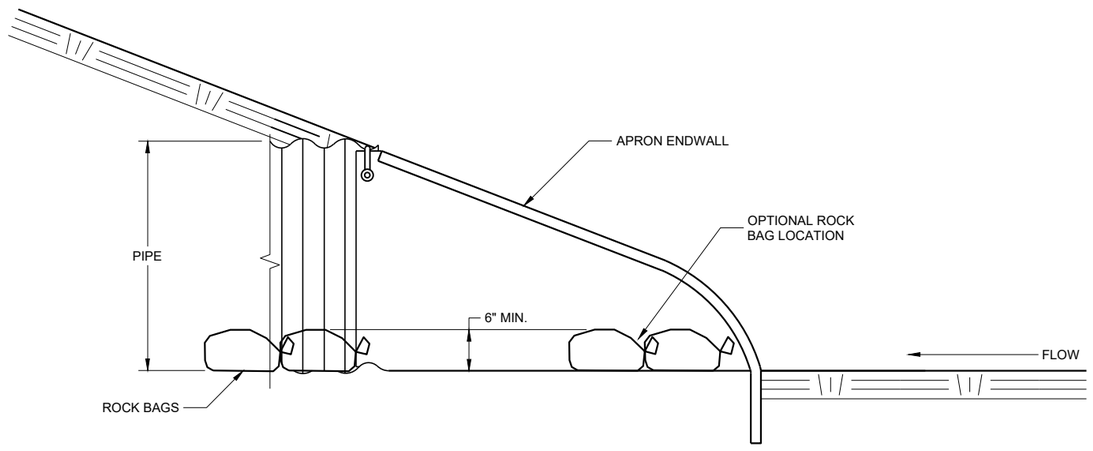
TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/04/02 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA



END □ IEW



SIDE □ IEW

CUL□ ERT PIPE CHEC□

(INSTALL ON INLET END ONLY)

CUL□ ERT PIPE CHEC□

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019
DATE

/S/ Danie□ S□□a□e
EROSION CONTROL ENGI

FHWA

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SDD 0□E15 - 01

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SDD 0□E15 - 01

METAL APRON ENDWALLS

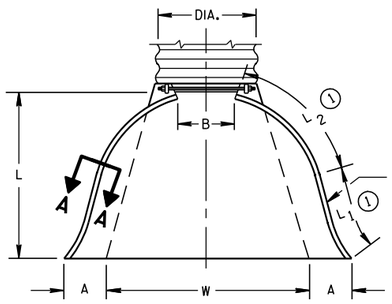
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")		
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.
60	.109×	.105×	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109×	.105×	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109×	.105×	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109×	.105×	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109×	.105×	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109×	.105×	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109×	.105×	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

× EXCEPT CENTER PANEL SEE GENERAL NOTES

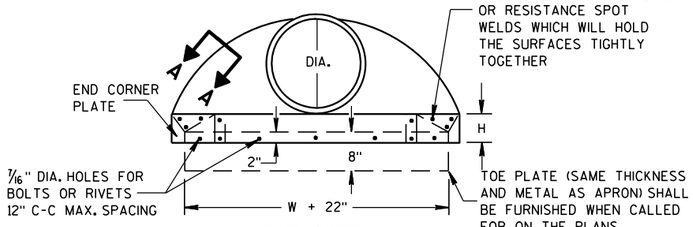
REINFORCED CONCRETE APRON ENDWALLS

PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE
	T	A	B	C	D	E	G	
12	2	4	24	48 7/8	72 1/8	24	2	3 to 1
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1
48	5	24	72	26	98	84	5	3 to 1
54	5 1/2	27	65	* 33 1/4 - ** 35	* 98 1/4 - ** 100	90	5 1/2	2 2/5 to 1
60	6	* 30 - ** 35	60	39	99	96	5	2 to 1
66	6 1/2	* 24-30 **	* 72-78 **	* 21-27 **	99	102	5 1/2	2 to 1
72	7	* 24-36 **	78	21	99	108	6	2 to 1
78	7 1/2	* 24-36 **	78	21	99	114	6 1/2	2 to 1
84	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2 to 1
90	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	1 1/2 to 1

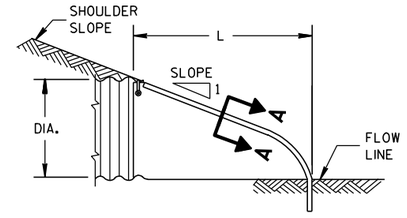
*MINIMUM
**MAXIMUM



PLAN VIEW

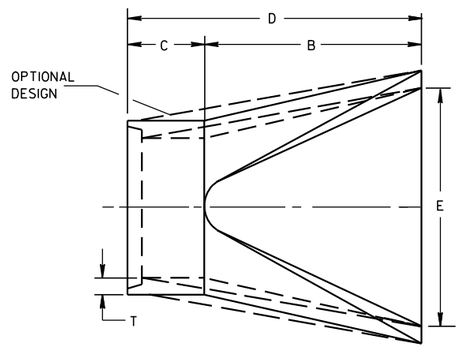


END VIEW

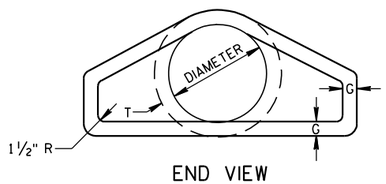


SIDE ELEVATION

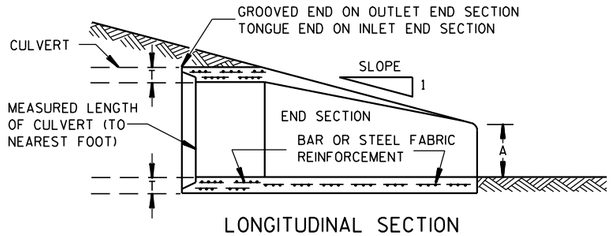
METAL ENDWALLS



PLAN

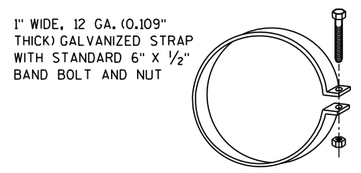


END VIEW



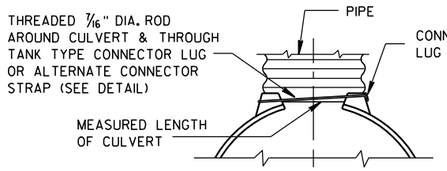
LONGITUDINAL SECTION

CONCRETE ENDWALLS

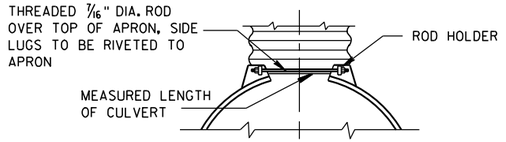


ALTERNATE FOR TYPE 1 CONNECTION

END SECTION CONNECTOR STRAP

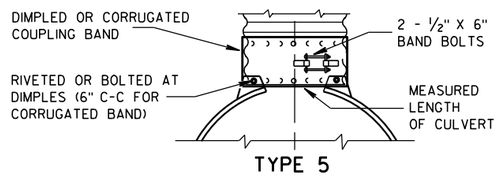


TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE

TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

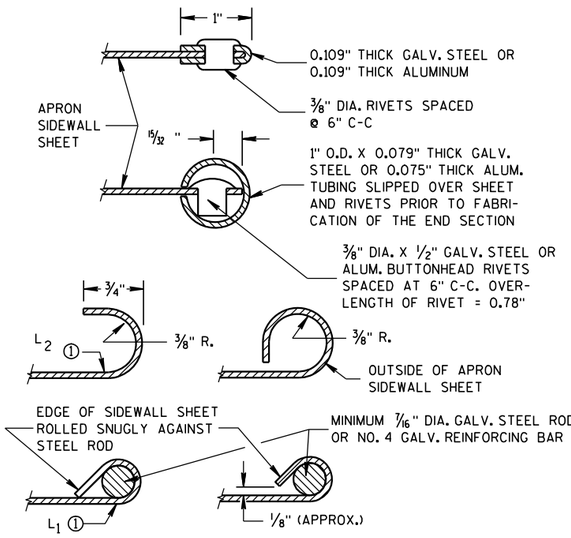
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

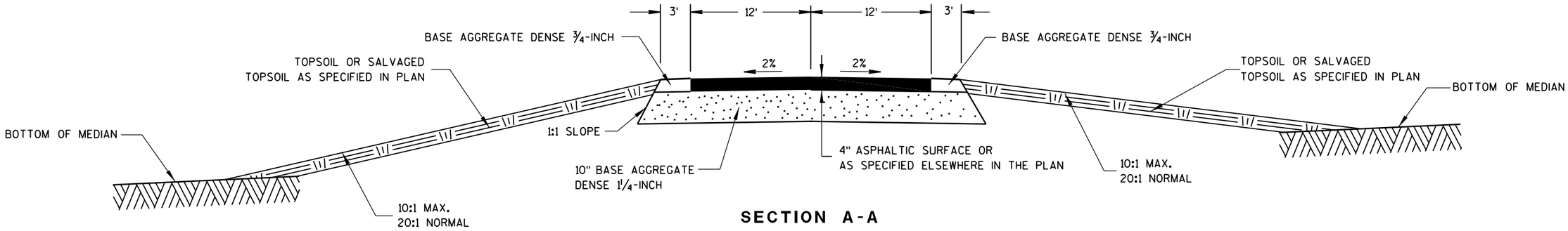
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

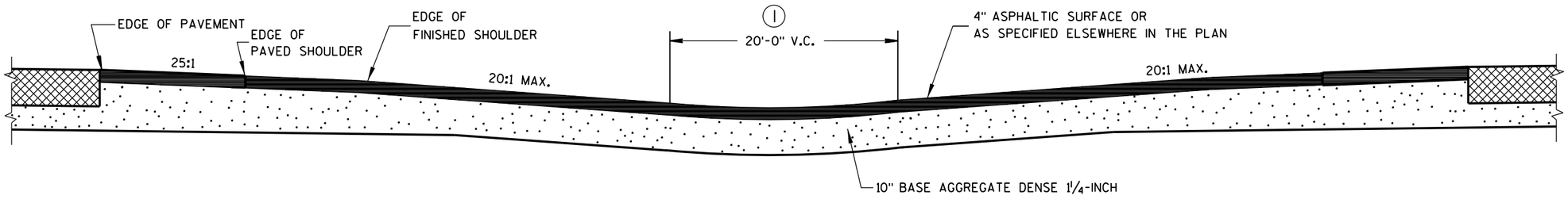
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/94 — DATE
/S/ Rory L. Rhinesmith — CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

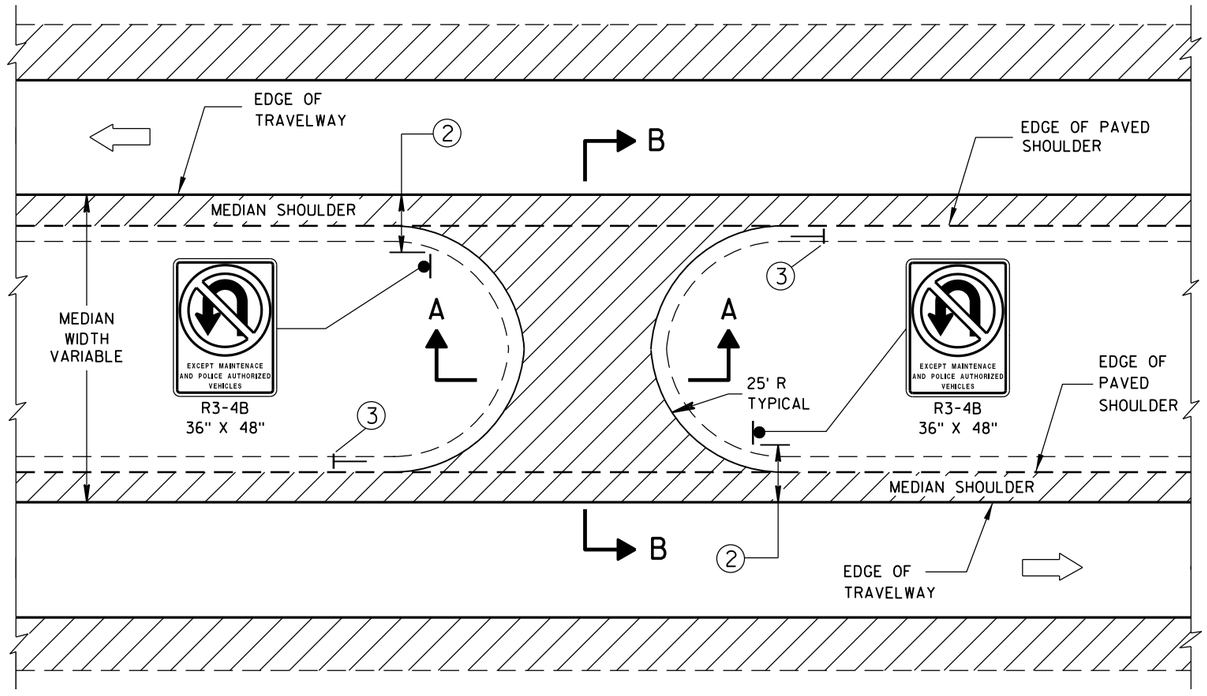
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S.D.D. 8 F 1-11



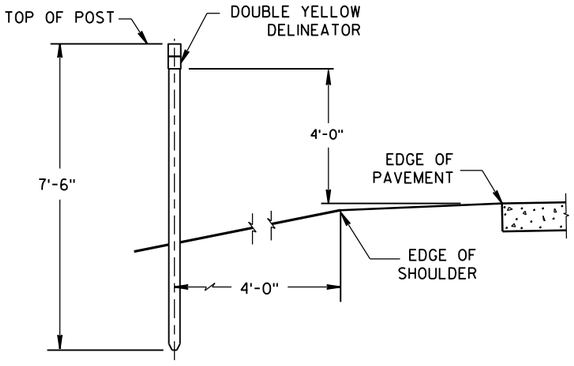
SECTION A-A



SECTION B-B



PLAN VIEW



DOUBLE YELLOW DELINEATOR INSTALLATION

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(1) ADJUST VERTICAL CURVE LOCATION LATERALLY TO MAINTAIN 20:1 MAX.

(2) SIGNING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

(3) INSTALL DOUBLE YELLOW DELINEATOR. SEE STANDARD DETAIL DRAWING 15A2.

MAINTENANCE CROSSOVER FOR FREEWAYS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER

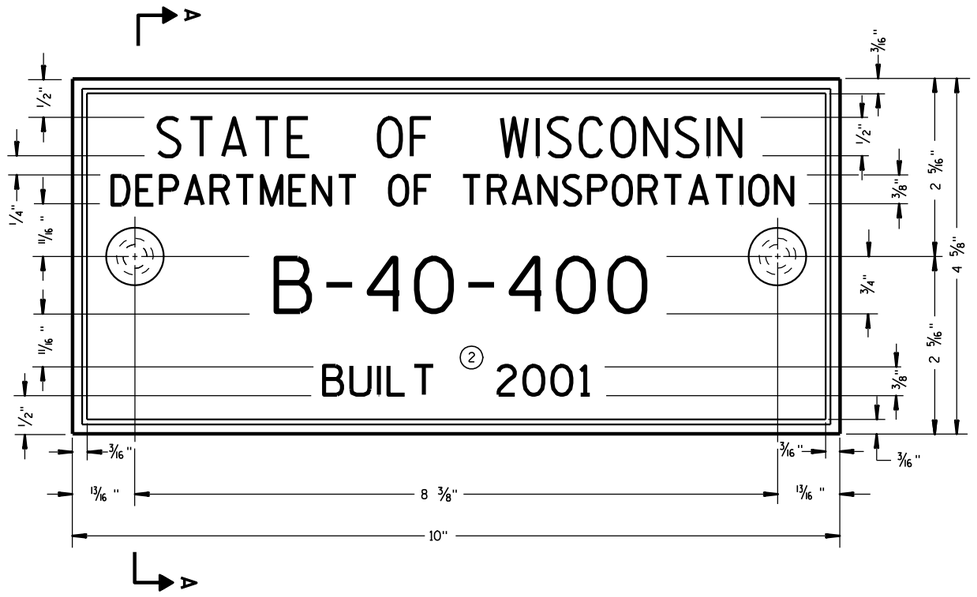
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S.D.D. 11 A 1-5



TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)

FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

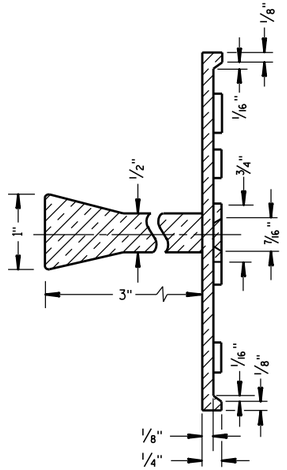
GENERAL NOTES

NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

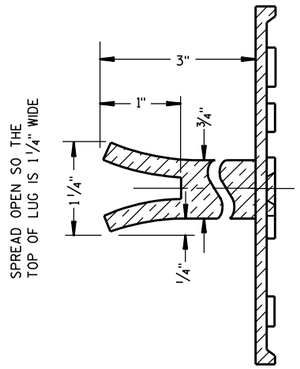
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

(1) EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

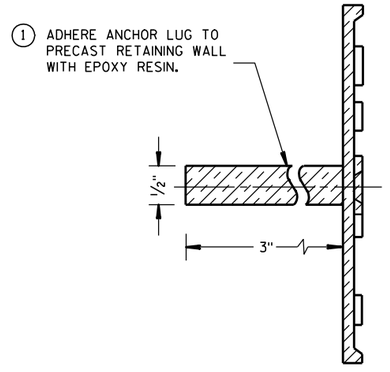
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

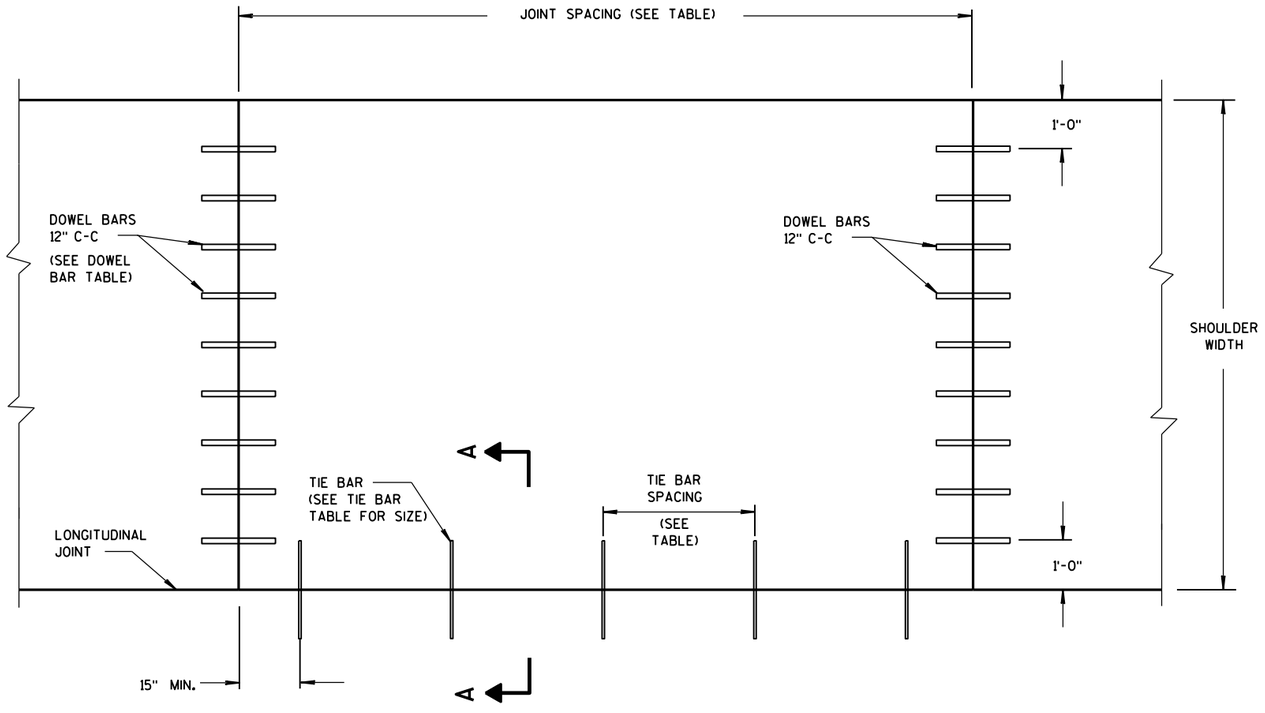
3/26/10 DATE

/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOP ENGINEER

FHWA

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S.D.D. 12 A 3-10



PLAN VIEW

CONCRETE PAVEMENT SHOULDER

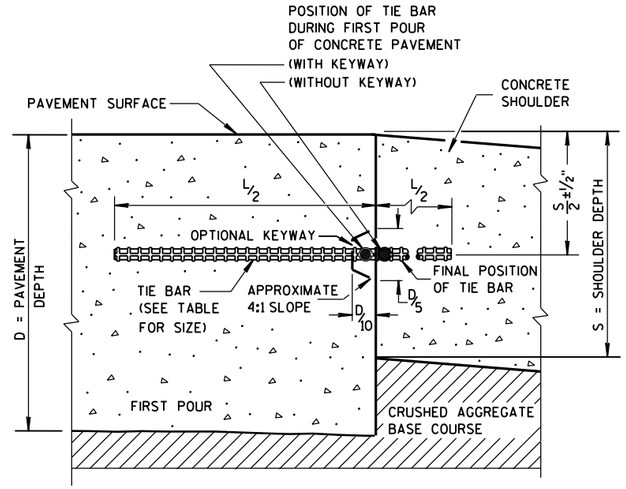
GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

TRANSVERSE JOINT DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

FINISH THE SHOULDER PAVEMENT CONFORMING TO SUBSECTION 415.3.8 OF THE STANDARD SPECIFICATIONS.

TIE BARS SHALL CONFORM TO SUBSECTION 505.2.4 OF THE STANDARD SPECIFICATIONS.



SECTION A-A

LONGITUDINAL CONSTRUCTION JOINT

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 ½"	NO. 4	30"	36"
≥ 10 ½"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER ***	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'

*** FOR DOWELED CONCRETE SHOULDERS WITH TRAPEZOIDAL CROSS SECTIONS, CHOSE THE APPROPRIATE DOWEL BAR DIAMETER BASED ON THE SMALLER PAVEMENT DEPTH (LIKELY THE OUTSIDE EDGE OF THE SHOULDER). IF USING BASKETS, USE BASKETS FOR THE AVERAGE THICKNESS OF THE CROSS SECTION.

CONCRETE PAVEMENT SHOULDERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

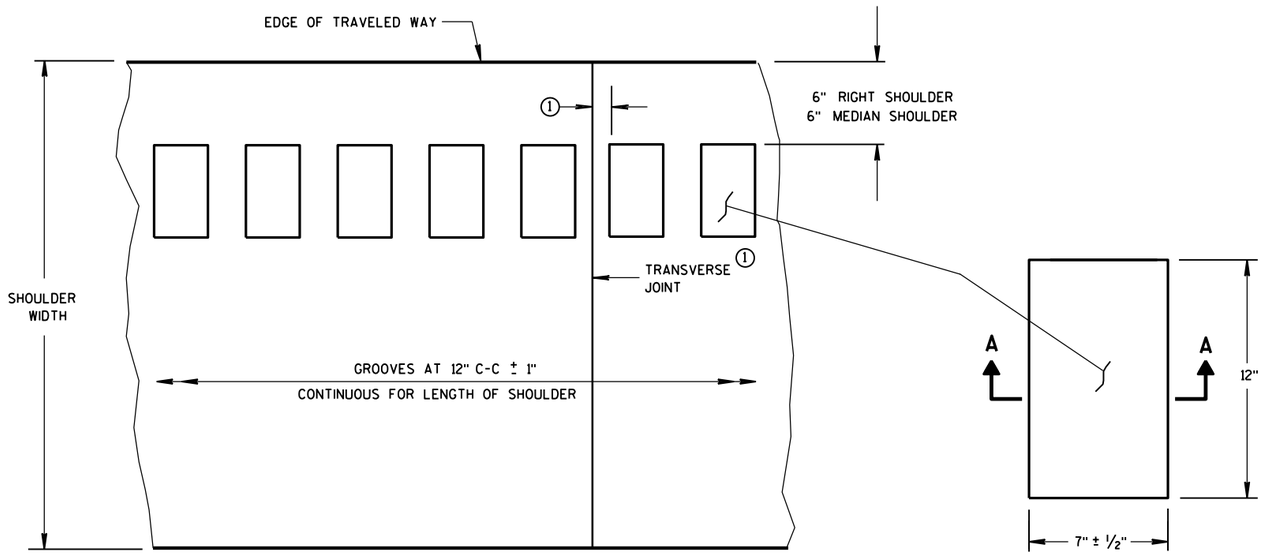
APPROVED
June, 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPERV
FHWA

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S.D.D. 13 A 3-6

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S.D.D. 13 A 3-6



PLAN VIEW
SHOULDER WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

PLACEMENT DETAIL FOR MILLED RUMBLE STRIP

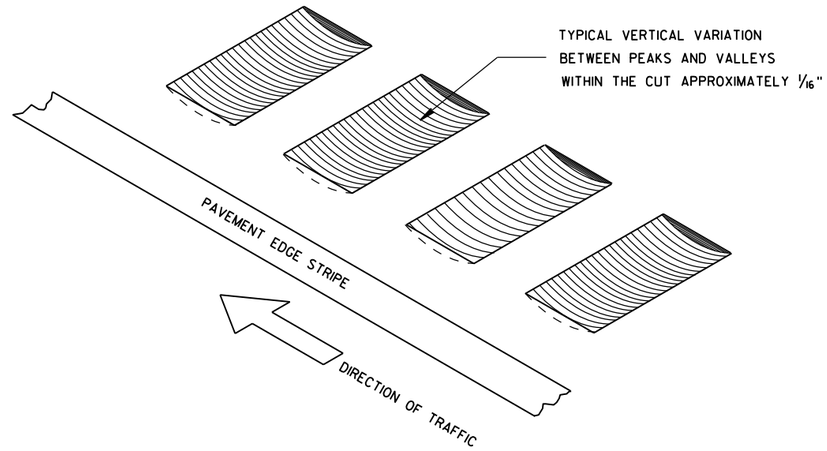
GENERAL NOTES

DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

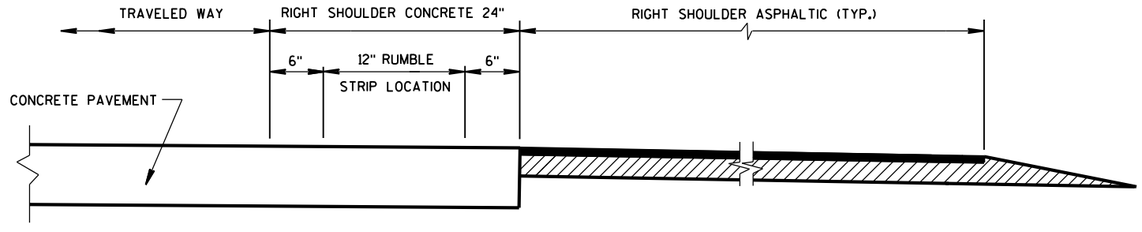
RUMBLE STRIPS ON EXPRESSWAYS

DO NOT INSTALL RUMBLE STRIPS ACROSS SIDE ROAD INTERSECTIONS, COMMERCIAL DRIVEWAYS, PRIVATE DRIVEWAYS OR ADJACENT TO RIGHT TURN LANES, LEFT TURN LANES, TURN LANE TAPERS, BRIDGE DECKS, BRIDGE APPROACHES, OR 100 FEET IN ADVANCE OF RAILROAD CROSSING. THE ATTACHED STANDARD DETAIL DRAWING SHOWS THE LOCATION OF THE RUMBLE STRIPS AT INTERCHANGE AREAS.

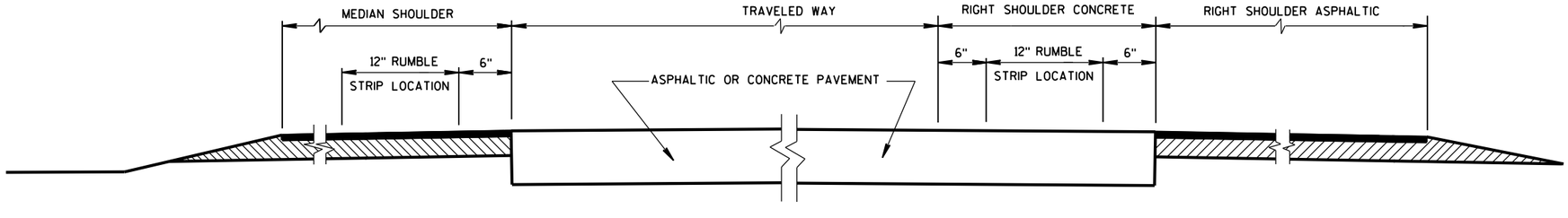
(1) CONCRETE PAVEMENT - RUMBLE STRIPS SHALL BE A MINIMUM OF 6" AWAY FROM TRANSVERSE JOINTS.



ISOMETRIC



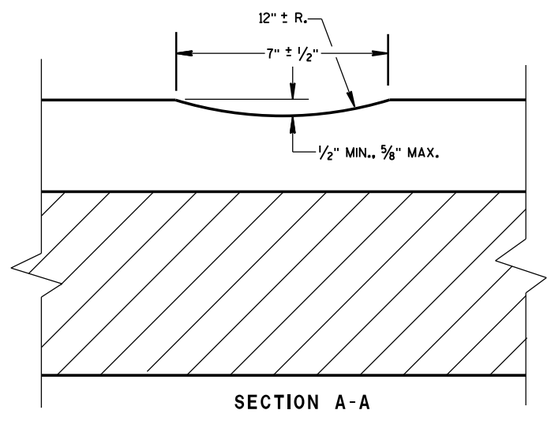
SECTION VIEW
CONCRETE PAVEMENT EXTENDS INTO RIGHT SHOULDER)



SECTION VIEW

TYPICAL LOCATIONS OF SHOULDER RUMBLE STRIPS IN RURAL DIVIDED HIGHWAYS

(ONE ROADWAY IS SHOWN)



SECTION A-A

SHOULDER RUMBLE STRIP, MILLING

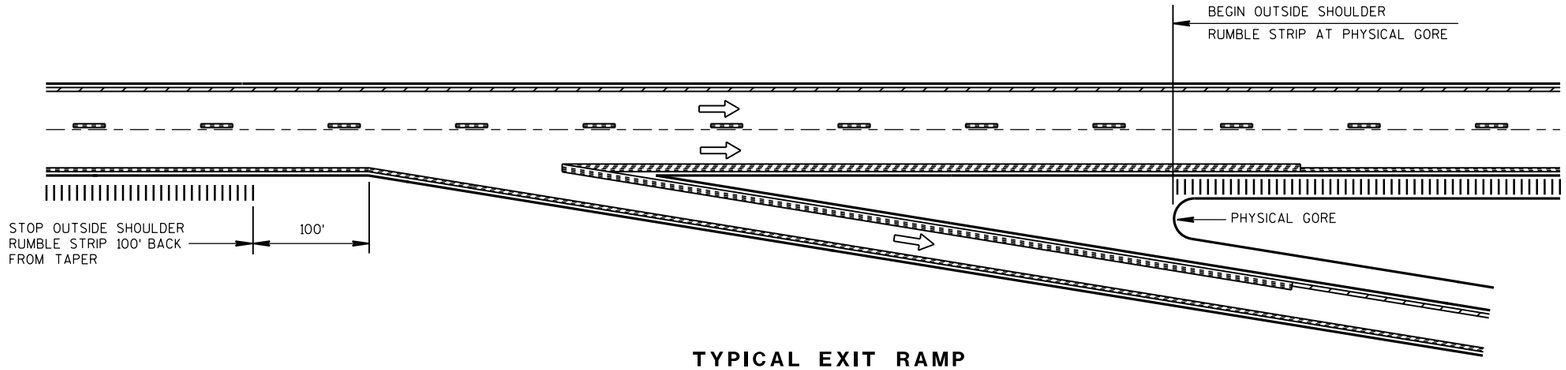
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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S.D.D. 13 A 5-5a

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S.D.D. 13 A 5-5a



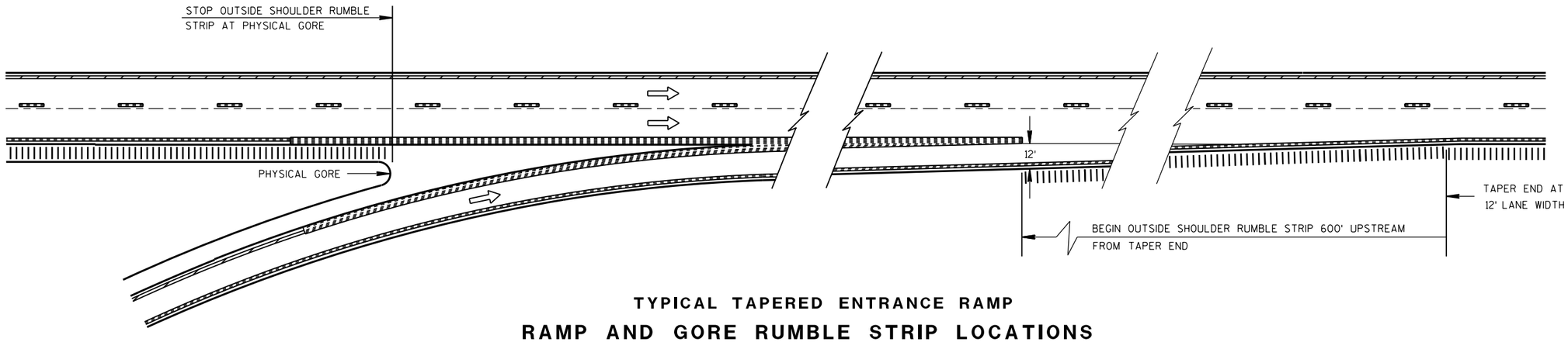
TYPICAL EXIT RAMP

NOTES:

NO RUMBLE STRIP ON EXIT, DIRECTIONAL, OR ENTRANCE RAMPS, EXCEPT NEAR THE ENTRANCE TAPER END AND ALONG THE PARALLEL RAMP AREA AS SHOWN.

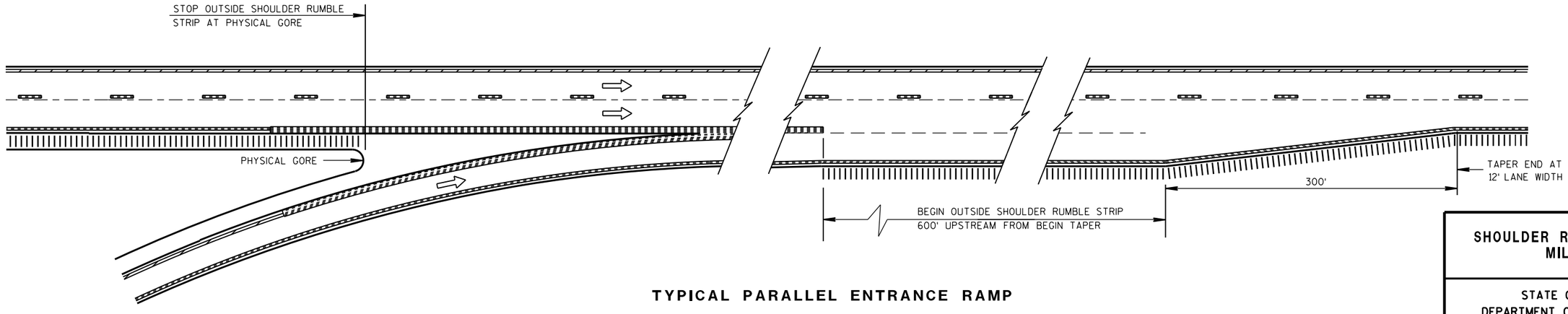
PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL



TYPICAL TAPERED ENTRANCE RAMP

RAMP AND GORE RUMBLE STRIP LOCATIONS



TYPICAL PARALLEL ENTRANCE RAMP

RAMP AND GORE RUMBLE STRIP LOCATIONS

SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

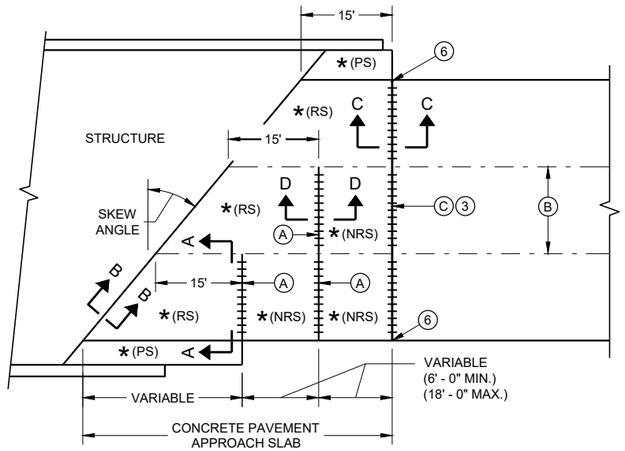
12/17/2012
DATE

/S/ Jerry H. Zoga
ROADWAY STANDARDS ENGINEER

FHWA

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S.D.D. 13 A 5-5b



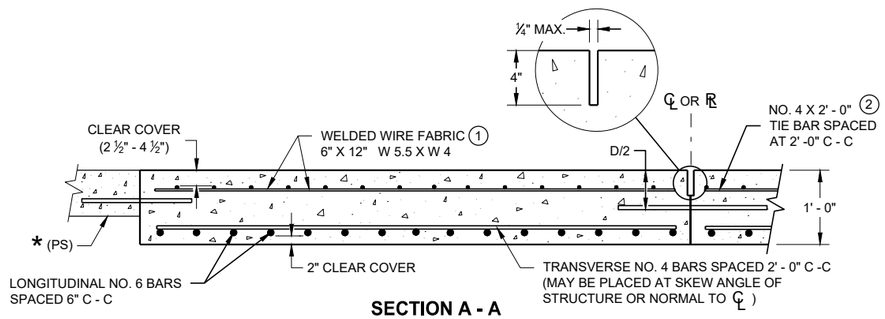
SKEWED APPROACH
(PAVEMENT MORE THAN TWO LANES)

* (RS) = REINFORCED CONCRETE SLAB

* (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB

* (NRS) - NON - REINFORCED CONCRETE SLAB

*** STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11 AND SDD 13C13)



SECTION A - A
REINFORCEMENT POSITIONING DETAIL

GENERAL NOTES

THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

(1) THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2' - 0 " C - C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

(2) THE CONTRACTOR MAY OMIT THE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.

(3) DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

(4) USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.

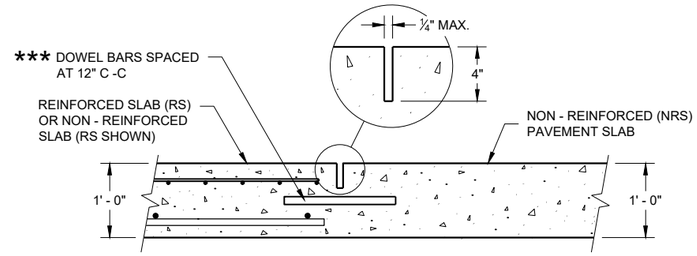
(5) PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.

(6) EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.

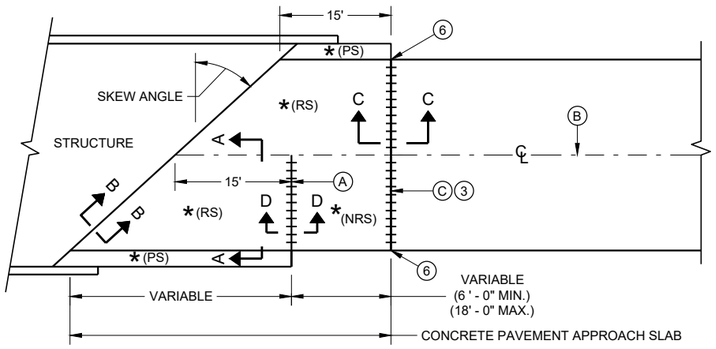
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℞.

(B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.

(C) 1 ½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℞

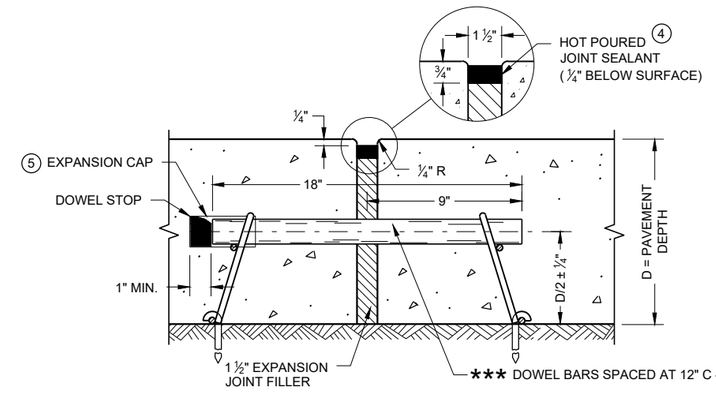


SECTION D - D
CONTRACTION JOINT



SKEWS > 20°
(PAVEMENT WIDTH ≤ 30')

SECTION B - B
BEND DETAIL
BOTTOM REINFORCEMENT



EXPANSION JOINT DETAIL

SKEWS ≤ 20°
(PAVEMENT WIDTH ≤ 30')

APPROACH SLAB AND ADJACENT PAVEMENT

SECTION C - C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

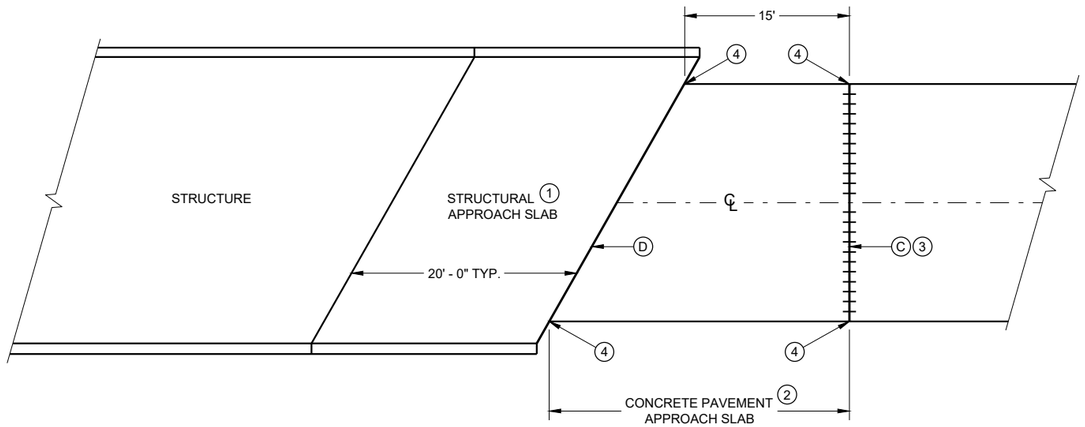
APPROVED
November 2018
DATE

/S/ Peter Kemp P.E.
PAVEMENT SUPERVISI

FHWA

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SDD 13B02 - 09a



BRIDGE APPROACHES

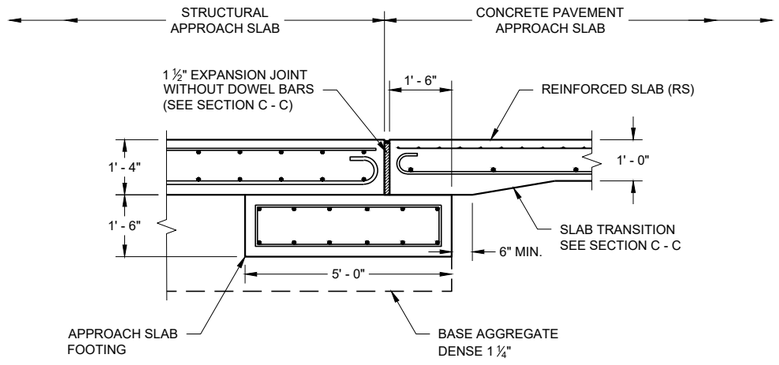
GENERAL NOTES

ALL PROJECTS THAT INVOLVE A STRUCTURAL APPROACH SLAB WILL ALSO HAVE A CONCRETE PAVEMENT APPROACH SLAB.

1. SEE BRIDGE PLAN.
2. CONFORM TO SDD 13B02 SHEET A FOR CONCRETE PAVEMENT APPROACH SLAB DETAILS
3. DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.
4. EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.

C. 1 ½" EXPANSIONT JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℞.

D. 1 ½" EXPANSION JOINT (NO DOWELS)



SECTION E - E
FOOTING DETAIL
STRUCTURAL APPROACH SLAB TO CONCRETE BRIDGE APPROACH

STRUCTURAL APPROACH SLAB AND CONCRETE PA□ EMENT APPROACH SLA□

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

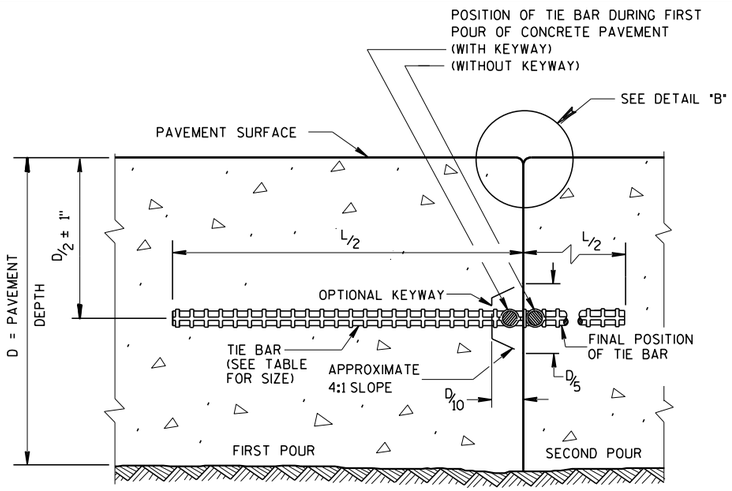
APPROVED
N□e□□er 2018 — DATE
/S/ Peter Ke□□P.E. — PAVEMENT SUPERVIS
FHWA

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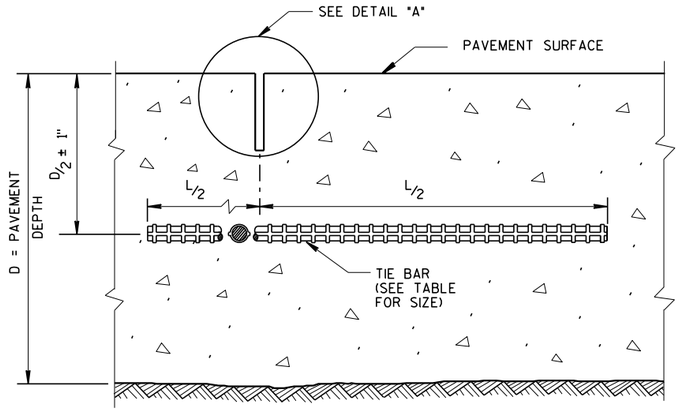
SDD1□□0 - 0□□

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SDD1□□0 - 0□□



CONSTRUCTION JOINT



SAWED JOINT

GENERAL NOTES

CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

(2) PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.

PLAN VIEW

SECTION A-A

LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT

DETAIL "A"

DETAIL "B"

DETAIL "C"

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

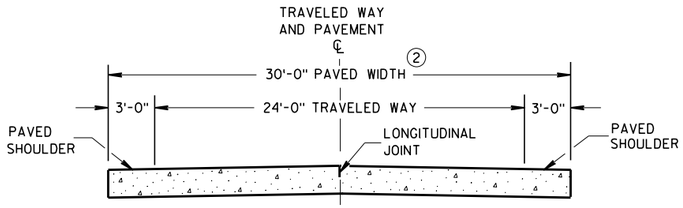
APPROVED
March 2018 — DATE
/S/ Peter Kemp — PAVEMENT SUPE
FHWA

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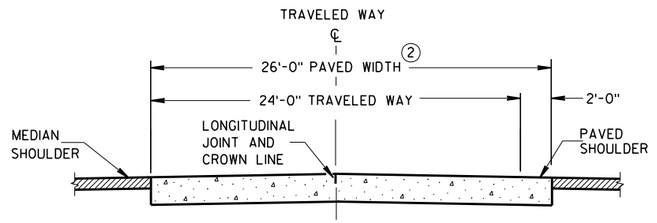
S.D.D. 13 C 1-19

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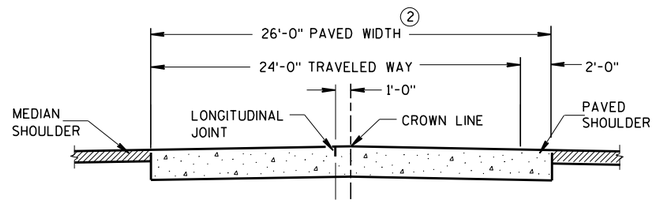
S.D.D. 13 C 1-19



SECTION A-A
TWO-LANE TWO-WAY HIGHWAY (1)



SECTION B-B



ALTERNATIVE SECTION B-B
(1)
DIVIDED HIGHWAY

GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT TRANSVERSE CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

FOR PAVEMENT SLABS OF VARYING WIDTHS, LOCATE THE OUTER MOST DOWEL BAR SO THAT THE CENTER OF THE BAR IS A MINIMUM OF 6 INCHES AND A MAXIMUM OF 18 INCHES FROM THE FREE EDGE OF PAVEMENT.

CONSTRUCTION JOINTS

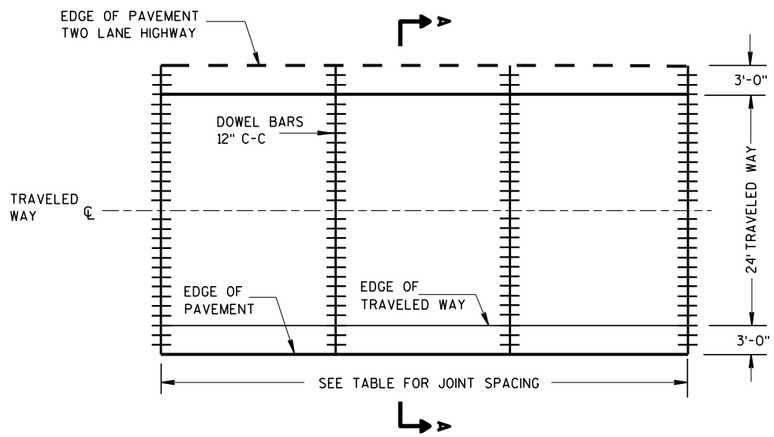
LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

(1) REFER TO TYPICAL CROSS SECTIONS FOR ADDITIONAL DETAILS.

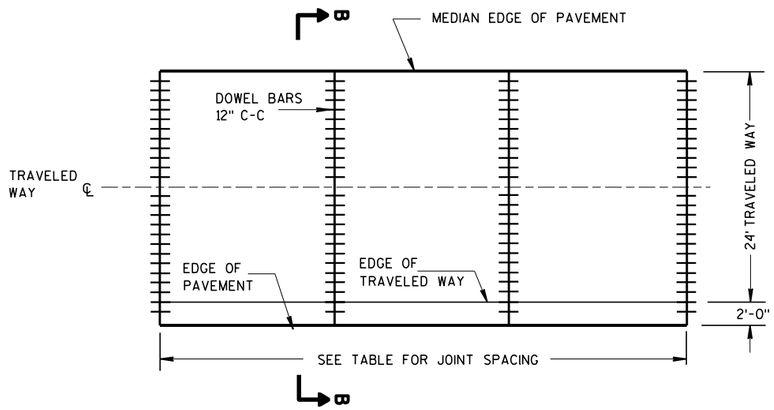
(2) MEASURE THE ENTIRE PAVED WIDTH INCLUDING THE PORTION(S) LABELED PAVED SHOULDER AS CONCRETE PAVEMENT.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'



CONTRACTION JOINT LAYOUT
FOR TWO-LANE TWO-WAY HIGHWAY



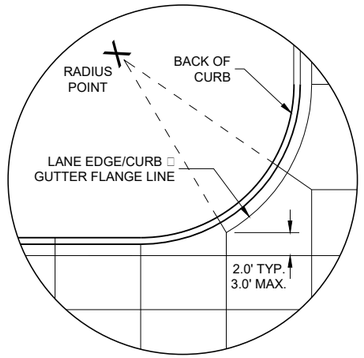
CONTRACTION JOINT LAYOUT
FOR DIVIDED HIGHWAY

RURAL DOWELED CONCRETE PAVEMENT

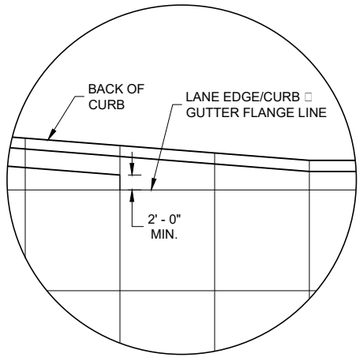
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

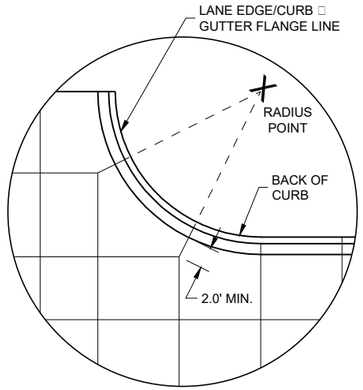
S.D.D. 13 C 11-12a



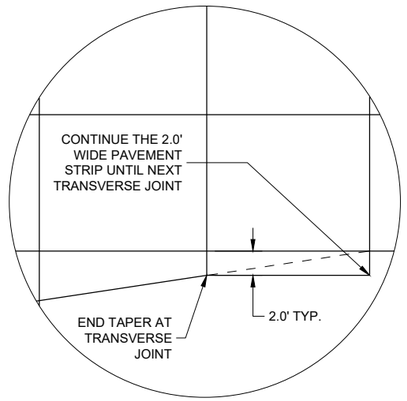
DETAIL "A"



DETAIL "B"



DETAIL "C"



DETAIL "D"

GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.

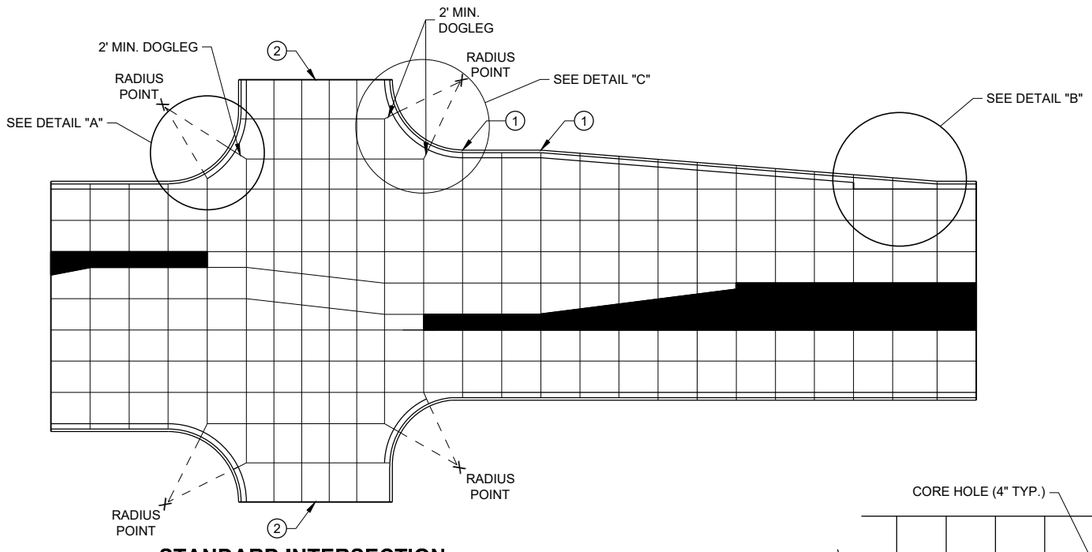
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.

AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

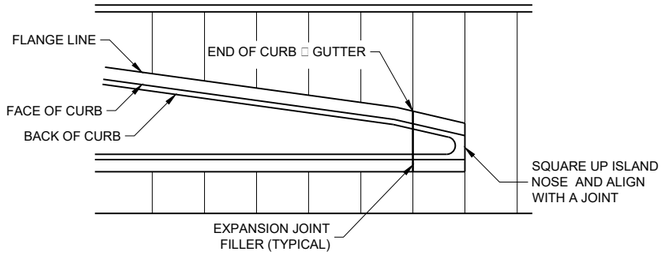
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITHEDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.



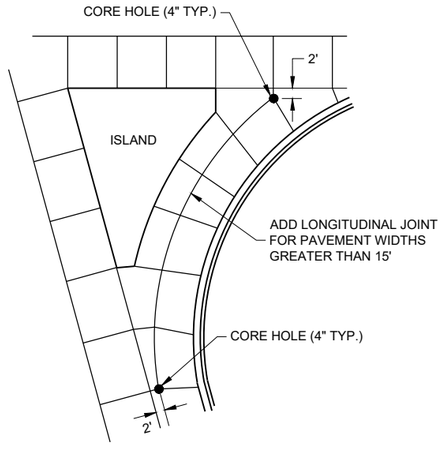
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

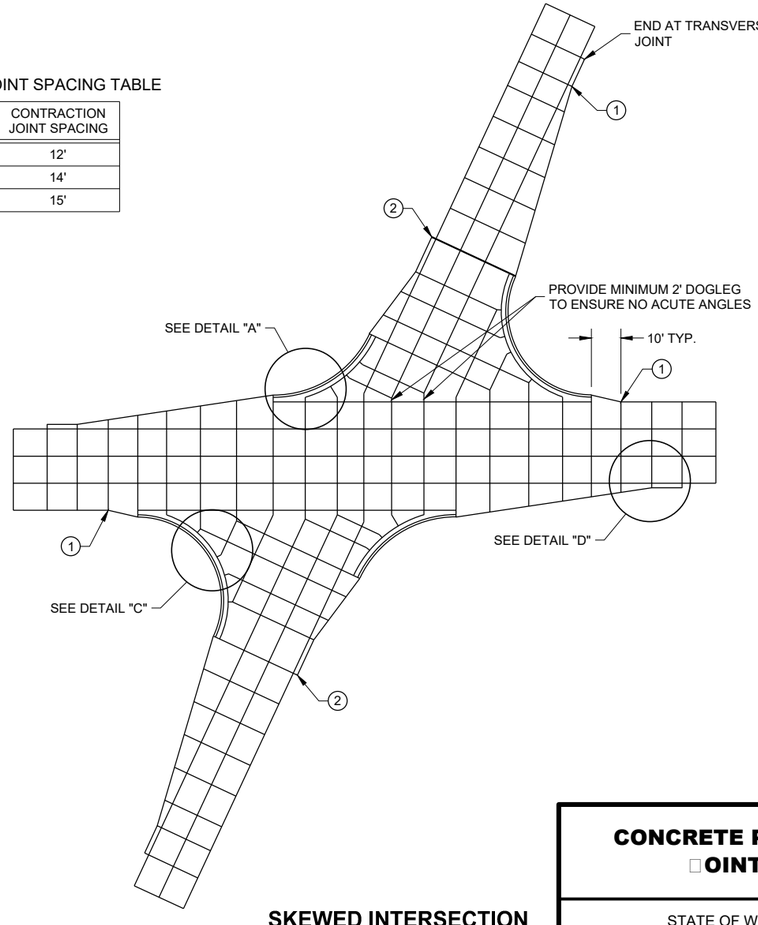
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6 ½"	12'
7", 7 ½"	14'
8" □ ABOVE	15'



APPROACH TO MEDIAN



LARGE RIGHT TURN



SKEWED INTERSECTION

CONCRETE PA□EMENT □OINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA77

6

SDD 1□C1□ - 0□□

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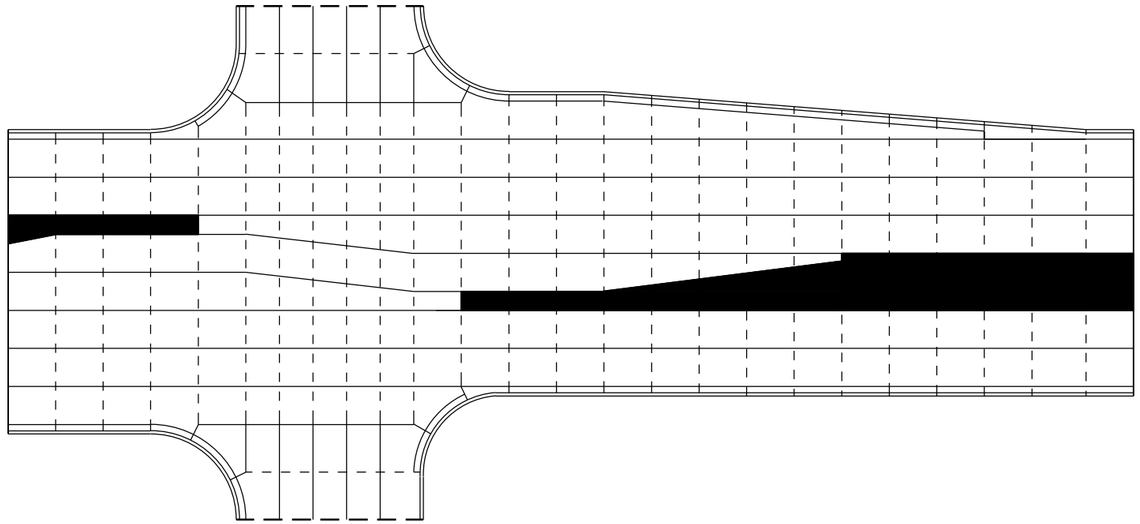
SDD 1□C1□ - 0□□

LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

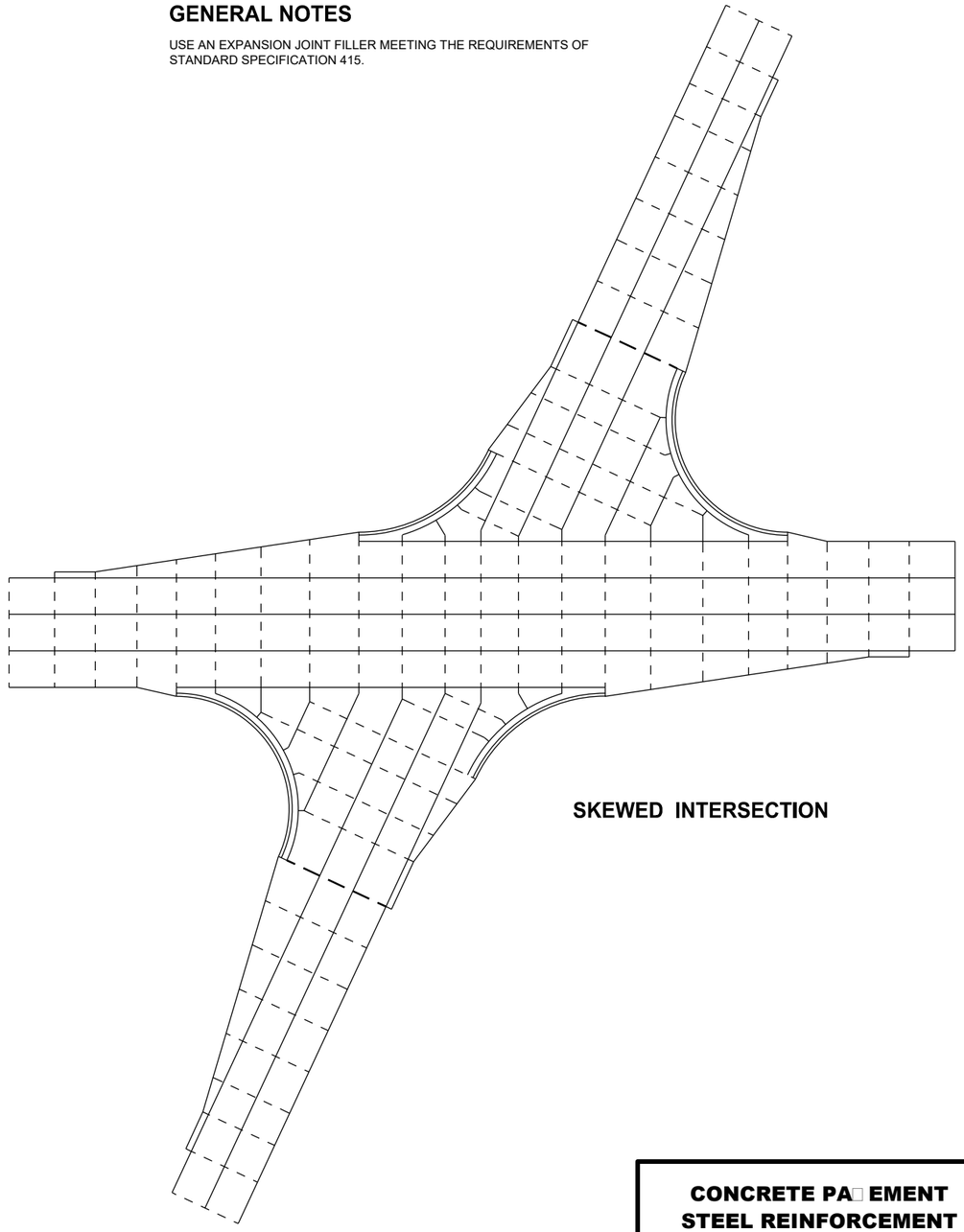
TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.



SKEWED INTERSECTION

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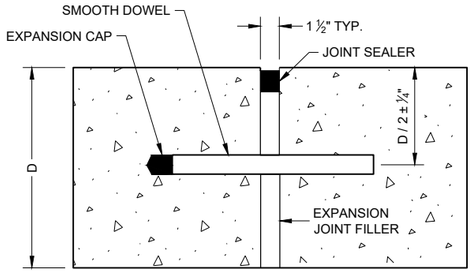
SDD 1□C1□ - 0□□

CONCRETE PA□EMENT
STEEL REINFORCEMENT

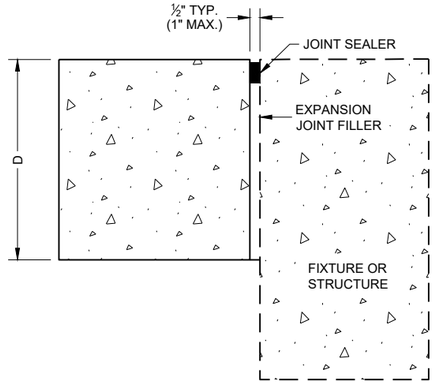
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA[illegible] 78

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SDD1□C1□ - 0□□



DOWELED TRANSVERSE (1)



UNTIED - LONGITUDINAL

EXPANSION JOINTS

TIE BAR TABLE

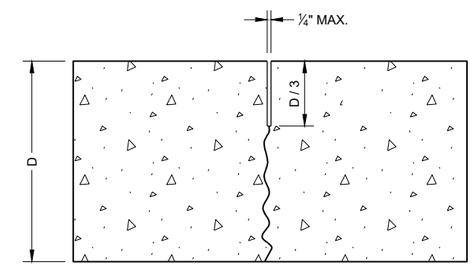
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
□10 ½"	NO. 4	30"	36"
≥ 10 ½"	NO. 5	36"	36"
	NO. 4 □	30"	24" □□

□SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.□ AUXILIARY LANES OR TURN LANES)

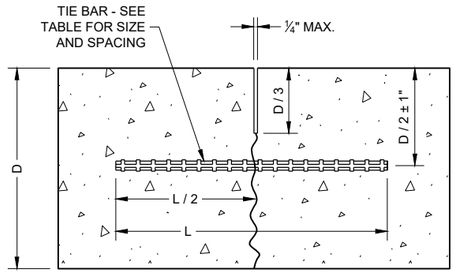
□□CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS□SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

GENERAL NOTES

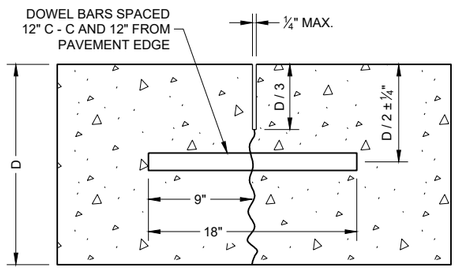
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATETHE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH SDD 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.
4. CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
5. IF JOINT IS FORMED, PROVIDE A ¼" RADIUS.
6. ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



UNDOWELED TRANSVERSE

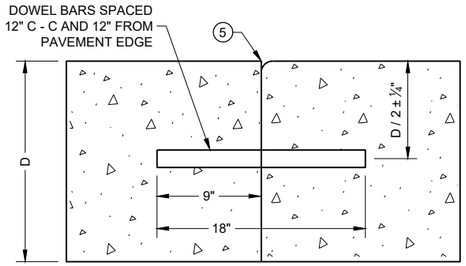


TIED LONGITUDINAL

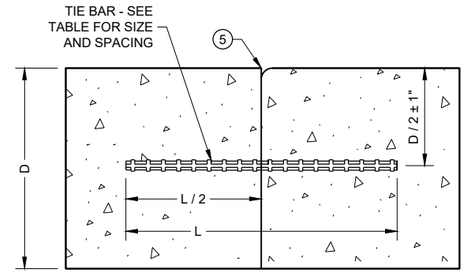


DOWELED TRANSVERSE

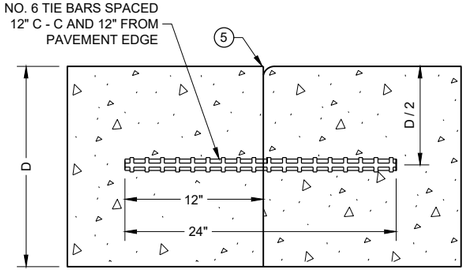
CONTRACTION JOINTS (2)



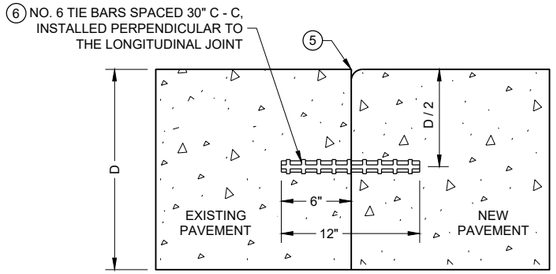
DOWELED TRANSVERSE (3)



TIED LONGITUDINAL



TIED TRANSVERSE (3)
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



TIED LONGITUDINAL TO EXISTING

CONSTRUCTION JOINTS (4)

CONCRETE PA□ EMENT □OINT T□ PES

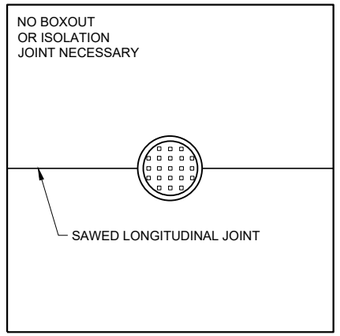
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA 79

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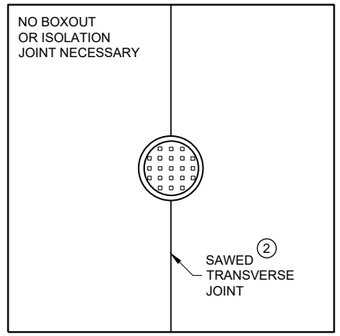
SDD 1□C1□ - 0□□

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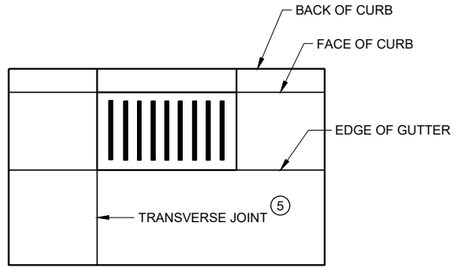
SDD 1□C1□ - 0□□



MANHOLE WITH LONGITUDINAL JOINT



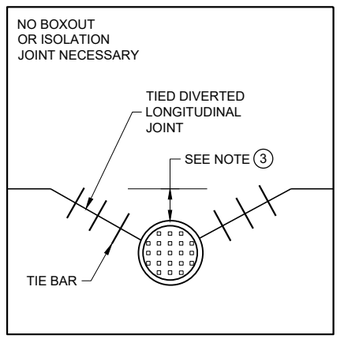
MANHOLE WITH TRANSVERSE JOINT



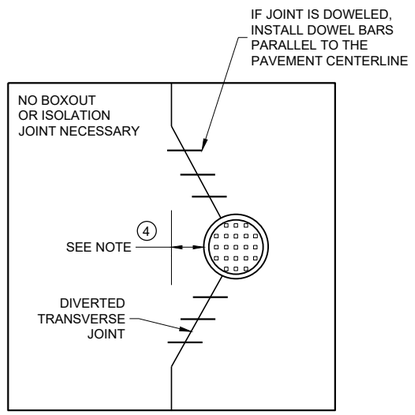
INLET WITH TRANSVERSE JOINT

GENERAL NOTES

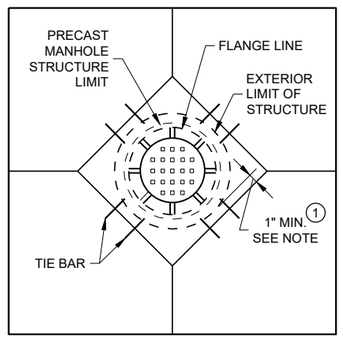
1. USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1 FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.
2. ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.
3. IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF MANHOLE IS 2 FEET OR LESS, DIVERT THE LONGITUDINAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE. IF THE DISTANCE IS GREATER THAN 2 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REINFORCEMENT REBAR AROUND THE MANHOLE.
4. IF THE DISTANCE FROM THE EDGE OF THE MANHOLE TO THE NEAREST TRANSVERSE JOINT IS LESS 4 FEET OR LESS, REDIRECT JOINT TO INTERSECT THE CENTER OF THE MANHOLE. IF DISTANCE IS GREATER THAN 4 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REINFORCEMENT REBAR AROUND THE MANHOLE.
5. ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.



MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT



MANHOLE WITH DIVERTED TRANSVERSE CONTRACTION JOINT



DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS

CONCRETE PA□EMENT □OINTING AT UTILIT□ FIXTURES

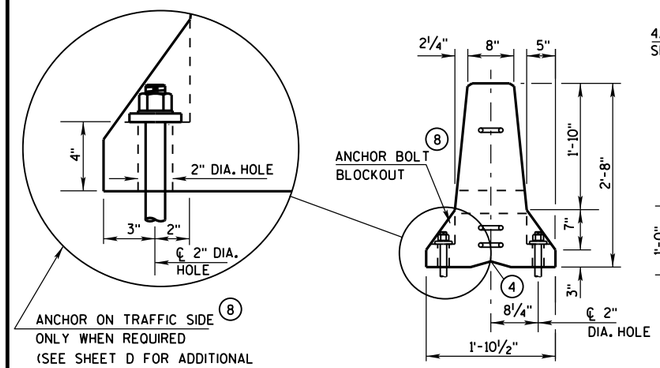
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
N□e□□er 2018 — DATE
/S/ Peter Ke□□P.E. — PAVEMENT SUPERVIS
FHWA

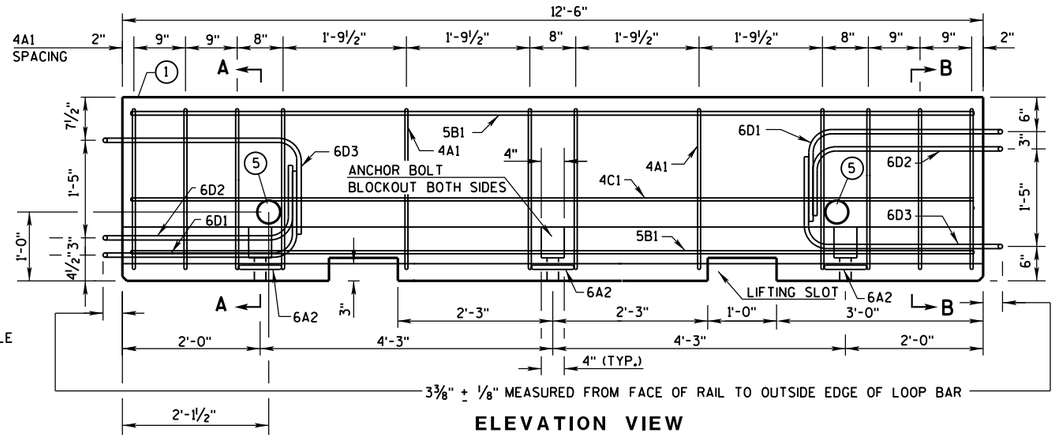
SDD1□C1□ - 0□d

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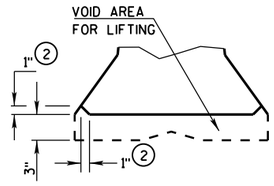
SDD1□C1□ - 0□d



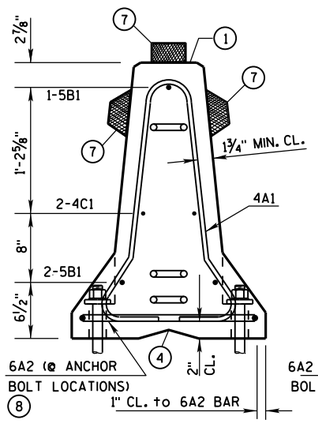
END VIEW



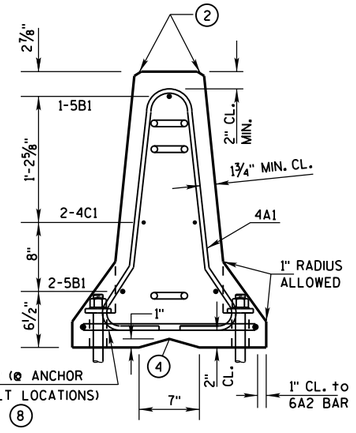
ELEVATION VIEW



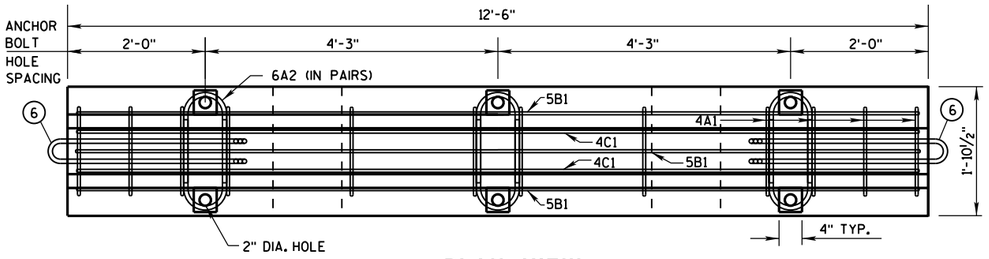
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)

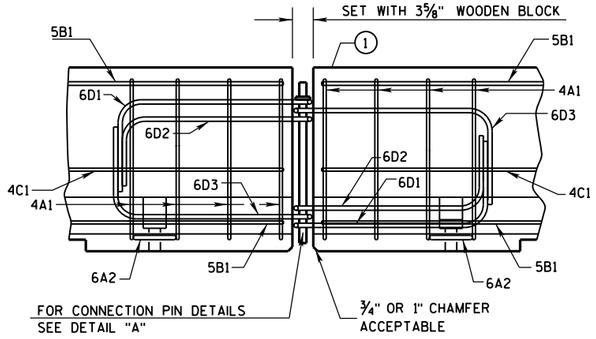


SECTION B-B
(STIRRUP PLACEMENT)

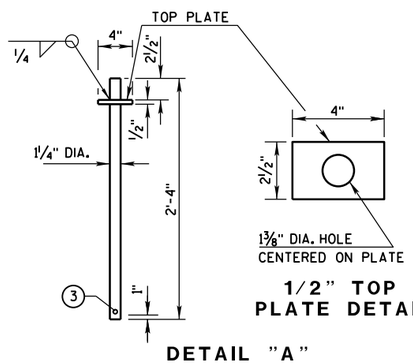


PLAN VIEW

DETAILS OF BARRIER SECTION

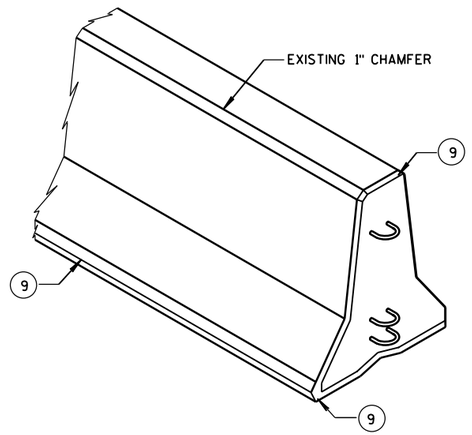


DETAILS OF BARRIER CONNECTION



1/2" TOP
PLATE DETAIL

DETAIL "A"
CONNECTION PIN
(A36 STEEL (10.9 LB EACH))



GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-15(a) THRU 14B7-15(i).

DO NOT INTERMIX CONCRETE BARRIER TEMPORARY PRCAST, 12'-6" (CBTP12.5) WITH OTHER TEMPORARY CONCRETE BARRIERS.

USE ASTM A-615, GRADE 60, DEFORMED STEEL BARS FOR BARS 4A1, 6A2, 5B1 AND 4C1 IN THE BARRIER SECTION AND FOR 4V1, 4V2, 4V3, 4V4, 4V5, 4V6, 4F1, 4F2 AND 5F3 IN THE BARRIER TAPER SECTION.

LOOP BARS 6D1, 6D2 AND 6D3 SHALL BE ¾" SMOOTH STEEL BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 80 KSI, A MINIMUM 14% ELONGATION IN 8 INCHES AND PASSING A 180 DEGREE BEND TEST USING A 3-½" PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN ⅛" OF THE PLAN DIMENSION.

CONSTRUCT LIFTING SLOTS AS SPECIFIED ON THE PLANS TO FACILITATE THE DRAINAGE OF WATER AFTER INSTALLATION.

PLACE BARRIER ON A PAVED SURFACE. REMOVE ALL LOOSE DIRT AND SAND FROM THE ROADWAY SURFACE PRIOR TO PLACEMENT OF THE BARRIER.

INSTALL MECHANICAL OR ADHESIVE ANCHORS PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE MANUFACTURER'S INFORMATION TO PROJECT ENGINEER.

(1) MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
- a. TYPE: WI CBTP
- b. MANUFACTURER
- c. DATE MANUFACTURED (MONTH AND YEAR)

(2) 1" CHAMFER TO PREVENT SPALLING.

(3) A ⅜" HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..

(4) "V" NOTCH IS OPTIONAL.

(5) THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).

(6) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

(7) USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURES INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED TO THE RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO THE SIDE MOUNTED DELINEATORS ON ALL BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.

(8) SEE SHEET D FOR HOW TO ANCHOR BARRIER. SEE SHEET E FOR WHEN TO ANCHOR BARRIER.

(9) 1" CHAMFER OPTIONAL.

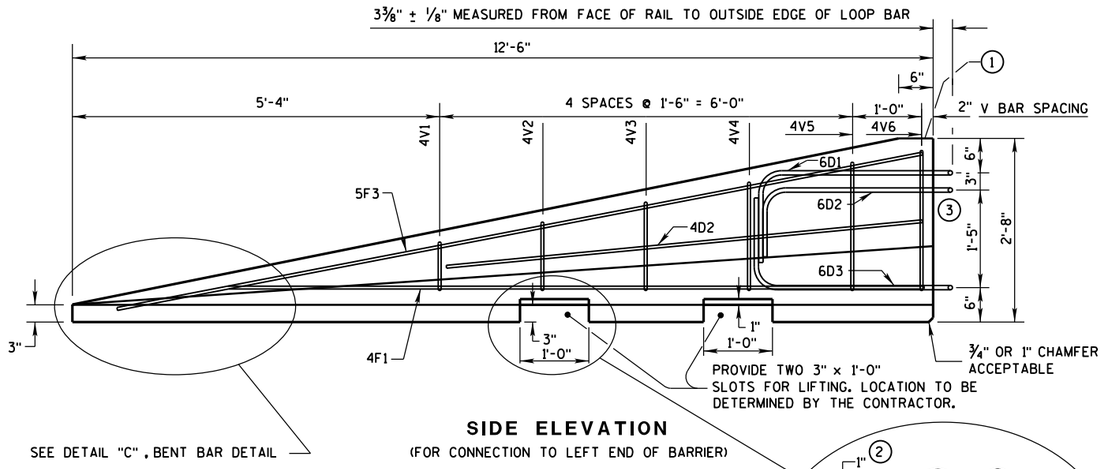
f'c = 4,000 psi

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

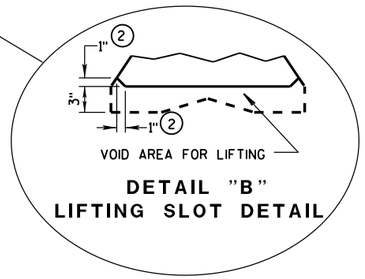
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

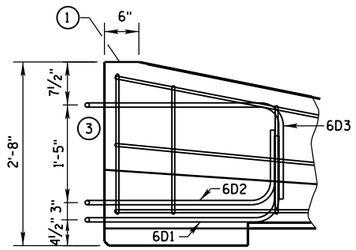
S.D.D. 14 B 7-15a



SIDE ELEVATION
(FOR CONNECTION TO LEFT END OF BARRIER)



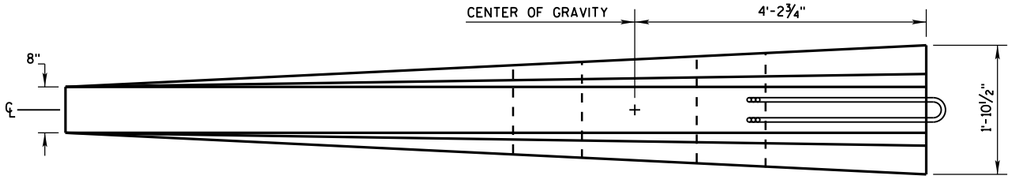
DETAIL "B"
LIFTING SLOT DETAIL



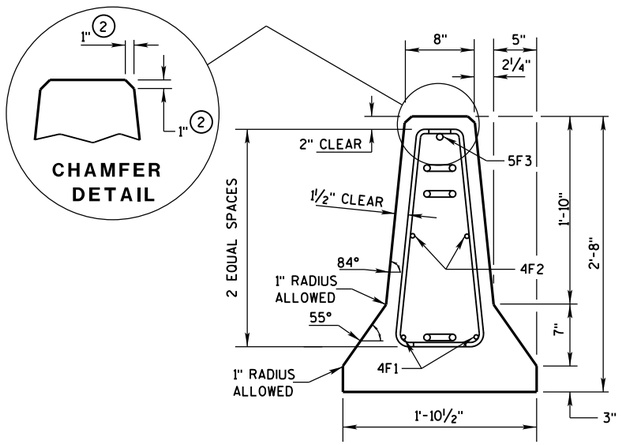
SIDE ELEVATION
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

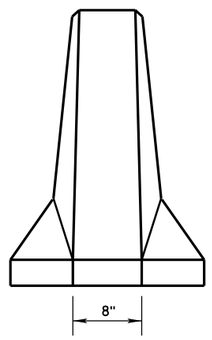
1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



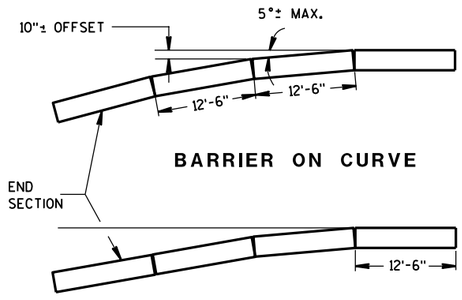
PLAN VIEW



END SECTION



FRONT ELEVATION



BARRIER ON CURVE

FLARE AT BARRIER END

POSTED SPEED, (MPH)	FLARE RATE
40 OR LESS	6:1
45 OR GREATER	8:1

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

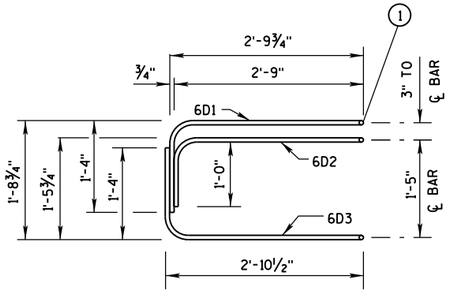
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6
S.D.D. 14 B 7-15b

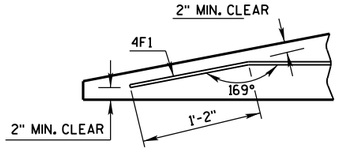
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

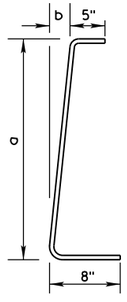
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



ELEVATION
LOOP BAR ASSEMBLY



DETAIL "C"
BENT BAR DETAIL



BAR	a	b
V1	10"	1"
V2	1'-1"	1¼"
V3	1'-5"	1⅝"
V4	1'-8"	1⅞"
V5	2'-0½"	2⅜"
V6	2'-3"	2¾"

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

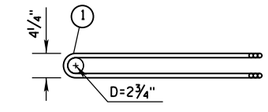
GENERAL NOTES

(1) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

BARRIER SECTION BILL OF MATERIALS

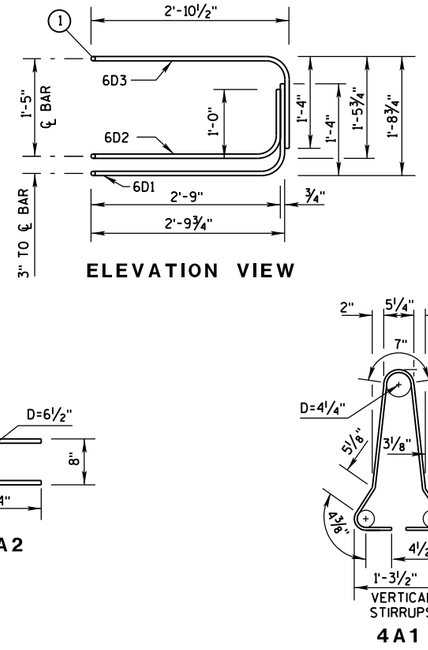
(PER 12'-6" BARRIER SECTION)

BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



PLAN VIEW
LOOP BAR ASSEMBLY
(MARKED END SHOWN, INVERT FOR OTHER END)

6A2



ELEVATION VIEW

4A1

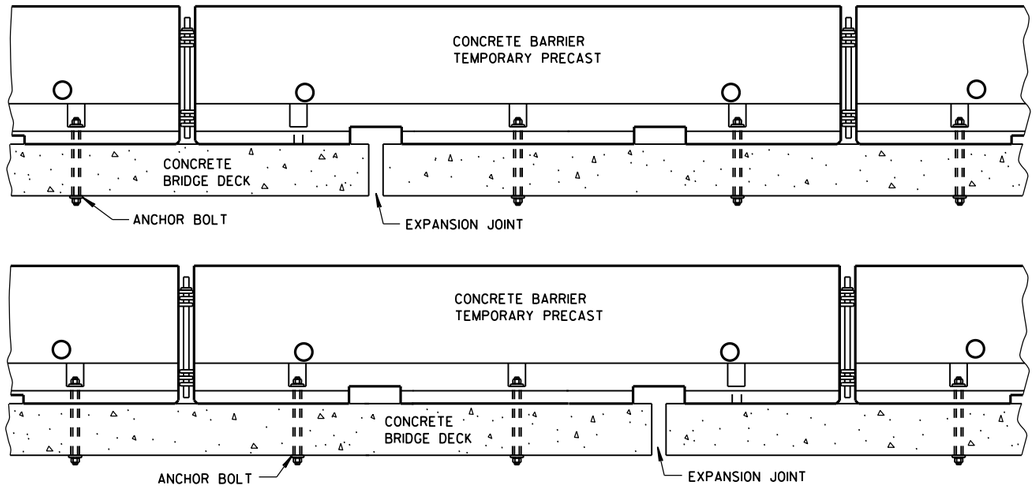
BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 7-15c



TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.)

GENERAL NOTES

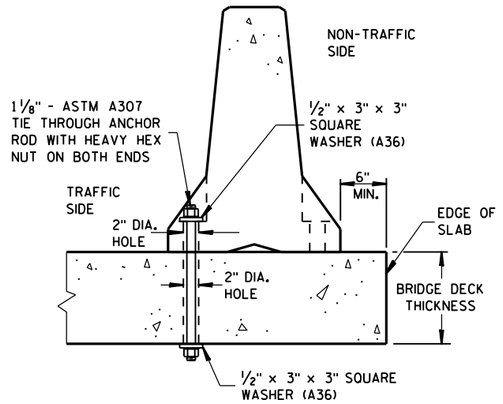
SEE SHEET E FOR WHEN TO ANCHOR. OTHER PARTS OF THE PLAN MAY SHOW ADDITIONAL LOCATIONS REQUIRING ANCHORING.

REMOVE ALL ANCHORS WHEN NO LONGER NEEDED. FILL CONCRETE PAVEMENTS, DECKS AND APPROACH SLABS WITH NON-SHRINK COMMERICAL GROUT FROM THE APPROVED PRODUCT LIST. FILL ASPHALT PAVEMENTS WITH ASTM D6690 TYPE II RUBBERIZED CRACK FILLER.

(1) 1⅛" DIAMENTER A307 THREADED ROD. ½" X 3" X 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL. ASTM A563A HEAVY HEX NUT.

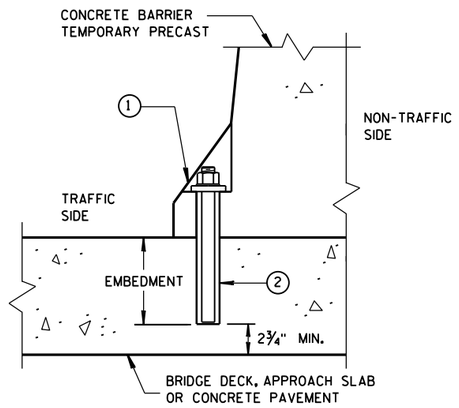
(2) ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5¼" EMBEDMENT. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.

(3) ASPHALT SURFACE SHOWN. CONTRACTOR MAY DRILL THROUGH CONCRETE PAVEMENT AND THAN DRIVE ASPHALT ANCHOR PIN.



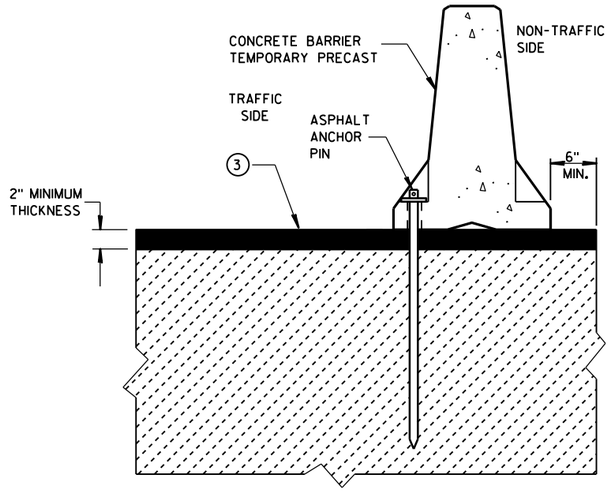
THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)

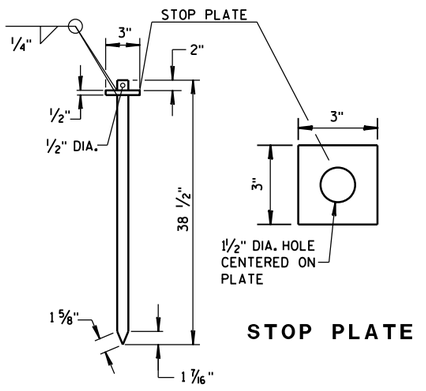


REMOVABLE ADHESIVE ANCHOR INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)



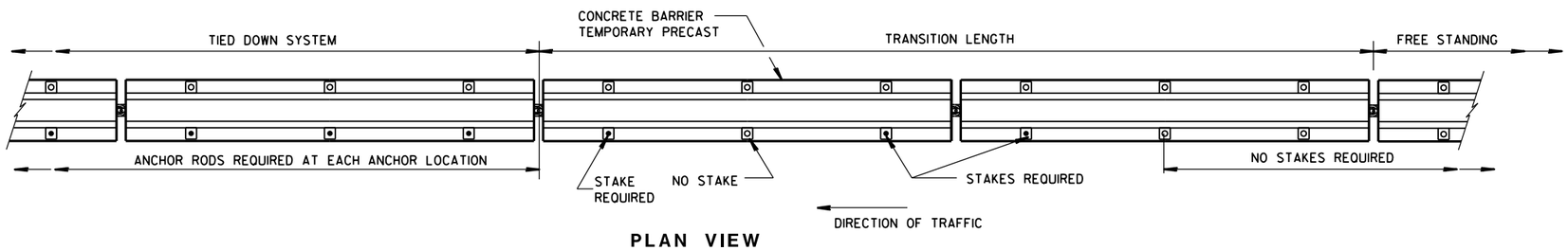
STAKE DOWN INSTALLATION FOR ASPHALTIC SURFACE



STOP PLATE

ASPHALT ANCHOR PIN

(ASTM A36 STEEL)



PLAN VIEW

FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

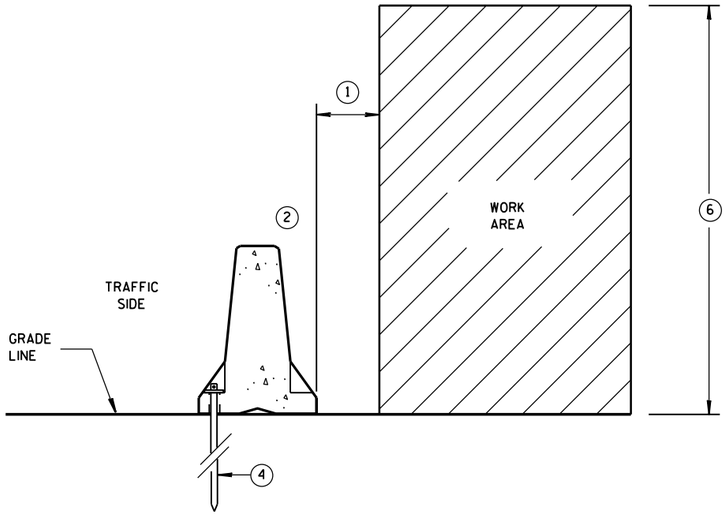
(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

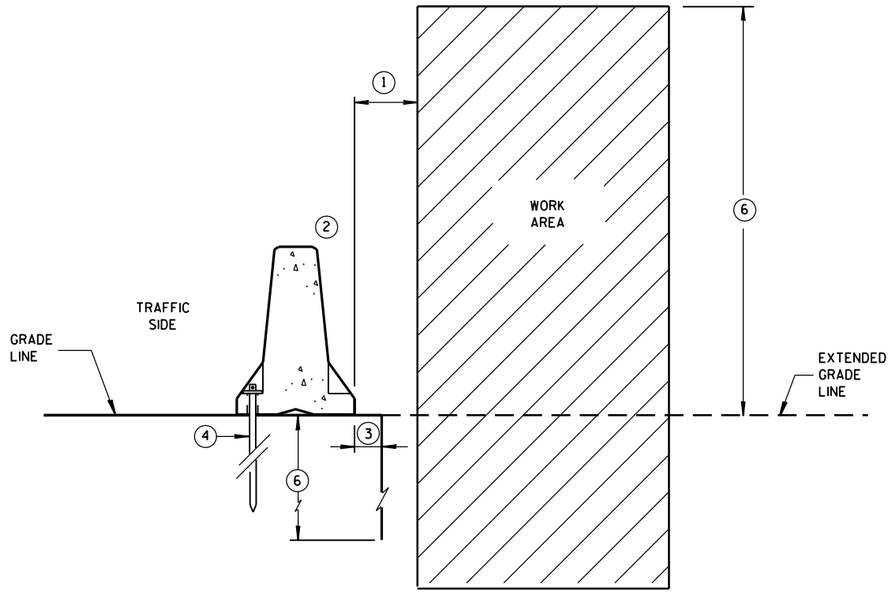
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 7-15d



ANCHORED BARRIER SPACE REQUIREMENTS FOR HAZARDS EXTENDED ABOVE THE GRADE LINE

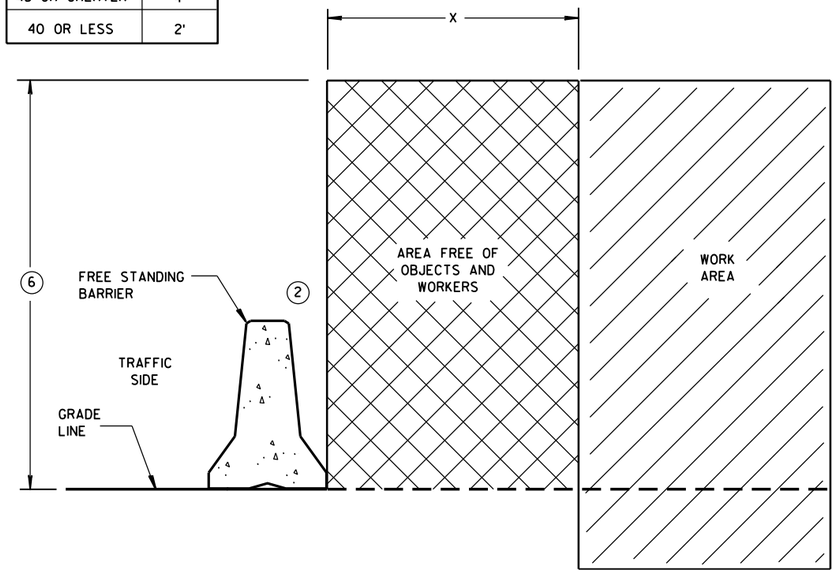


ANCHORED BARRIER SPACE REQUIREMENTS ON VERTICAL DROP OFFS

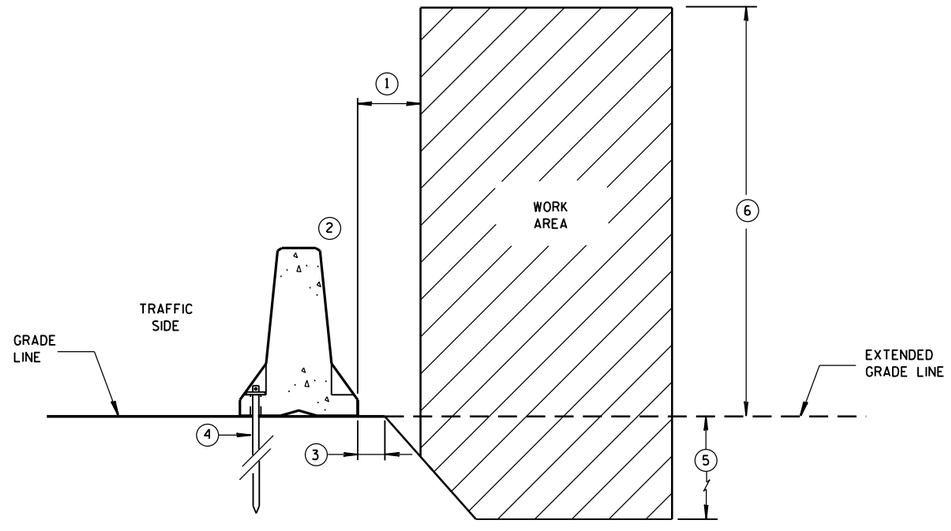
GENERAL NOTES

1. WHEN OBJECTS EXTEND ABOVE THE GRADE, A MINIMUM OF 1 FOOT IS REQUIRED FROM BACK OF BARRIER TO OBJECT. SEE OTHER DETAILS FOR FOR THE MINIMUM OFFSET FROM BACK OF BARRIER TO SLOPES OR VERTICAL DROPS.
2. OBJECTS ARE NOT TO BE PLACED ON, MOUNTED TO, OR LEANED AGAINST THE BARRIER WITHOUT PERMISSION OF THE PROJECT ENGINEER.
3. SEE OTHER DETAIL ON SHEET "D" FOR SPACE REQUIREMENTS.
4. SEE BOLT THROUGH DECK, REMOVABLE ADHESIVE ANCHOR, OR A STAKE DOWN FOR ASPHALTIC SURFACE TREATMENT DETAILS. ASPHALTIC ANCHOR SHOWN.
5. DEPTH OF 3 FEET OR MORE.
6. Y = 6'-6".

POSTED SPEED MPH	X
45 OR GREATER	4'
40 OR LESS	2'



FREE STANDING BARRIER SPACE REQUIREMENTS



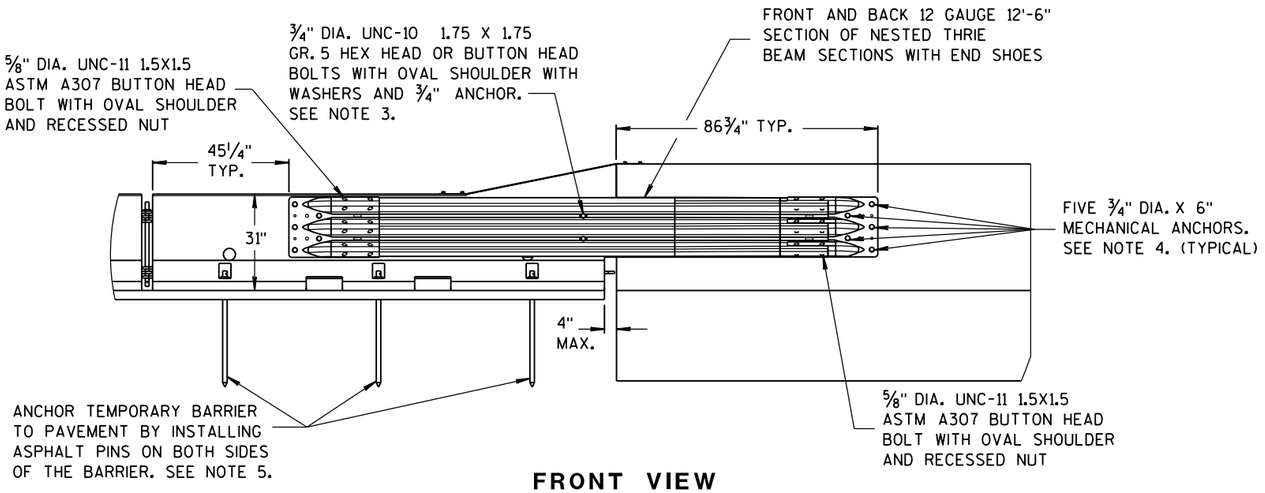
ANCHORED BARRIER SPACE REQUIREMENTS ON SLOPES

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

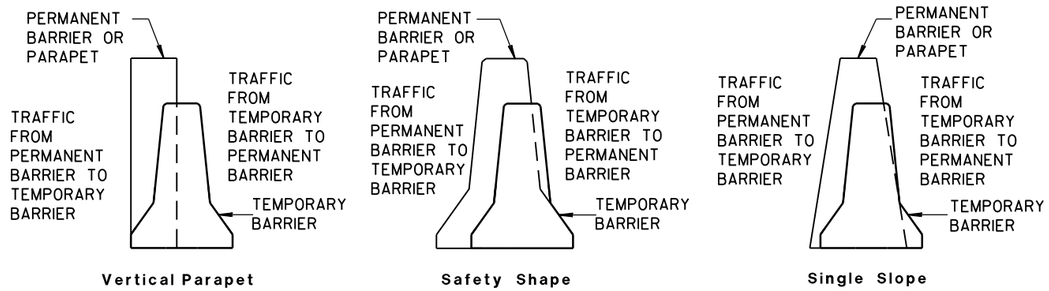
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 7-15e



FRONT VIEW

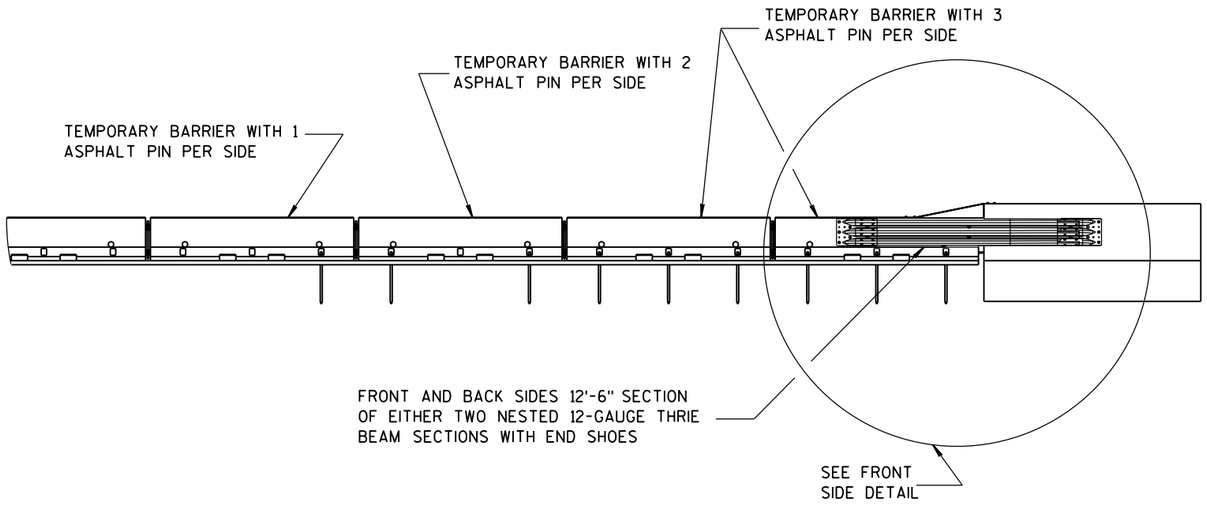


TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

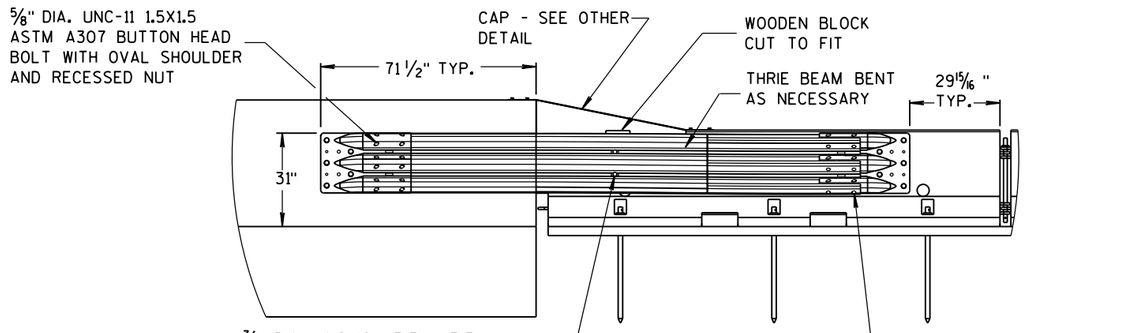
NOTES

NESTED THRIE BEAM IS REQUIRED ON BOTH SIDES OF THE TEMPORARY BARRIER FOR ALL INSTALLATIONS REGARDLESS OF TRAFFIC.

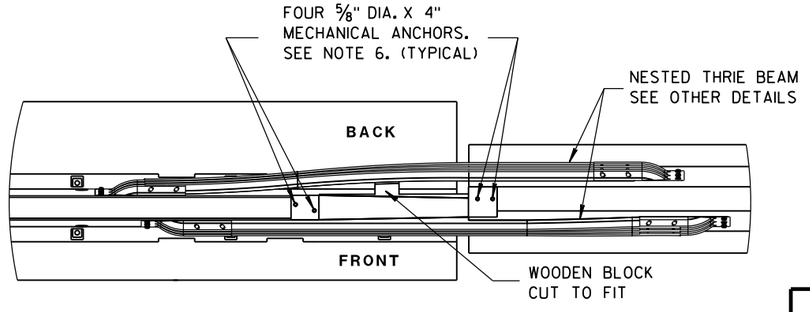
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS.
4. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS.
5. MAY BE USED ON CONCRETE OR ASPHALT PAVEMENTS. ASPHALT OPTION SHOWN. FOR CONCRETE OPTION SEE OTHER DETAILS.
6. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.



FRONT VIEW



BACK VIEW



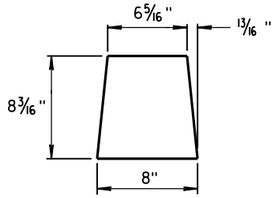
PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

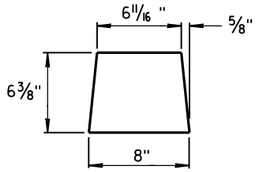
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

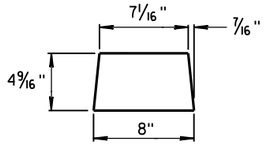
6
S.D.D. 14 B 7-15f



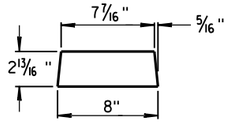
GUSSET 1



GUSSET 2

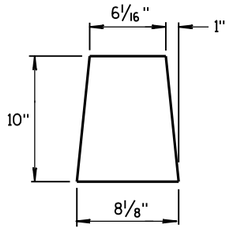


GUSSET 3

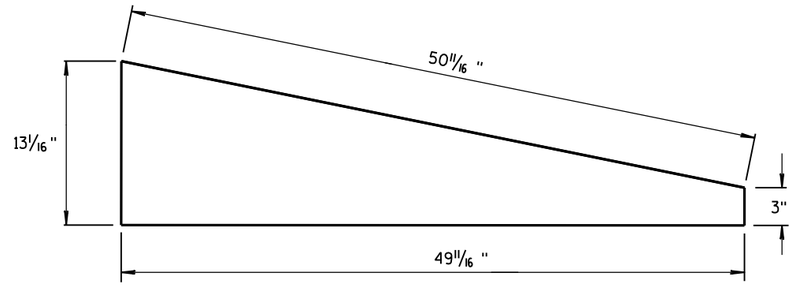


GUSSET 4

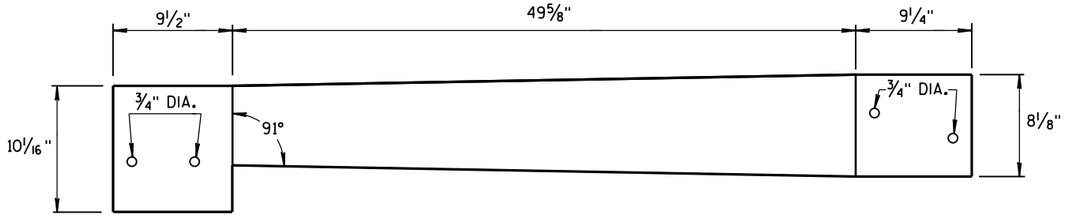
GUSSETS

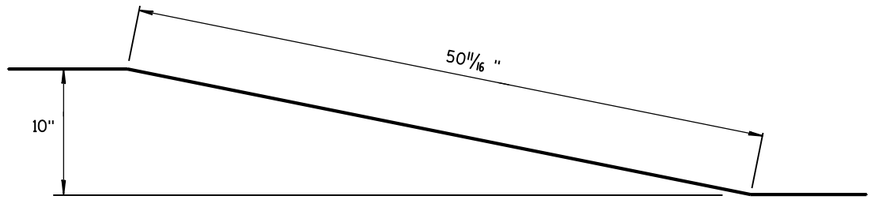


END PLATE



SIDE PLATE

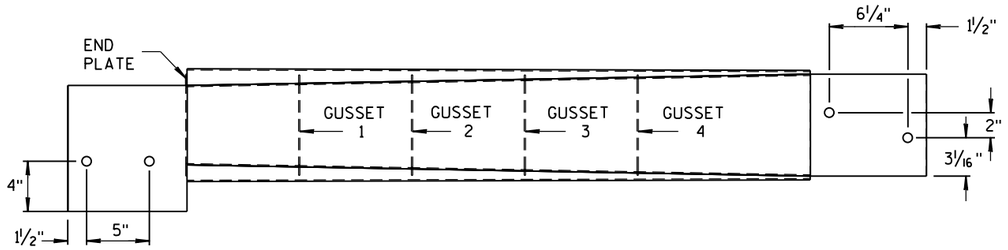


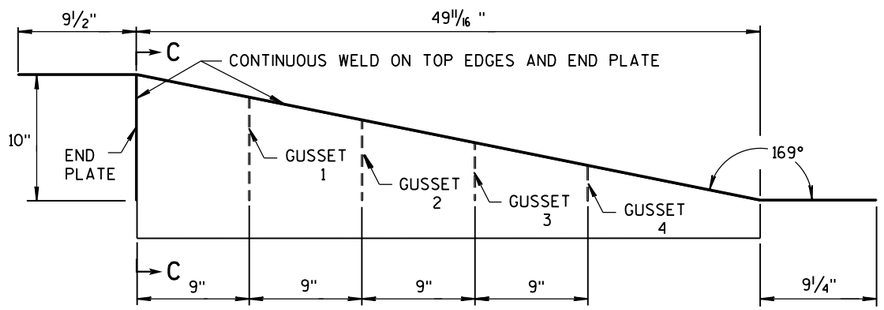


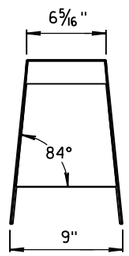
TOP PLATE

SIDE, TOP AND END PLATES FOR CAP FROM TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.







SECTION C-C

NOTES

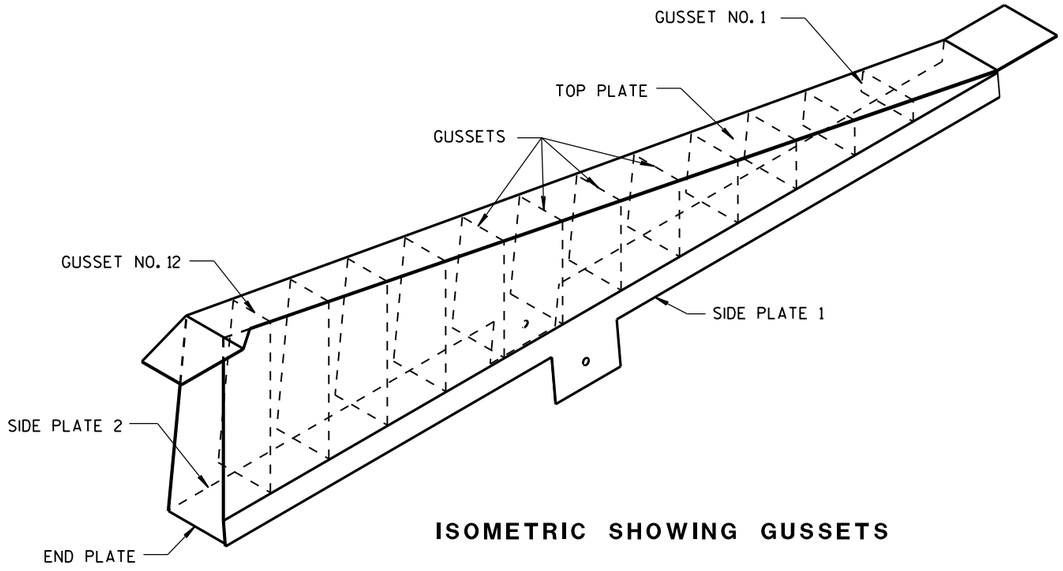
1. FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
2. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

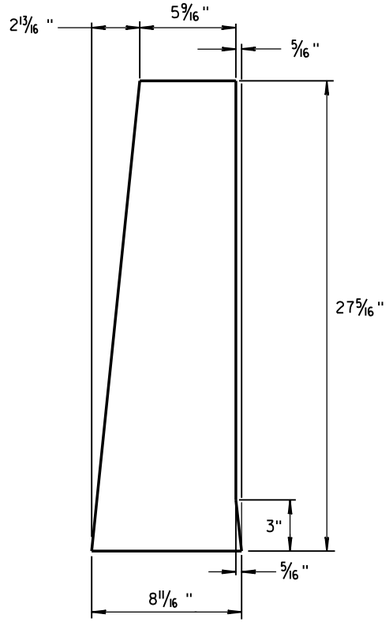
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 14 B 7-15g

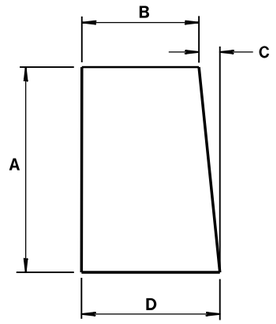


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



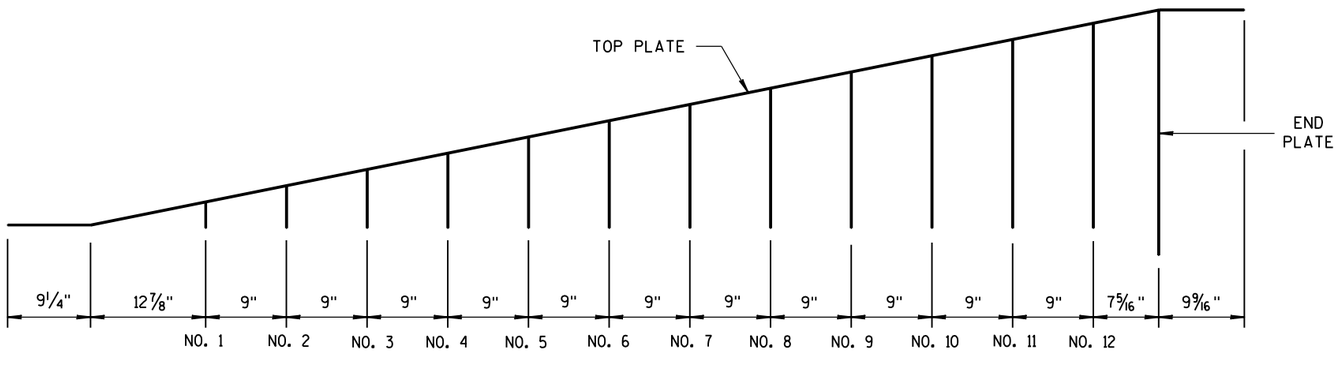
GUSSETS 1 - 12

ALL GUSSETS 1/8" STEEL PLATE

GUSSET DIMENSIONS				
GUSSET NO.	A	B	C	D
1	2 7/8"	7 3/4"	1/4"	8
2	4 11/16 "	7 9/16 "	1/2"	8
3	6 1/2"	7 3/8"	11/16 "	8 1/16 "
4	8 5/16 "	7 3/16 "	7/8"	8 1/16 "
5	10 1/8"	7"	1 1/16 "	8 1/16 "
6	11 15/16 "	6 13/16 "	1 1/4"	8 1/16 "
7	13 3/4"	6 5/8"	1 7/16 "	8 1/16 "
8	15 9/16 "	6 7/16 "	1 9/16 "	8 1/16 "
9	17 3/8"	6 1/4"	1 13/16 "	8 1/16 "
10	19 3/16 "	6 1/16 "	1 15/16 "	8 1/16 "
11	21"	5 7/8"	2 3/16 "	8 1/16 "
12	22 13/16 "	5 11/16 "	2 5/16 "	8 1/16 "

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 STEEL AND GALVANIZED.

GUSSETS AND END PLATE ARE STITCH WELDED ON 3 SIDES. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE AND GUSSETS.



GUSSET LOCATION

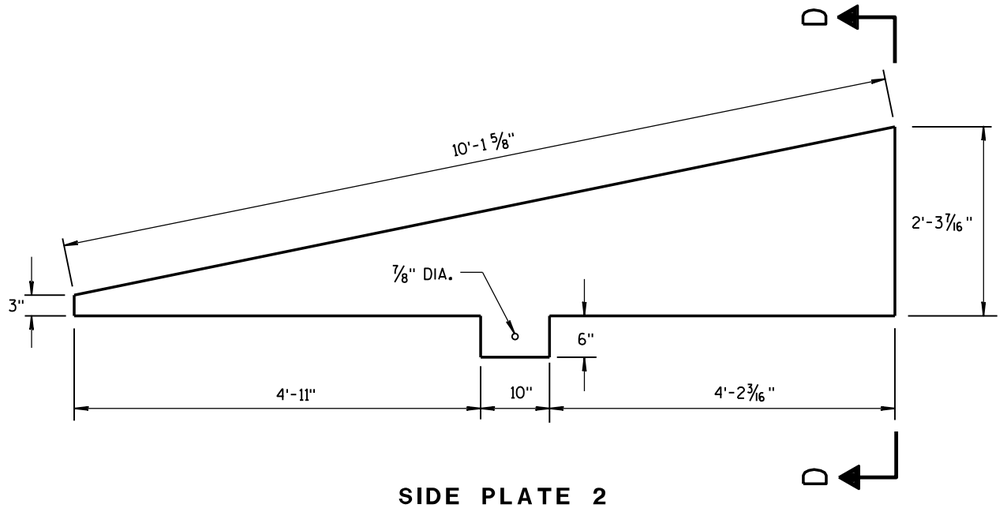
CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

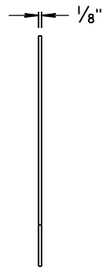
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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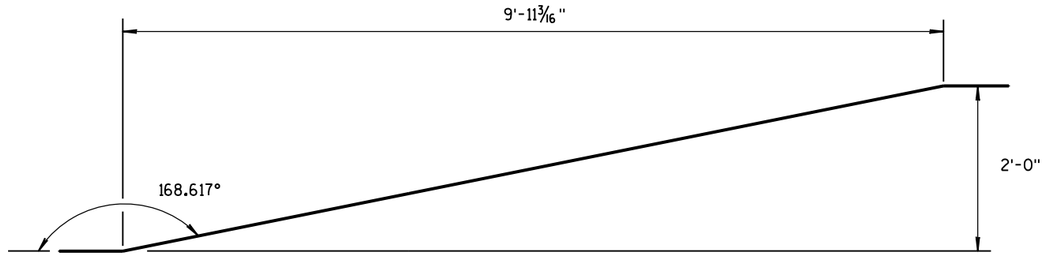
S.D.D. 14 B 7-15h



SIDE PLATE 2

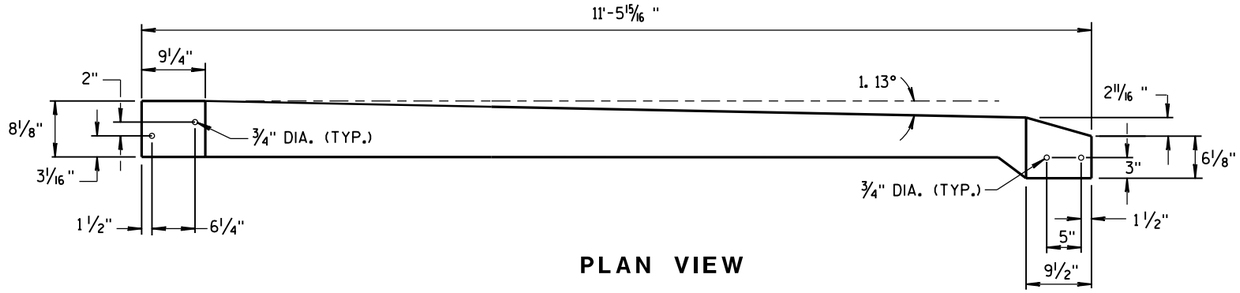


END VIEW



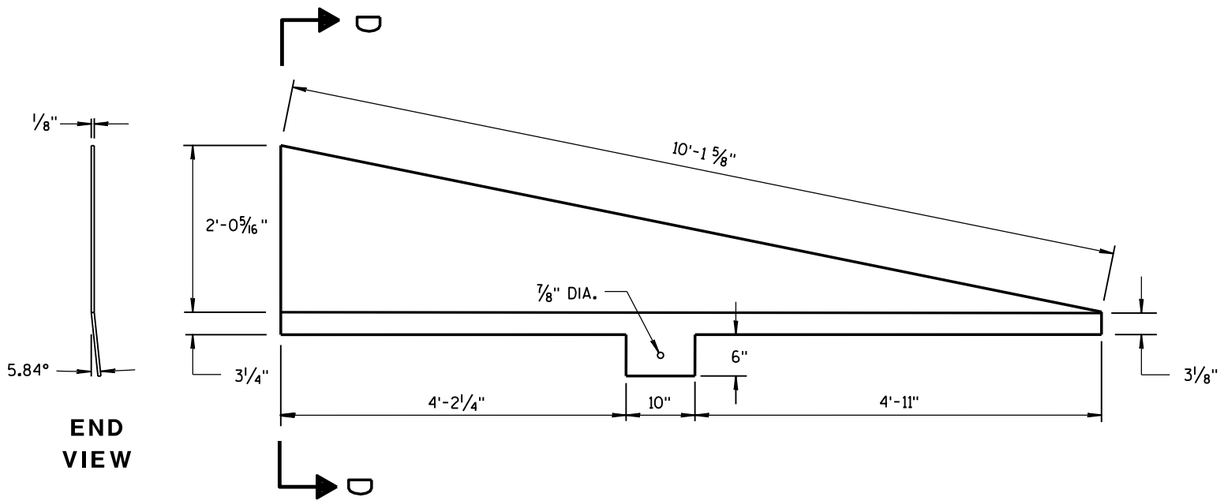
SIDE VIEW

TOP PLATE



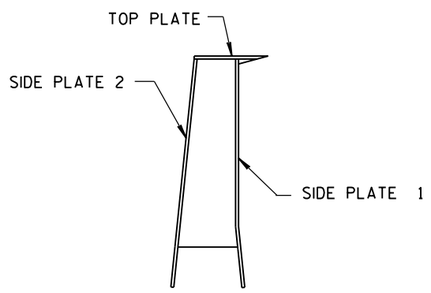
PLAN VIEW

TOP PLATE



END VIEW

SIDE PLATE 1



SECTION D-D

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

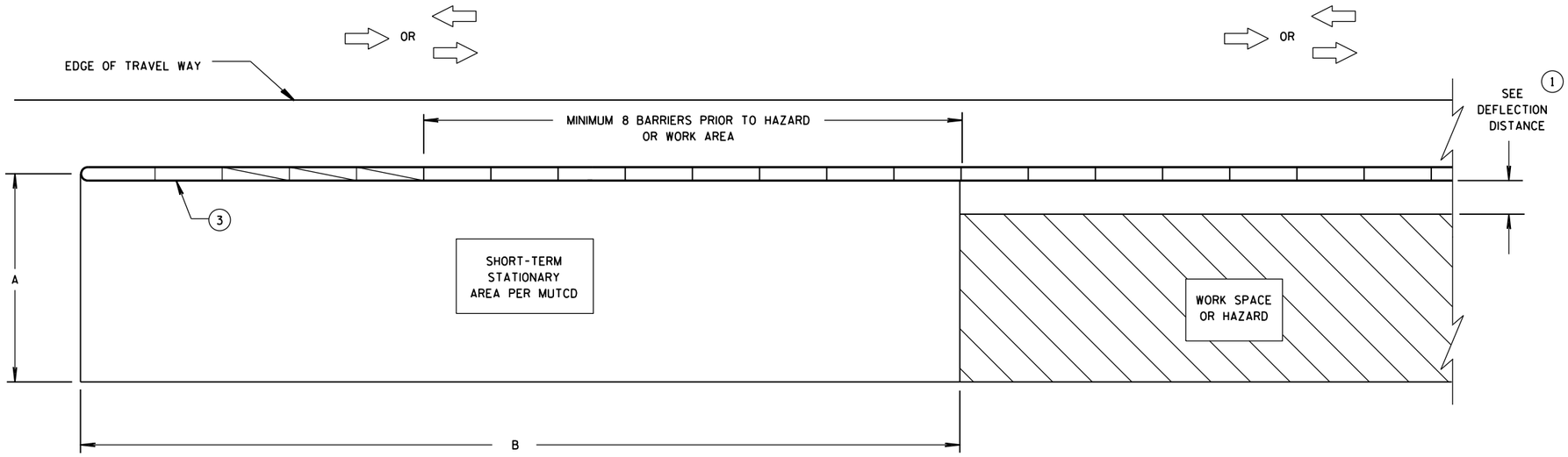
APPROVED
June 2017 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS UNIT SUPERV
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FHWA

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S.D.D. 14 B 7-15i

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S.D.D. 14 B 7-15i



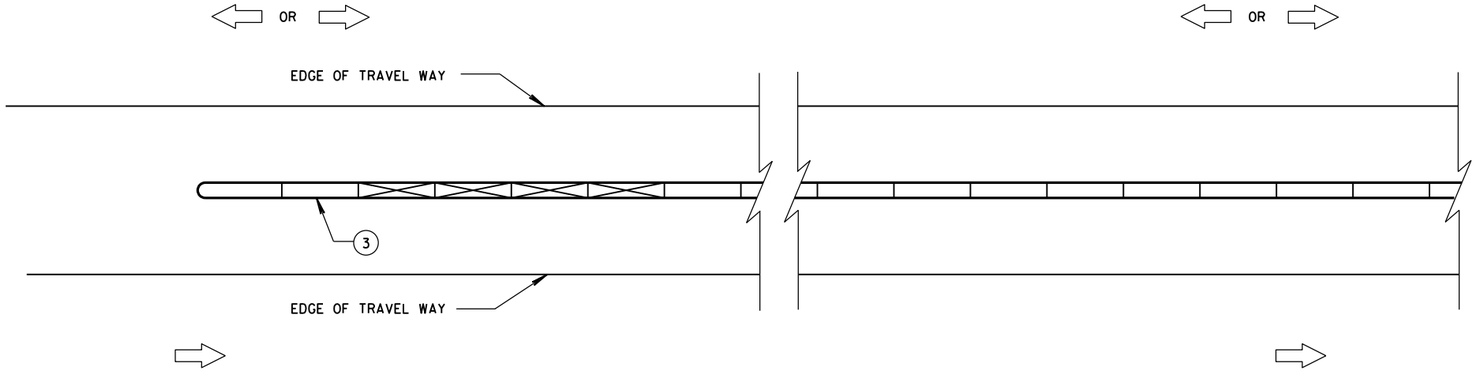
CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER

DIMENSION A TABLE (2)

FACILITY	POSTED SPEED MPH	DIMENSION A	
		MIN. FT	MAX. FT
FREEWAY/EXPRESSWAY	ALL	15	20
NON-FREEWAY/EXPRESSWAY	GREATER THAN OR EQUAL TO 45	10	15
NON-FREEWAY/EXPRESSWAY	LESS THAN 45	8	10
AADT LESS THAN 1,500	ALL	8	10

DIMENSION B TABLE (2)

POSTED SPEEDS MPH	DIMENSION B FT
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON BOTH SIDES OF BARRIER

LEGEND

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

GENERAL NOTES

SEE STANDARD DETAIL DRAWING 14B7 FOR MORE INFORMATION.

DETAILS PROVIDE A GENERAL LAYOUT OF TEMPORARY CONCRETE BARRIER, CRASH CUSHIONS, SAND BARREL ARRAYS AND TIE DOWN TRANSITIONS. DETAILS PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

ADDITIONAL TEMPORARY BARRIER MAY BE REQUIRED TO PROTECT TRAVELING PUBLIC FROM HAZARDS, CONTRACTOR'S OPERATIONS OR TO CONTROL TRAFFIC.

TEMPORARY BARRIER MAY BE REQUIRED TO BE ANCHORED TO PAVEMENT OR BRIDGE DECK.

FOR DETAILS ON CRASH CUSHION OR SAND BARREL ARRAYS SEE OTHER SECTIONS OF THE PLAN AND MANUFACTURE'S DETAILS.

SLOPES LEADING TO TEMPORARY BARRIER, CRASH CUSHION OR SAND BARREL ARRAY ARE 10:1 OR LESS.

(1) FOR DEFLECTION INFORMATION SEE STANDARD DETAIL DRAWING 14B7.

(2) VALUES PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

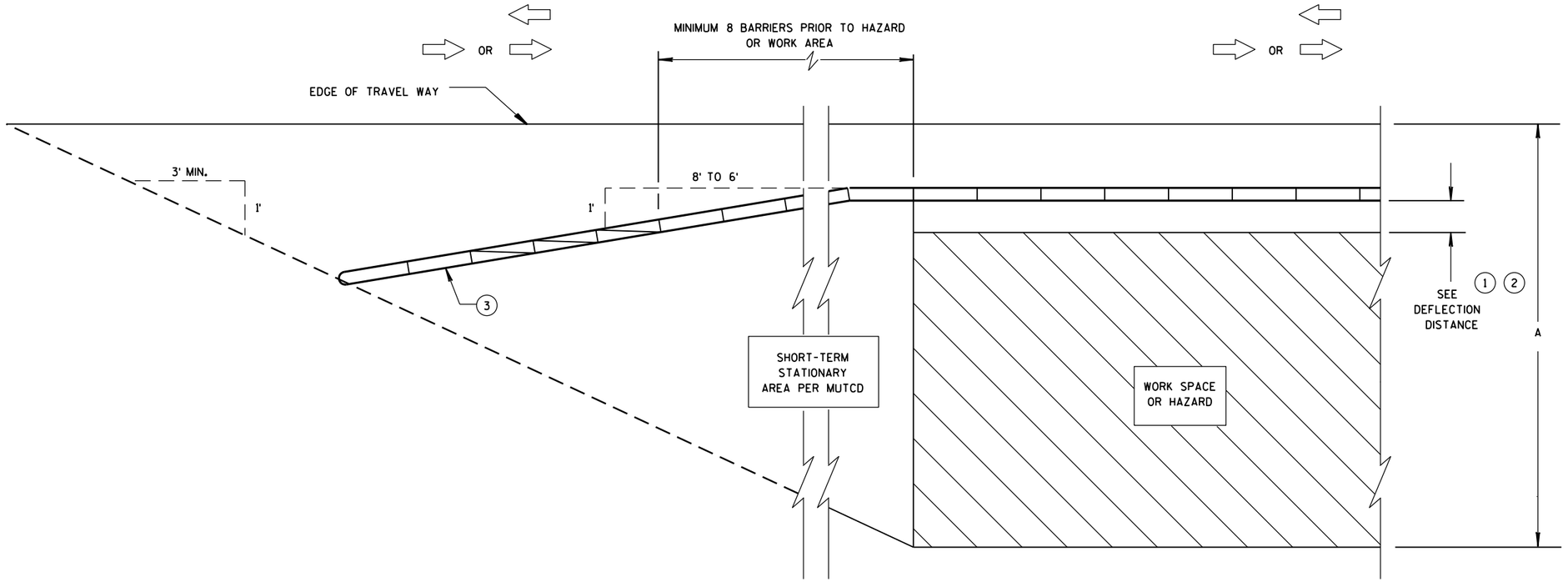
(3) ANCHOR TEMPORARY BARRIER ACCORDING TO CRASH CUSHION OR SAND BARREL MANUFACTURER'S RECOMMENDATIONS. IF MANUFACTURER'S RECOMMENDATIONS ARE NOT PROVIDED, ANCHOR 3 PINS ON TRAFFIC SIDE.

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

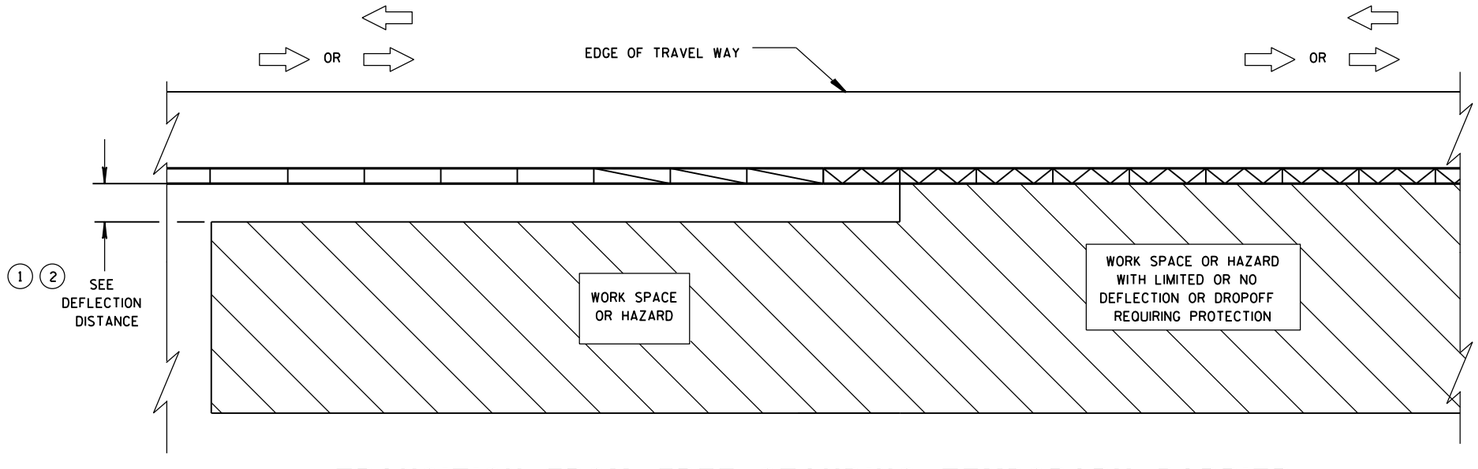
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 8-2a
S.D.D. 14 B 8-2a



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE - FLARED INSTALLATION



TRANSITION FROM FREE STANDING TEMPORARY BARRIER TO ANCHORED BARRIER

LEGEND

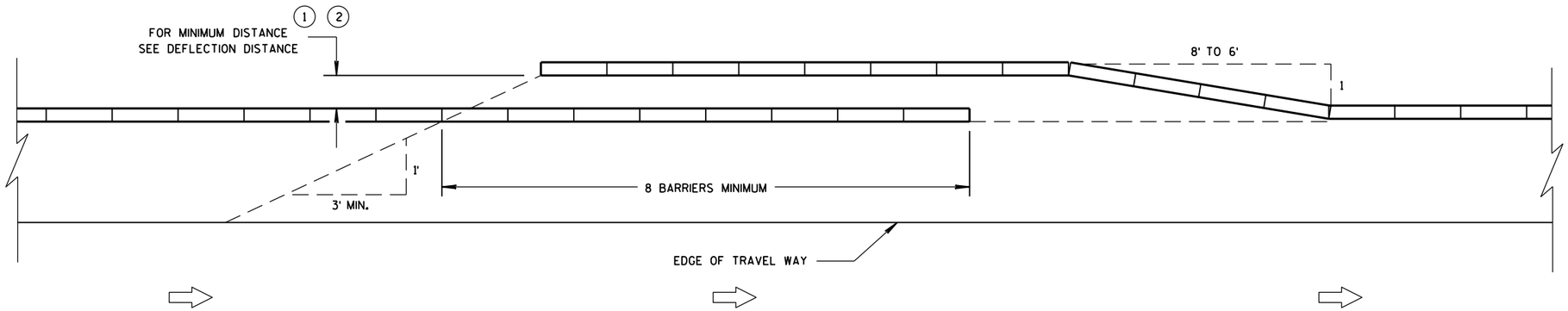
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

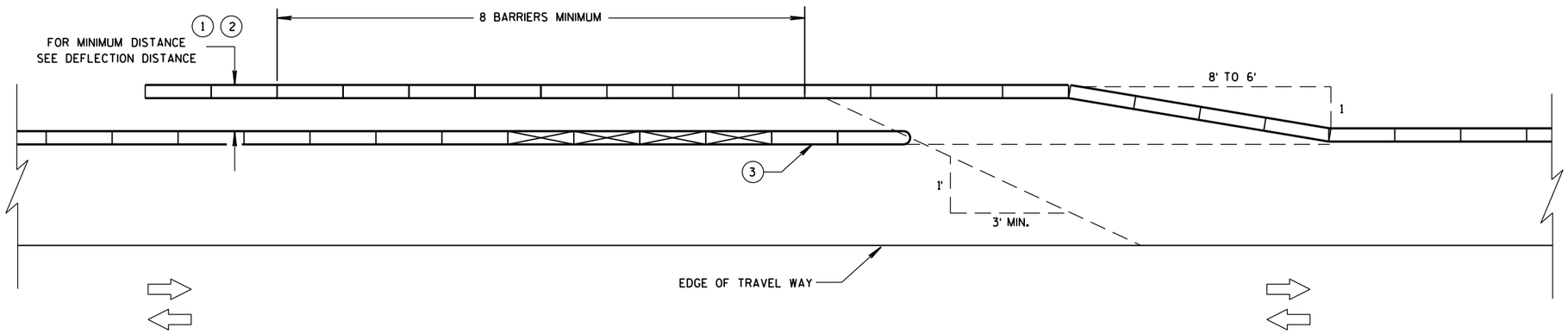
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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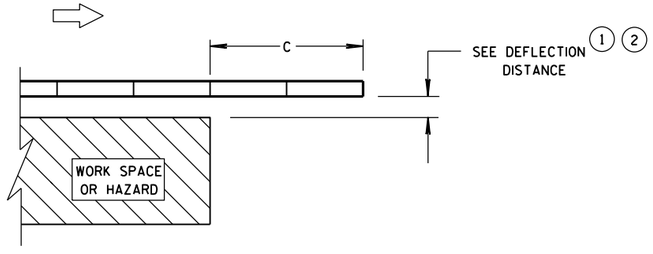
S.D.D. 14 B 8-2b



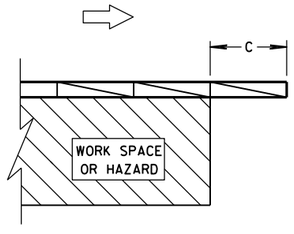
TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC



TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC



ENDING TEMPORARY BARRIER DOWNSTREAM - UNANCHORED



ENDING TEMPORARY BARRIER DOWNSTREAM - ANCHORED

LEGEND

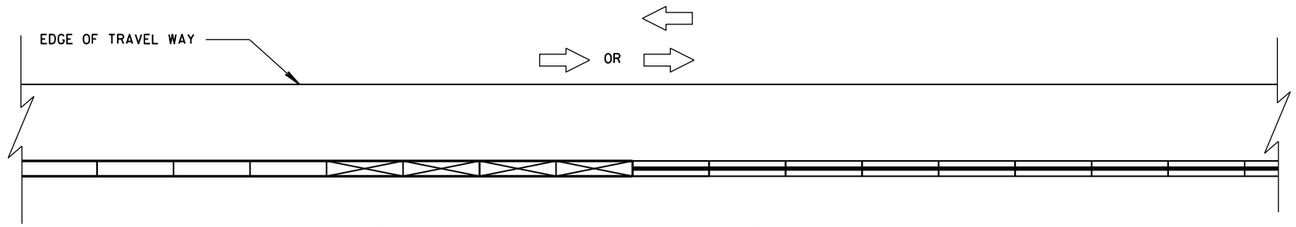
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

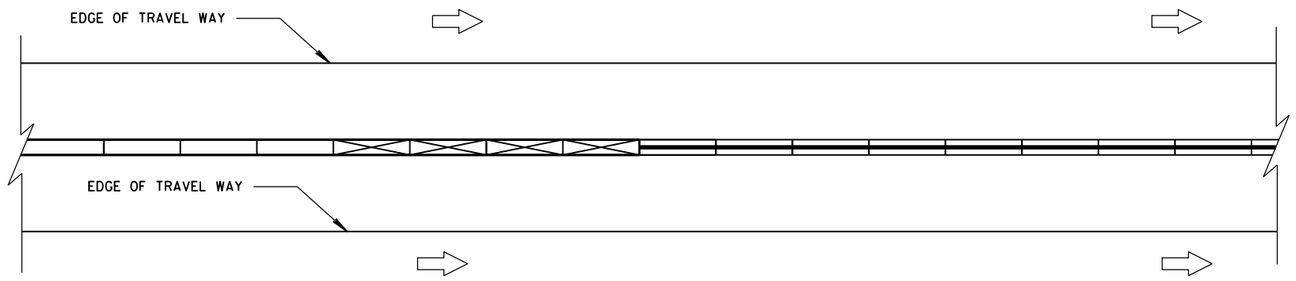
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 8-2c



CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON ONE SIDE



CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON BOTH SIDES

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR
SAND BARREL ARRAY

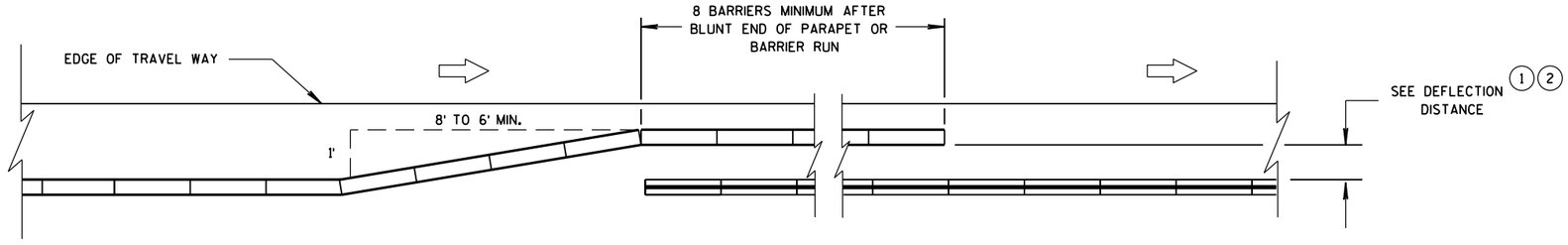
SEE FREE STANDING TRANSITION
TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION
TO TIED-DOWN SYSTEM DETAILS

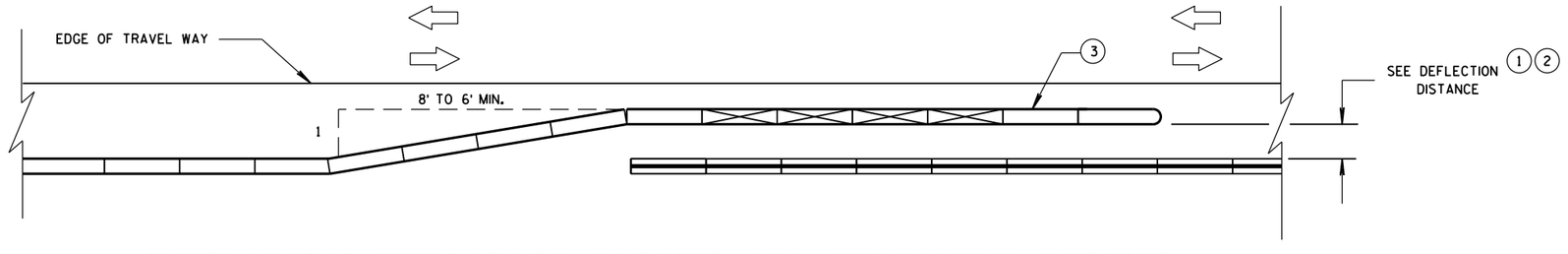
3 PINS PLACED ON
TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER
OR CONCRETE PARAPET

FREE STANDING TEMPORARY
BARRIER



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
ONE WAY TRAFFIC



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
TWO WAY TRAFFIC

CRASH CUSHION/SAND BARREL
ARRAY AND OTHER TEMPORARY
BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 8-2d

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR SAND BARREL ARRAY

SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS

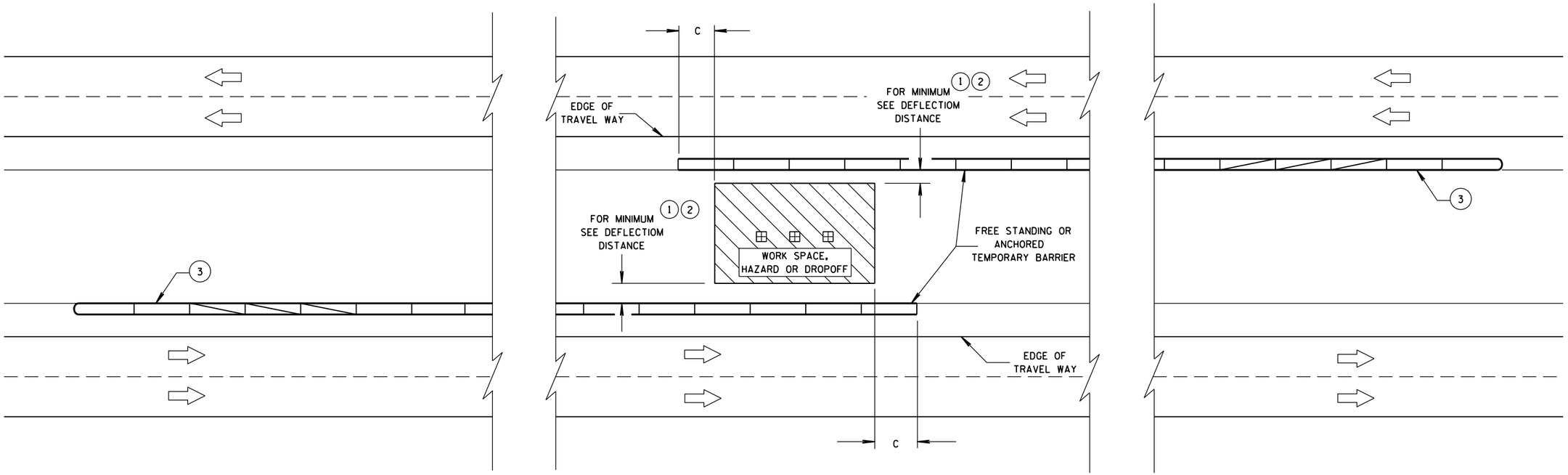
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET

FREE STANDING TEMPORARY BARRIER

DIMENSION C TABLE (2)

AVAILABLE DEFLECTION DISTANCE	MINIMUM LENGTH OF BARRIER BEYOND HAZARD FT
GREATER THAN 8'	12.5
LESS THAN OR EQUAL TO 8' BUT GREATER THAN 4'	50
LESS THAN OR EQUAL TO 4'	100



CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINNER
ENT
FHWA

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S.D.D. 14 B 8-2e

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S.D.D. 14 B 8-2e

(1) WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

(2) USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

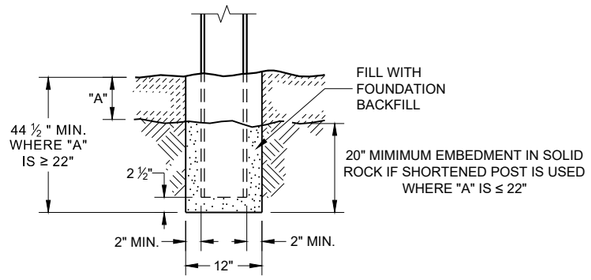
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

(4) WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

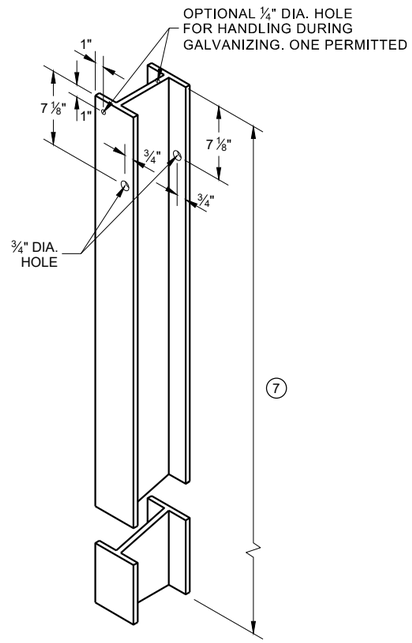
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS +1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

(6) WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

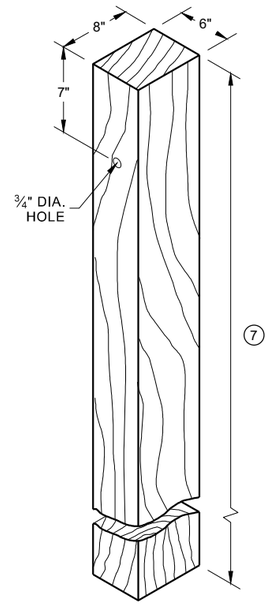
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



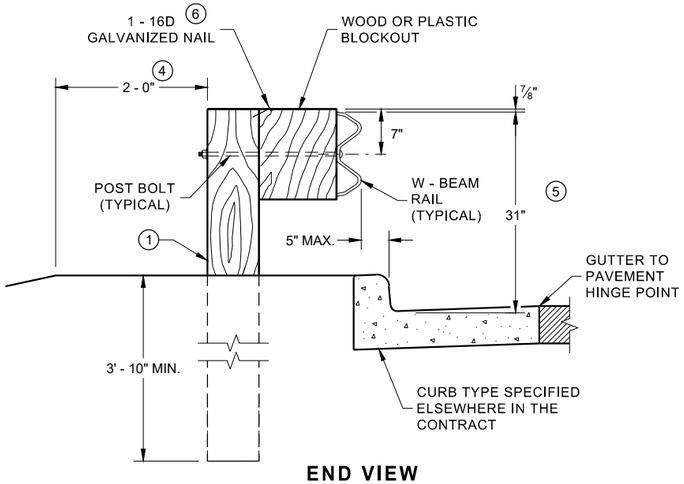
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



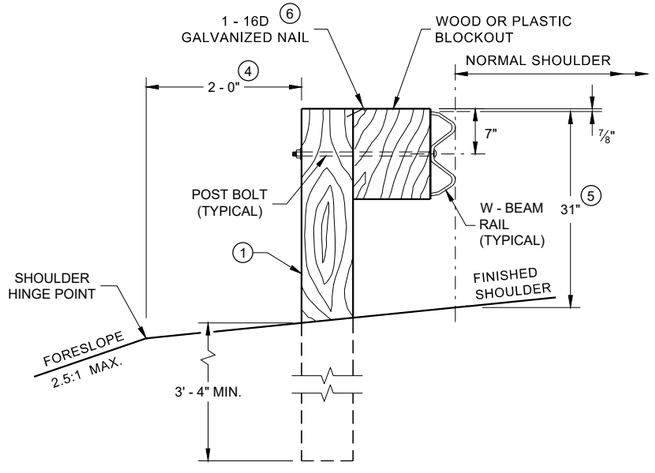
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



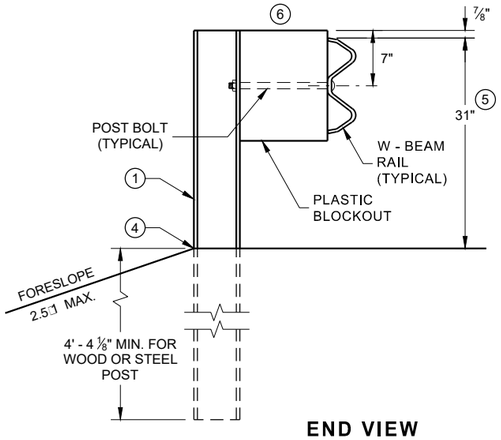
WOOD POST (6" X 8") NOMINAL (1)



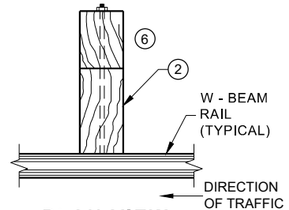
END VIEW
LOCATED ALONG A CURBED ROADWAY



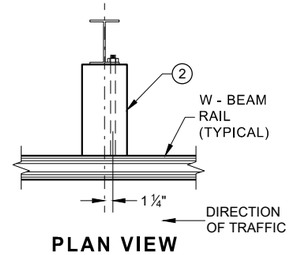
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



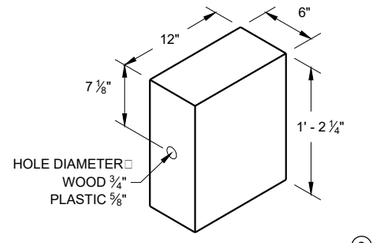
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



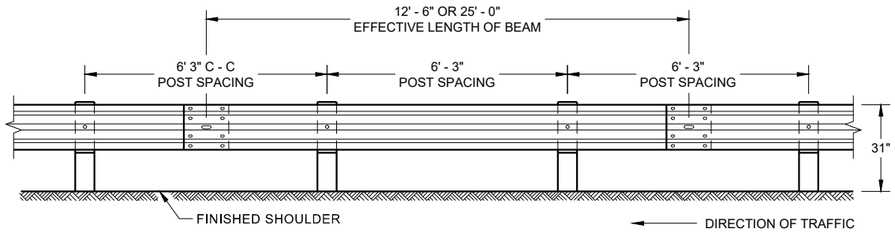
PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM



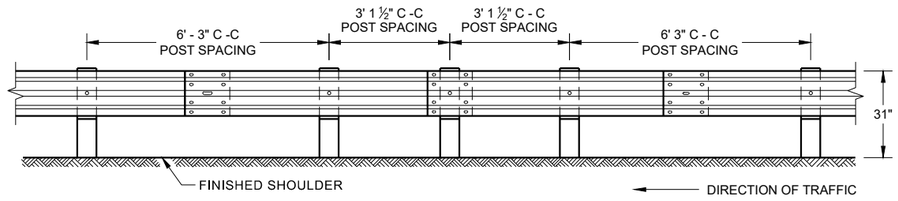
WOOD OR PLASTIC BLOCKOUT (2)

MIDWEST GUARDRAIL SYSTEM
MGS GUARDRAIL

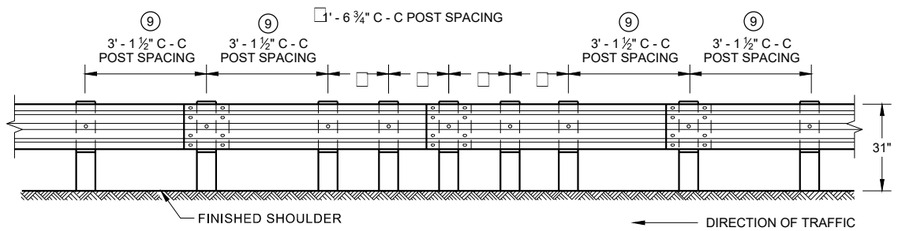
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



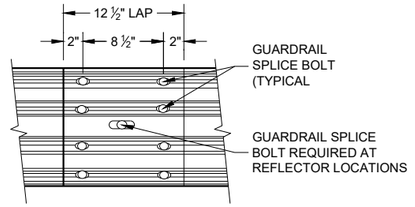
FRONT VIEW
POST SPACING STANDARD INSTALLATION



FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)



FRONT VIEW
QUARTER POST SPACING (QS)



FRONT VIEW
MID-SPAN BEAM SPLICE

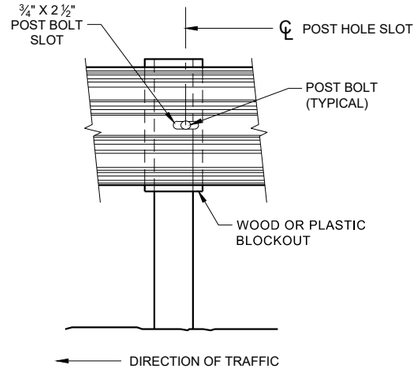
GENERAL NOTES

⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.

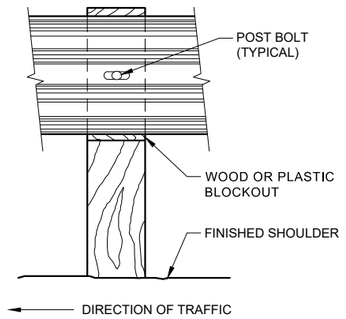
⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A ¾" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

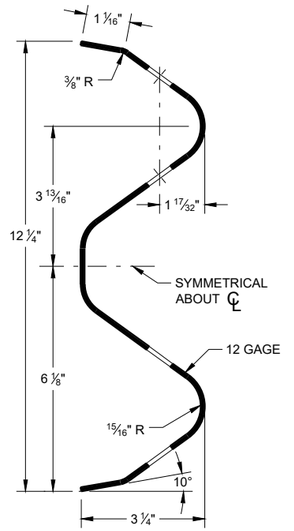
GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



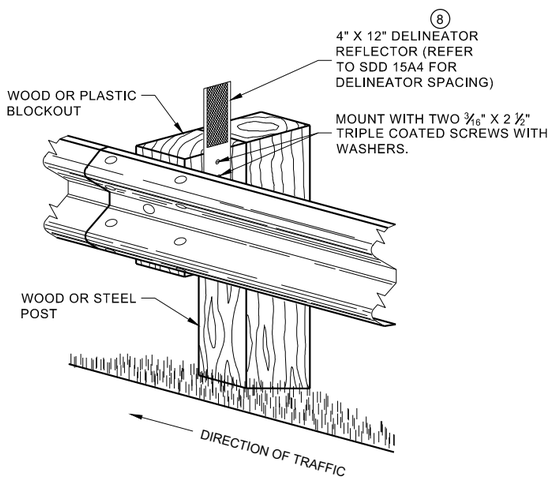
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



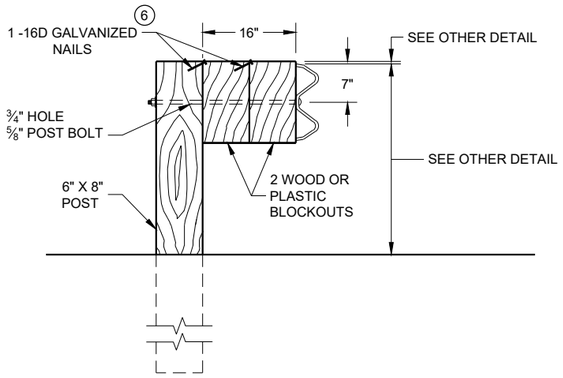
ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION

MIDWEST GUARDRAIL S□ STEM
□MGS□ GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

6

SDD1□□□□ - 0□□

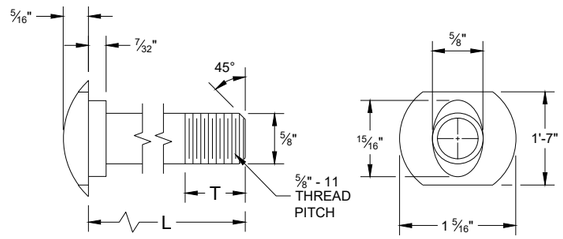


DETAIL FOR 16" BLOCKOUT DEPTH

IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.

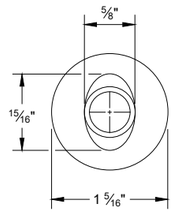
NOTE:

1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3/16".
2. IF THE BOLT EXTENDS MORE THAN ¼" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

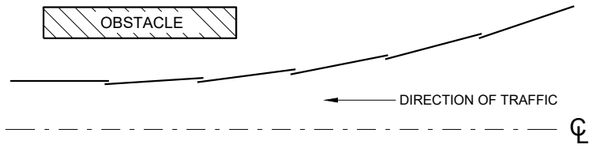


POST BOLT TABLE

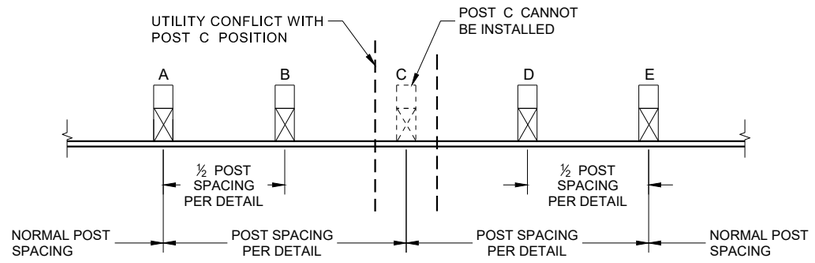
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



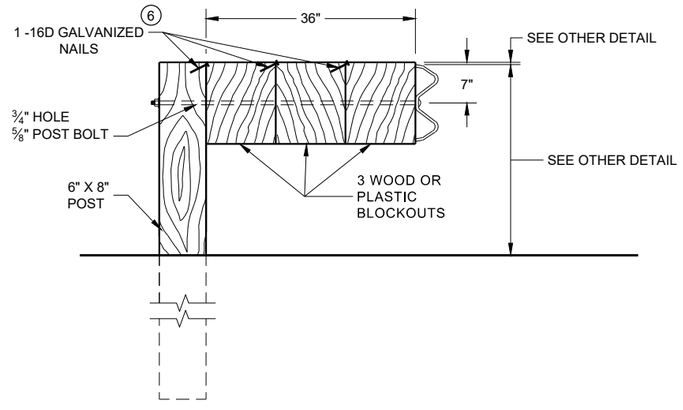
ALTERNATE BOLT HEAD



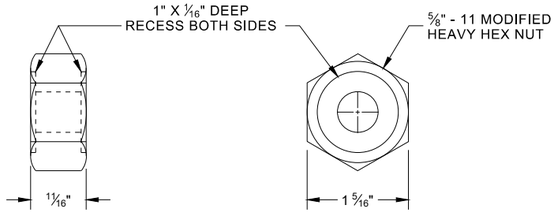
PLAN VIEW
BEAM LAPPING DETAIL



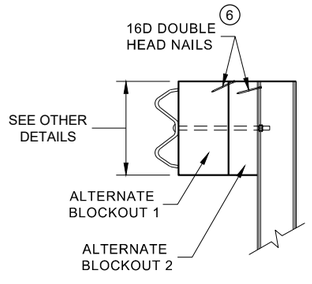
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



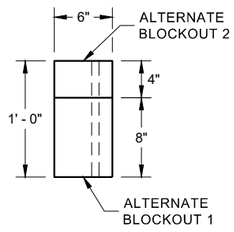
DETAIL FOR 36" BLOCKOUT DEPTH



POST BOLT, SPLICE BOLT AND RECESS NUT



SIDE VIEW



PLAN VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

(6) WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

MIDWEST GUARDRAIL S□ STEM
□MGS□ GUARDRAIL

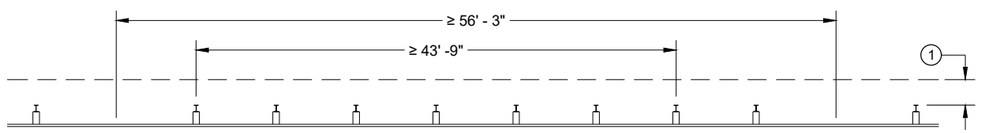
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

6

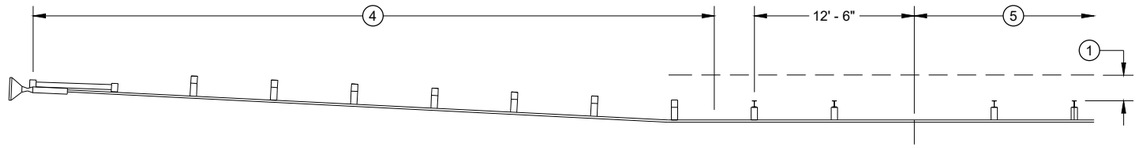
SDD1□□□□ - 0□□

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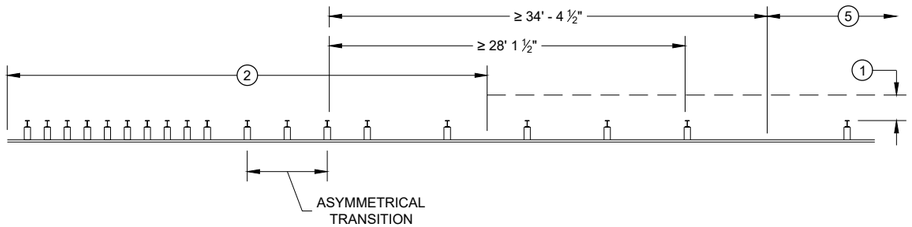
SDD1□□□□ - 0□□



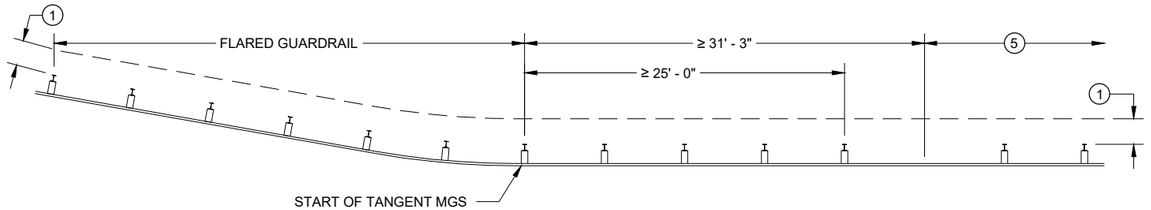
MISSING POST IN NORMAL BEAM GUARD RUN



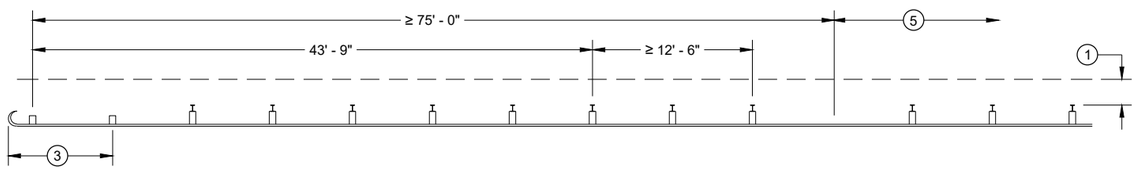
MISSING POST IN NORMAL BEAM GUARD RUN NEAR EAT



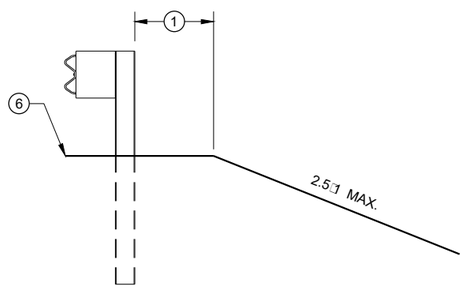
MISSING POST NEAR APPROACH THRIE BEAM TRANSITION



MISSING POST IN NORMAL BEAM GUARD RUN NEAR FLARED BEAM GUARD



MISSING POST IN NORMAL BEAM GUARD RUN NEAR TYPE 2 TERMINAL



CROSS SECTION VIEW

1. MINIMUM OF 2 FEET OF GRADING BEHIND POST.
2. SEE SDD 14B45 FOR MORE DETAILS.
3. SEE SDD 14B47 FOR MORE DETAILS.
4. SEE SDD 14B44 FOR MORE DETAILS.
5. SEE MISSING POST IN NORMAL BEAM GUARD RUN FOR DISTANCE TO NEXT MISSING POST AND AREA FOR WELL DRAINED, COMPACTED SOILS.
6. SEE PLAN FOR SHOULDER DESIGN.

MIDWEST GUARDRAIL S□ STEM
□MGS□ GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 — DATE
/S/ R□dney Tay□r — ROADWAY STANDARDS DEVE UNIT SUPERVISOR
FHWA

SDD 1□□□□ - 0□d

SDD 1□□□□ - 0□d

GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL) AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4□1 OR FLATTER.

(B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED

(C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.

(D) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF - TAPPING SCREWS. ONE SCREW PER CORNER.

(E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

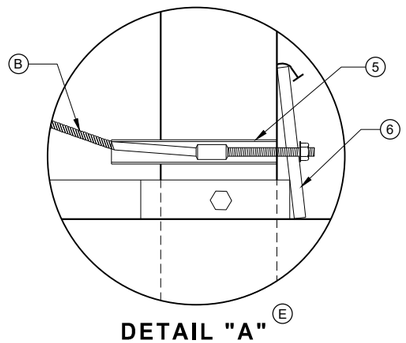
SEE SDD 14B42 FOR MORE INFORMATION.

□ DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

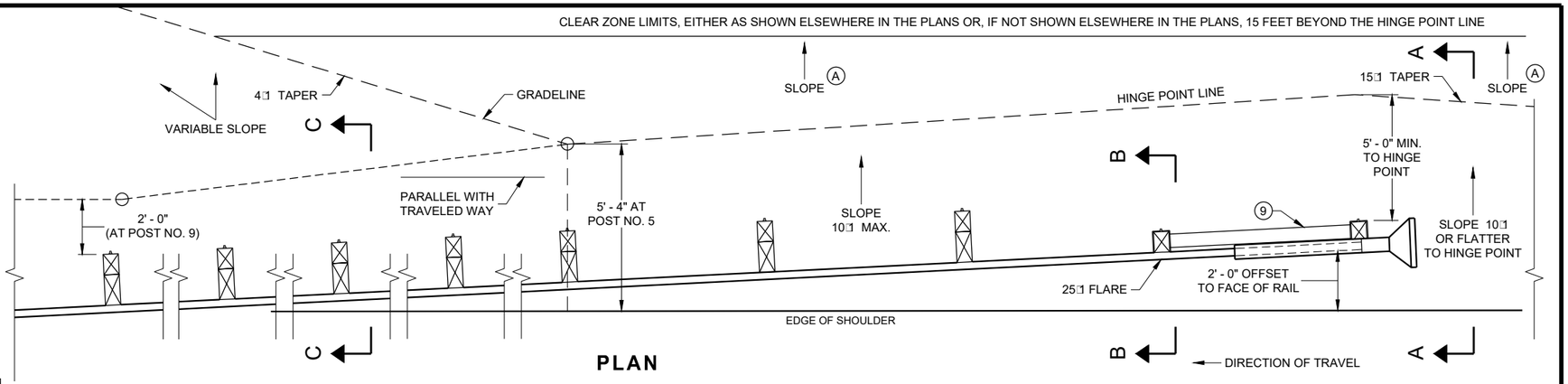
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

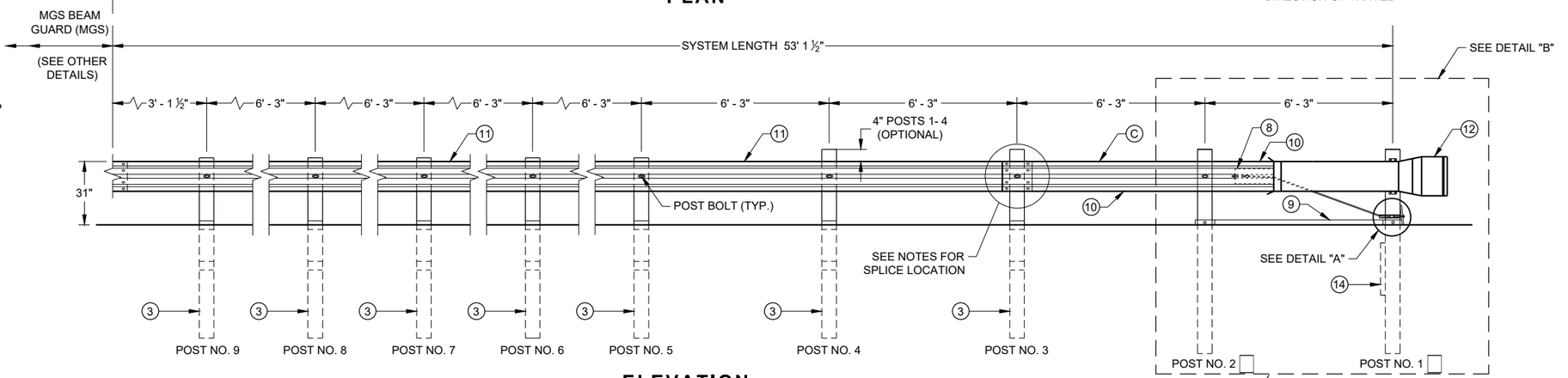
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



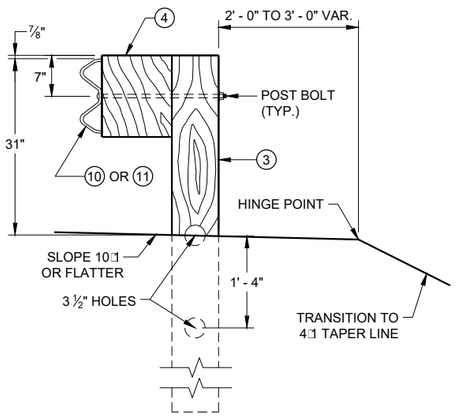
DETAIL "A" (E)



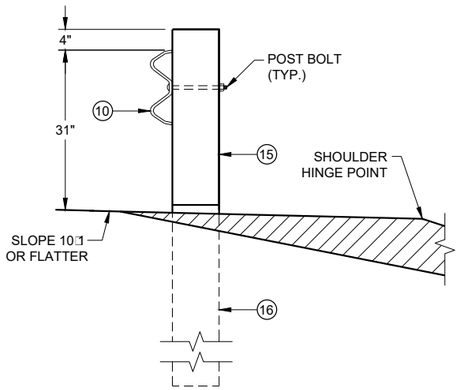
PLAN



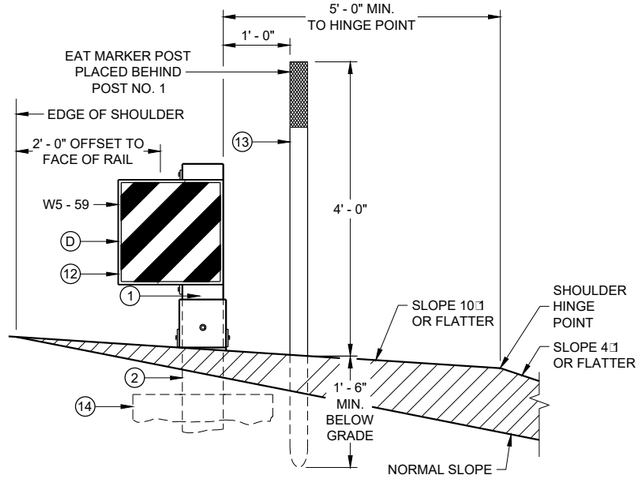
ELEVATION



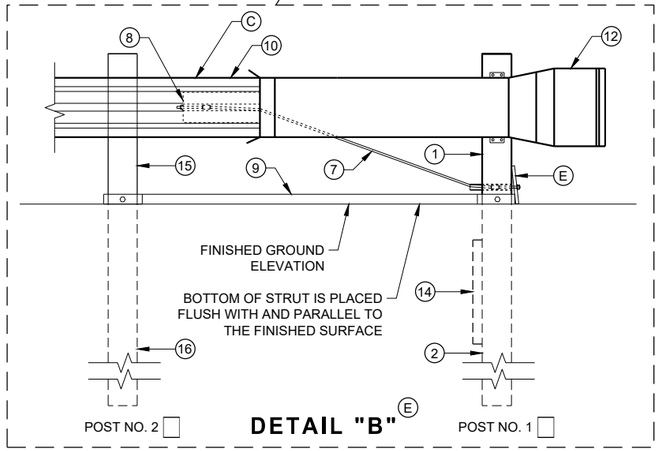
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2□



SECTION A - A
TYPICAL AT POST NO. 1□



DETAIL "B" (E)

MIDWEST GUARDRAIL S□ STEM
ENERGY ABSORBING TERMINAL
□MGS□

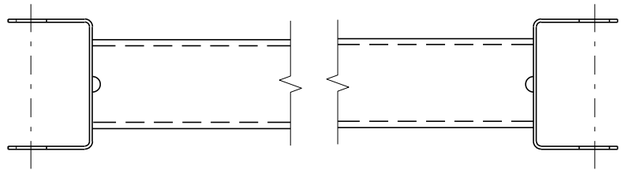
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA□ 99

SDD 1□□□□ - 0□□

SDD 1□□□□ - 0□□

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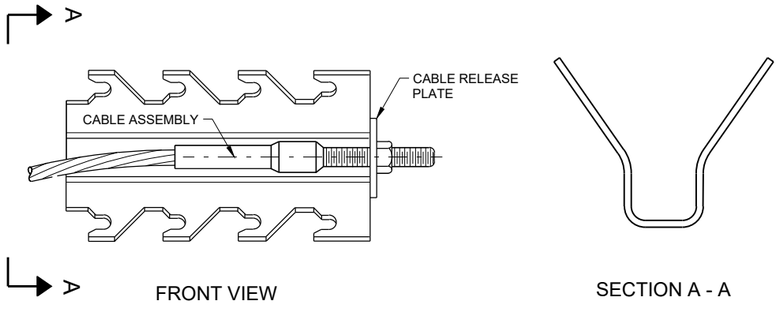
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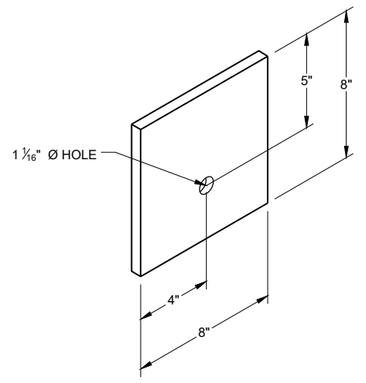
GENERIC GROUND STRUT ⑨ Ⓔ

BILL OF MATERIALS

PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUGACTURER'S DETAILS FOR MORE INFORMATION.
①	UPPER POST NO. 1 6" X 6" TUBE
②	LOWER POST NO. 1
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
⑪	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
⑫	IMPACT HEAD
⑬	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)
⑭	SOIL PLATE
⑮	UPPER POST NO. 2
⑯	LOWER POST NO. 2



GENERIC ANCHOR CABLE BOX ⑨ Ⓔ



BEARING PLATE ⑥ Ⓔ

6

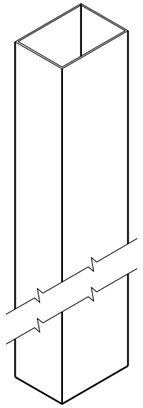
6

SDD1□□□□ - 0□□

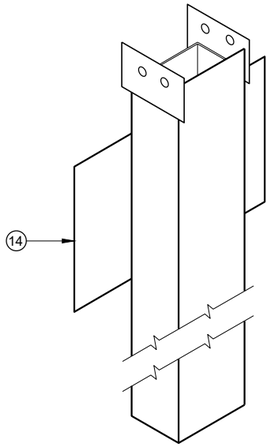
SDD1□□□ - 0□□

MIDWEST GUARDRAIL S□ STEM
ENERGY ABSORBING TERMINAL
□MGS□

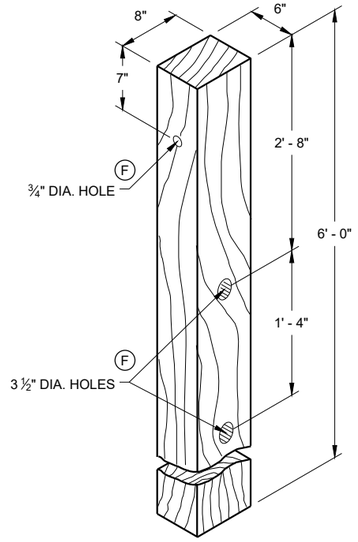
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DEPARTMENT OF TRANSPORTA



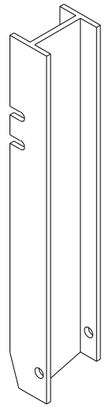
UPPER POST NO. 1 (1) (E)



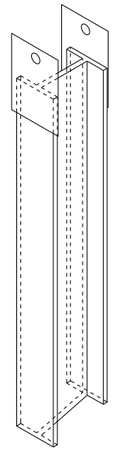
LOWER POST NO. 1 (2) (E)



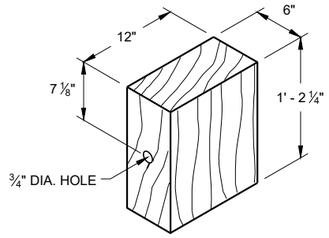
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



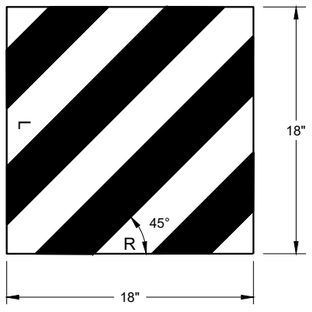
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

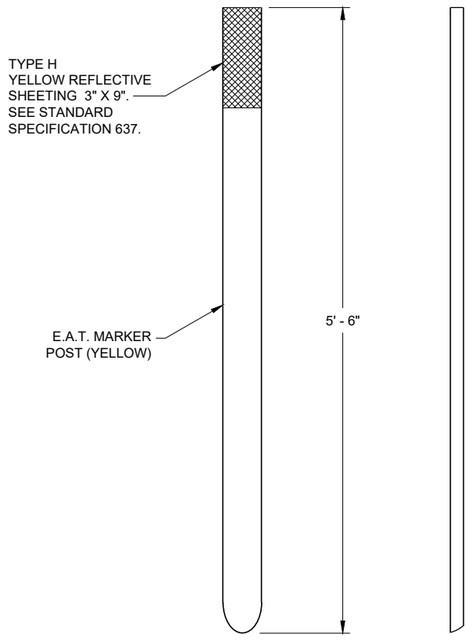


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 □ 2

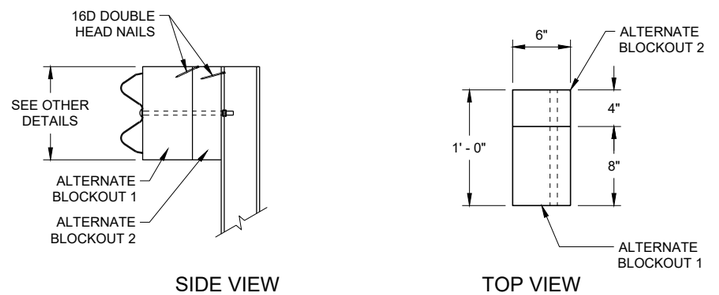


W5 - 59

REFLECTIVE SHEETING DETAIL (E)



E.A.T. MARKER POST (13)



ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL S□ STEM ENERGY ABSORBING TERMINAL □MGS□

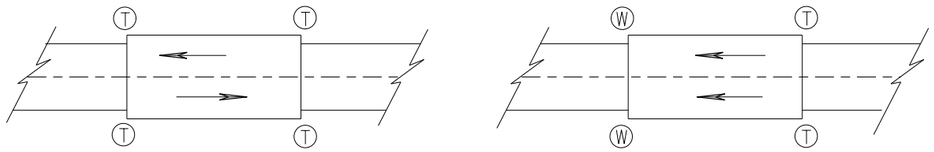
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7/2018 — DATE
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TWO WAY TRAFFIC

ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

GENERAL NOTES

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

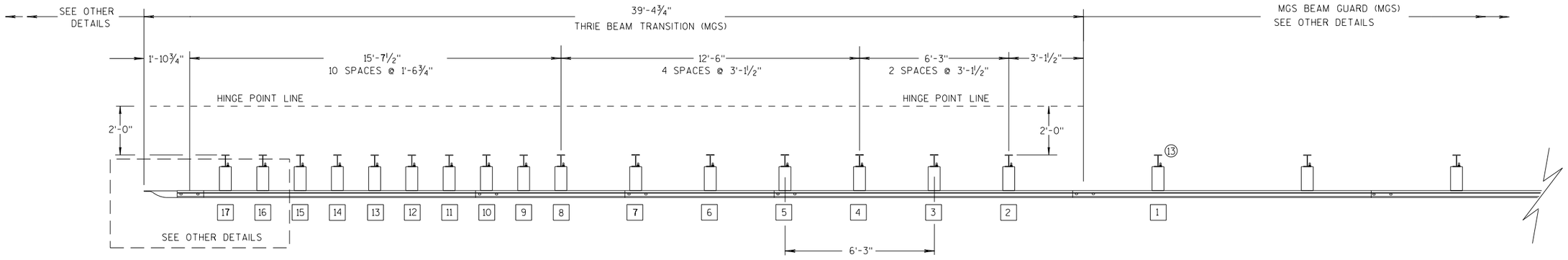
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

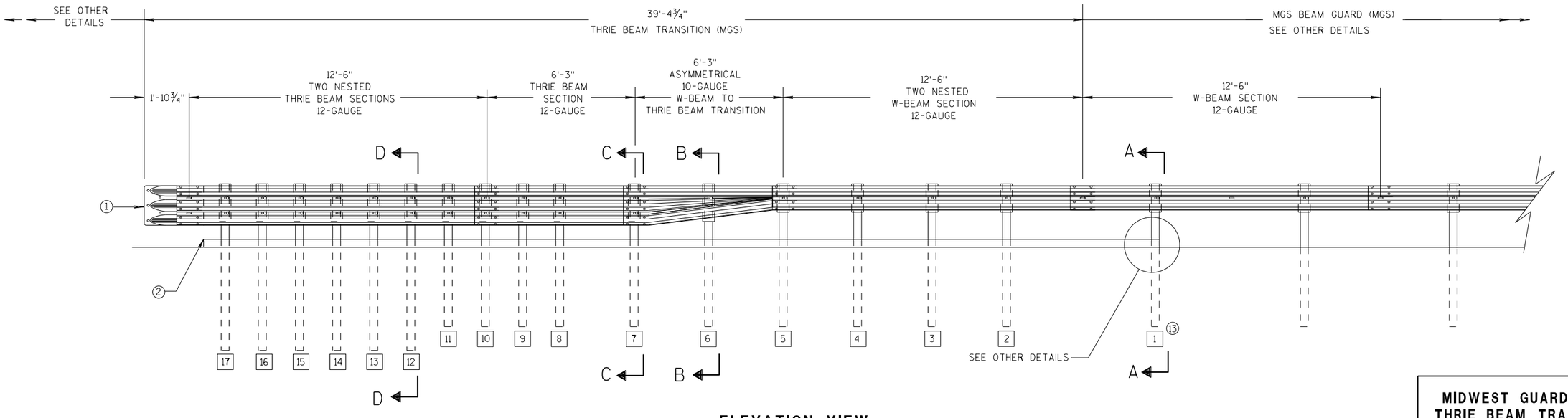
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD14B42



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 102

6

S.D.D. 14 B 45-5a

6

S.D.D. 14 B 45-5a

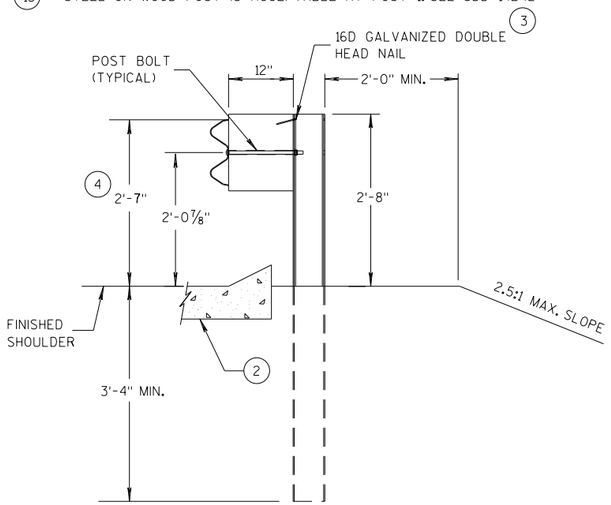
GENERAL NOTES

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

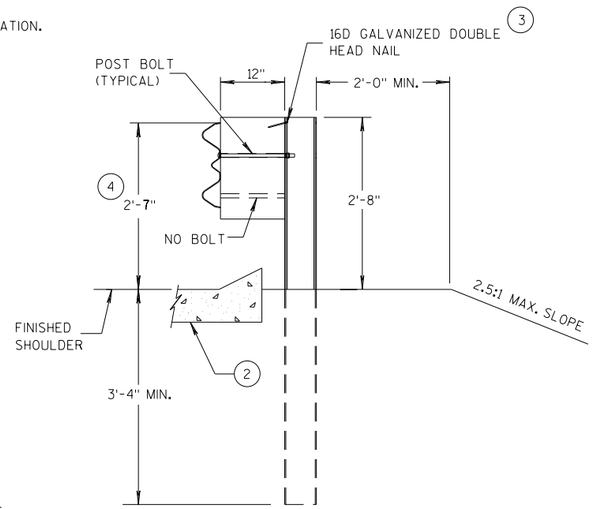
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42



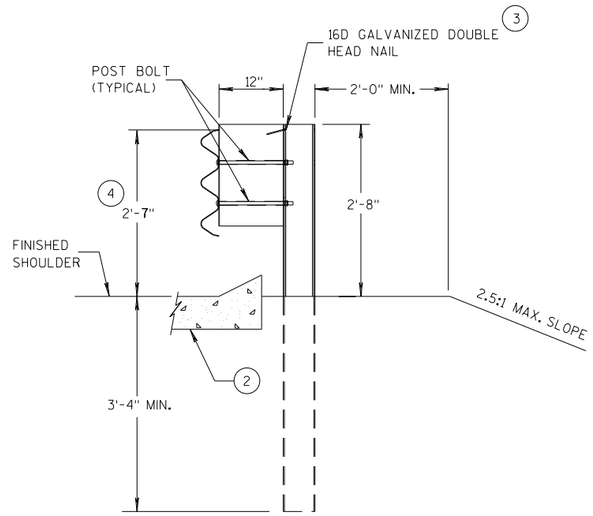
SECTION A-A (13)

POSTS 1-5



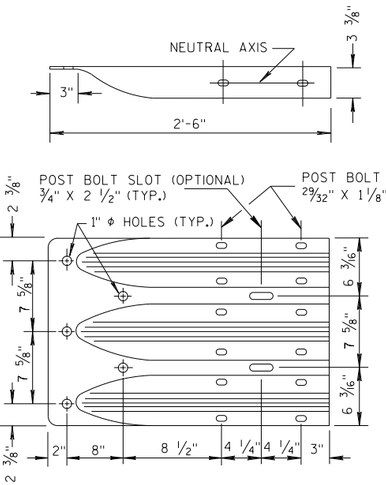
SECTION B-B

POST 6

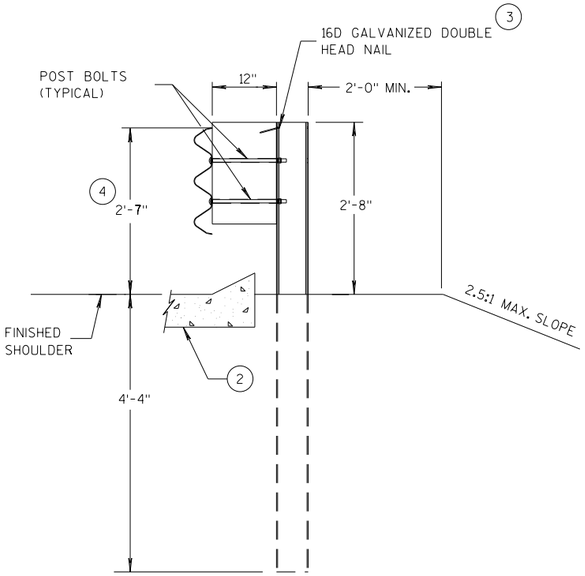


SECTION C-C

POSTS 7-11

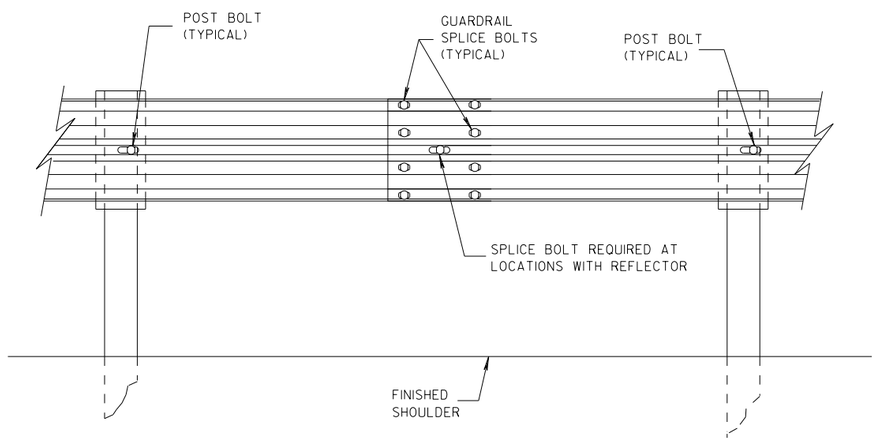


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-17



SPLICE DETAIL

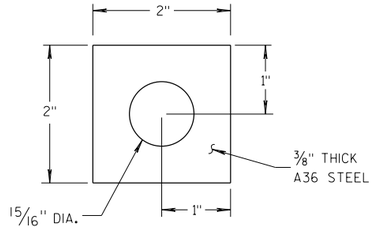
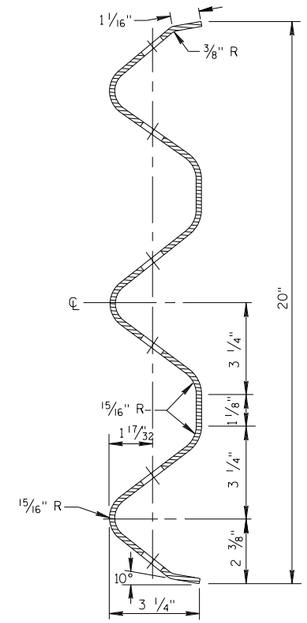


PLATE WASHER DETAIL



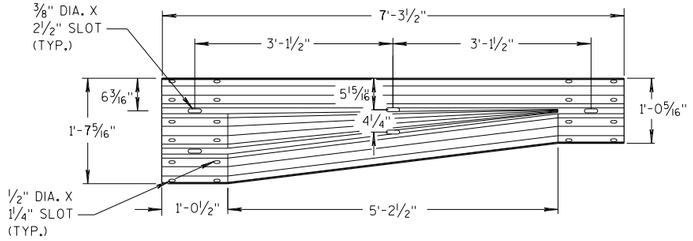
SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

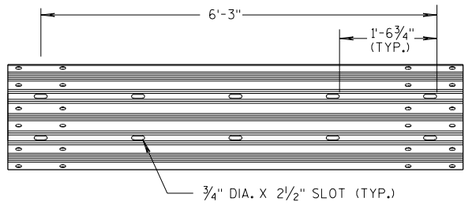
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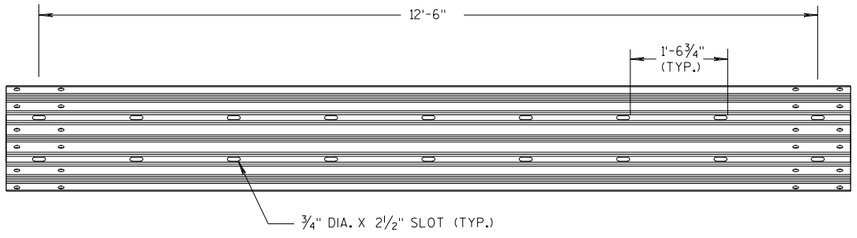
S.D.D. 14 B 45-5b



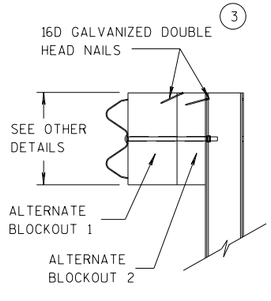
W-BEAM TO THRIE BEAM TRANSITION SECTION



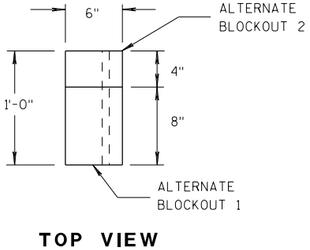
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

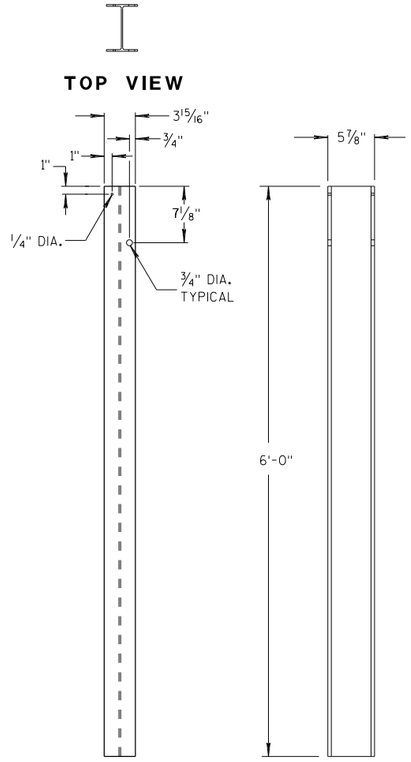


SIDE VIEW



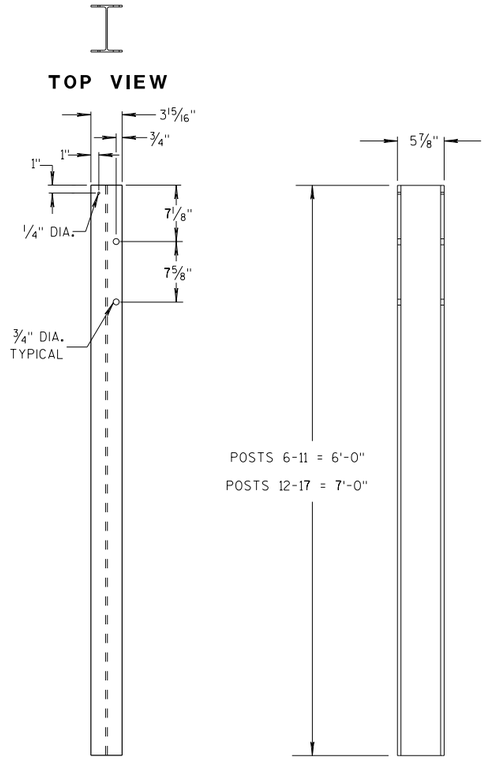
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



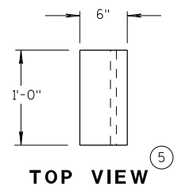
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

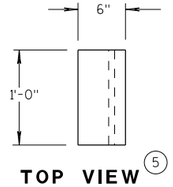


FRONT VIEW SIDE VIEW

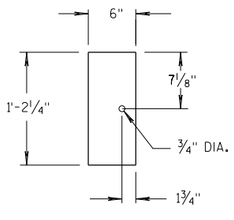
STEEL POSTS 6-17



TOP VIEW (5)

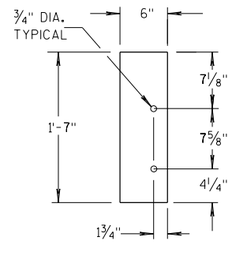


TOP VIEW (5)



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

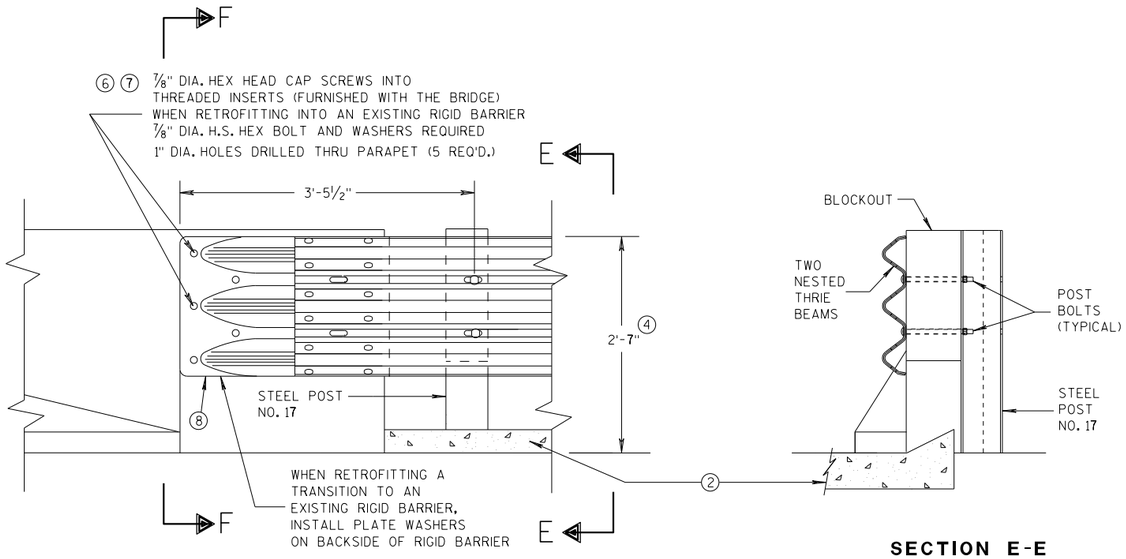
(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOF

6

S.D.D. 14 B 45-5c



FRONT VIEW

SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

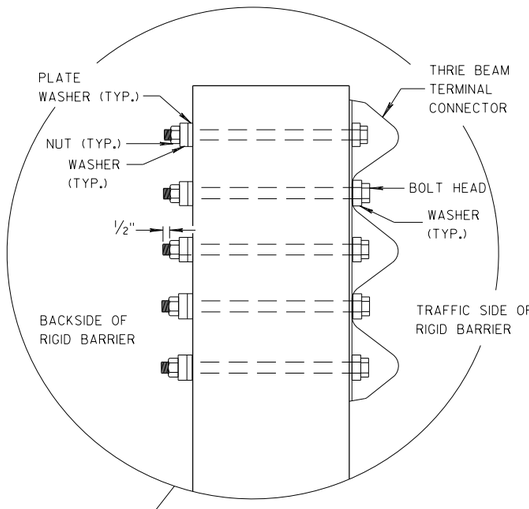
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

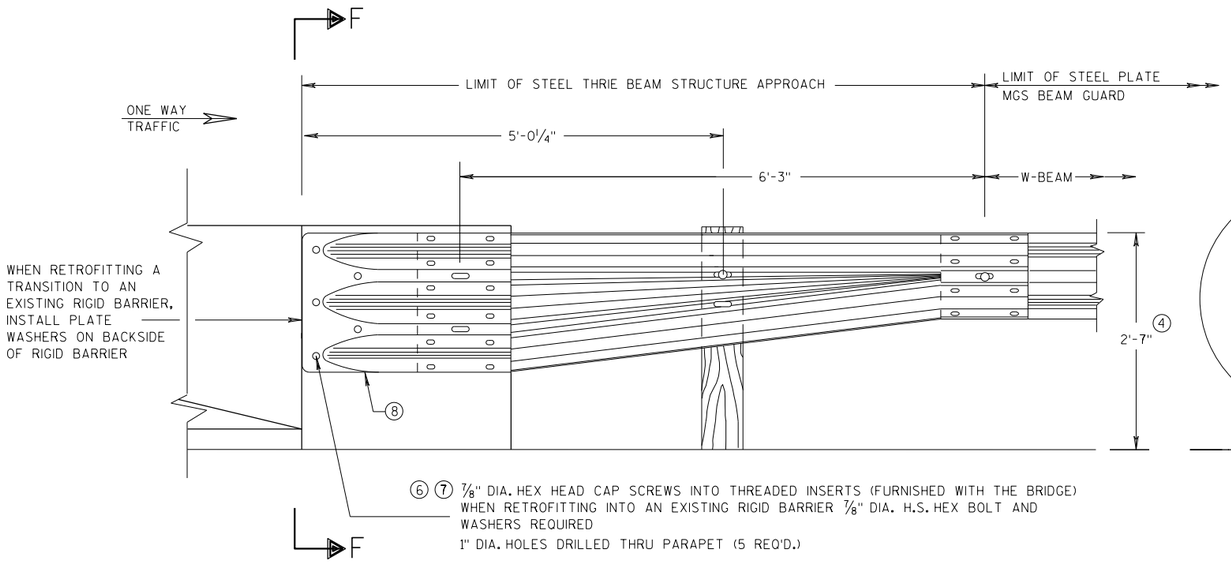
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

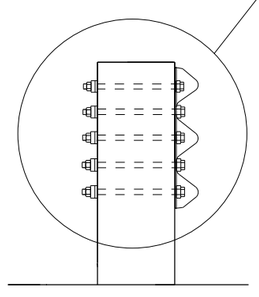
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

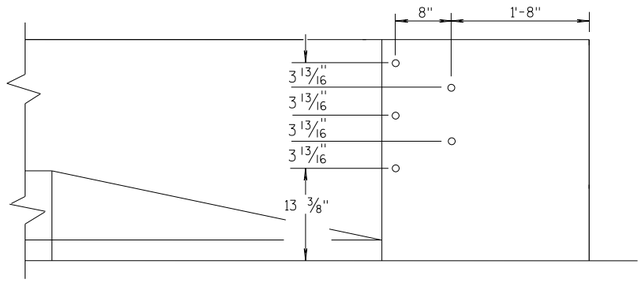




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

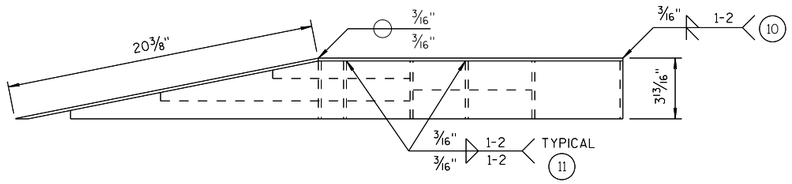
APPROVED
07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS D[illegible] UNIT SUPERVIS[illegible]NT
FHWA

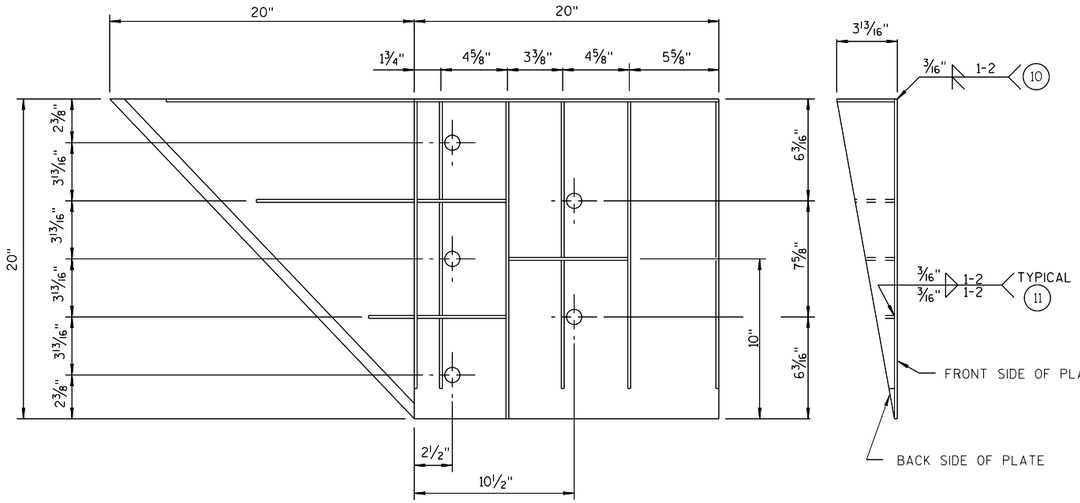
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S.D.D. 14 B 45-5d

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S.D.D. 14 B 45-5d





WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

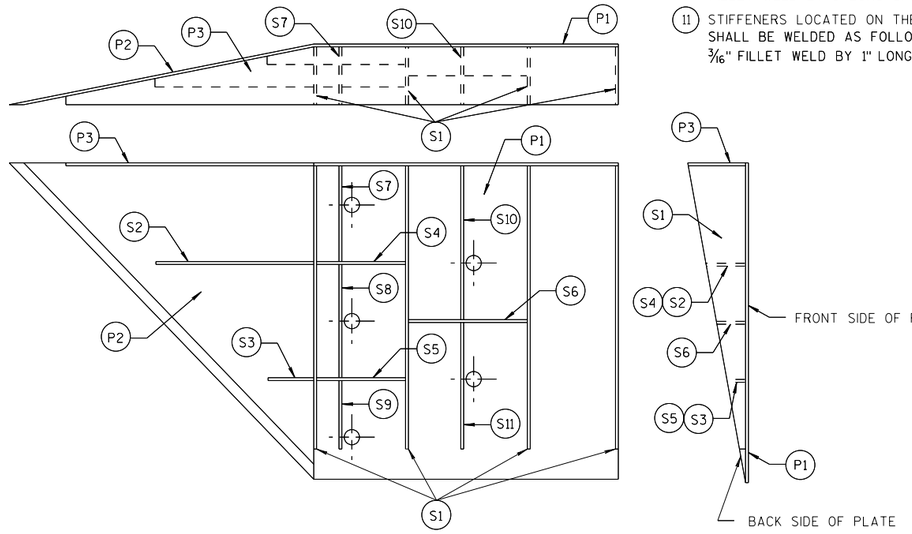


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.

FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

(10) STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.

(11) STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 9/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 5/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 7/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 1/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 7/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 9/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 5/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 3/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 11/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 13/16"	1/4"

SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
FHWA

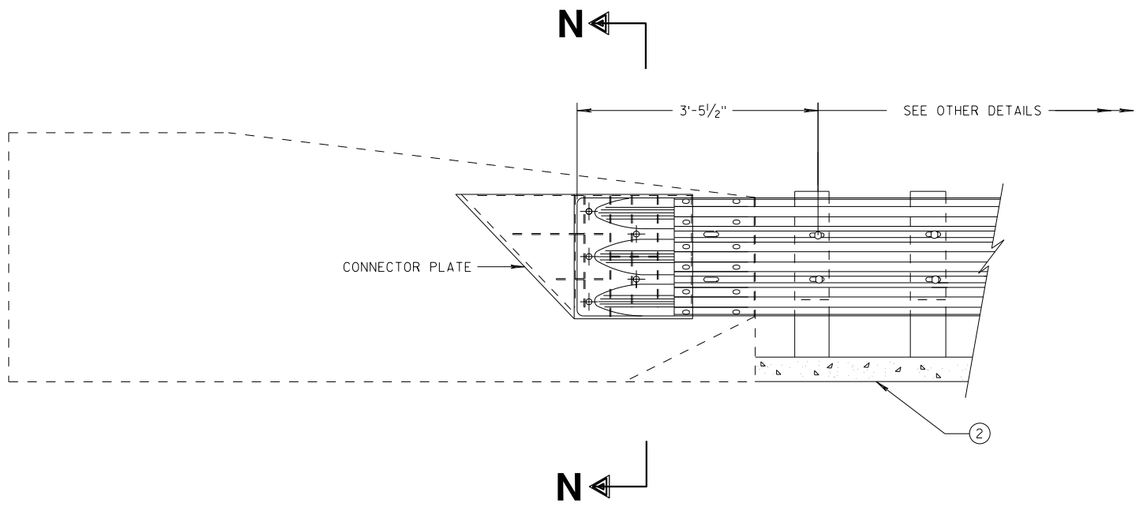
/S/ Rodney Taylor
ROADWAY STANDARDS I
UNIT SUPERVI

6

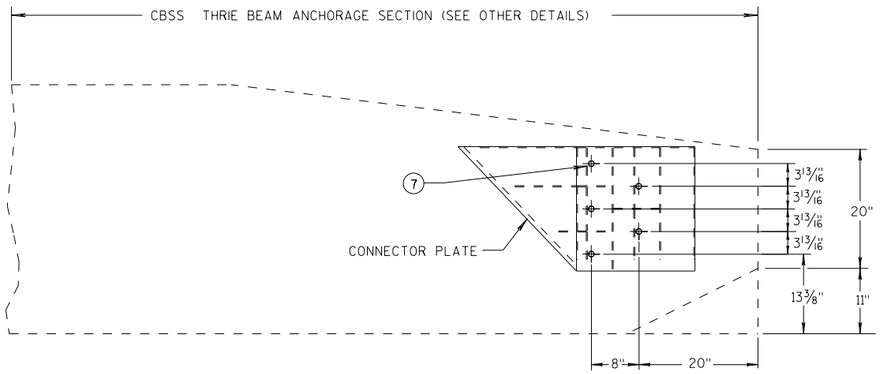
S.D.D. 14 B 45-5i

6

S.D.D. 14 B 45-5i



THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



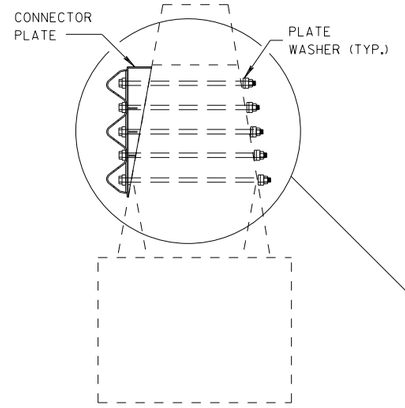
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

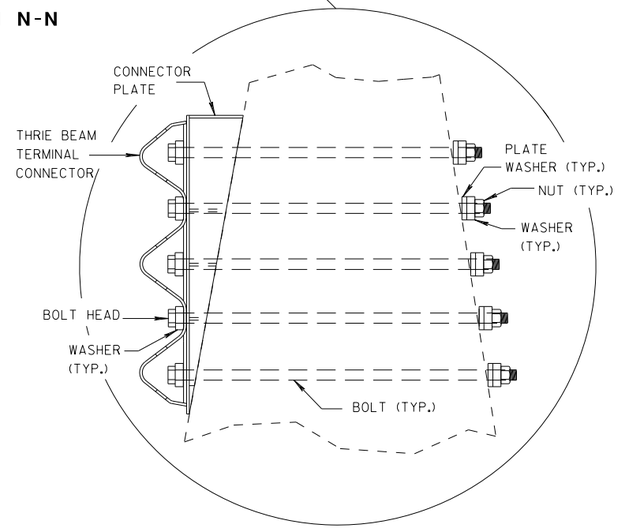
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

(7) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X ⅝" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
FHWA

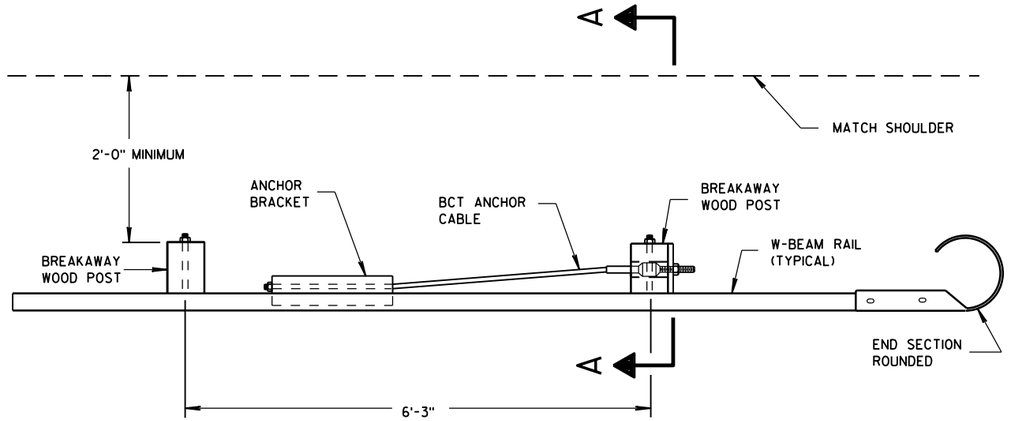
/S/ Rodney Taylor
ROADWAY STANDARDS DI
UNIT SUPERVIS

6

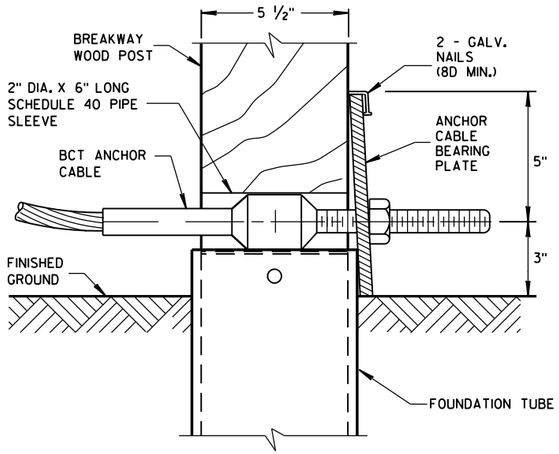
S.D.D. 14 B 45-5j

6

S.D.D. 14 B 45-5j



PLAN VIEW



DETAIL A

POST NO. 1
GROUNG STRUT NOT SHOWN FOR CLARITY.

GENERAL NOTES

SEE SDD 14 B 42 FOR MORE INFORMATION.

END SECTION BOLTS AND NUTS HAVE THE SAME MATERIAL REQUIREMENTS AS SPLICE BOLTS.

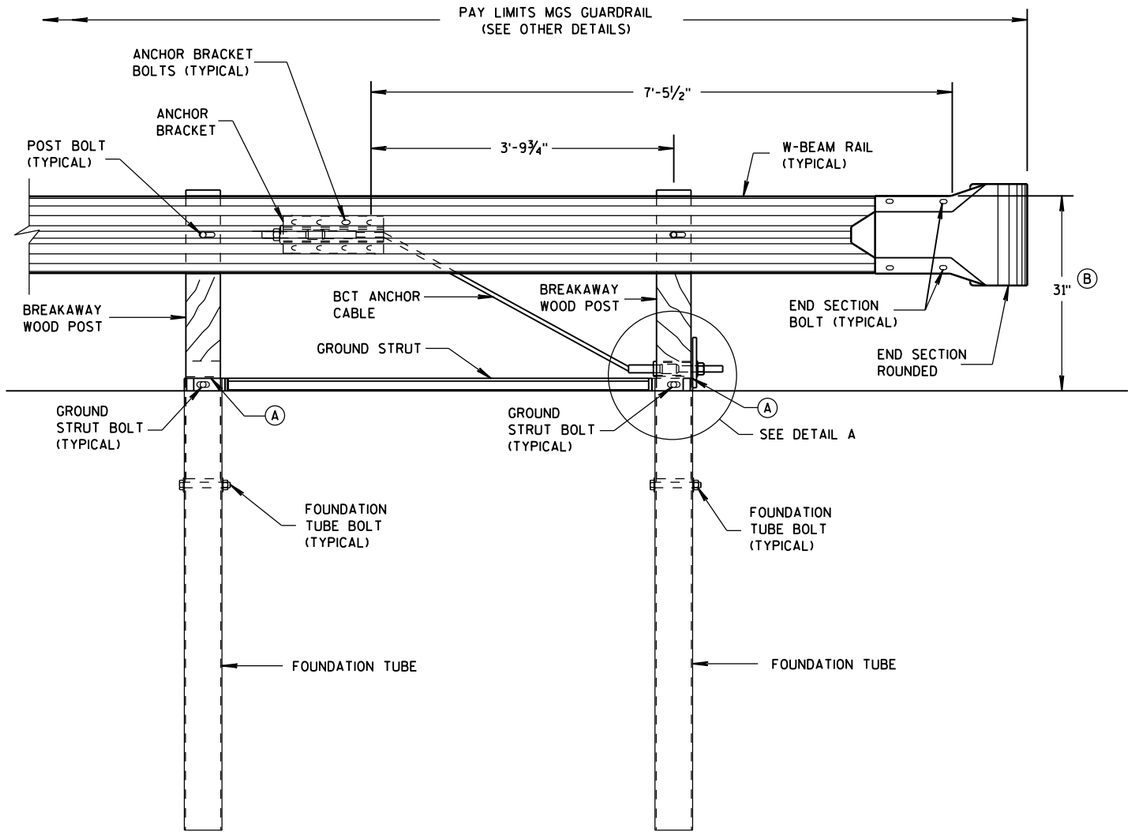
FOUNDATION TUBE BOLTS ARE ⅞" DIAMETER ASTM A307 HEX HEAD BOLT. FOUNDATION TUBE BOLTS REQUIRE ASTM A563 A NUT AND TWO ASTM F844 ⅞" DIAMETER FLAT WASHERS. INSTALL ONE WASHER UNDER BOLT HEAD AND ONE WASHER UNDER NUT.

ANCHOR BRACKET AND GROUND STRUT BOLTS ARE A ⅝" DIAMETER ASTM A307 HEX HEAD BOLT. ANCHOR BRACKET BOLTS REQUIRE ASTM A563 A NUT AND TWO ASTM F844 ⅝" DIAMETER FLAT WASHERS. INSTALL ONE WASHER UNDER BOLT HEAD AND ONE WASHER UNDER NUT.

W-BEAM END SECTION ROUNDED HAS THE SAME MATERIAL PROPERTIES AS STANDARD STEEL RAIL.

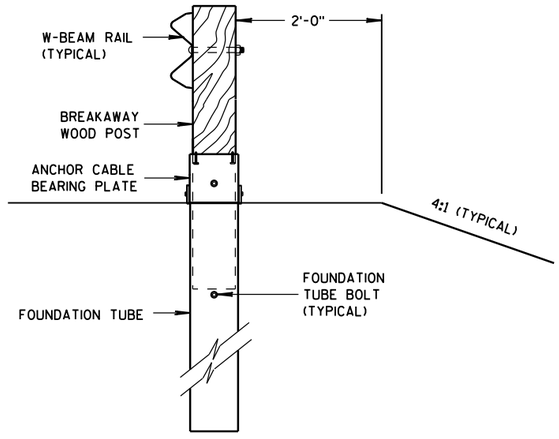
(A) TOP OF FOUNDATION TUBE SHALL BE NO MORE THAN 3" ABOVE FINISHED GROUND.

(B) FOR NEW CONSTRUCTION TOP OF RAIL IS 31" ± 1".
FOR EXISTING INSTALLATIONS TOP OF RAIL IS BETWEEN 27¾" TO 32" ± 1".

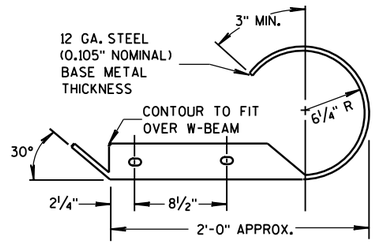


FRONT VIEW

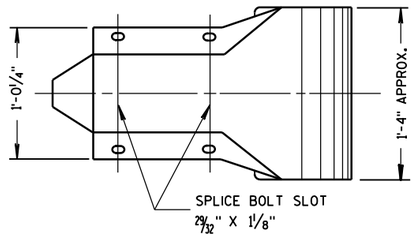
END RAIL DETAIL



SECTION A-A



PLAN VIEW



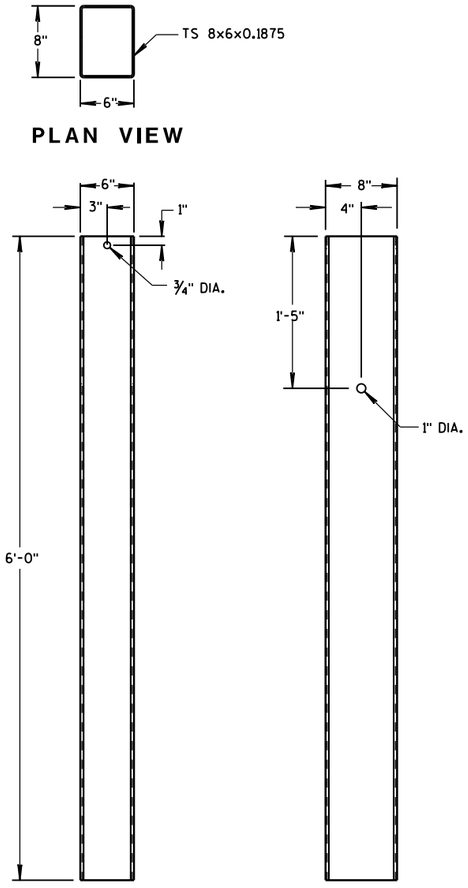
FRONT VIEW

W BEAM END SECTION ROUNDED

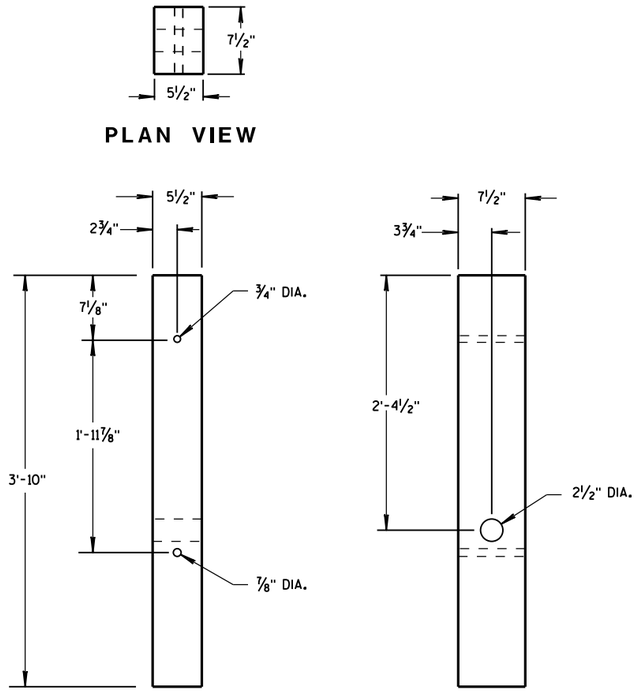
MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6
S.D.D. 14 B 47-2a



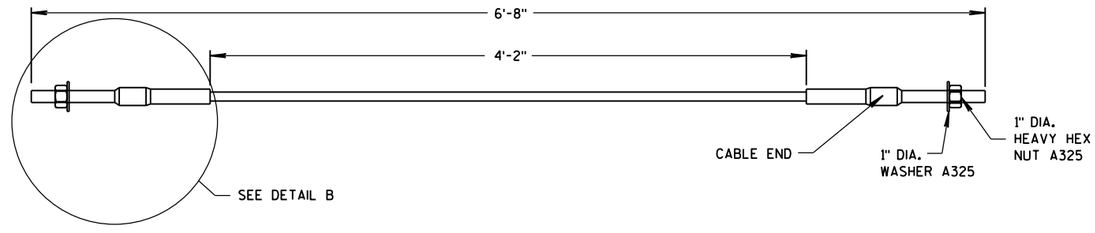
FOUNDATION TUBE



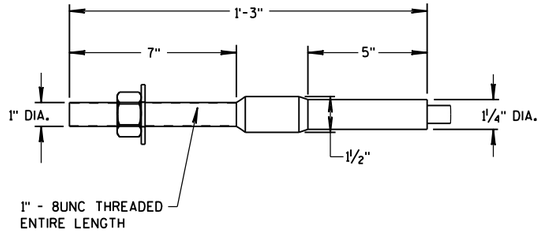
BREAKAWAY WOOD POST

GENERAL NOTES

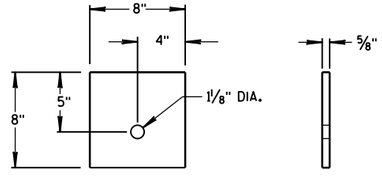
BCT ANCHOR CABLE IS A ¾" DIAMETER 6X19 IWRC IPS GALVANIZED WIRE ROPE. THE SWAGED FITTINGS AND STUD ARE REQUIRED. END FITTING SHALL BE MACHINED FROM HOT-ROLLED CARBON STEEL CONFORMING TO ASTM A576 GRADE 1035 AND GALVANIZED ACCORDING TO ASTM A123. TREADED STUD SHALL CONFORM TO ASTM A325 OR SAE GRADE 5. MINIMUM BREAKING STRENGTH OF WIRE ROPE IS 43,000 LB. WIRE ROPE IS TO BE TAUT.



BCT ANCHOR CABLE



DETAIL B



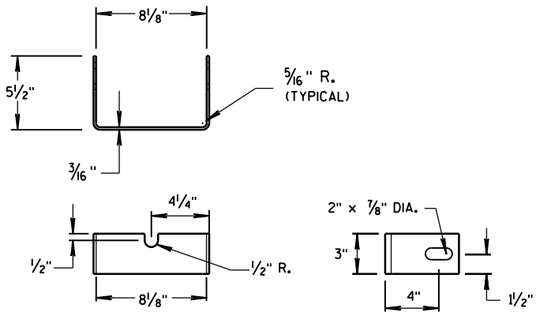
ANCHOR CABLE
BEARING PLATE

MIDWEST GUARDRAIL
SYSTEM (MGS) TYPE 2 TERMINAL

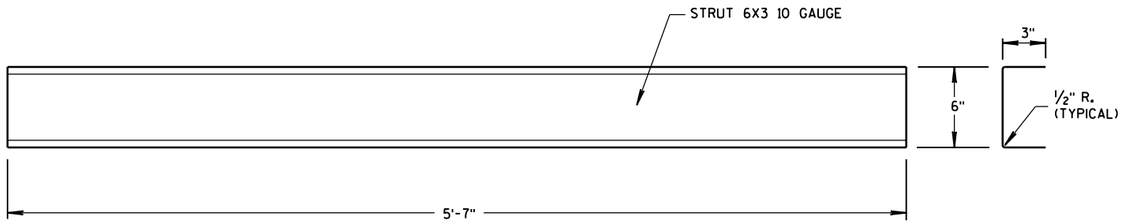
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

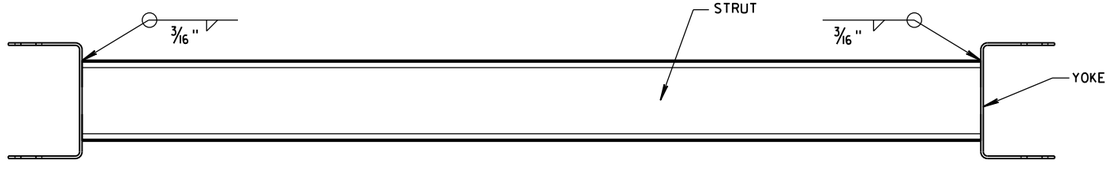
S.D.D. 14 B 47-2b



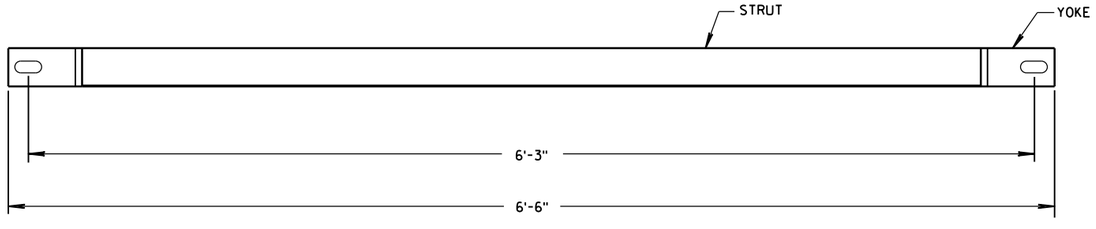
YOKE DETAIL



STRUT DETAIL

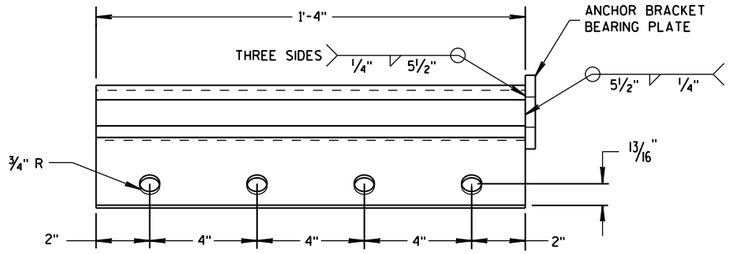


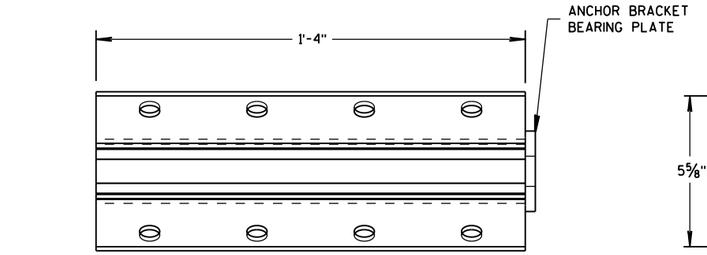
PLAN VIEW

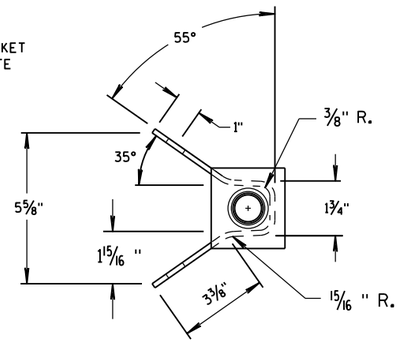


FRONT VIEW

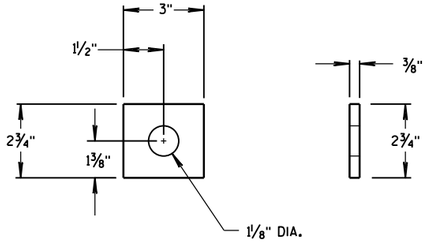
GROUND STRUT DETAIL







ANCHOR BRACKET



ANCHOR BRACKET BEARING PLATE

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

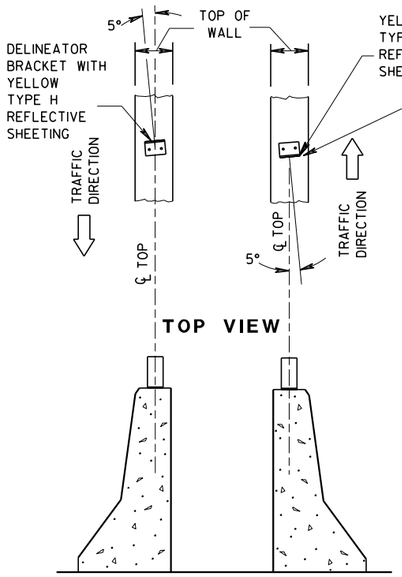
FHWA

6

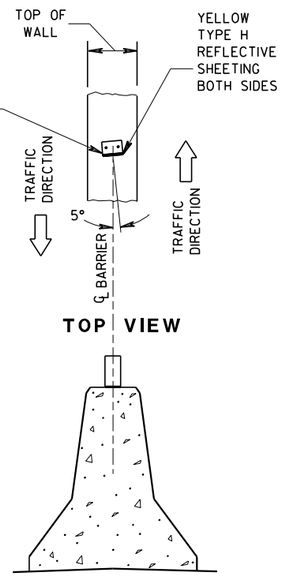
S.D.D. 14 B 47-2c

6

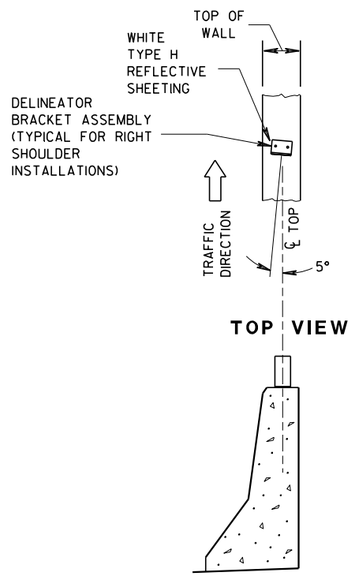
S.D.D. 14 B 47-2c



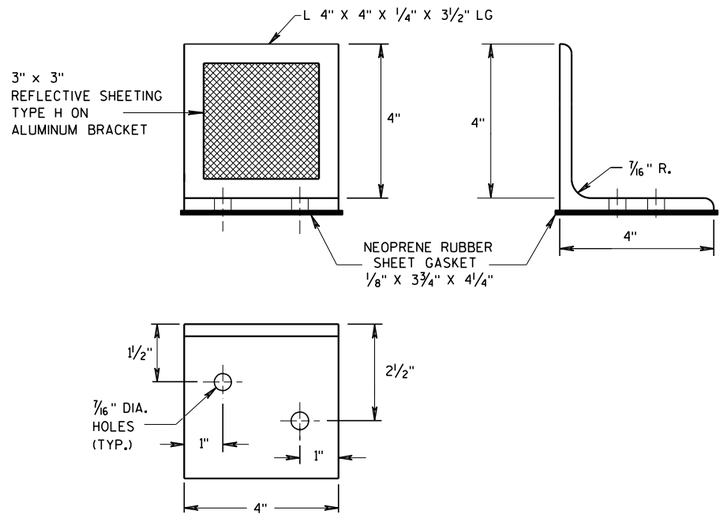
DOUBLE BARRIERS IN MEDIAN



MEDIAN BARRIER

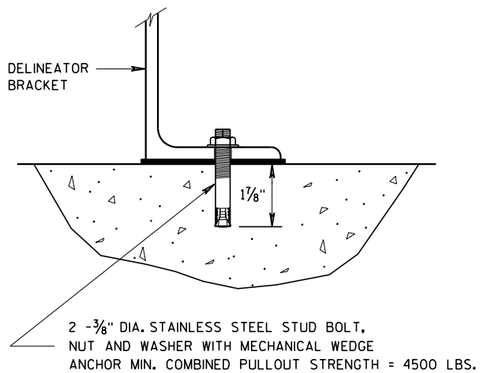


BARRIER LOCATED
TO RT. OF TRAFFIC FLOW



DELINEATOR BRACKET

LOCATION AND AIMING DETAILS FOR DELINEATOR BRACKETS MOUNTED ON CONCRETE BARRIERS



DELINEATOR BRACKET
MOUNTING DETAIL

REFLECTOR SPACING TABLE

REFLECTOR SPACING	MINIMUM NUMBER OF REFLECTORS
100' C-C	3

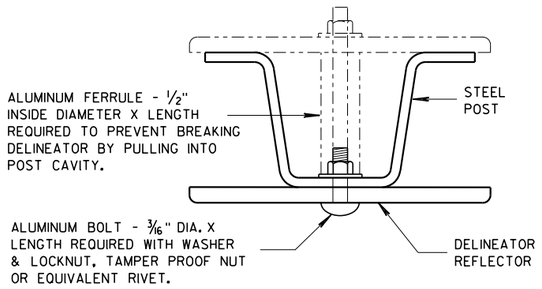
DELINEATOR BRACKET
WITH REFLECTIVE SHEETING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

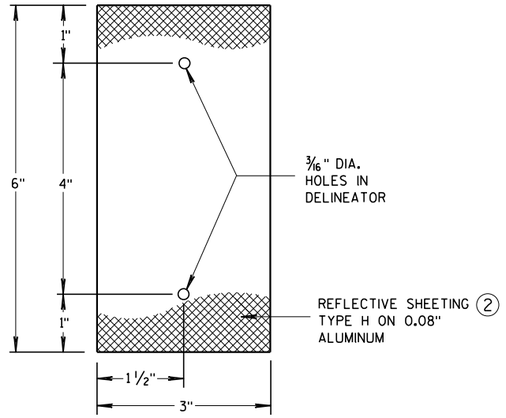
APPROVED
March 2018 /S/ Matthew P. Rauch
DATE STATE SIGNING AND M. ENGINEER
FHWA

6

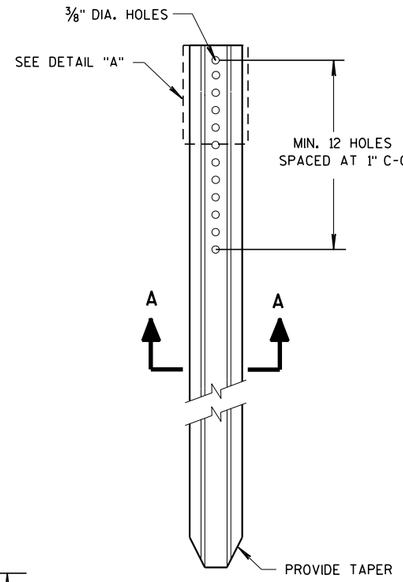
S.D.D. 15 A 4-4b



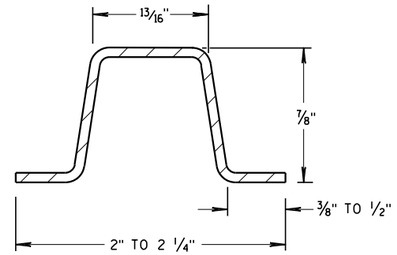
MOUNTING DETAIL FOR DELINEATOR REFLECTOR



DETAIL "A" 3" X 6" DELINEATOR REFLECTOR



DELINEATOR POST



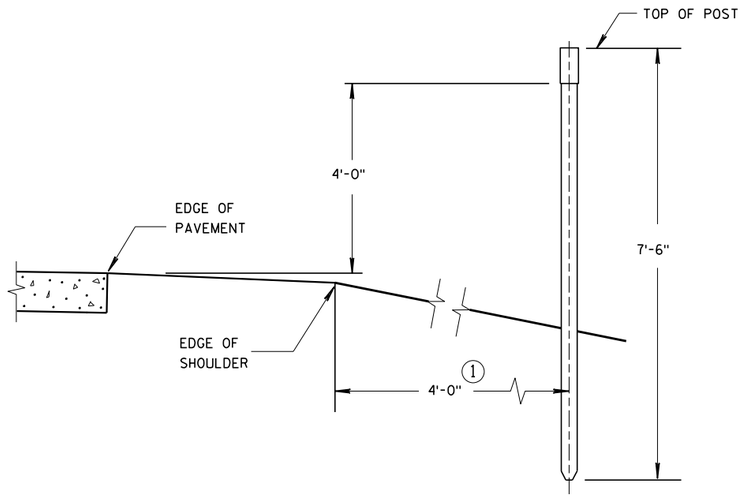
SECTION A-A

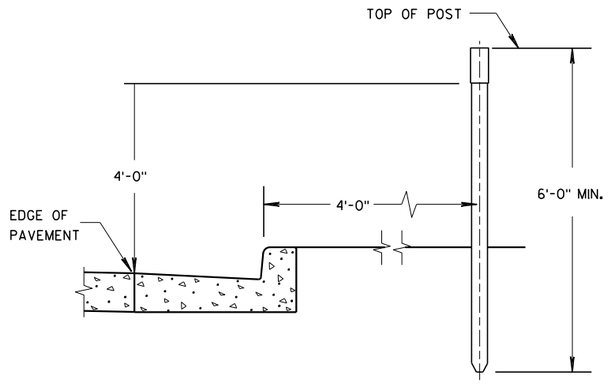
WEIGHT 1.12 LBS PER FT. ± 0.1 LB.

REFLECTOR SPACING TABLE

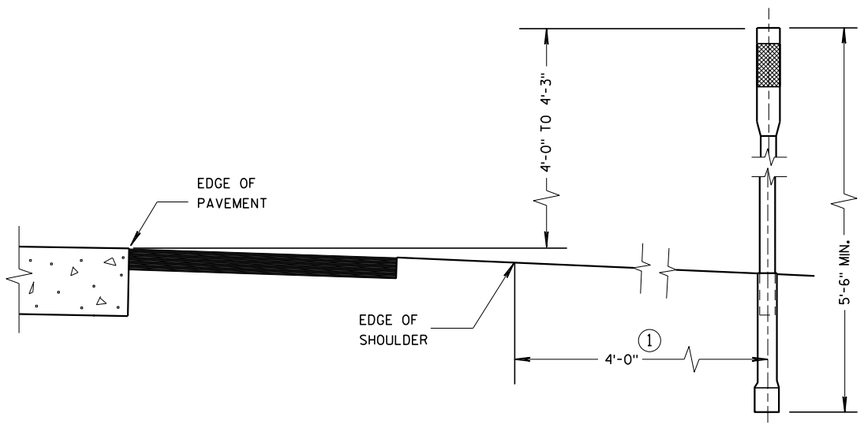
REFLECTOR SPACING	LOCATION
400'	MAINLINE
100'	RAMPS *

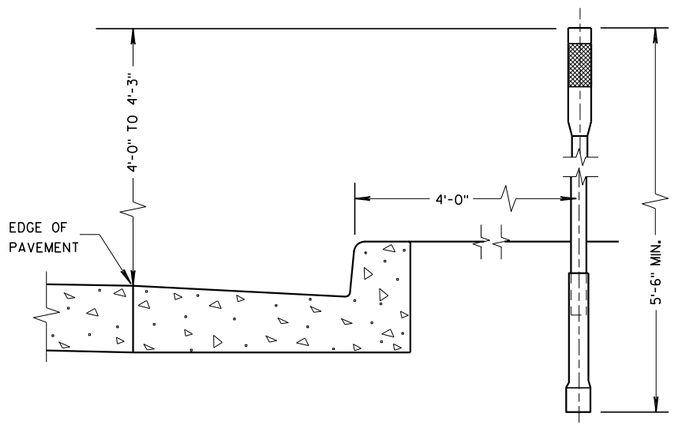
* START AT BEGINNING OF RAMP TAPER AND END AT END OF RAMP TAPER.





TYPICAL INSTALLATIONS OF DELINEATOR POSTS





TYPICAL INSTALLATIONS OF FLEXIBLE DELINEATOR POSTS

GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(1) DELINEATORS SHALL BE PLACED AT A CONSTANT DISTANCE FROM THE EDGE OF THE SHOULDER FOR THE LENGTH OF THE INSTALLATION.

(2) FURNISH TYPE H SHEETING FROM THE APPROVED PRODUCTS LIST.

DELINEATOR POST WITH REFLECTIVE SHEETING

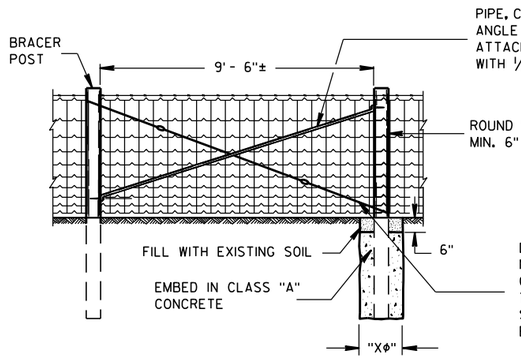
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 — DATE
/S/ Matthew P Rauch — STATE SIGNING AND M[illegible] ENGINEER
FHWA

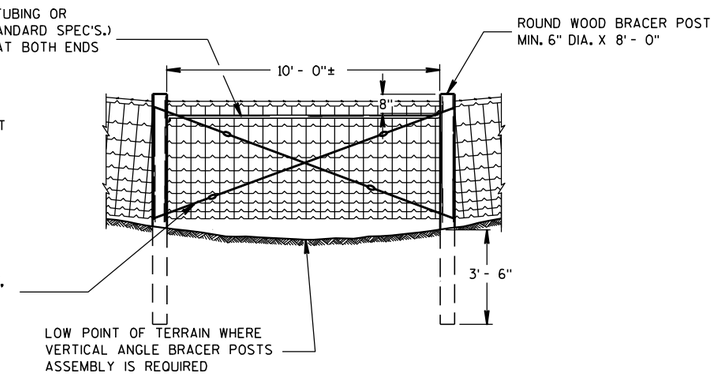
6
S.D.D. 15 A 4-4c

NOTE: PULL OR STRETCHER POST ASSEMBLIES SHALL BE PLACED MIDWAY BETWEEN END POSTS AND CORNER POSTS WHERE A RUN OF FENCE EXCEEDS 660' BUT IS LESS THAN 1,320'. FOR RUNS OF FENCE IN EXCESS OF 1,320' MAXIMUM SPACING OF PULL OR STRETCHER POST ASSEMBLIES SHALL BE 660'± C-C.

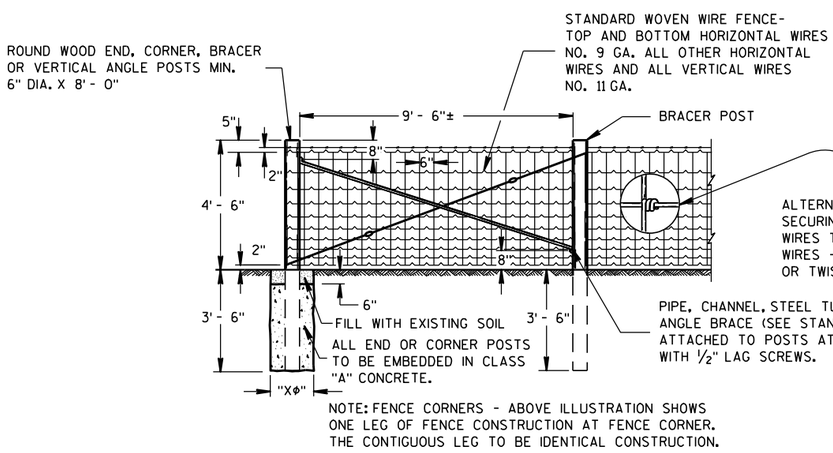
ILLUSTRATION SHOWS POSITION OF STANDARD STEEL BRACE, DOUBLE STRAND GALVANIZED WIRE, AND THE POST TO BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM LEFT TO RIGHT. THE BRACES SHALL BE POSITIONED ON THE OPPOSITE DIAGONALS AND THE OPPOSITE POST SHALL BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM RIGHT TO LEFT.



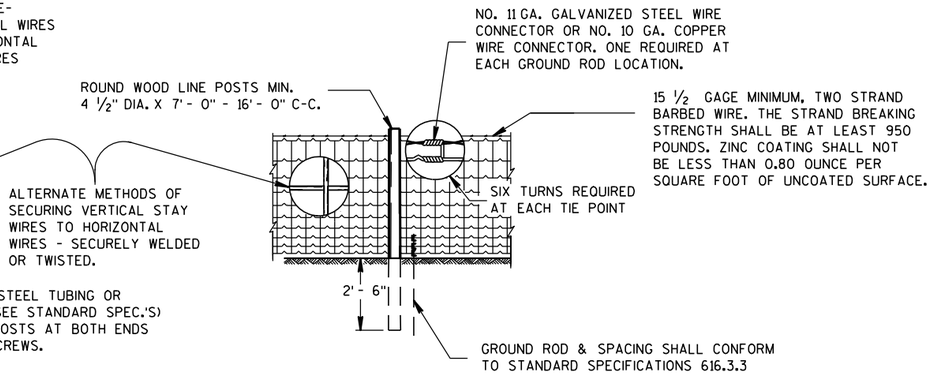
PULL OR STRETCHER POSTS ASSEMBLY



VERTICAL ANGLE BRACER POSTS ASSEMBLY



END OR CORNER POSTS ASSEMBLY



LINE FENCE CONSTRUCTION

GENERAL NOTES

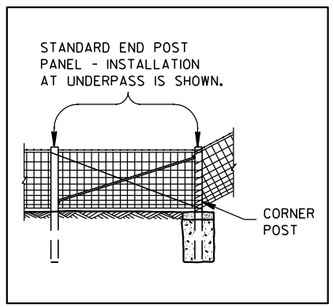
"XΦ" = DIAMETER OF THE POST PLUS 12".

FENCE STAPLES SHOULD NEVER BE DRIVEN VERTICALLY INTO WOOD POSTS (WITH BOTH LEGS PARALLEL WITH THE WOOD GRAIN). DOING SO CAN SEPARATE THE GRAIN AND SIGNIFICANTLY REDUCE THE HOLDING POWER. ROTATING THE STAPLES SLIGHTLY OFF VERTICAL STRADDLES THE GRAIN AND PROVIDES MORE RESISTANCE TO PULL-OUT.

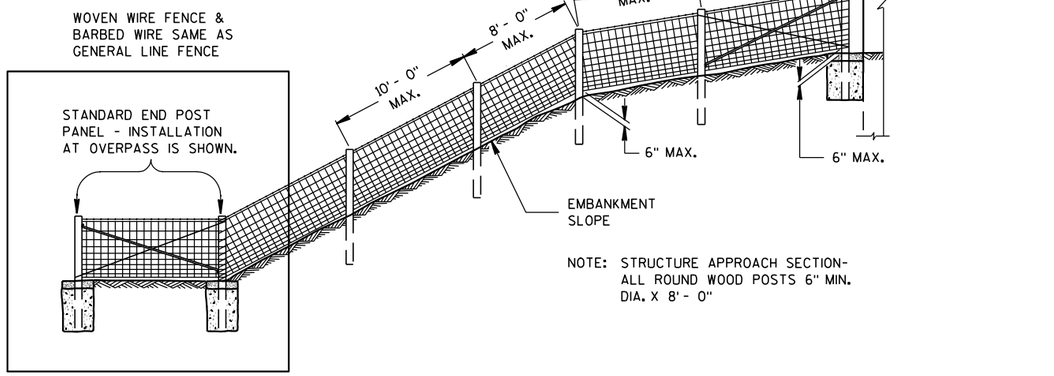
DO NOT STAPLE WIRE TIGHT TO THE LINE POSTS. ALLOW MOVEMENT OF WIRE FOR EXPANSION AND CONTRACTION. STAPLE ARRANGEMENT SHALL BE THE SAME FOR ALL OTHER POSTS EXCEPT THAT THEY SHALL BE DRIVEN TIGHT TO POSTS. ALL STAPLES SHALL BE 2" X 9 GAGE AND SHALL BE MANUFACTURED FROM GALVANIZED WIRE OR HOT DIP GALVANIZED AFTER FORMING. STAPLES SHALL HAVE SLASH-CUT POINTS.

FENCE SHALL BE LOCATED 3'-0" INSIDE THE RIGHT OF WAY LINE UNLESS OTHERWISE INDICATED ON THE PLANS.

GENERAL ROADSIDE VIEW OF WOVEN WIRE FENCE



ALTERNATE FENCE DESIGN AT STRUCTURE



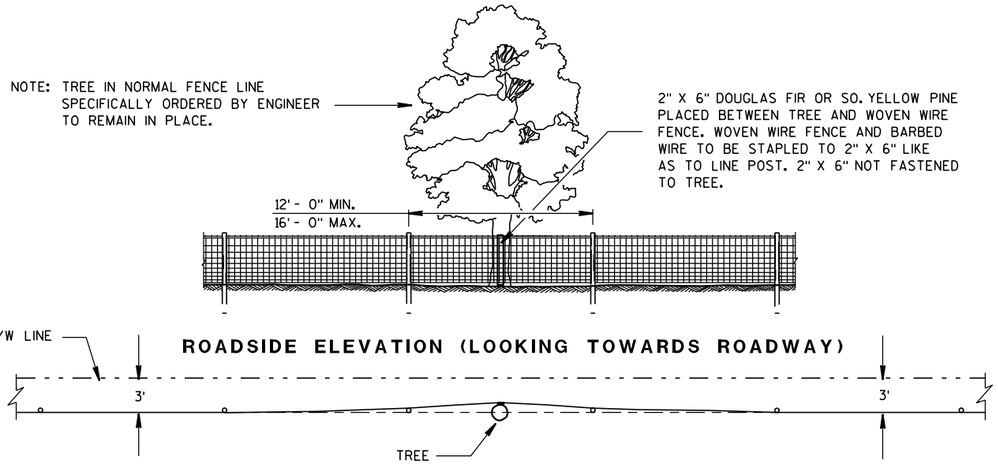
FENCE DESIGN AT STRUCTURE APPROACH

FENCE WOVEN WIRE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

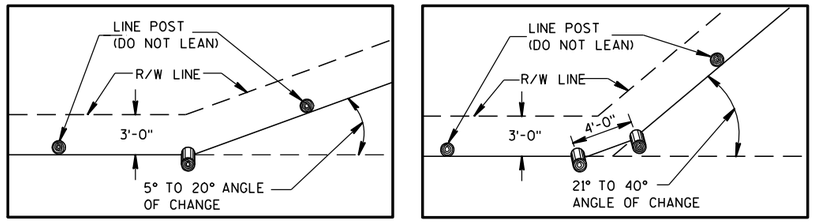
6

S.D.D. 15 B 1-8a



PLAN VIEW

FENCE DESIGN AT TREES REMAINING IN NORMAL FENCE LINE



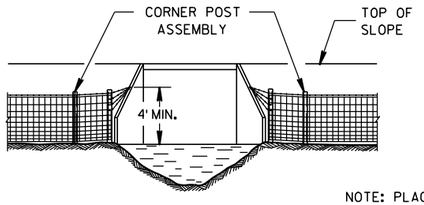
PLAN VIEW
SINGLE POST CORNER

PLAN VIEW
DOUBLE POST CORNER

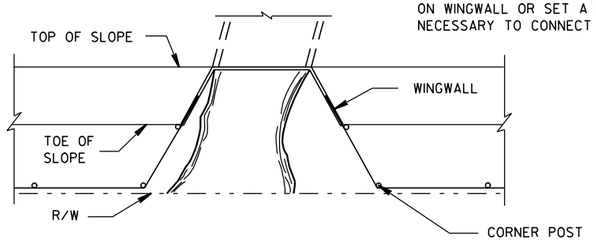
RIGHT OF WAY LINE CHANGE 40° AND LESS

NOTE: SINGLE AND DOUBLE POSTS SHALL BE A MIN. 6" DIA. X 8'-0" WITH A LEAN OF 4" TOWARD THE OUTSIDE OF THE CURVE.

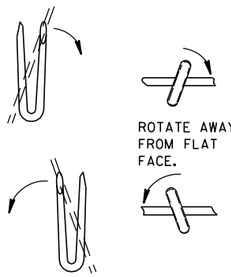
WHEN THE RIGHT OF WAY LINE CHANGE IS MORE THAN 40° USE THE CORNER OR STRETCHER POSTS ASSEMBLY.



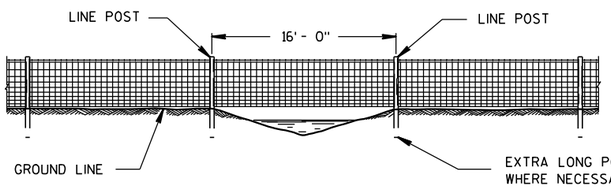
NOTE: PLACE A MINIMUM OF 4 STRANDS OF BARBED WIRE, 6" MAXIMUM CENTERS IN FAN SHAPE CONNECTED TO AN EYE BOLT ON WINGWALL OR SET A LONE POST WHEN NECESSARY TO CONNECT BARBED WIRE.



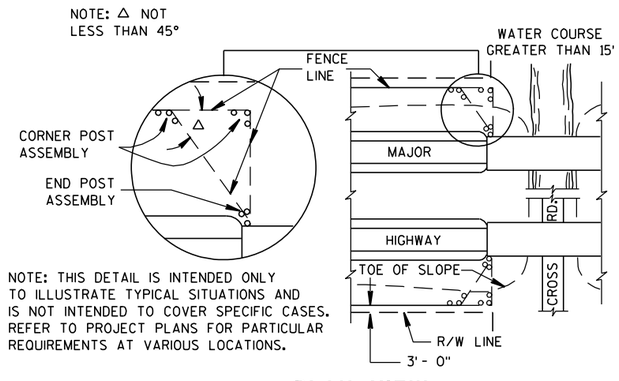
FENCE INSTALLATION TO WINGWALLS



LINE POST

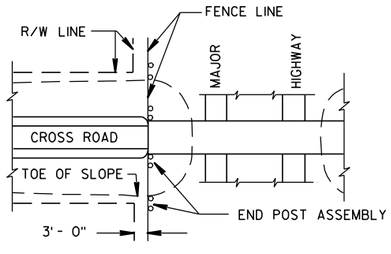


FENCE CONSTRUCTION OVER STREAM COURSES OF 15 FT. OR LESS IN WIDTH



PLAN VIEW

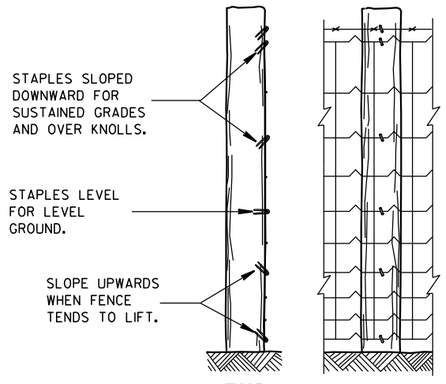
MAJOR HIGHWAY OVERPASS OR STREAM COURSE CROSSING OF GREATER THAN 15 FT. IN WIDTH



PLAN VIEW

MAJOR HIGHWAY UNDERPASS

NOTE: WHEN POSTS ARE DRIVEN THE SMALL END SHALL BE DOWN.



END ELEVATION **FARM SIDE ELEVATION**

FENCE MOUNTING DETAIL

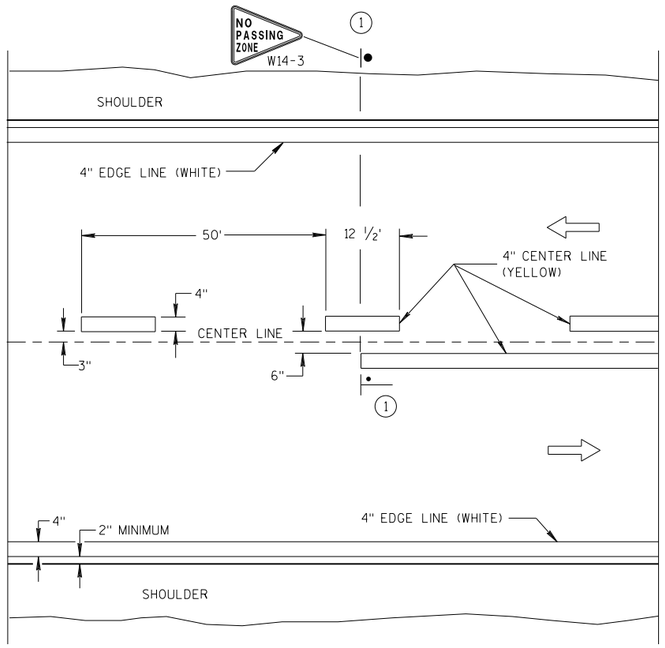
FENCE LOCATION AT STRUCTURES

FENCE WOVEN WIRE

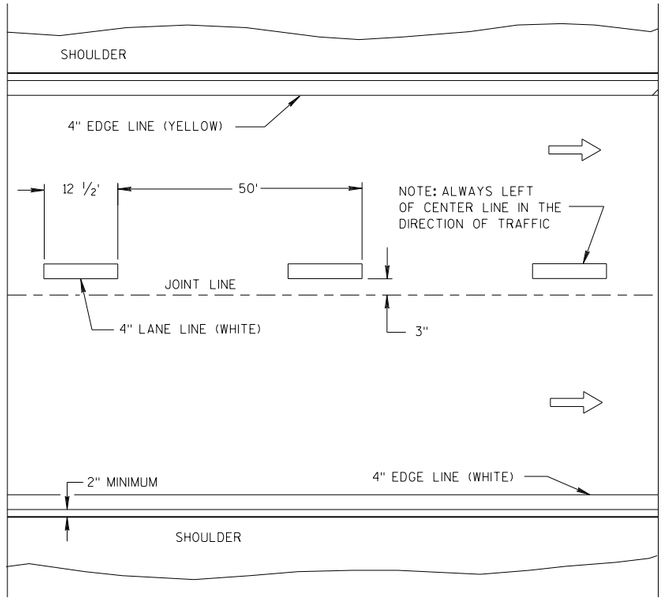
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/4/2008 — DATE
/S/ Jerry H. ---- — ROADWAY STANDARDS ENGINEER
FHWA

S.D.D. 15 B 1-8b
6



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

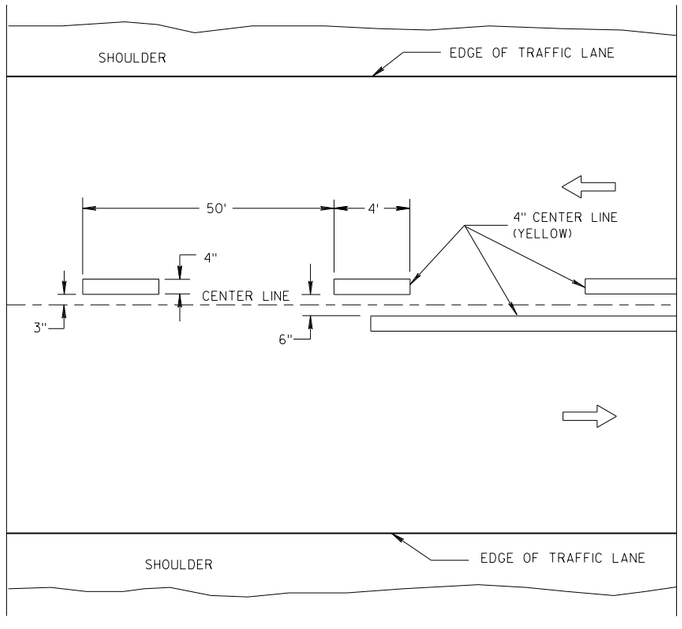
GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

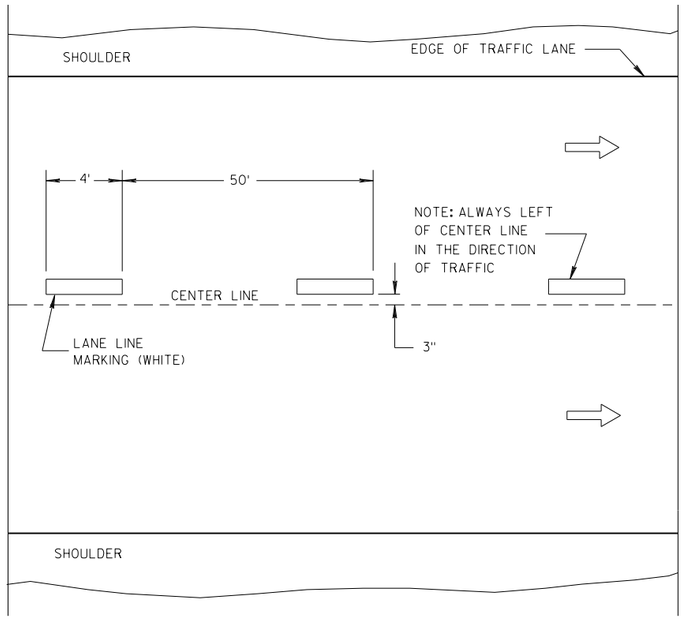
(1) LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING.

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

LEGEND

"T" MARKING

POST MOUNTED SIGN

LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/2018 DATE

/S/ Matthew R. Rauch
STATE SIGNING AND MARKING ENGINEER

FHWA

6

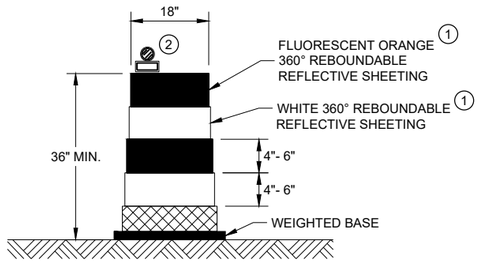
S.D.D. 15 C 8-19a

6

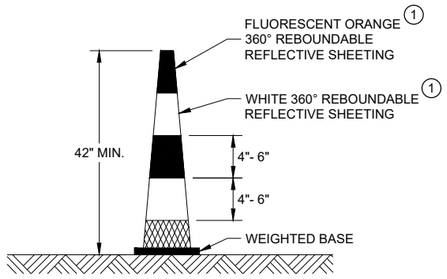
S.D.D. 15 C 8-19a

GENERAL NOTES

1. REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
2. LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.

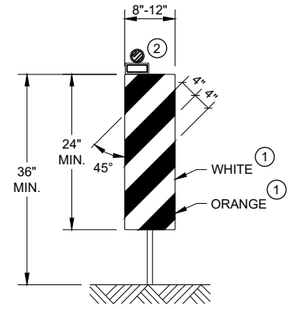


DRUM



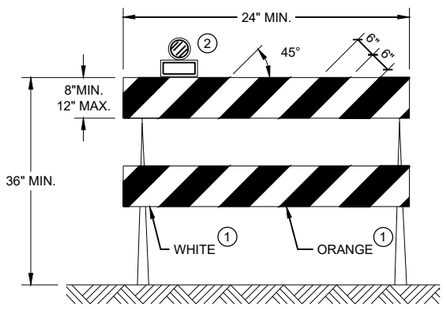
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



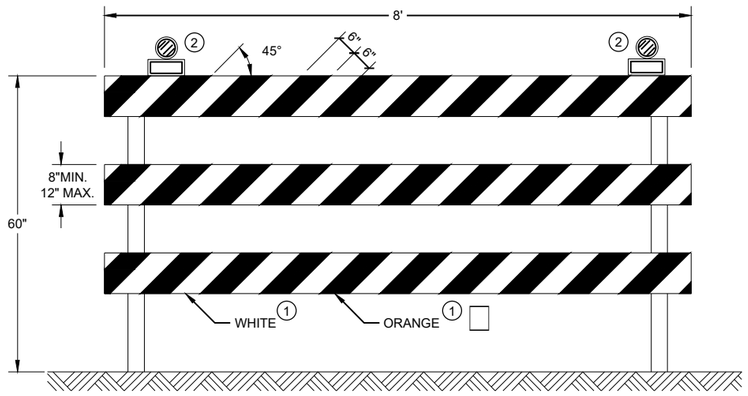
VERTICAL PANEL

THE STRIPES SHALL SLOPE DOWNWARD TO
THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE II BARRICADE

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES
MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD
TO THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE III BARRICADE

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50□ OF THE TOP
TWO RAILS OR 33□ OF THE TOTAL AREA OF THE THREE RAILS.

□IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELI□ING DE□ ICES
DRUMS, CONES, □ ARRICADES
AND □ ERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

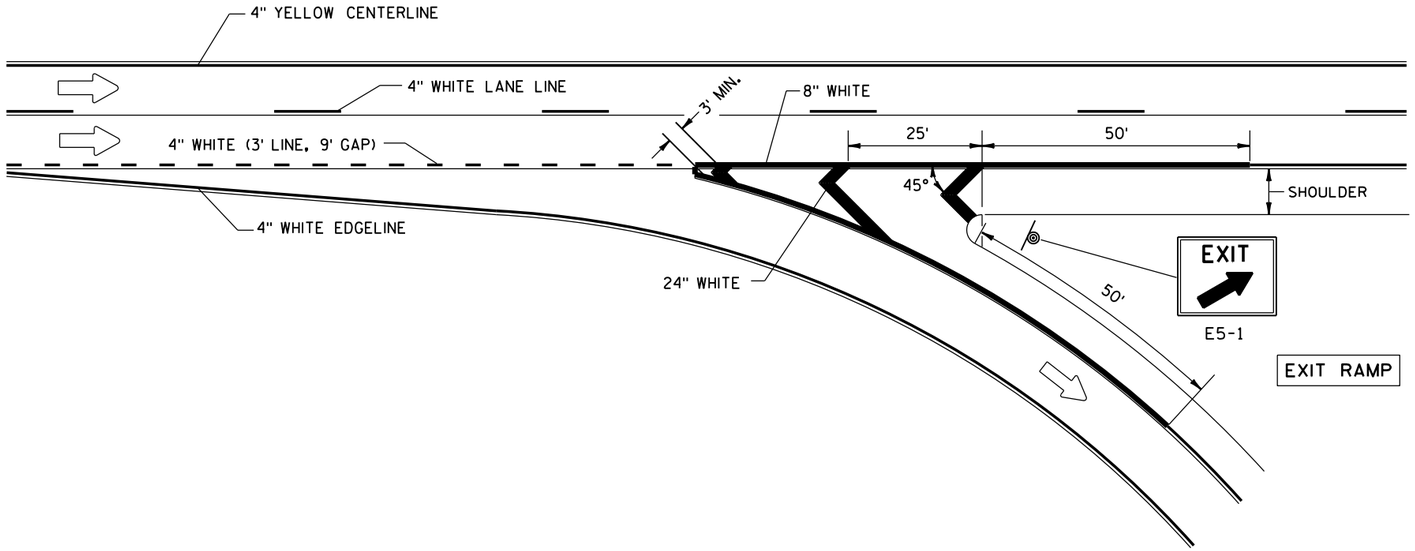
APPROVED
J□ne 2017
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

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SDD15C11 - 0□

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SDD15C11 - 0□



PAVEMENT MARKING FOR EXIT RAMP

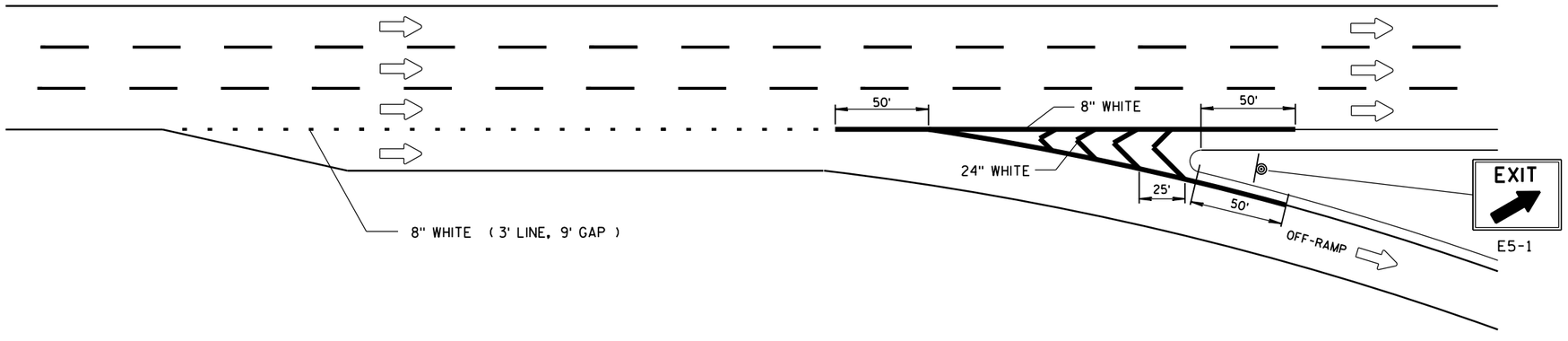
GENERAL NOTES

PLACE GROOVE 3 INCHES LEFT OF JOINT.

LEGEND

DIRECTION OF TRAVEL

SIGN ON PERMANENT SUPPORT



SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL EXIT-RAMP

6

S.D.D. 15 C 31-3a

PAVEMENT MARKING (RAMPS AND GORES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 15 C 31-3a

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

ALL SIGNS ARE 48" □48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED OR AS APPROVED BY THE ENGINEER.

CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

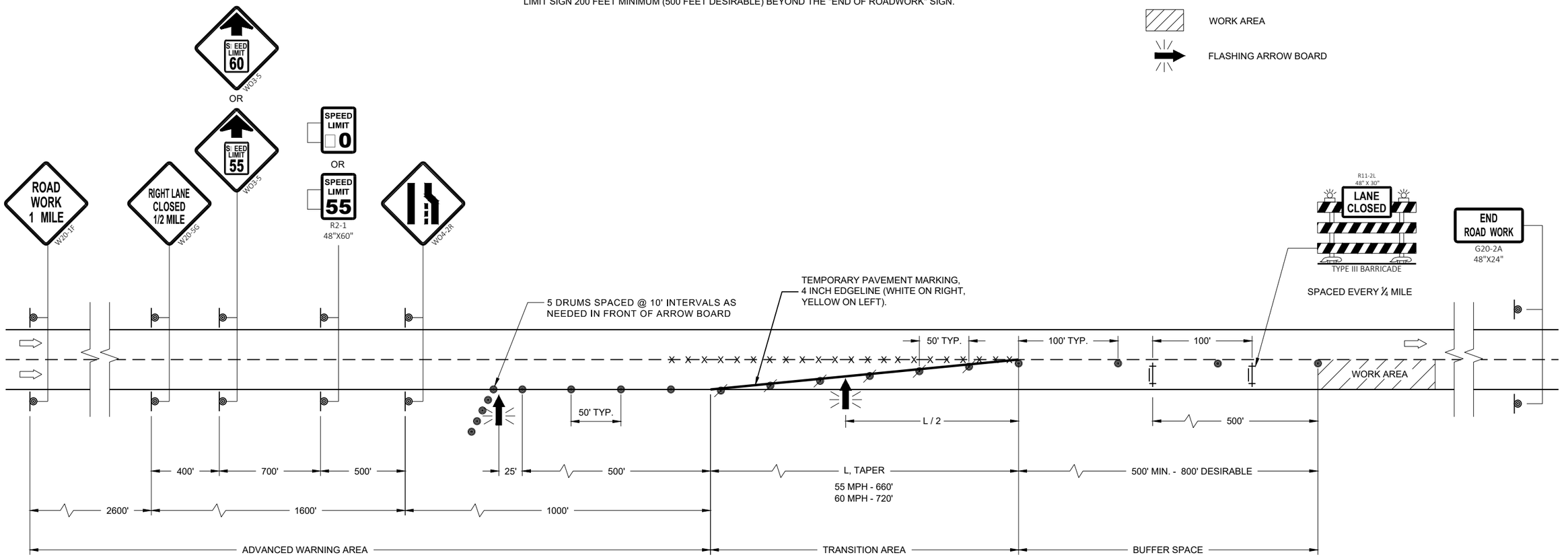
IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE ONE HALF THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. PLACE A SPEED LIMIT SIGN A MINIMUM OF EVERY 3 MILES. INCLUDE A RESUME SPEED LIMIT SIGN 200 FEET MINIMUM (500 FEET DESIRABLE) BEYOND THE "END OF ROADWORK" SIGN.

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC
- WORK AREA
- FLASHING ARROW BOARD



TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
N□e□□er 2018
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

SDD 15D1□ - 0□□

6

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

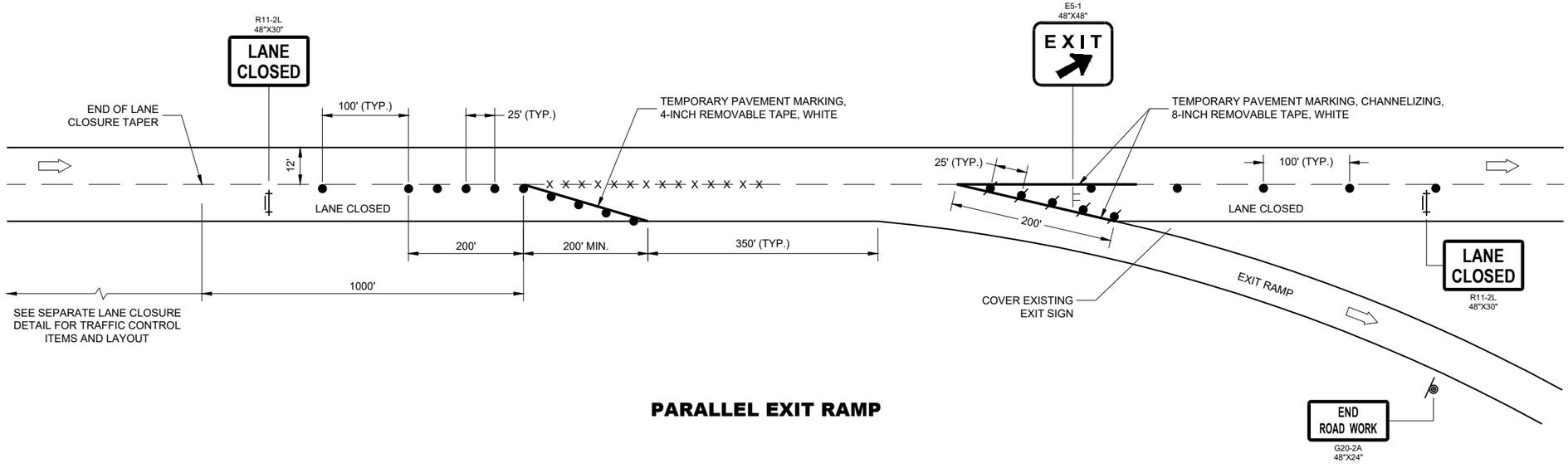
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE EXIT RAMP AND MAINLINE TRAFFIC.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.



PARALLEL EXIT RAMP

TRAFFIC CONTROL, PARALLEL EXIT RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

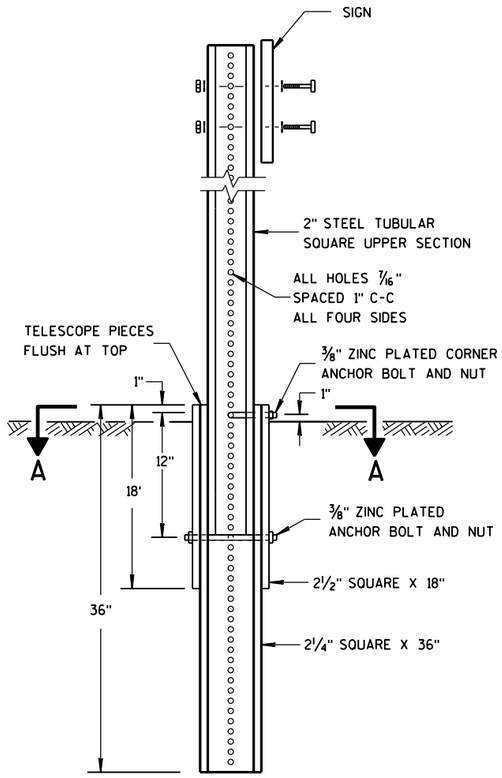
APPROVED
May 2019 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEE
FHWA

6

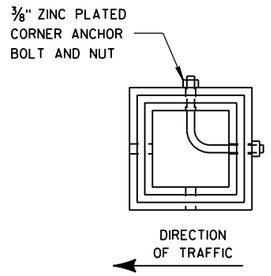
SDD 15D15 - 05e

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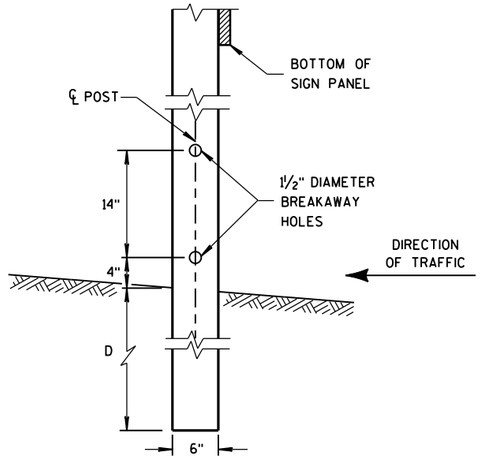
SDD15D15 - 05e



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



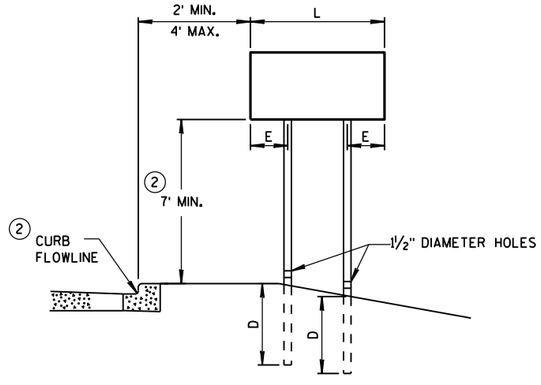
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

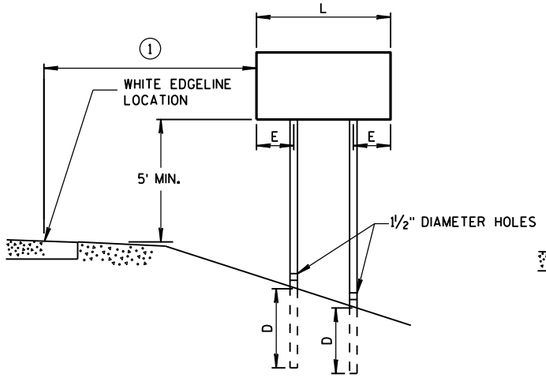
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

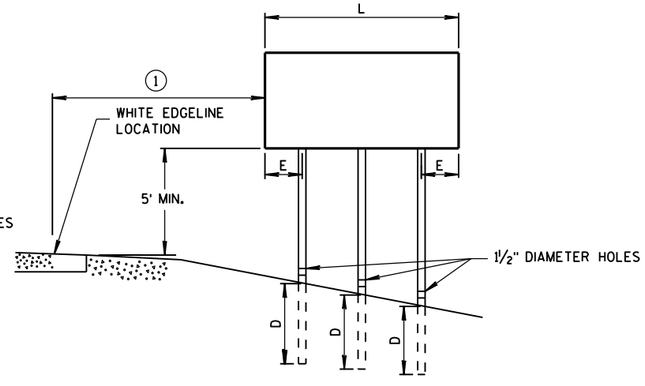
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.

(3) FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL POSTS
9 OR LESS	1
GREATER THAN 9 LESS THAN OR EQUAL TO 18	2
GREATER THAN 18 LESS THAN OR EQUAL TO 27	3

SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).

SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.

WOOD POST EMBEDMENT DEPTH

AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'

4" X 6" WOOD POST

POST SPACING REQUIREMENTS		NUMBER OF WOOD POSTS REQUIRED
L	E	
48" OR LESS AND LESS THAN 20 SQ. FT.	-	1
LESS THAN 60"	12"	2
60" TO 120"	L/5	2
GREATER THAN 120" LESS THAN 168"	12"	3
168" AND GREATER	12"	4

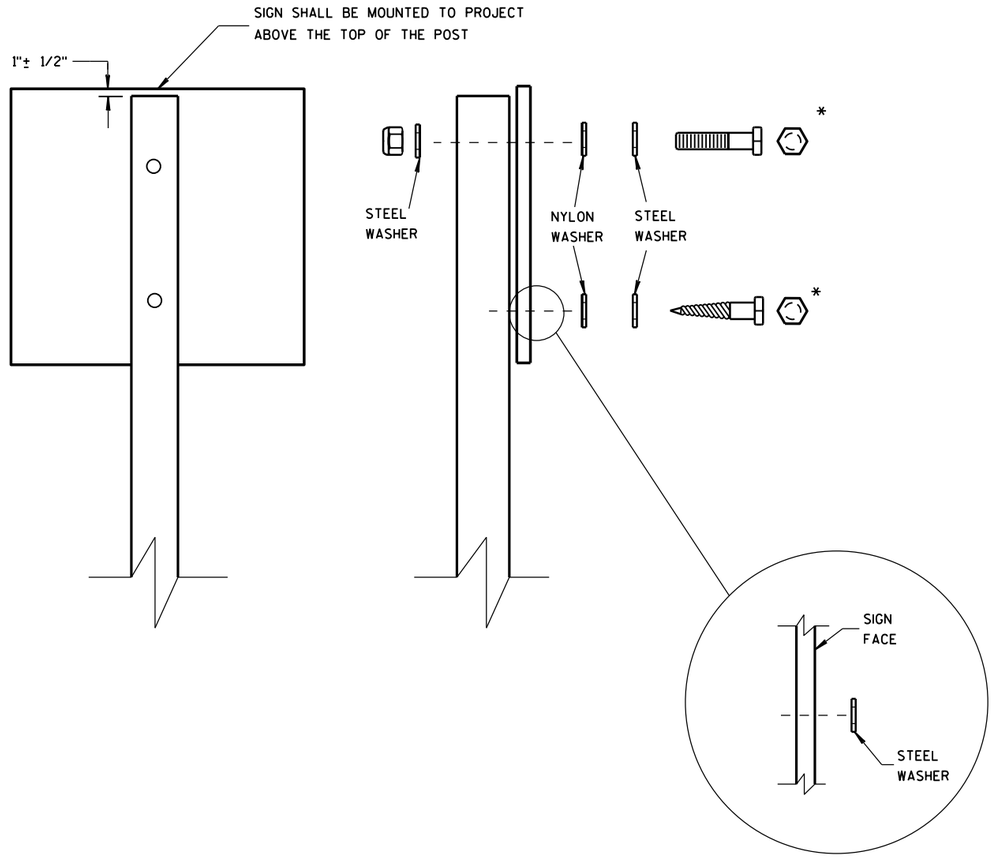
SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 15 D 38-2a
S.D.D. 15 D 38-2a



WASHER PLACEMENT WHEN SIGN HAS OTHER THAN TYPE H OR TYPE F FACE

NUTS, BOLTS AND LAGS USED FOR MOUNTING SIGNS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3

B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

WOOD POSTS (4" x 4" or 4" x 6")

LAG SCREWS - 3/8" X 3"

MACHINE BOLTS - 5/16" X 6-1/2" OR 7" LENGTH W/ NUTS

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" LENGTH W/ NUTS

RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL

1-1/4" O.D. X 3/8" I.D. X .080 NYLON FOR ALL TYPE H SIGNS

* TWO DIFFERENT FASTENING SYSTEMS ARE SHOWN FOR ILLUSTRATION PURPOSES. ON ANY INDIVIDUAL SIGN, EITHER ONE OR THE OTHER SYSTEM SHALL BE USED. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

6

6

S.D.D. 15 D 38-2b

S.D.D. 15 D 38-2b

ATTACHMENT OF SIGNS TO POSTS

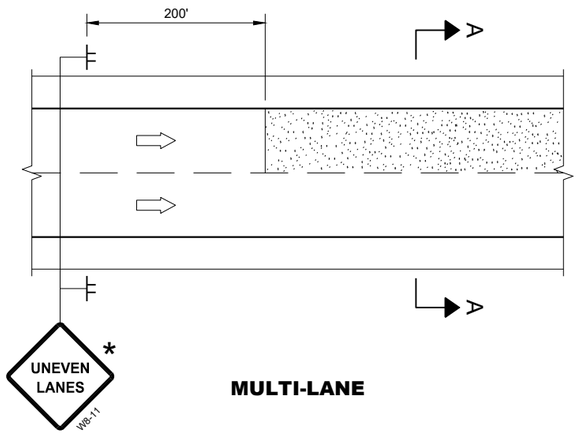
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

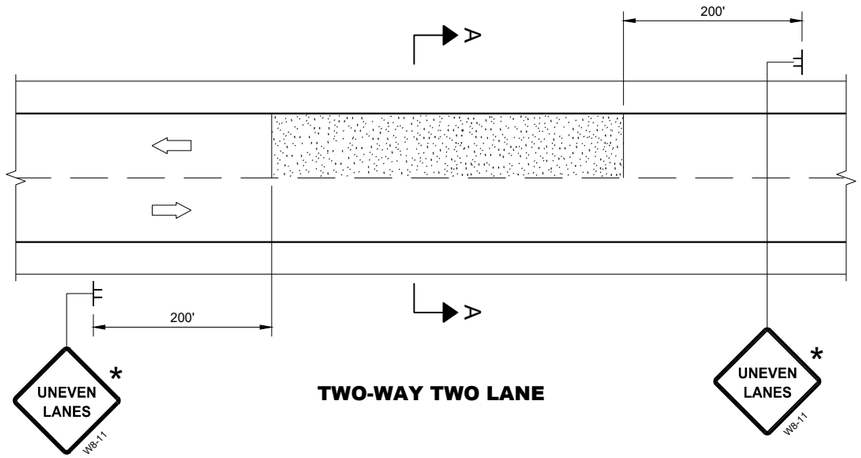
June 2017
DATE

/S/ Andrew Heldtke
WORK ZONE ENG

FHWA



MULTI-LANE



TWO-WAY TWO LANE

GENERAL NOTES

FOR SPOT LOCATIONS USE ENGINEERING JUDGEMENT WHEN PLACING ADDITIONAL SIGNS.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

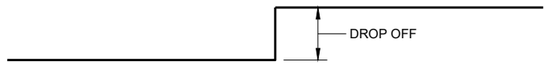
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

* IF THE DROP-OFF IS CONTINUOUS ALONG THE PROJECT, PLACE ADDITIONAL SIGNS EVERY 1 MILE AND AFTER EVERY ENTRANCE RAMP.

(1) USE CLOSER SPACING WHEN DELINEATING DROP-OFF.

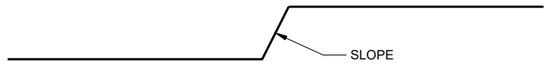
LEGEND

- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA WITH DROP-OFF
- MILLED SURFACE

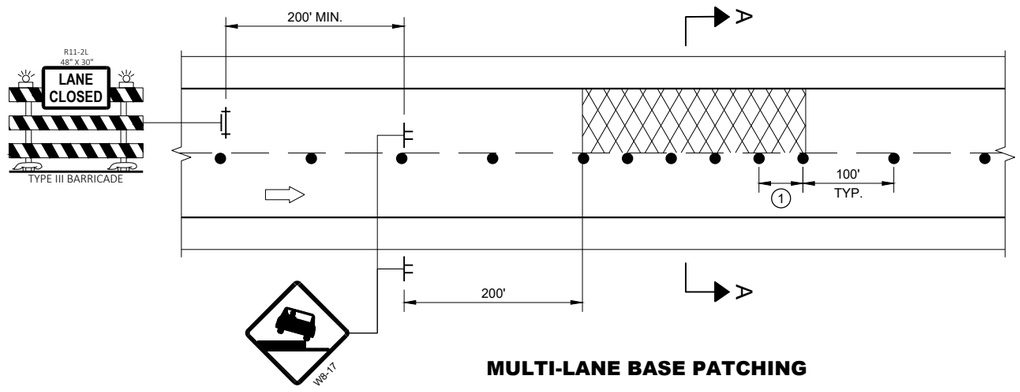


SECTION A - A

OR

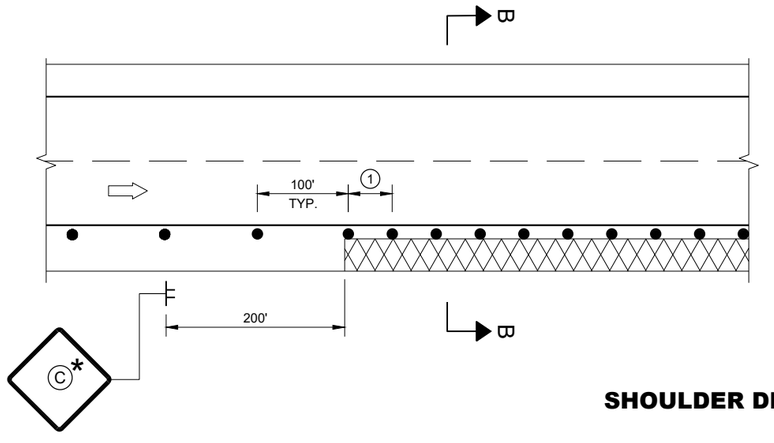


SECTION A - A

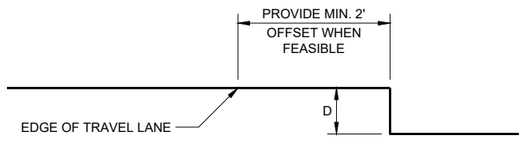


MULTI-LANE BASE PATCHING

ADJACENT LANE DROP-OFFS



SHOULDER DROP-OFFS



SECTION B - B

D	SIGN (C)
< 2" WITH A SLOPE STEEPER THAN 3:1	LOW SHOULDER WO8-9
2" < 6" WITH A SLOPE STEEPER THAN 3:1	SHOULDER DROP - OFF W8-9A PROVIDE A 3:1 OR FLATTER SLOPE OF MATERIAL ADJACENT TO THE PAVEMENT

TRAFFIC CONTROL, DROP-OFF SIGNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

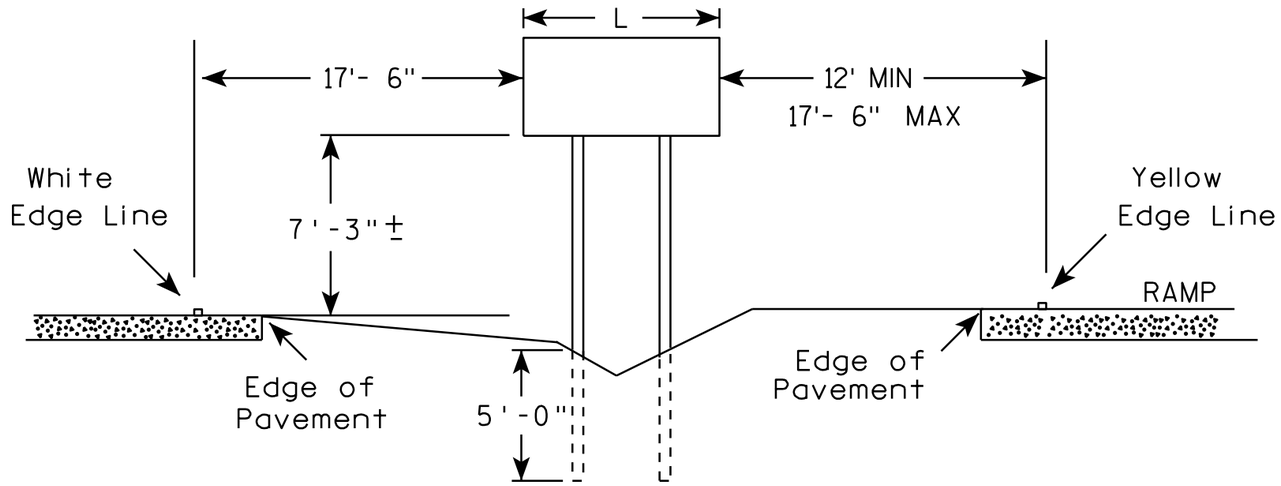
APPROVED
March 2018
DATE

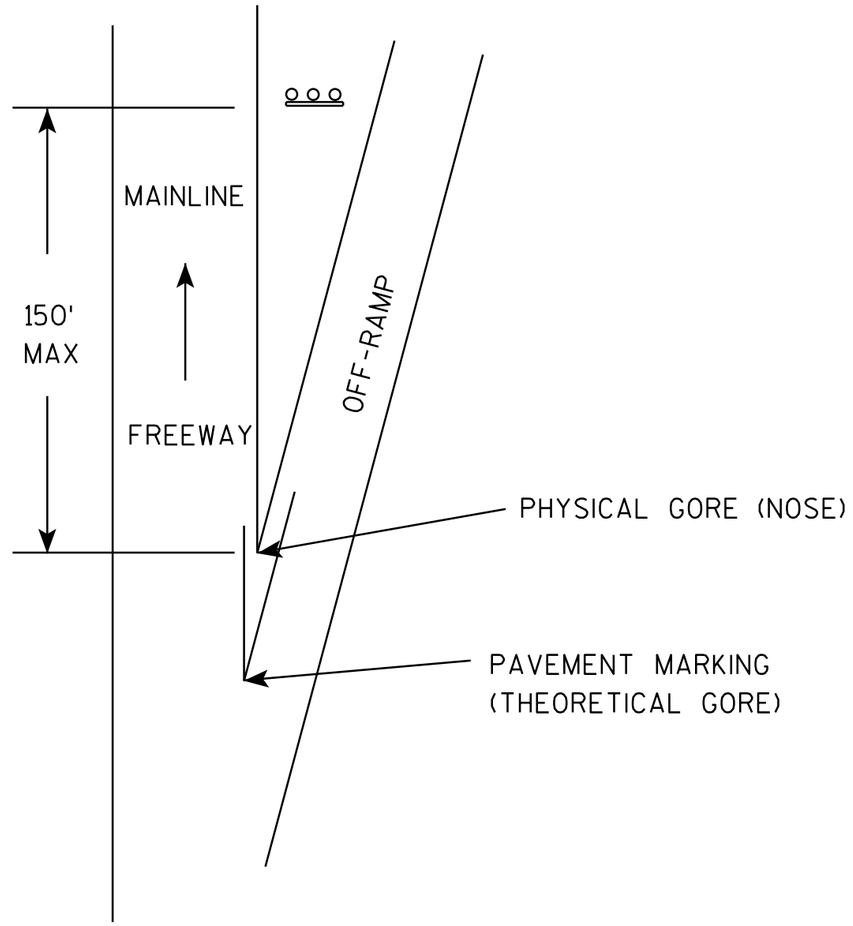
/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15D39 - 02





GENERAL NOTES

1. The 150 foot distance from the physical gore (where pavement ends) will normally provide the offsets as shown.
2. If roadway geometrics permit, the sign may be closer than the 150 foot distance as long as the offsets are maintained.
3. At no time shall the location be greater than 150 feet. If the normal offsets cannot be maintained, they can be reduced to 6 feet from the edge of the paved shoulder (both freeway and ramp).
4. The offset from edge of sign to the yellow edge line on the ramp is shown as a minimum of 12 feet and a maximum of 17 feet, 6 inches. Preference is adhering to the maximum rather than the minimum dimension.
5. When L is equal to or exceeds 10 feet, use 3 posts as per A4-4.
6. The (∓) tolerance for the mounting height is 3 inches.

7

7

TYPICAL INSTALLATION
OF TYPE II SIGNS ON
WOOD POSTS IN GORE

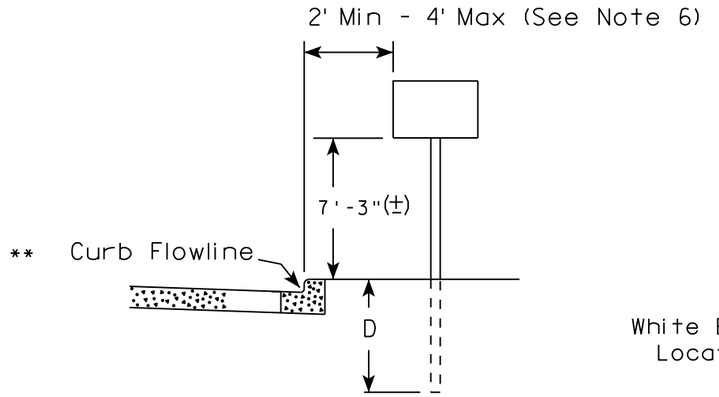
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

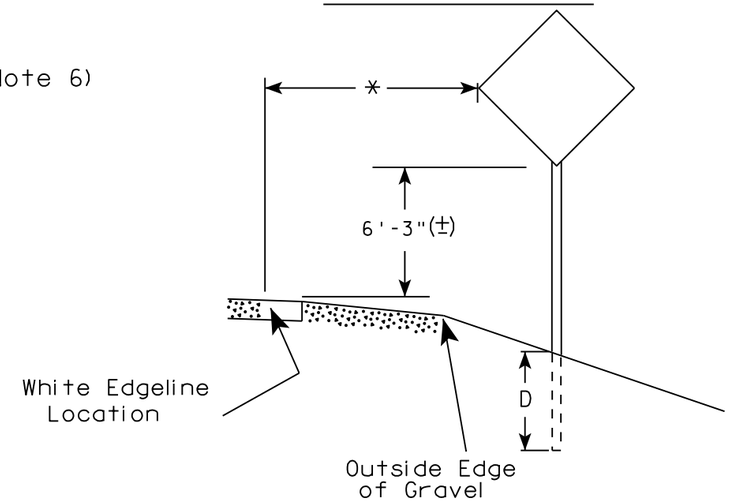
DATE 2/06/14 PLA 123 A4-2.3

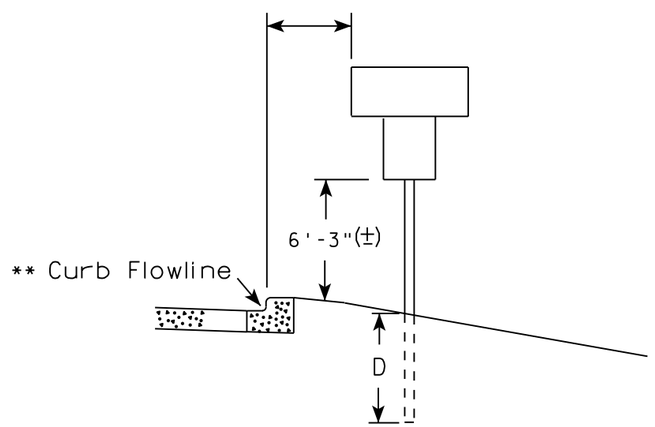
PROJECT NO: | SHEET NO: E

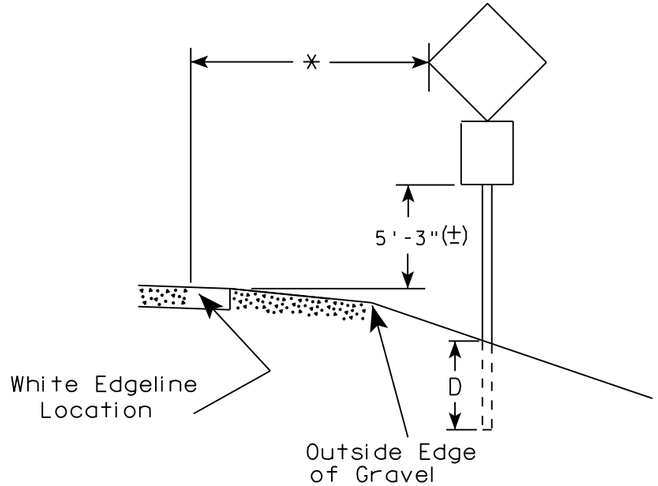
URBAN AREA



RURAL AREA (See Note 2)







** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

POST EMBEDMENT DEPTH

Area of Sign Installation (Sq.Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. J-Assemblies are considered to be one sign for mounting height.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

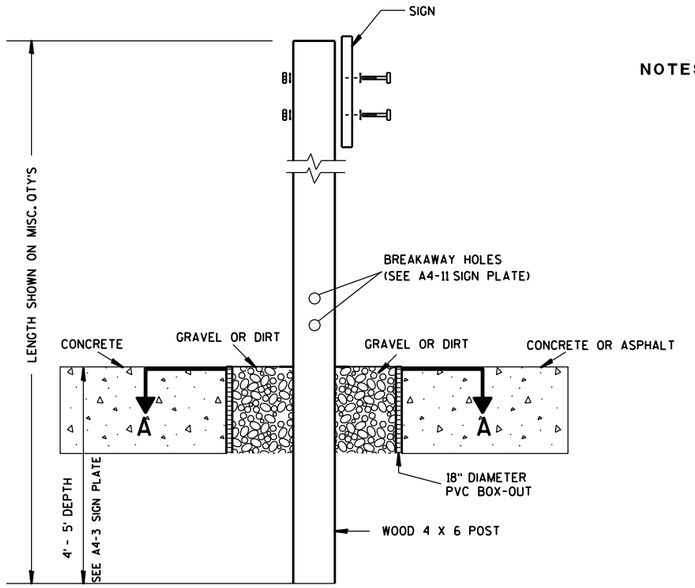
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-3.21

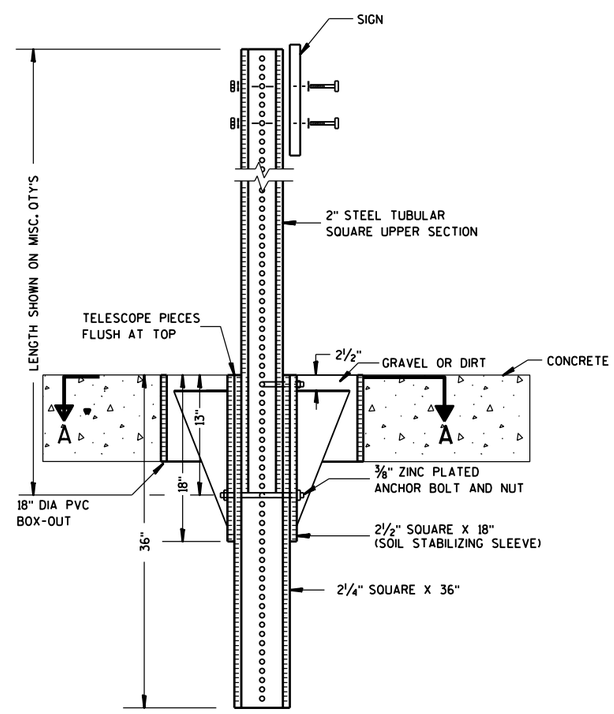
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 124	E



ELEVATION VIEW

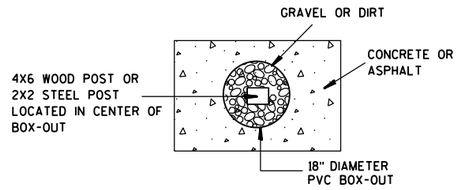
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

NOTES:
1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

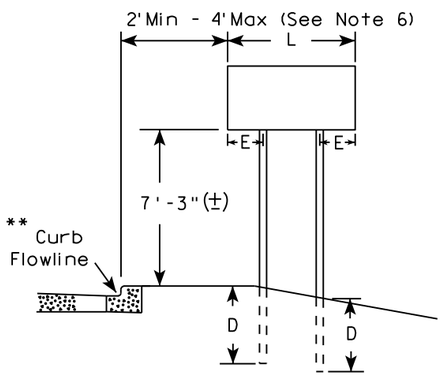
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/27/14 PLATE NO. A4-3B.1

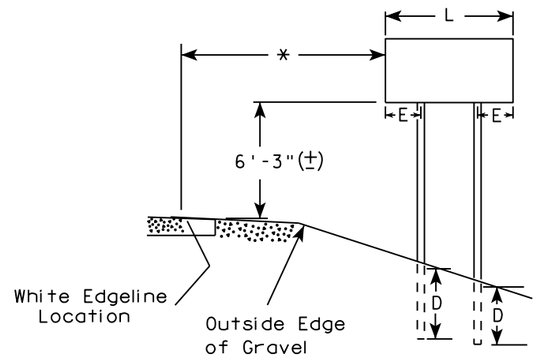
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

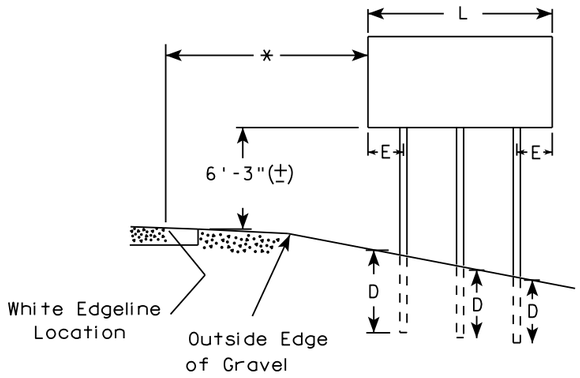
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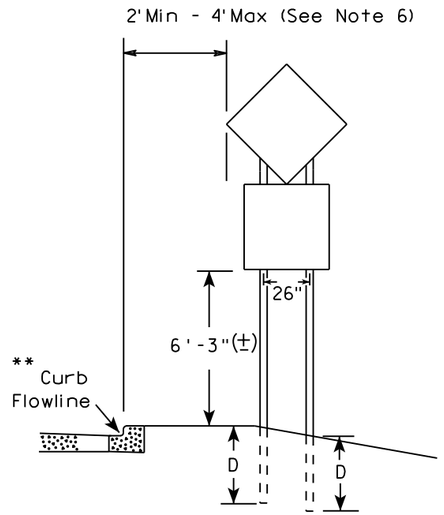
URBAN AREA



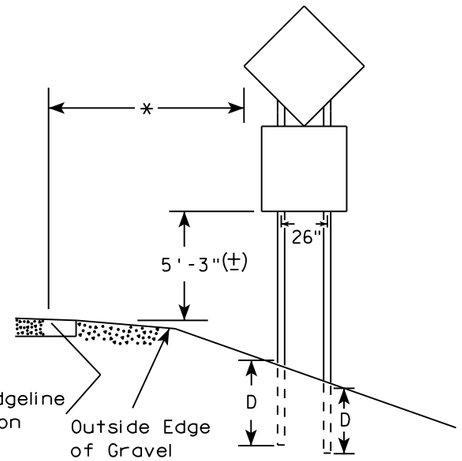
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

***	SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
	L	E
	Greater than 48" Less than 60"	12"
	60" to 108"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. J-Assemblies are considered to be one sign for mounting height.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4"-3" (±).

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

*** See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.

POST EMBEDMENT DEPTH

Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

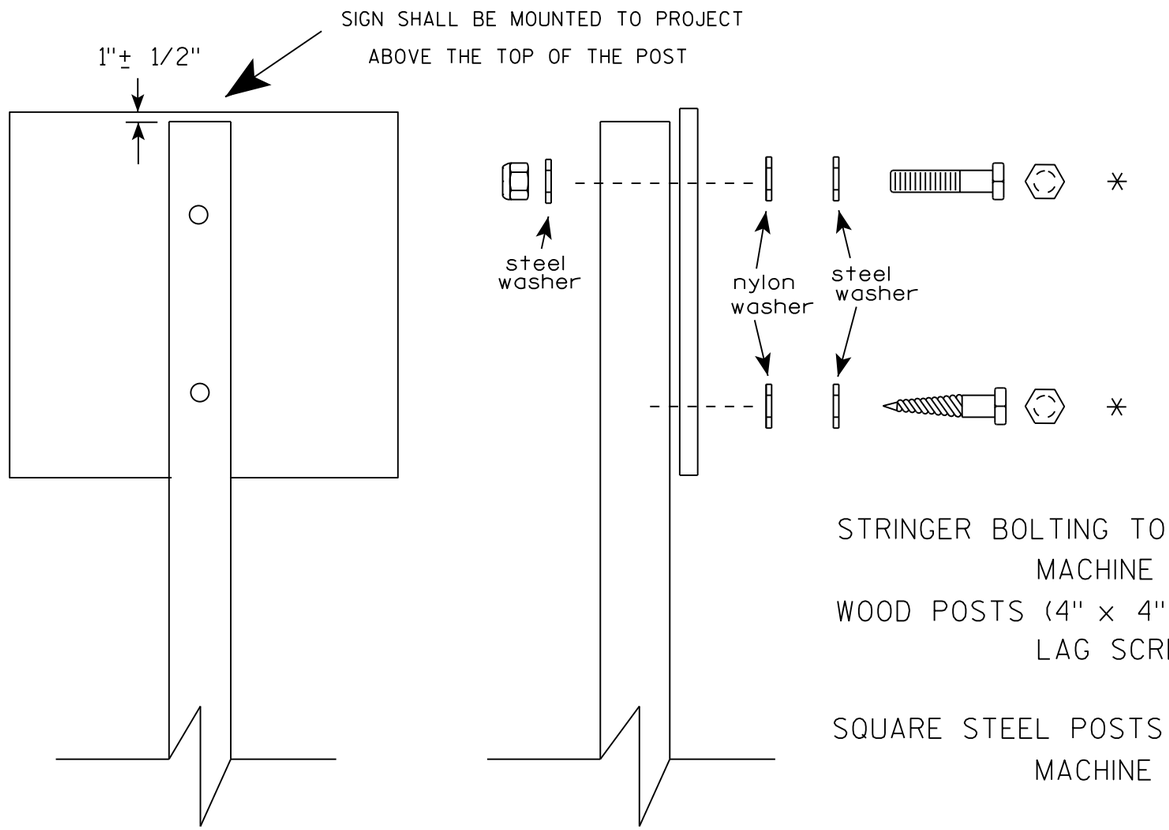
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-4.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 126	E



Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts
WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
3/8" X 4" (STRINGERS ON BACK OF SIGN)
SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON

* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

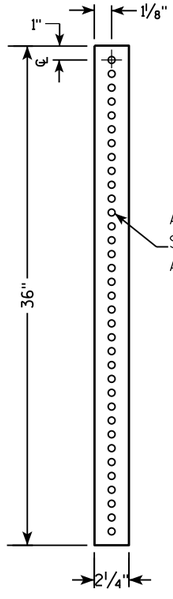
DATE 8/11/16 PLATE NO. A4-8.8

PROJECT NO: SHEET NO: E

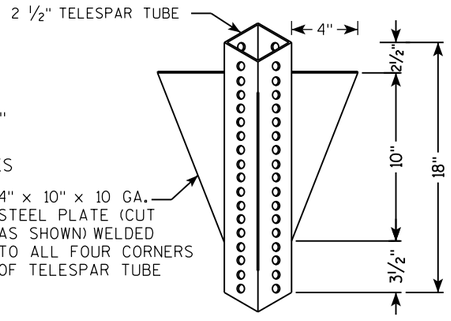
FILE NAME : C:\CADfiles\Projects\tr_stdplate\A48.DGN PLOT DATE : 11-AUG-2016 11:35 PLOT BY : $$ plotuser $$

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

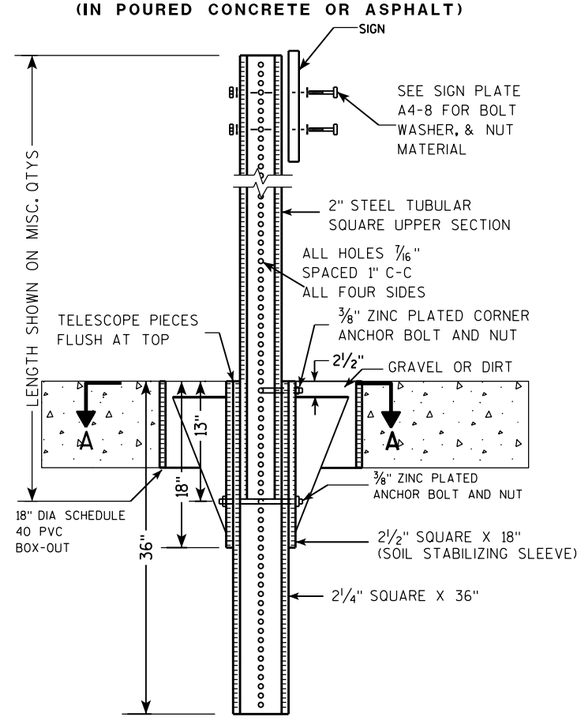
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



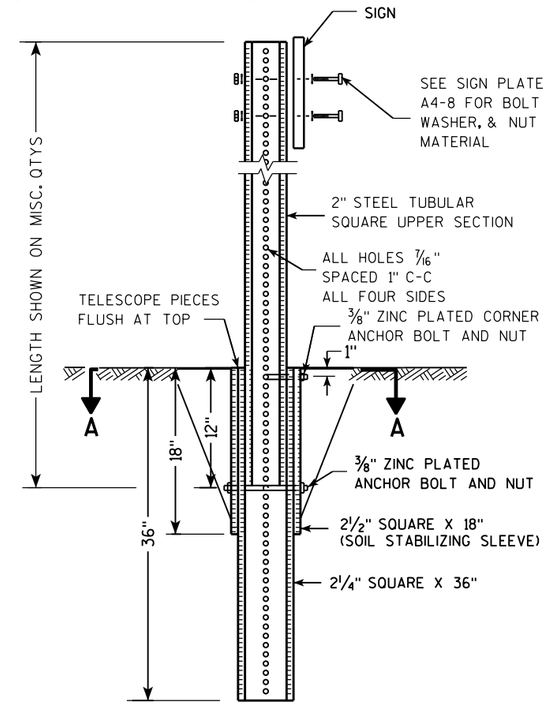
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

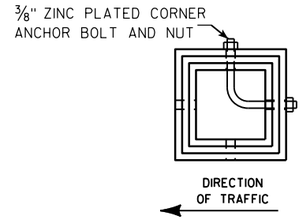


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



DETAIL OF TUBULAR STEEL SIGN POST
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)





SECTION A-A

Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

TUBULAR STEEL
SIGN POST
A4-9

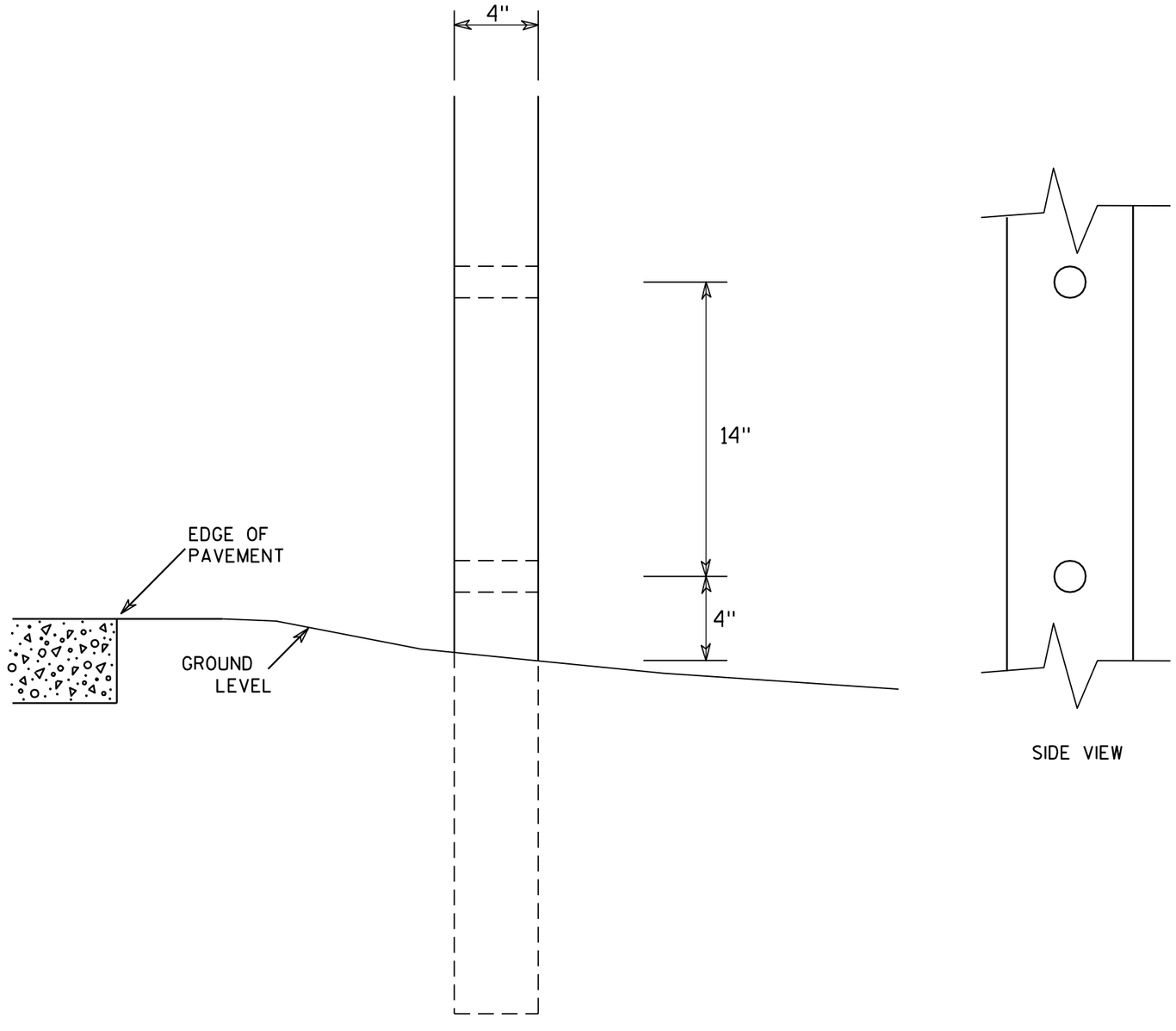
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A49.DGN PLOT DATE : 05-FEB-2015 17:09 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42



SIDE VIEW

GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

7

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

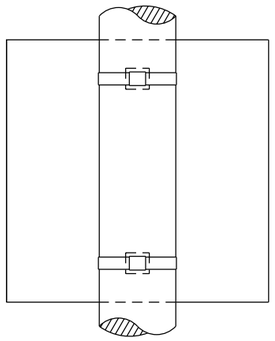
APPROVED Chester J Spang
for State Traffic Engineer

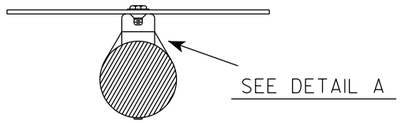
DATE 3/27/97 PLATE NO. A4-11.2

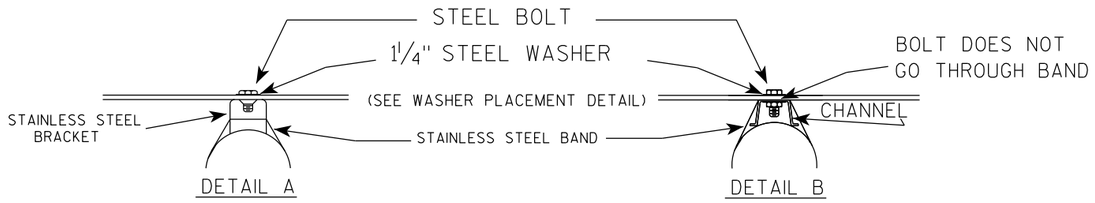
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 129	E

BANDING

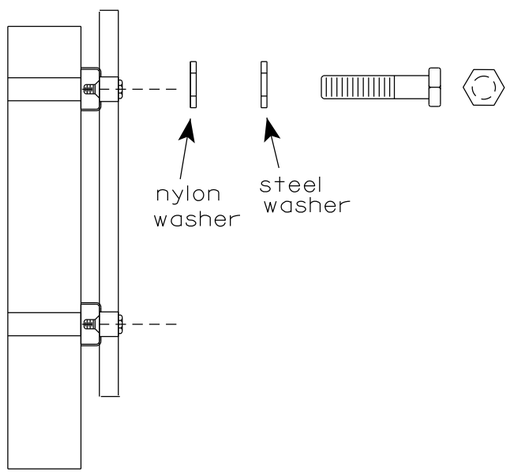
SINGLE SIGN







WASHER PLACEMENT

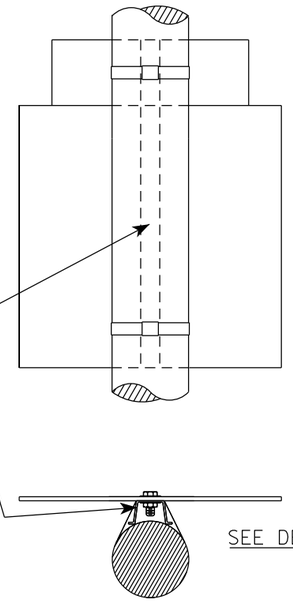


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be ¾" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

"J" ASSEMBLY



STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

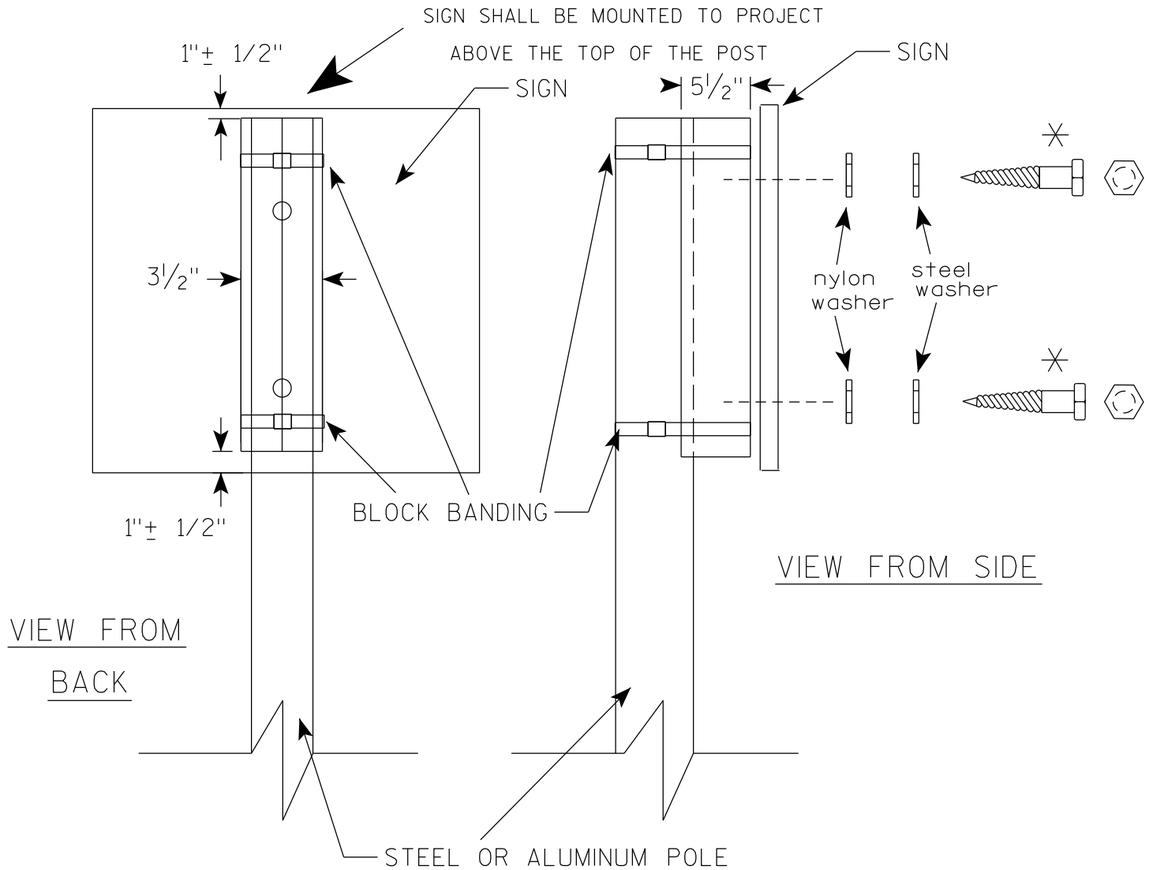
DATE 6/10/19 PLATE NO. A5-9.4

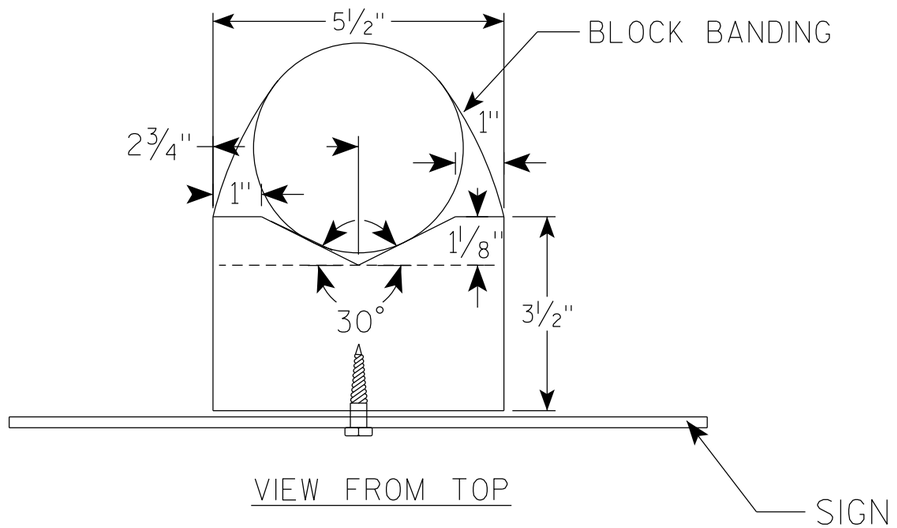
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 130	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A59.dgn PLOT DATE : 10-JUN 2019 4:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

7

7





GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

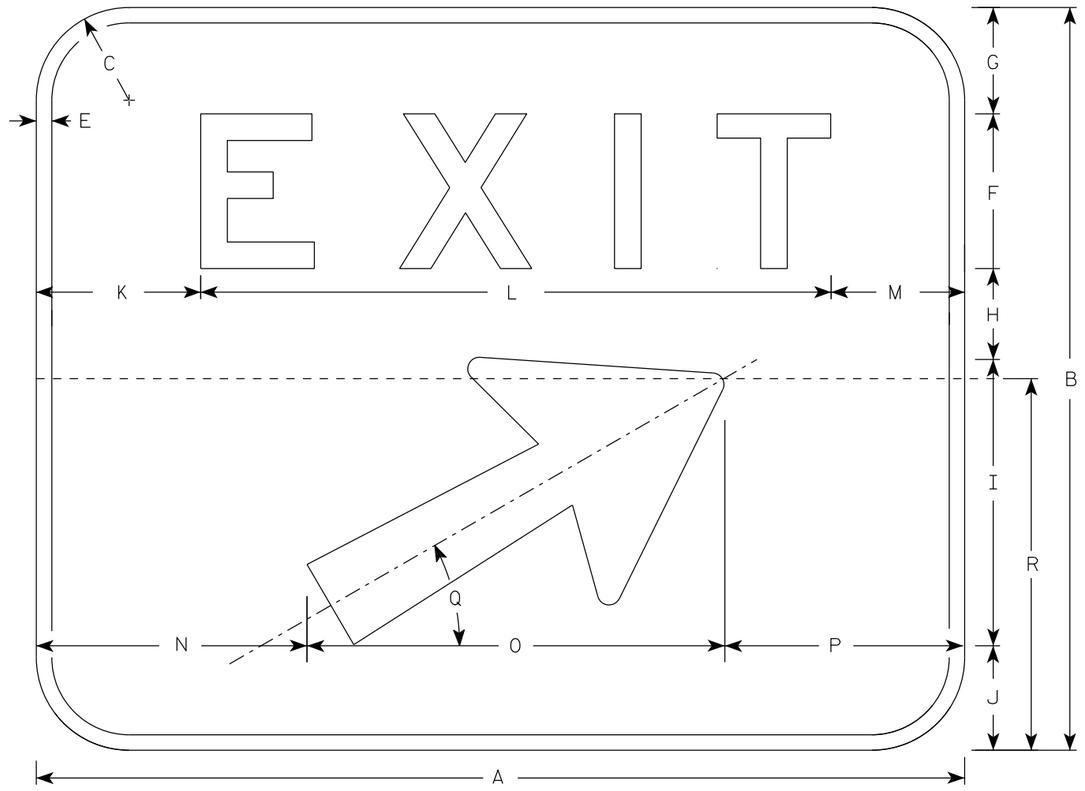
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 6/10/19 PLATE NO. A5-10.2

PROJECT NO: | SHEET NO: 131 | E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A510.dgn PLOT DATE : 10-JUN 2019 4:15 PLOT BY : mscj9h

WISDOT/CADDS SHEET 42



E5-1

NOTES

1. Sign is Type II - Type H reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. When Base material for this sign is plywood sign shall be split into two seperate pieces for the 72 x 60 size as shown on the detail by the dashed line (----------).
6. Arrow is Type "A" from sign plate A1-1.
7. As per the Standard Spec's, this sign shall not have a vertical joint.
8. Size 3 E5-1 shall only be used in a Work Zone application with a Temporary Sign Support

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2																											
3	48	48	6		1	10	6 7/8	5 7/8	18 1/2	6 3/4	8 1/2	31 1/8	8 3/8	11 1/2	27	9 1/2	30°	30									16.0
4	60	48	6		1	10	6 7/8	5 7/8	18 1/2	6 3/4	10 5/8	40 3/4	8 5/8	17 1/2	27	15 1/2	30°	30									20.0
5	72	60	6		1	12	9 3/4	10	18 1/2	9 3/4	13 1/4	48 1/2	10 1/4	23 1/2	27	21 1/2	30°	30									30.0

STANDARD SIGN
E5-1

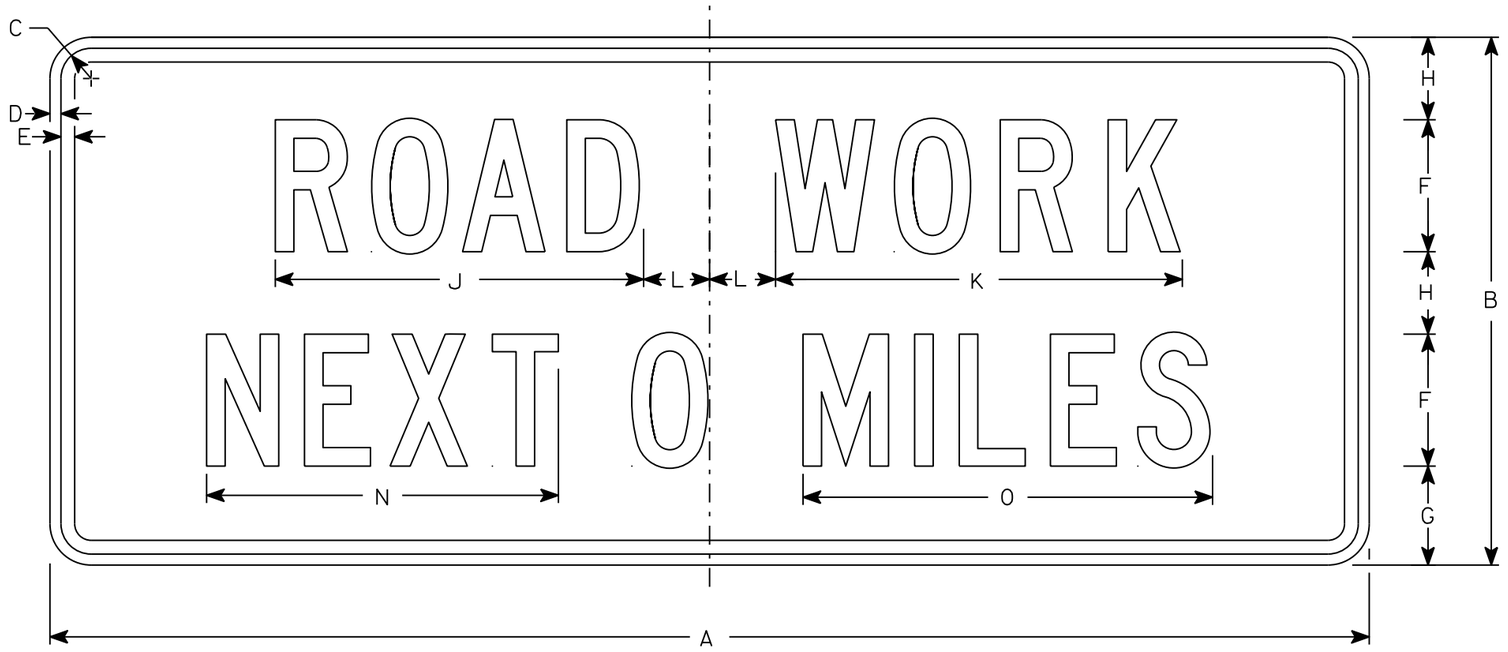
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/26/18 PLATE NO. E5-1.10

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 132 | E

7



G20-1

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Round distance to nearest whole Mile and substitute appropriate numerals and optically adjust spacing to achieve proper balance

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	60	24	1 3/8	1/2	5/8	6	4 1/2	3 3/4		16 3/4	18 1/2	3		16	18 5/8												10
3																											
4	60	24	1 3/8	1/2	5/8	6	4 1/2	3 3/4		16 3/4	18 1/2	3		16	18 5/8												10
5																											

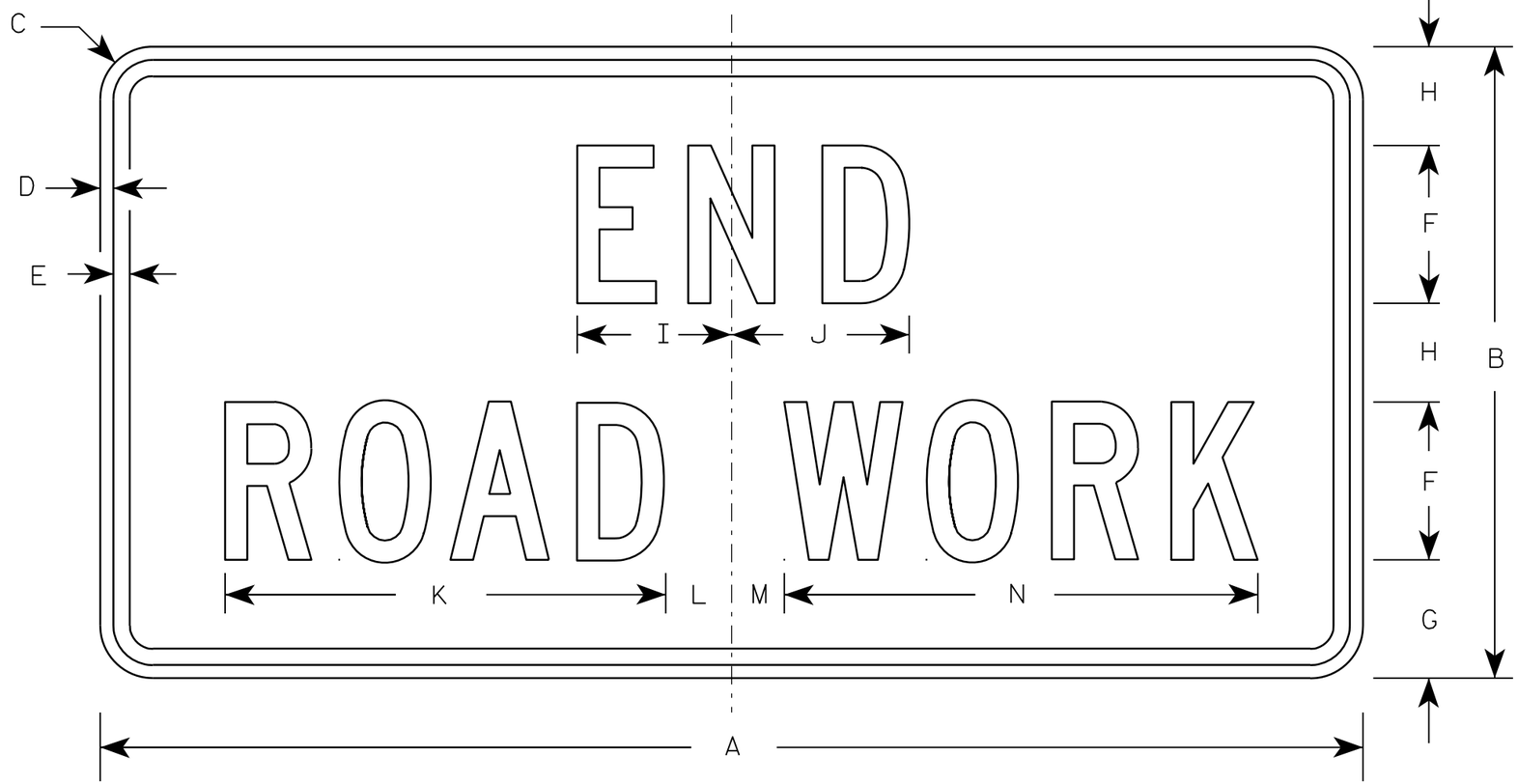
STANDARD SIGN
G20-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/14/17 PLATE NO. G20-1.8

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 133 | E



G20-2A

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

Metric equivalent for this sign is:

SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

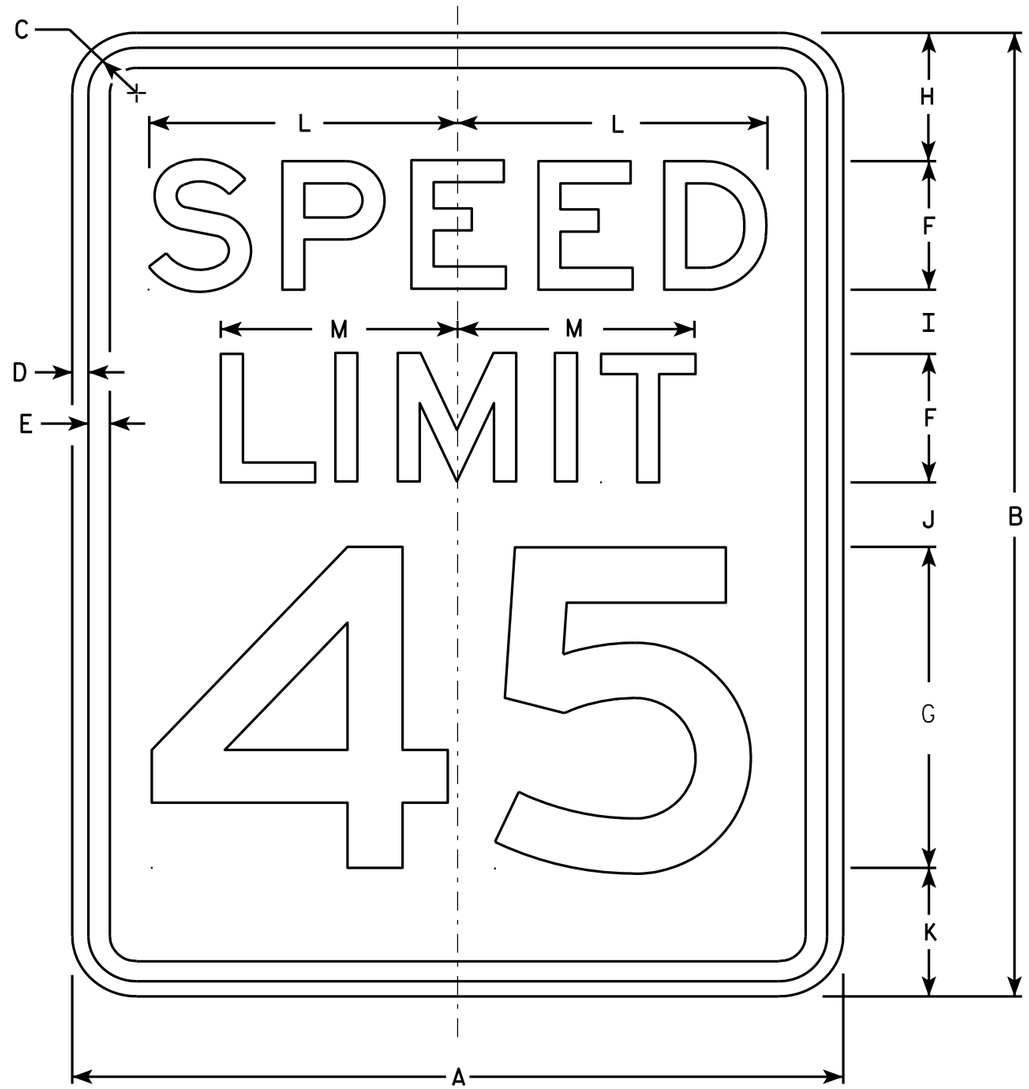
STANDARD SIGN
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/09 PLATE NO. G20-2A.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 134	E



R2-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/8	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 3/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	2 1/4	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

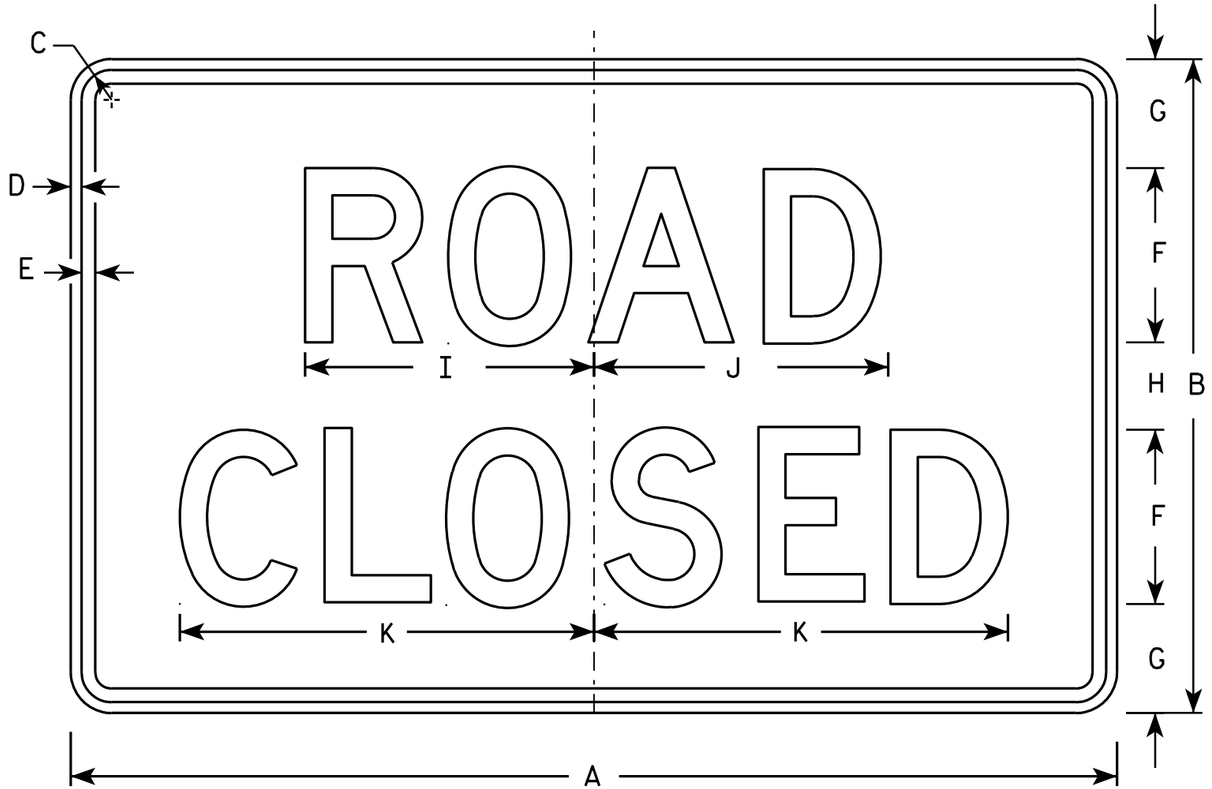
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/26/10 PLATE NO. R2-1.13

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 135 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R21.DGN PLOT DATE : 28-MAY-2010 08:32 PLOT BY : ditjph PLOT NAME : PLOT SCALE : 4.717577:1.000000

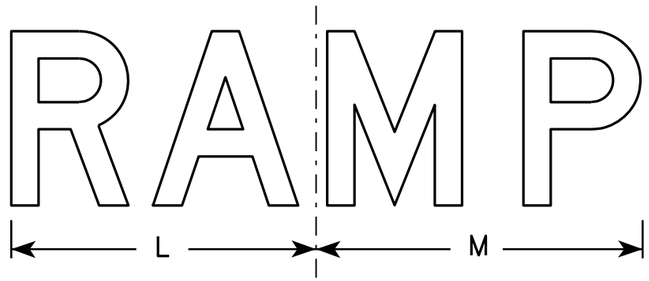
WISDOT/CADDS SHEET 42



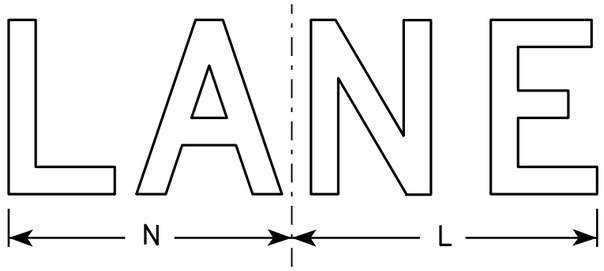
R11-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Modify the message as required.



R11-2R



R11-2L

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0

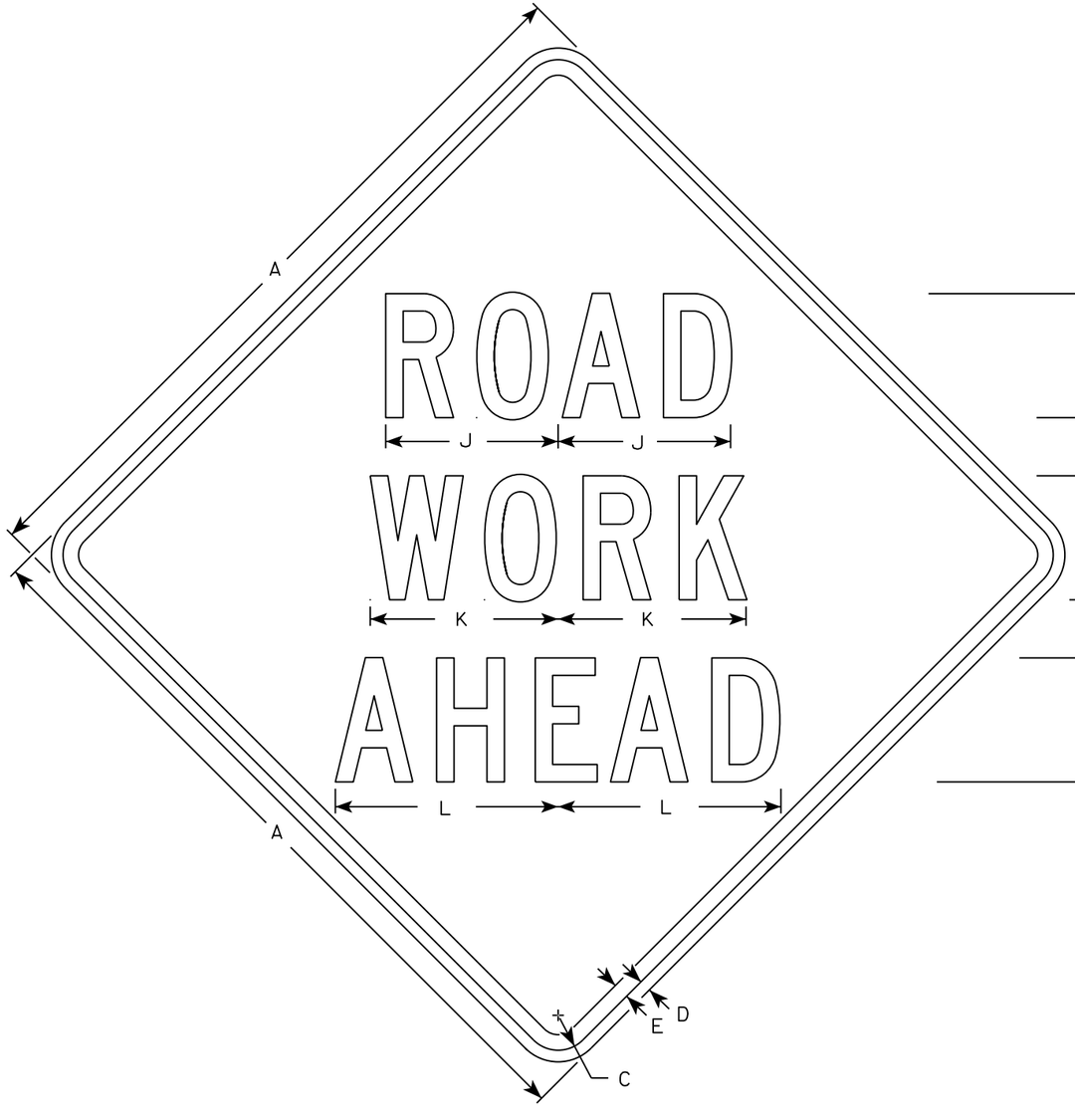
STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

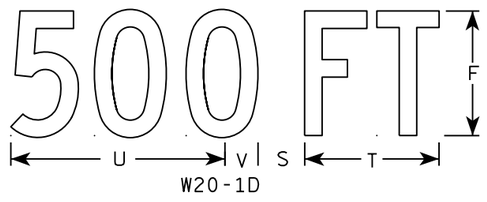
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2.10

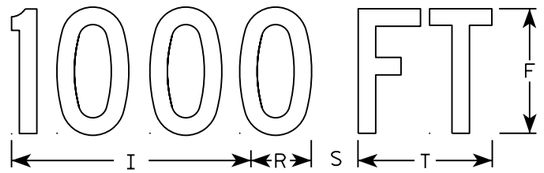
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 136 | E



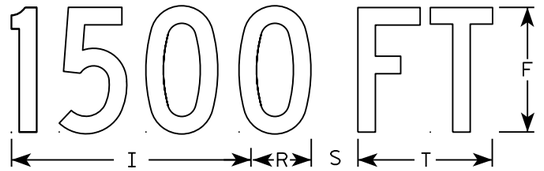
W20-1A



W20-1D



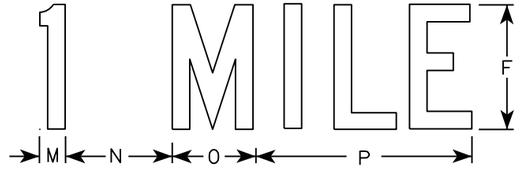
W20-1C



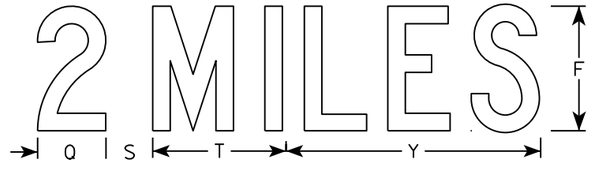
W20-1B



W20-1G



W20-1F



W20-1E

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	1/2	5/8	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9		2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

STANDARD SIGN
W20-1A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/07/15 PLATE NO. W20-1.10

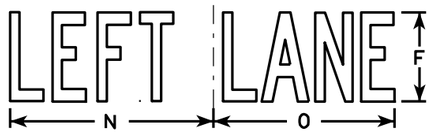
PROJECT NO:

SHEET NO: E

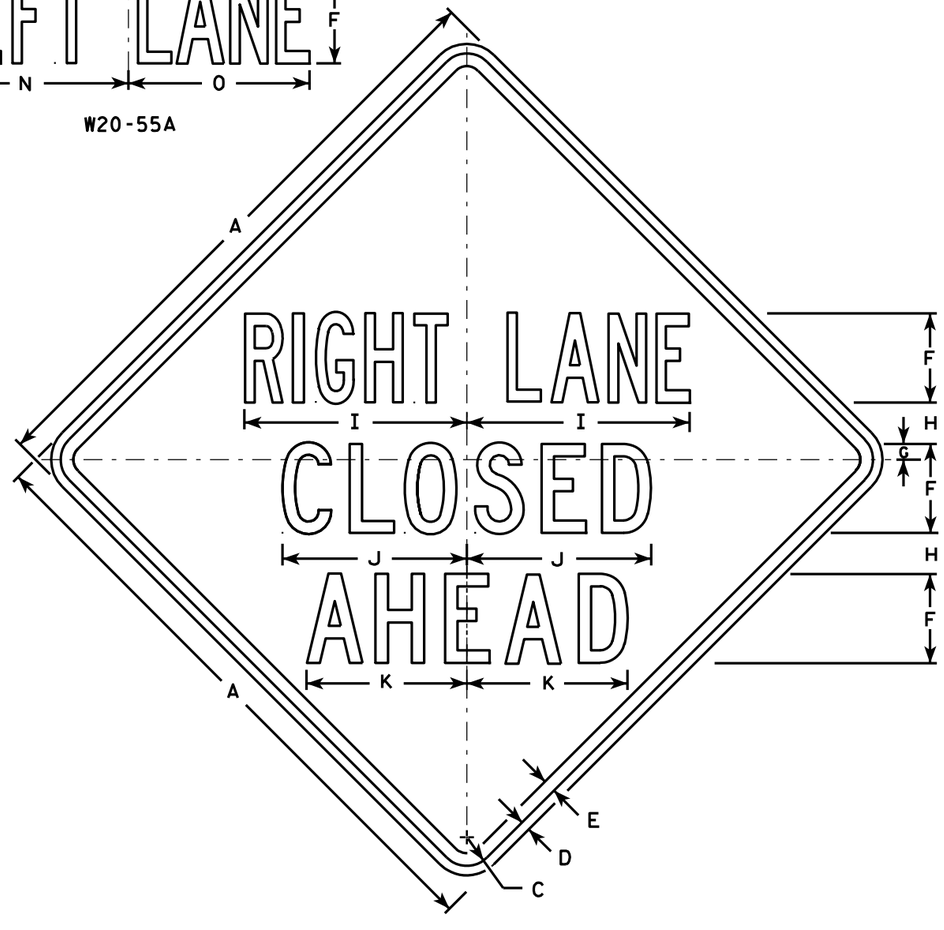
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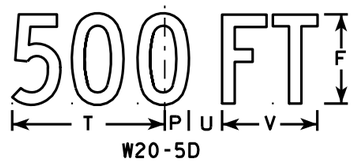
W20-56A



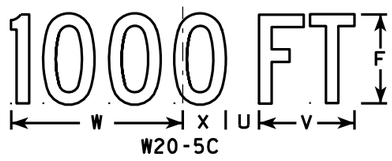
W20-55A



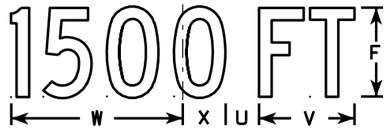
W20-5A



W20-5D



W20-5C



W20-5B



W20-5G



W20-5F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. " _____ LANE" is Series B.
   All other copy is Series C.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	6	1 5/8	5/8	3/4	5	1/8	2 1/2	13 1/8	10 3/4	9 1/2	14 1/4	13 5/8	12	12	1 3/8	1 1/8	4 1/2	3 1/2	9	1 1/8	5 5/8	10 1/8	2 1/2	1 3/4	8	9.0
2S	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
2M	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
3	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
4	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
5	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0

STANDARD SIGN
W20-5A, B, C, D, F & G

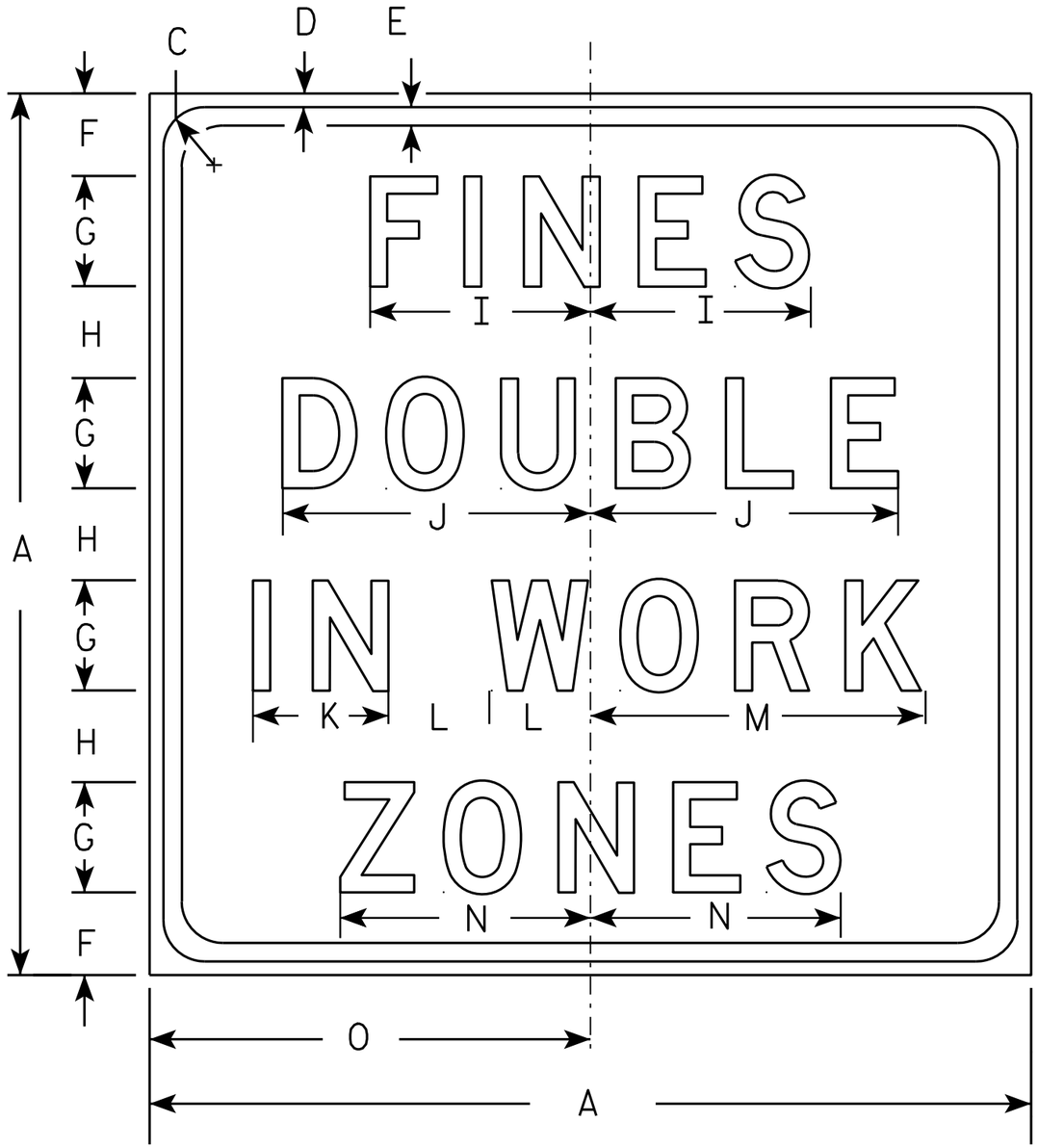
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-5.11

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 138	E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W205.DGN PLOT DATE : 18-MAR-2011 12:15 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 11.918087:1.000000
WISDOT/CADDS SHEET 42



W21-61

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	2 1/4	3	2 1/2	6	8 3/8	3 3/4	2 3/4	9 1/8	6 7/8	12												4.0
2S	36		1 5/8	5/8	3/4	3 3/8	4 1/2	3 3/4	9	12 5/8	5 1/2	4 1/8	13 3/4	10 1/4	18												9.0
2M	36		1 5/8	5/8	3/4	3 3/8	4 1/2	3 3/4	9	12 5/8	5 1/2	4 1/8	13 3/4	10 1/4	18												9.0
3	48		2 1/4	3/4	1	4 1/2	6	5	12	16 3/4	7 3/8	5 1/2	18 1/4	13 5/8	24												16.0
4																											
5																											

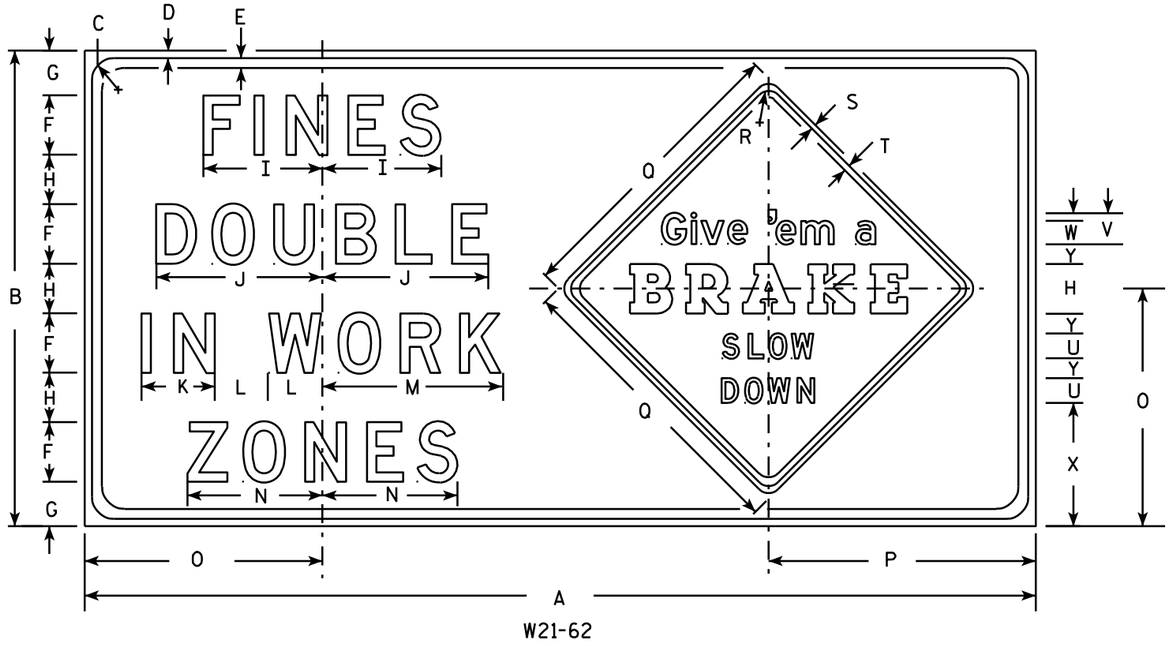
STANDARD SIGN
W21-61

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 3/21/11 PLATE NO. W21-61.4

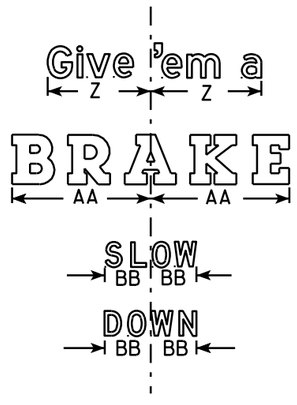
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 139	E

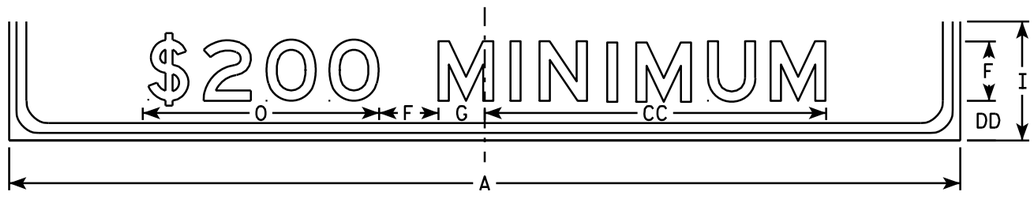


W21-62

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White - (See Note 5)
   Message - Black
3. Message Series -
   Fines Double Message - All lines are Series D
   Give 'em a Brake -
   Line one is Series E, line two is a Special Graphic Series and lines three and four are Series D.
4. The base material shall be plywood. Corners may be square or rounded, but borders shall be rounded as shown. The base material for Give 'em a Brake sign can be a seperate sheet of aluminum with the corners and borders rounded as shown. This seperate panel shall then be attached to the plywood with aluminum or stainless steel sheet metal screws.
5. Background for the Give 'em a Brake sign shall be Type F reflective orange.





W21-62P

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	BB	CC	DD	Area sq. ft.
1																															
2S																															
2M																															
3	96	48	2 1/4	3/4	1	6	4 1/2	5	12	16 3/4	7 3/8	5 1/2	18 1/4	13 5/8	24	27	30	1 3/8	1/2	5/8	2 1/2	3 1/8	2 3/8	12 1/2	2	10 3/4	14	4 5/8	34 1/2	4	32.0
4																															
5																															

STANDARD SIGN
W21-62

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/11 PLATE NO. W21-62.5

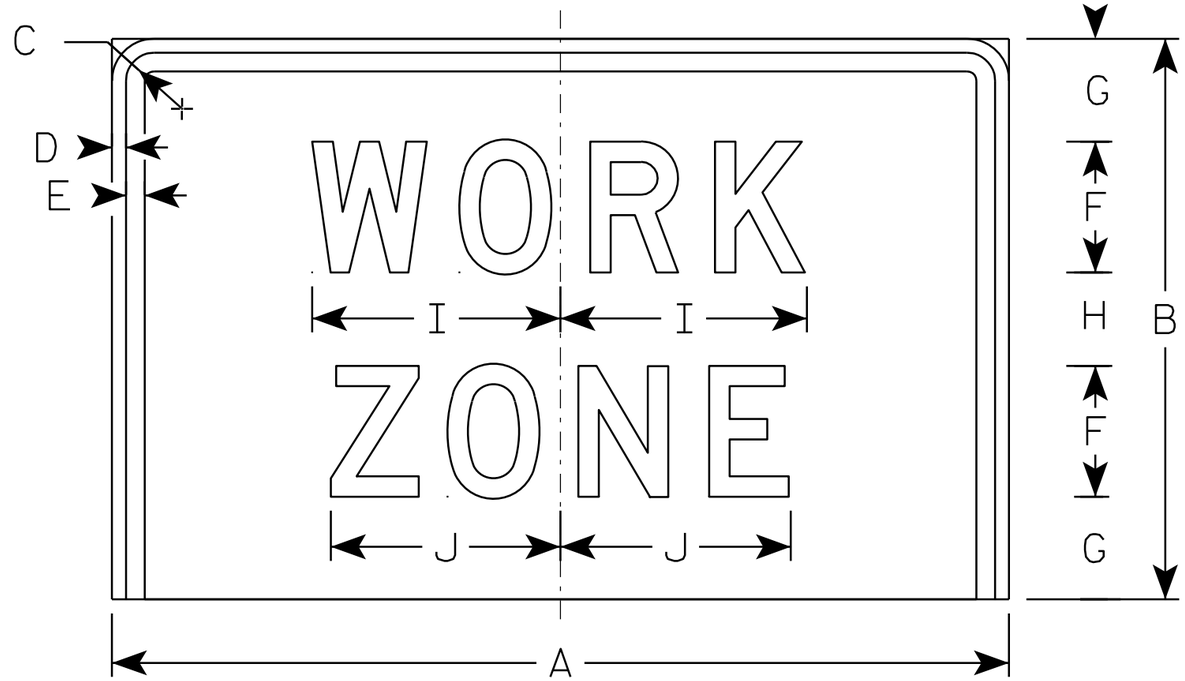
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 140	E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W2162.DGN PLOT DATE : 21-MAR-2011 10:25 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 15.294877:1.000000

WISDOT/CADDS SHEET 42

7

7



W21-62Q

NOTES

1. Sign is Type II - Type F - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	2 1/4	3/4	1	7	5 1/2	5	13 1/4	12 1/4																	10.0
2M	48	30	2 1/4	3/4	1	7	5 1/2	5	13 1/4	12 1/4																	10.0
3																											
4																											
5																											

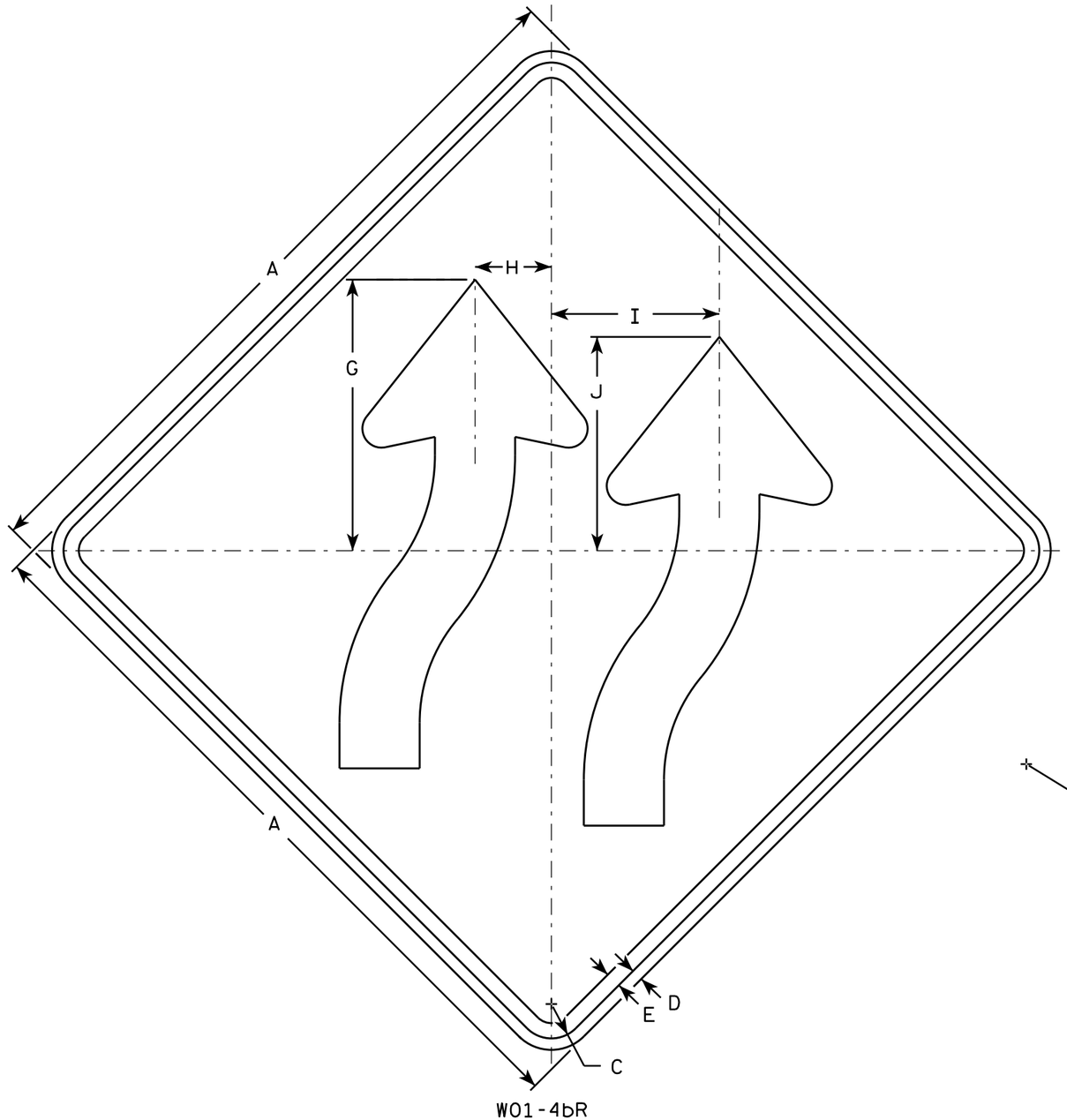
STANDARD SIGN
W21-62Q

WISCONSIN DEPT OF TRANSPORTATION

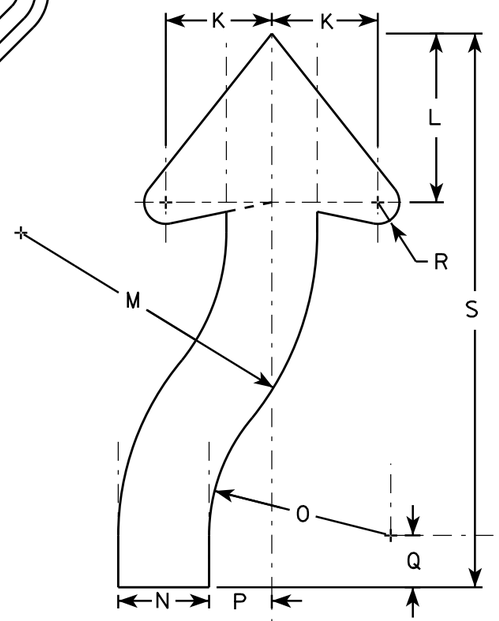
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/11 PLATE NO. W21-620.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 141	E



W01-4bR



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W01-4bL is the same as W014-bR exept arrows are reversed along the vertical centerline

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4		13 3/8	3 3/4	8 1/4	10 1/2	4 5/8	7 3/8	12 7/8	3 7/8	7 7/8	2 3/4	2 1/4	7/8	24								9.0
2S	48		2 1/4	3/4	1		17 3/4	5	11	14	6 1/8	9 3/4	17 1/8	5 1/4	10 1/2	3 5/8	3	1 1/4	32								16.0
2M	48		2 1/4	3/4	1		17 3/4	5	11	14	6 1/8	9 3/4	17 1/8	5 1/4	10 1/2	3 5/8	3	1 1/4	32								16.0
3	48		2 1/4	3/4	1		17 3/4	5	11	14	6 1/8	9 3/4	17 1/8	5 1/4	10 1/2	3 5/8	3	1 1/4	32								16.0
4	48		2 1/4	3/4	1		17 3/4	5	11	14	6 1/8	9 3/4	17 1/8	5 1/4	10 1/2	3 5/8	3	1 1/4	32								16.0
5	48		2 1/4	3/4	1		17 3/4	5	11	14	6 1/8	9 3/4	17 1/8	5 1/4	10 1/2	3 5/8	3	1 1/4	32								16.0

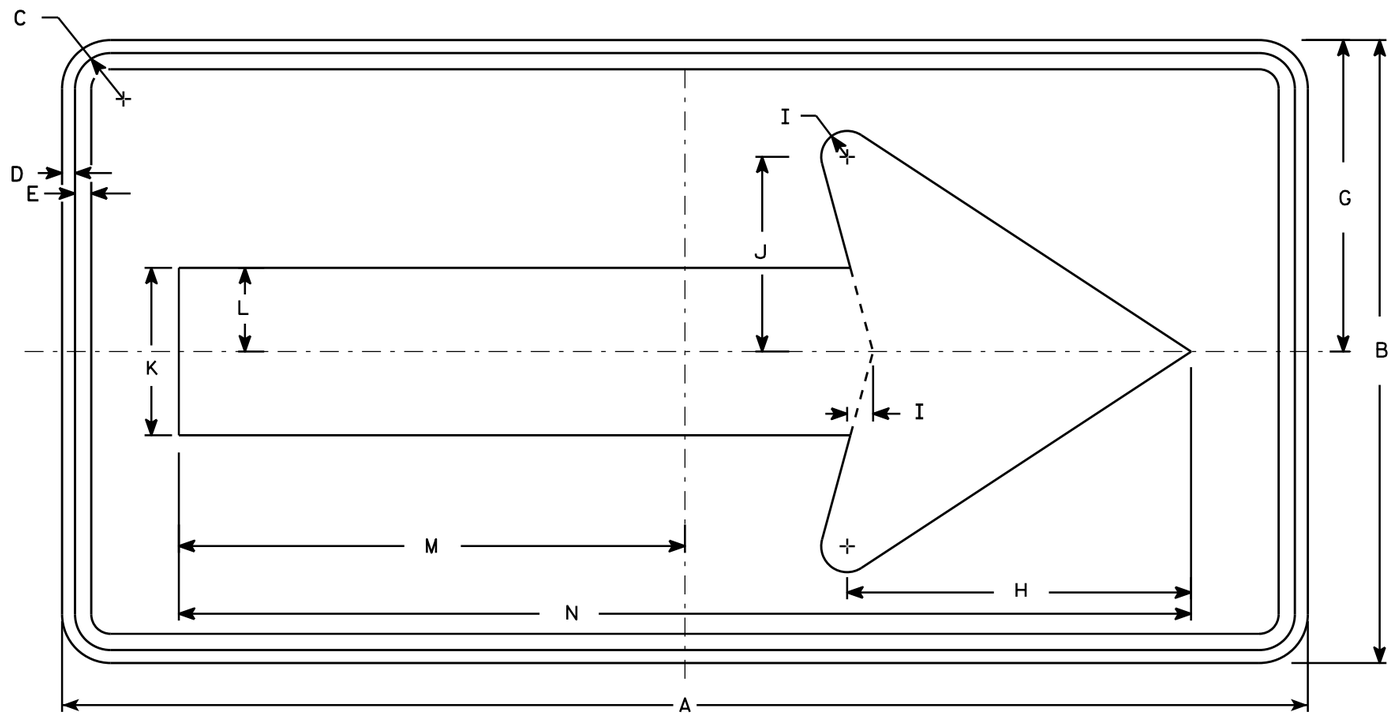
STANDARD SIGN
W01-4b

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE NO. W01-4b.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



W01-6

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
5	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5

STANDARD SIGN
W01-6

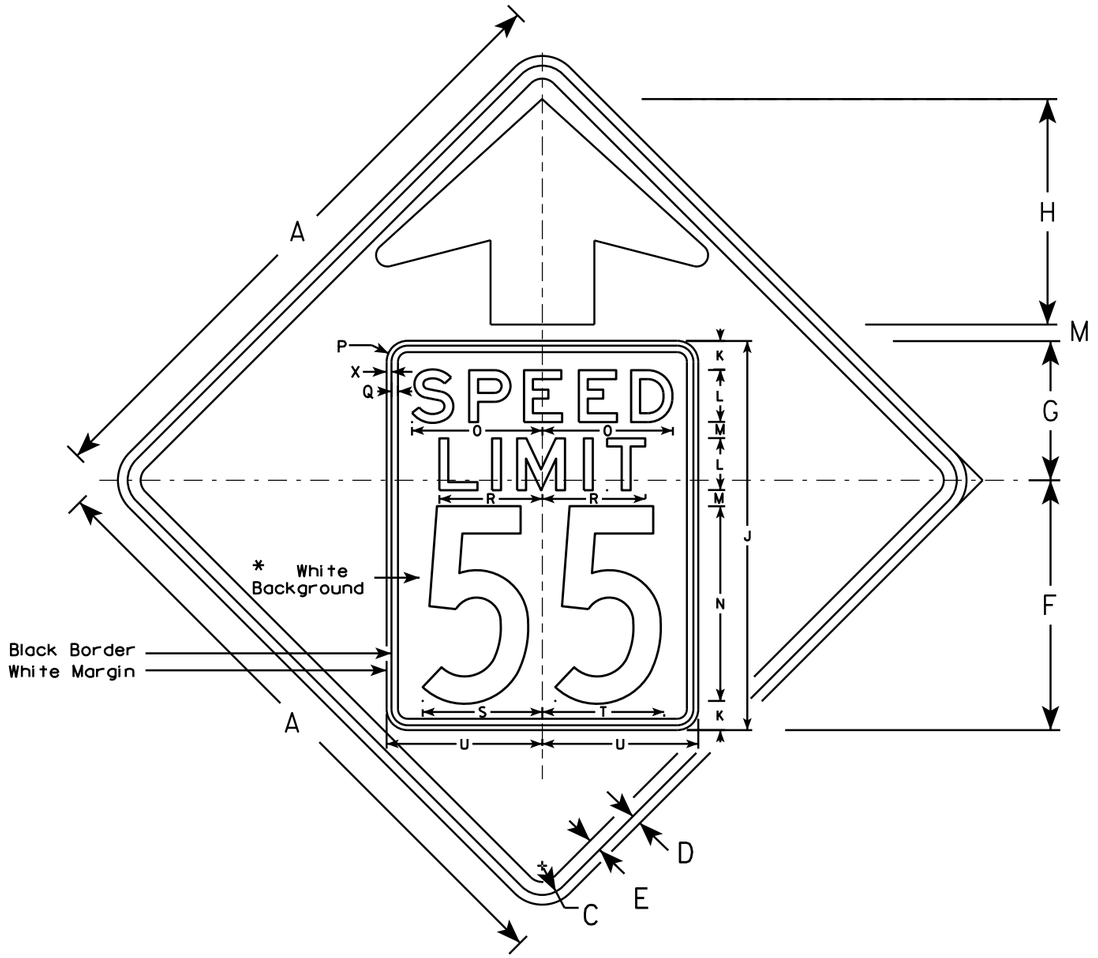
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE NO. W01-6.1

PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W016.DGN PLOT DATE : 28-FEB-2014 11:37 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 5.837526:1.000000
WISDOT/CADDS SHEET 42

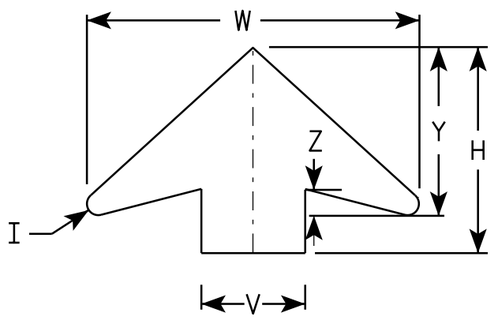


W03-5

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color: *
   Background - ORANGE*
   Message - BLACK
3. Message Series - C for numbers Series E for wording
4. Substitute appropriate numerals and optically adjust spacing to achieve proper balance

*Speed Limit Sign shall have a White Background



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
2S	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
2M	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
3	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
4	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
5	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0

STANDARD SIGN
W03-5

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

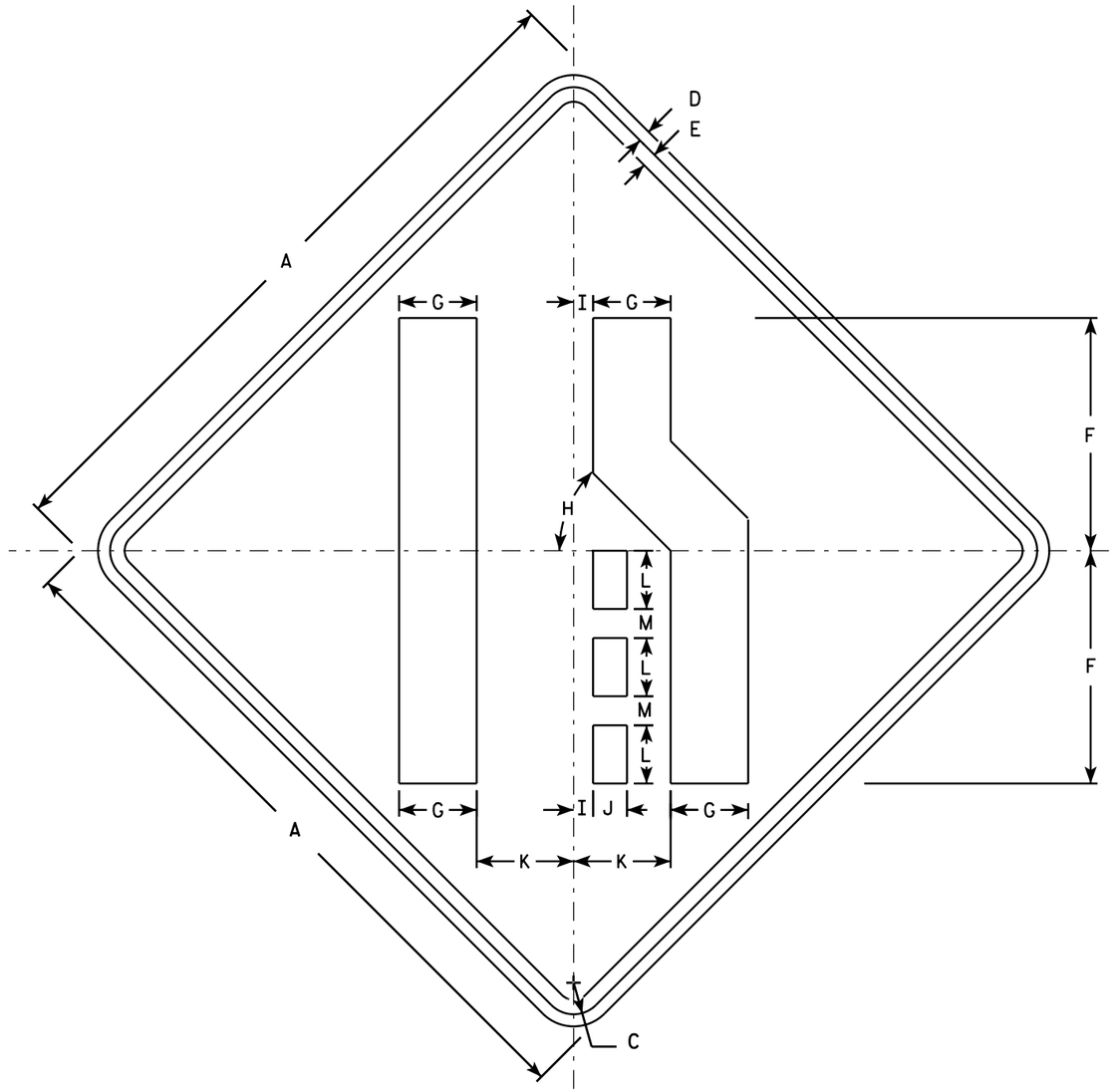
DATE 11/20/13 PLATE W03-5.1

PROJECT NO: SHEET NO: E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W035.DGN PLOT DATE : 20-NOV-2013 11:32 PLOT BY : mscsja

WISDOT/CADDS SHEET 42

7 7



W04-2R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W04-2L is the same as W04-2R except the symbol is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
2S	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
2M	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
3	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
4	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
5	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0

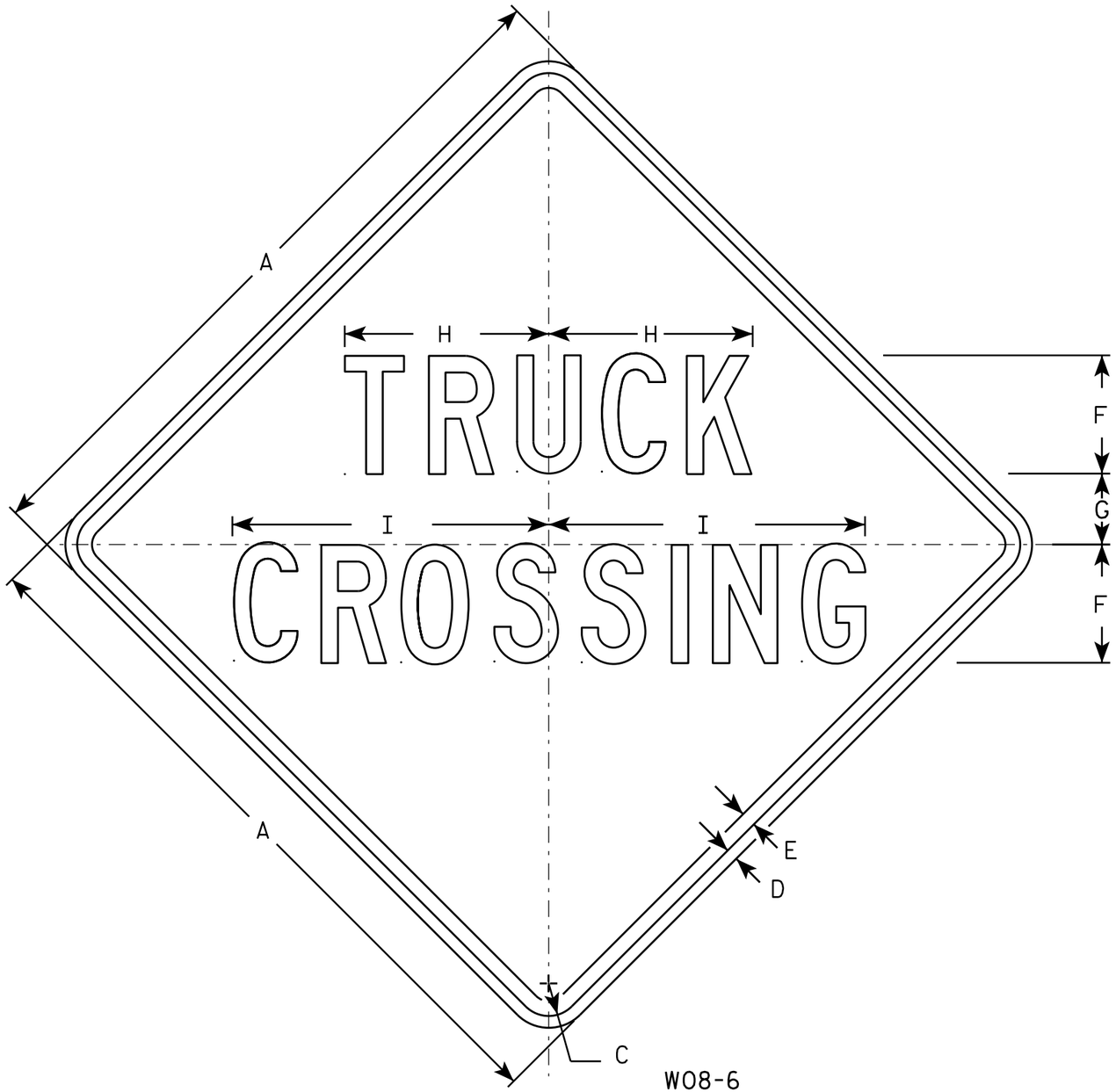
STANDARD SIGN
W04-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE 145 W04-2.1

PROJECT NO: | SHEET NO: E



W08-6

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	6	3 1/2	10 3/8	16																		9.0
2S	48		2 1/4	3/4	1	8	5	13 3/4	21 1/4																		16.0
2M	48		2 1/4	3/4	1	8	5	13 3/4	21 1/4																		16.0
3	48		2 1/4	3/4	1	8	5	13 3/4	21 1/4																		16.0
4	48		2 1/4	3/4	1	8	5	13 3/4	21 1/4																		16.0
5	48		2 1/4	3/4	1	8	5	13 3/4	21 1/4																		16.0

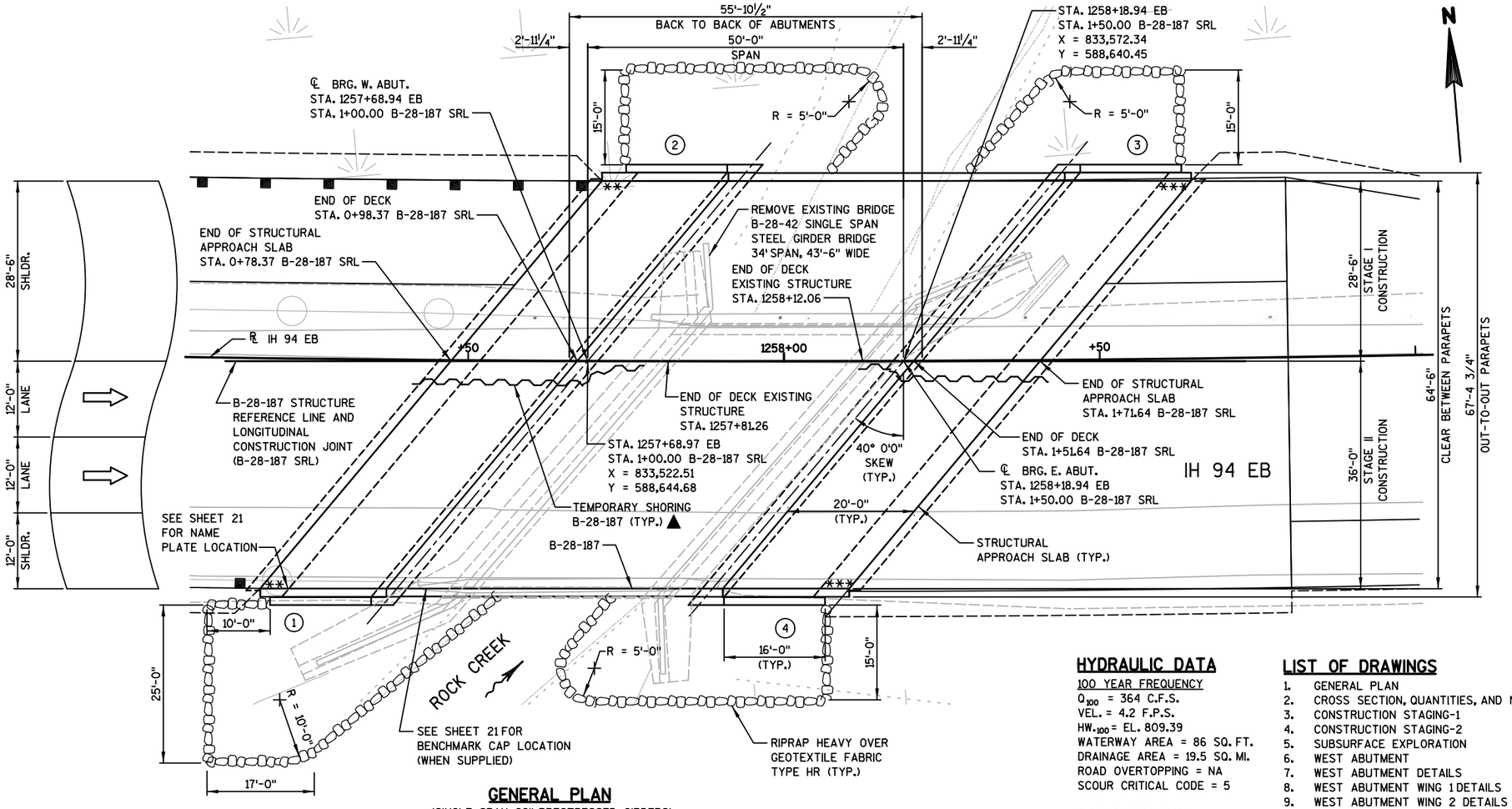
STANDARD SIGN
W08-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

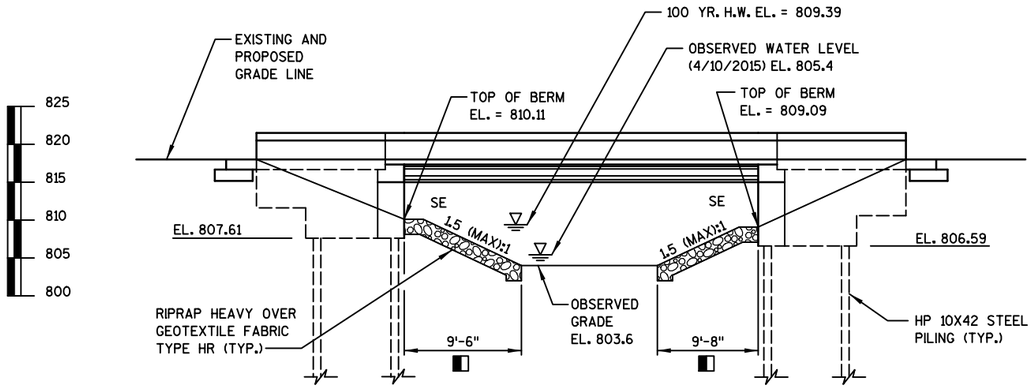
DATE 11/20/13 PLATE 146 of 428-6.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



GENERAL PLAN

(SINGLE SPAN 28" PRESTRESSED GIRDERS)



ELEVATION

(NORMAL TO ROCK CREEK LOOKING DOWNSTREAM)

HYDRAULIC DATA

100 YEAR FREQUENCY
Q_{100} = 364 C.F.S.
VEL. = 4.2 F.P.S.
HW_{100} = EL. 809.39
WATERWAY AREA = 86 SQ. FT.
DRAINAGE AREA = 19.5 SQ. MI.
ROAD OVERTOPPING = NA
SCOUR CRITICAL CODE = 5

2 YEAR FREQUENCY
Q_2 = 48 C.F.S.
VEL. = 3.82 F.P.S.
HW_2 = EL. 806.61

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
BM 1	1258+91.90	ALUM. CAP, TOP OF ABUTMENT B-28-76 (IH-49 WB)	812.96
BM 2	1257+48.39	ALUM. CAP, TOP OF PARAPET B-28-42 (IH-94 WB)	821.11

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION, QUANTITIES, AND NOTES
3. CONSTRUCTION STAGING-1
4. CONSTRUCTION STAGING-2
5. SUBSURFACE EXPLORATION
6. WEST ABUTMENT
7. WEST ABUTMENT DETAILS
8. WEST ABUTMENT WING 1 DETAILS
9. WEST ABUTMENT WING 2 DETAILS
10. EAST ABUTMENT
11. EAST ABUTMENT DETAILS
12. EAST ABUTMENT WING 3 DETAILS
13. EAST ABUTMENT WING 4 DETAILS
14. 28" PRESTRESSED GIRDER DETAILS
15. STEEL DIAPHRAGMS
16. SUPERSTRUCTURE PLAN
17. SUPERSTRUCTURE SECTION
18. SUPERSTRUCTURE DETAILS - 1
19. SUPERSTRUCTURE DETAILS - 2
20. STRUCTURAL APPROACH SLAB
21. SINGLE SLOPE PARAPET 42SS WITH STRUCTURAL APPROACH SLAB

LEGEND

℄ CENTERLINE

℞ REFERENCE LINE

** PROVIDE FOR THRIE BEAM GUARD RAIL ATTACHMENT

*** PROVIDE FOR THRIE BEAM GUARD RAIL ATTACHMENT IN FUTURE

(#) WING NUMBER

◧ MEASURED NORMAL TO ℄ SUBSTRUCTURE

▲ EXTEND TEMPORARY SHORING TO B.F. OF EXISTING ABUTMENTS

WISCONSIN
KEITH R. BEHREND
E-42073
MADISON
WI
PROFESSIONAL ENGINEER
Keith R. Behrend
7/29/2019

STATE PROJECT NUMBER

1067-02-76

DESIGN DATA:

STRUCTURE DESIGNED FOR A FUTURE WEARING SURFACE OF 20 PSF.

LIVE LOAD:

DESIGN LOAD _____ HL-93
INVENTORY RATING FACTOR _____ RF = 1.10
OPERATING RATING FACTOR _____ RF = 1.43
MAX. STD. PERMIT VEHICLE LOAD _____ 250 KIPS (WIS-SPV)

ULTIMATE DESIGN STRESSES:

CONCRETE SUPERSTRUCTURE _____ f'c = 4,000 psi
CONCRETE SUBSTRUCTURE _____ f'c = 3,500 psi
HIGH STRENGTH BAR
STEEL REINFORCEMENT _____ Fy = 60,000 psi
28-INCH PRESTRESSED GIRDER
CONCRETE MASONRY _____ f'c = 8,000 psi
PRESTRESSING STRANDS = 0.5 INCH WITH ULTIMATE TENSILE STRENGTH OF 270,000 PSI.

TRAFFIC DATA

IH 94
A.D.T. (2018) = 35,800
A.D.T. (2038) = 44,300
DESIGN SPEED: 70 MPH

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON HP 10X42 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180* TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION.

*THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

ESTIMATED PILE LENGTHS:

WEST ABUTMENT _____ 85 LF
EAST ABUTMENT _____ 65 LF

STRUCTURE REFERENCE LINE

B-28-187 STRUCTURE REFERENCE LINE (B-28-187 SRL) AND LONGITUDINAL CONSTRUCTION JOINT IS A STRAIGHT LINE INTERSECTING ℞ IH 94 EB AT STA. 1257+68.94 EB AND STA. 1258+18.94 EB.

STRUCTURE DESIGN CONTACTS

BRIDGE OFFICE CONTACT:
WILLIAM DREHER (608) 266-8489

DESIGN CONSULTANT CONTACT:
BRETT OFTEDAHL (608) 251-4843

NO.	DATE	REVISION	BY

STRAND ASSOCIATES®
910 WEST WINGRA DRIVE
MADISON, WISCONSIN 53715
(608)-251-4843
(608) 251-8655 FAX
WWW.STRAND.COM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher SDR 08/09/19
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-28-187

IH 94 EB OVER ROCK CREEK

COUNTY	TOWN ~~CITY/VILLAGE~~
JEFFERSON	MILFORD

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATION

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
BMO	DDR	DTH	KRB

GENERAL PLAN

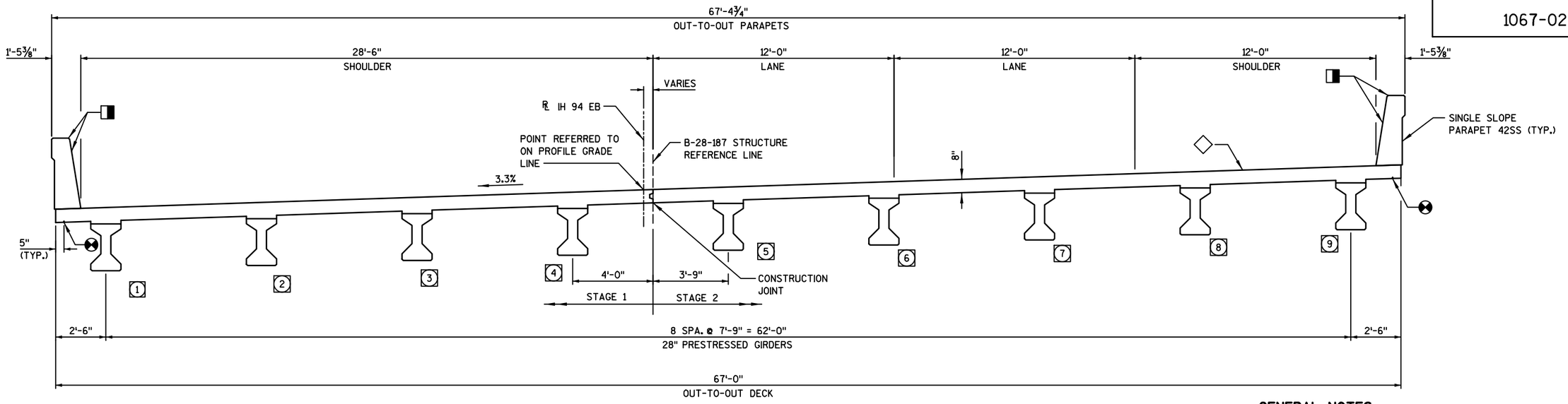
SHEET 1 OF 21
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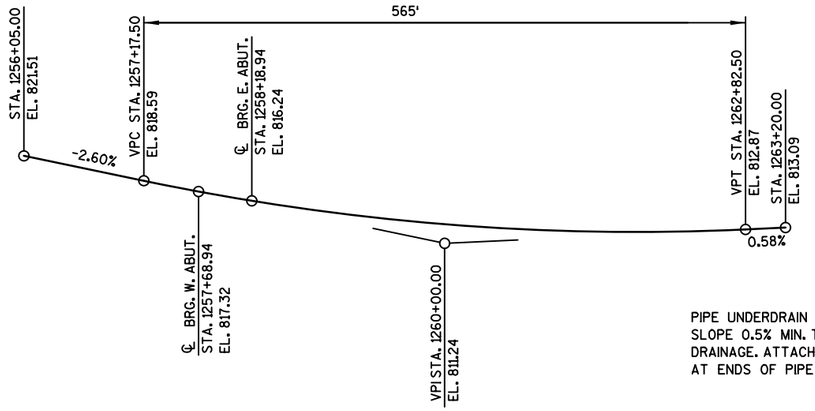
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STATE PROJECT NUMBER

1067-02-76

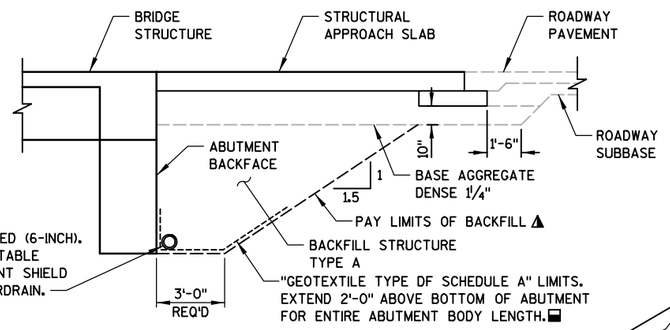




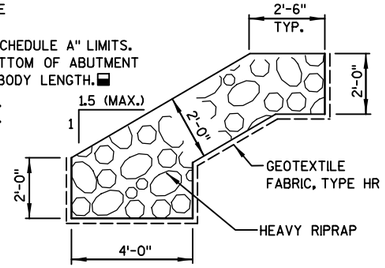
PROFILE GRADE LINE - IH 94 EB

TYPICAL SECTION

(LOOKING EAST)



TYPICAL SECTION THRU ABUTMENT



RIPRAP HEAVY DETAIL

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	WEST APPROACH	WEST ABUT.	EAST APPROACH	EAST ABUT.	SUPERSTRUCTURE	TOTAL
203.0600.S	REMOVING OLD STRUCTURE OVER WATERAY WITH MINIMAL DEBRIS STA 1257+78	LS	---	---	---	---	---	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-28-187	LS	---	---	---	---	---	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	---	386	---	386	---	772
502.0100	CONCRETE MASONRY BRIDGES	CY	116	100	116	98	165	595
502.3200	PROTECTIVE SURFACE TREATMENT	SY	149	---	149	---	427	725
502.3210	PIGMENTED SURFACE SEALER	SY	---	20	---	20	53	93
503.0128	PRESTRESSED GIRDER TYPE I 28-INCH	LF	---	---	---	---	459	459
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	---	6360	---	6300	---	12660
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	15515	3210	15515	3030	27700	64970
505.0800.S	BAR STEEL REINFORCEMENT HS STAINLESS STRUCTURES	LB	1155	---	1155	---	---	2310
505.0904	BAR COUPLERS NO. 4	EACH	---	7	---	7	---	14
505.0905	BAR COUPLERS NO. 5	EACH	42	---	42	---	165	249
505.0906	BAR COUPLERS NO. 6	EACH	---	18	---	18	14	50
505.0908	BAR COUPLERS NO. 8	EACH	12	---	12	---	---	24
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	---	9	---	9	---	18
506.4000	STEEL DIAPHRAGMS B-28-187	EACH	---	---	---	---	8	8
511.1200	TEMPORARY SHORING B-28-187	SF	---	270	---	235	---	505
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	---	19	---	19	---	38
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	---	1275	---	975	---	2250
606.0300	RIPRAP HEAVY	CY	---	200	---	172	---	372
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	---	136	---	136	---	272
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	---	2	---	2	---	4
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	---	79	---	79	---	158
645.0120	GEOTEXTILE TYPE HR	SY	---	385	---	335	---	720
	NON-BID ITEMS							
	FILLER	SIZE						1/2" & 3/4"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL DIMENSIONS ARE IN FEET AND INCHES.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE. DIMNESIONS FOR BENDING ARE OUT TO OUT OF BAR.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

AT THE BACKFACE OF ABUTMENTS, ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TYPE A.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH HEAVY RIPRAP AND GEOTEXTILE FABRIC TYPE 'HR' TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS.

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE PRESTRESSED GIRDER DETAILS SHEET.

THE EXISTING GROUND LINE SHALL BE USED AS THE UPPER LIMITS OF EXCAVATIONS FOR STRUCTURES.

ALL EXCAVATION REQUIRED FOR THE RIPRAP TO BE INSTALLED OUTSIDE OF THE FOOTPRINT OF THE NEW ABUTEMENTS IS INCLUDED IN THE "EXCAVATION FOR STRUCTURES BRIDGE B-28-187" BID ITEM.

FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M153 TYPES I, II, III. OR AASHTO DESIGNATION M213.

THE EXISTING STRUCTURE, B-28-42, A SINGLE SPAN STEEL GIRDER BRIDGE, IS TO BE REMOVED IN STAGES IN ORDER TO MAINTAIN IH 94 EB TRAFFIC DURING CONSTRUCTION.

NON-LAMINATED ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

LEGEND

- ¾" V-GROOVE REQUIRED. EXTEND TO 6" FROM F.F. OF ABUT. DIAPHRAGM.
- ◇ COAT WITH "PROTECTIVE SURFACE TREATMENT" AS PER THE STANDARD SPECIFICATION.
- ◨ COAT WITH "PIGMENTED SURFACE SEALER" AS PER THE STANDARD SPECIFICATIONS.
- (#) INDICATES GIRDER NUMBER.
- ⚠ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.
- ⬓ EXCAVATION BELOW THE ABUTMENT AND ABUTMENT BEARING MATERIALS REQUIRE ENGINEER APPROVAL.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-187

DRAWN BY DTH | PLANS CK'D. KRB

CROSS SECTION, QUANTITIES, AND NOTES

SHEET 2
148

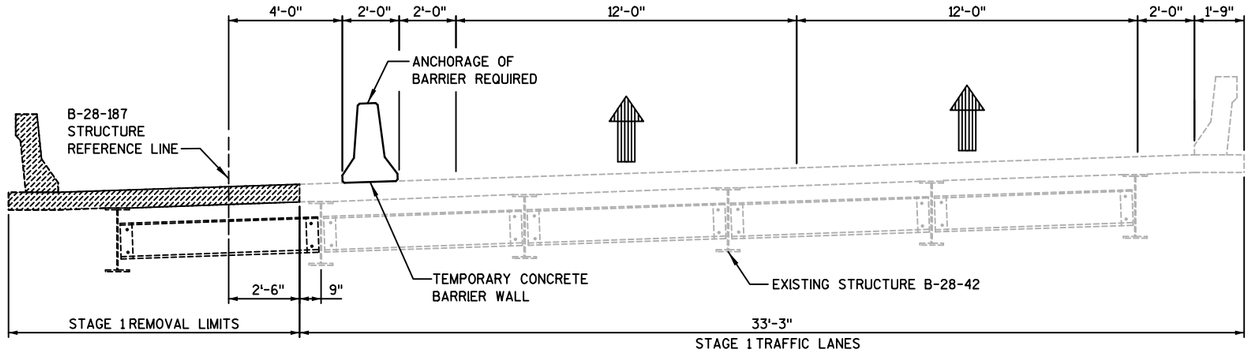
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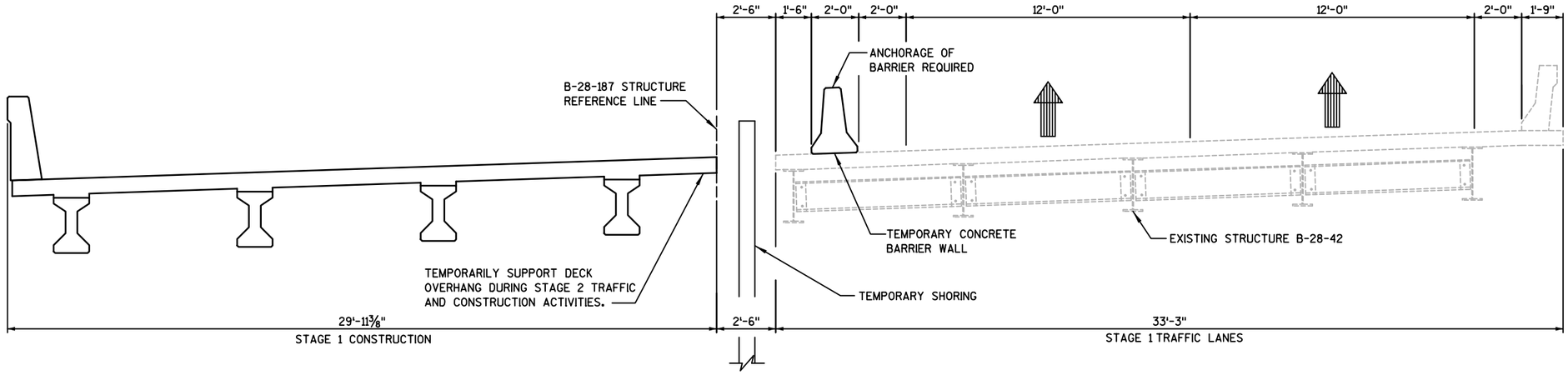
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STATE PROJECT NUMBER

1067-02-76



STAGE 1 - TRAFFIC AND REMOVAL
(LOOKING EAST)



STAGE 1 - TRAFFIC AND CONSTRUCTION
(LOOKING EAST)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-187

DRAWN BY DTH | PLANS CK'D. KRB

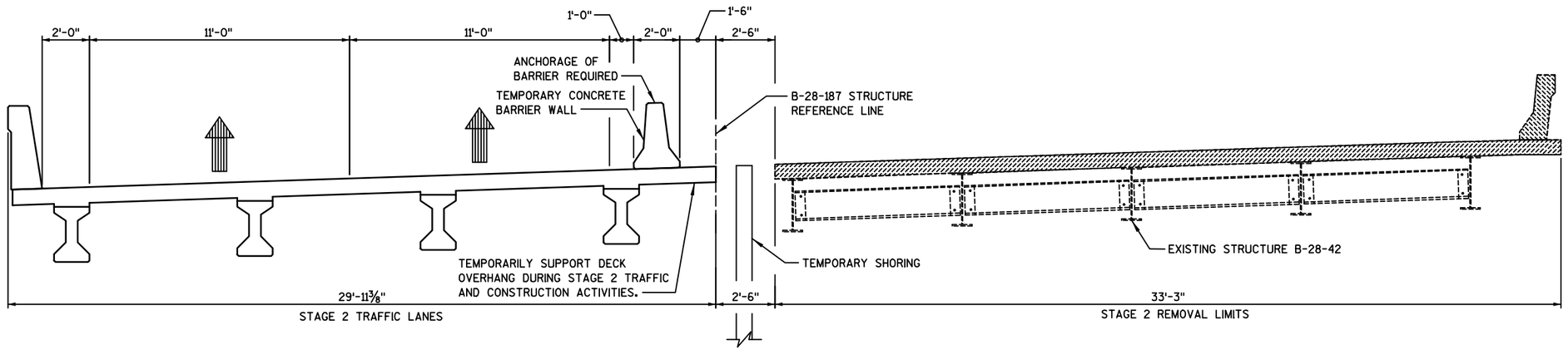
CONSTRUCTION STAGING-1

SHEET 3
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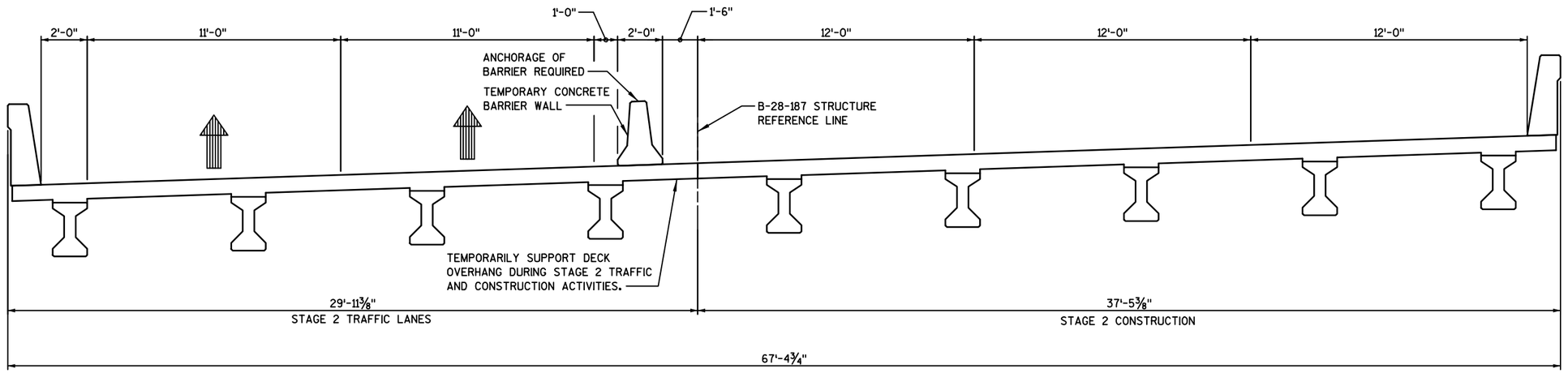
STATE PROJECT NUMBER

1067-02-76



STAGE 2 - TRAFFIC AND REMOVAL

(LOOKING EAST)



STAGE 2 - TRAFFIC AND CONSTRUCTION

(LOOKING EAST)

8

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-187

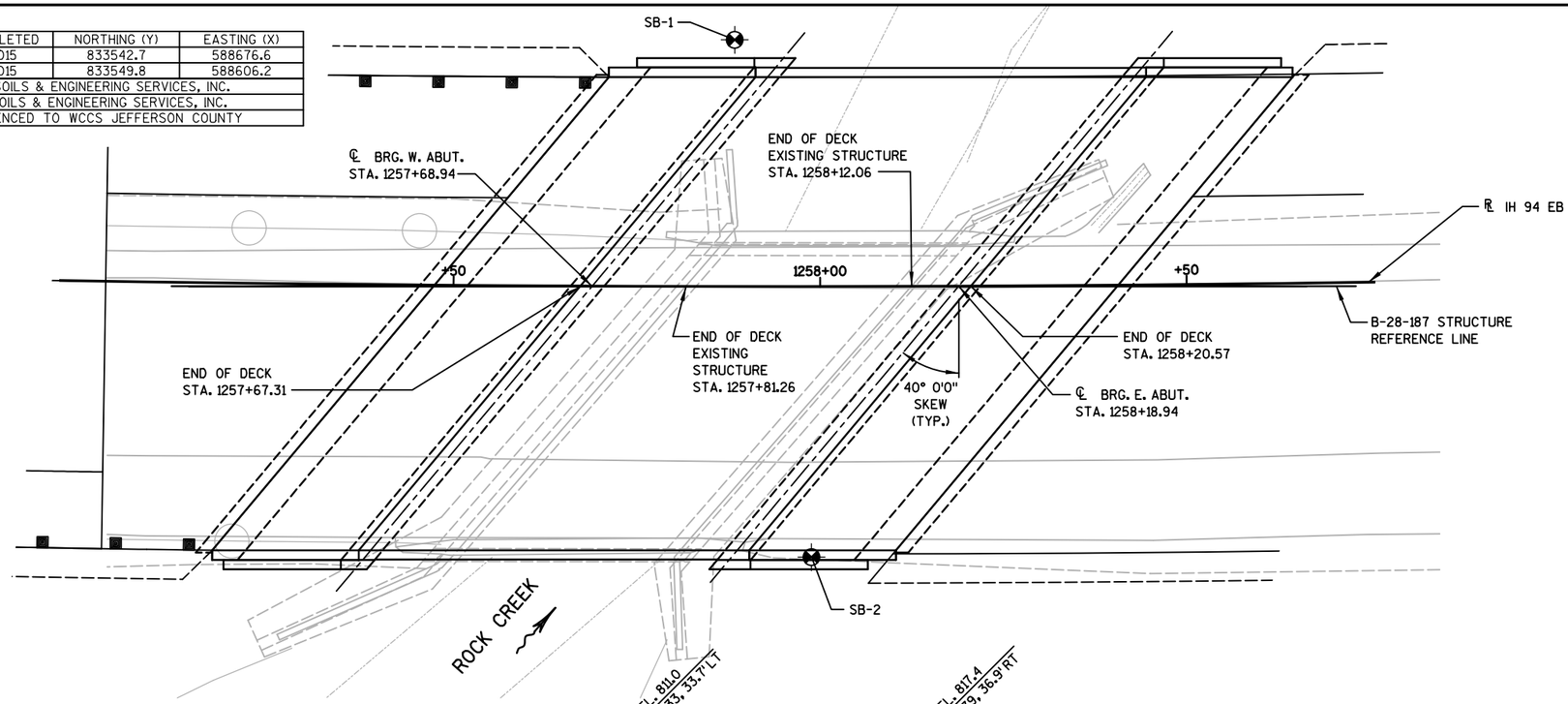
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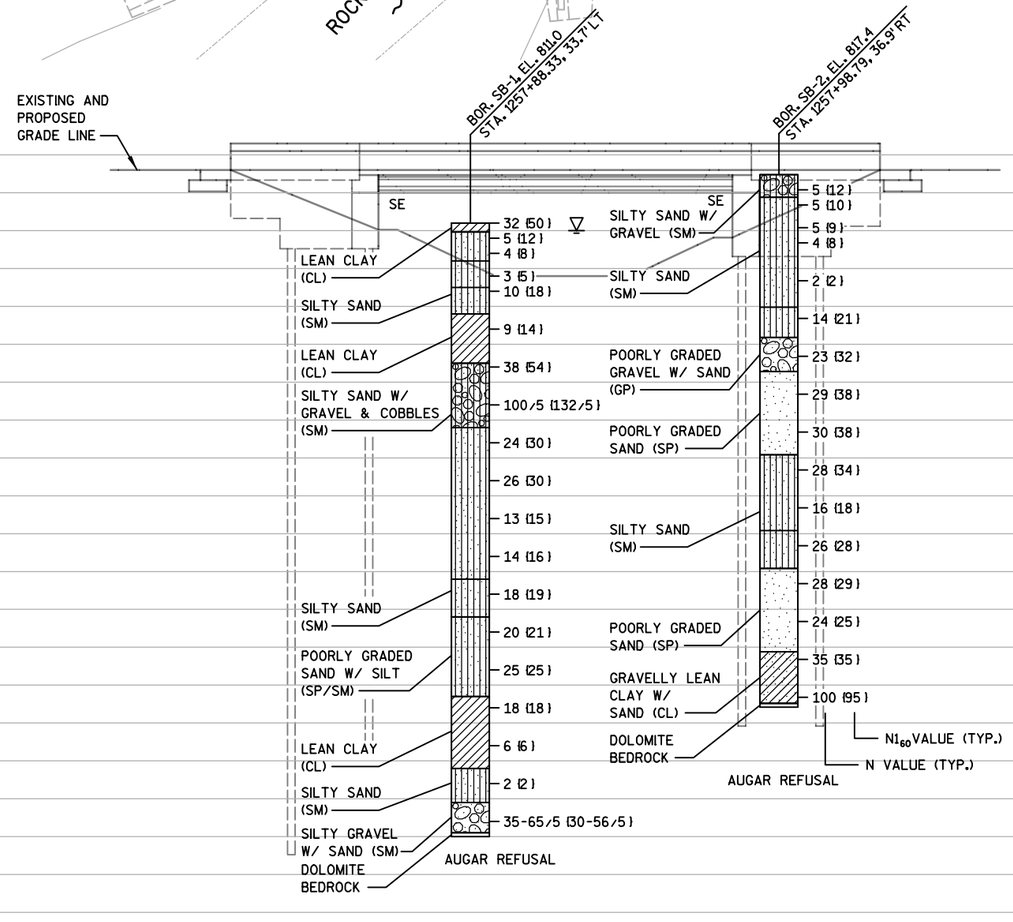
CONSTRUCTION STAGING-2

SHEET 4
150

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BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	11/25/2015	833542.7	588676.6
2	11/23/2015	833549.8	588606.2
BORINGS COMPLETED BY: SOILS & ENGINEERING SERVICES, INC.			
REPORT COMPLETED BY: SOILS & ENGINEERING SERVICES, INC.			
ALL COORDINATES REFERENCED TO WCCS JEFFERSON COUNTY			





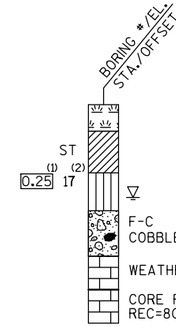
STATE PROJECT NUMBER

1067-02-76

MATERIAL SYMBOLS

ASPHALT	TOPSOIL	PEAT
CONCRETE	FILL	GRAVEL
SAND	CLAY	SILT
BOULDERS OR COBBLES	LIMESTONE	BEDROCK (UNKNOWN)
SHALE	SANDSTONE	IGNEOUS/ META

LEGEND OF BORING



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

- AT TIME OF DRILLING
- END OF DRILLING
- AFTER DRILLING

ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-187

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SUBSURFACE EXPLORATION

SHEET 5
151

8

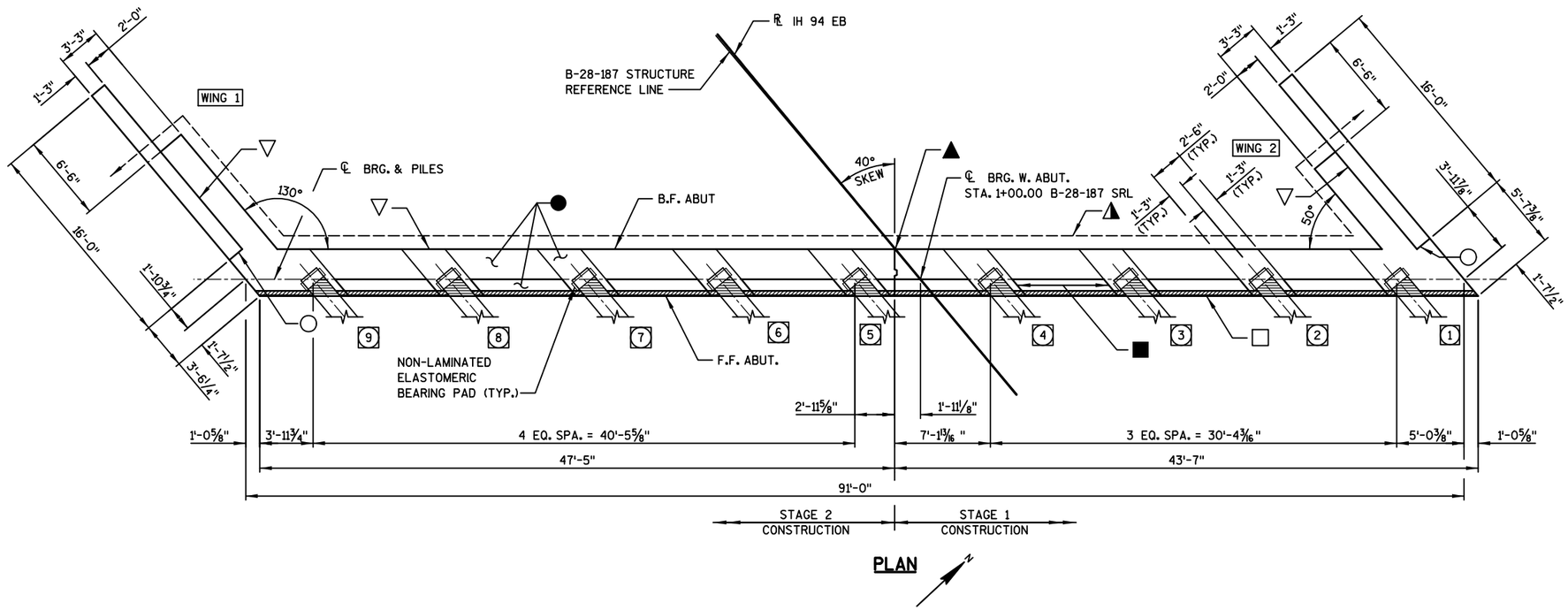
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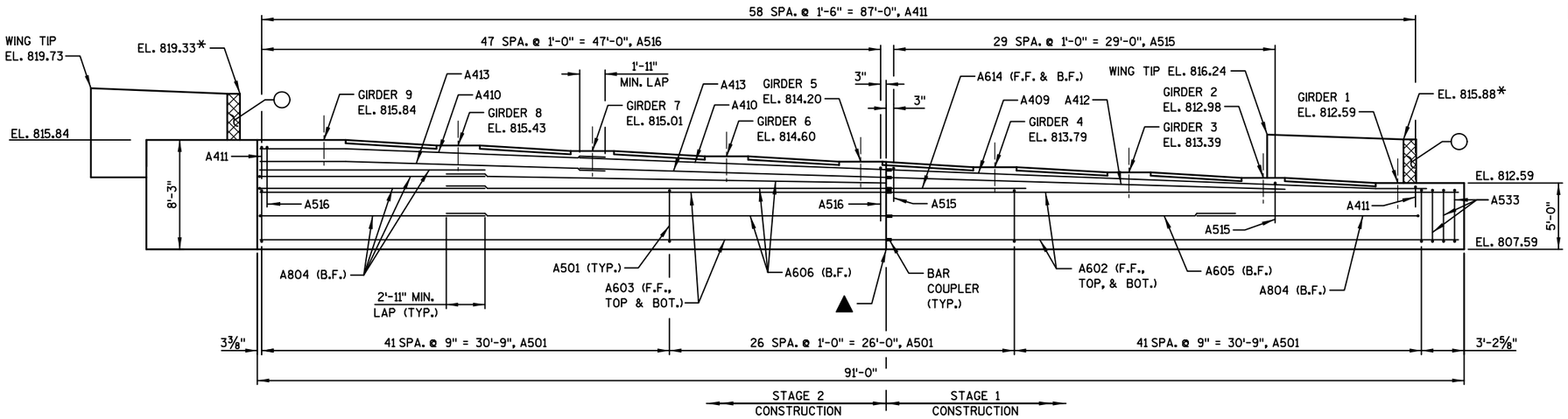
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STATE PROJECT NUMBER

1067-02-76



PLAN



ELEVATION
(LOOKING WEST)

NOTES

SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW FINISHED ROADWAY SURFACE AT INSIDE FACE.

WEST ABUTMENT TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE AT WEST ABUTMENT. ESTIMATED 85 FEET LONG EACH.

SEE "WEST ABUTMENT DETAILS" SHEET FOR PILE SPLICE DETAILS.

SEE ABUTMENT AND WING DETAIL SHEETS FOR REINFORCING DETAILS.

ADJUST A501 BARS INTERFERING WITH PILES.

SEE THIS SHEET FOR TYPICAL FILL SECTION AT WING TIPS.

LEGEND

▲ VERTICAL CONSTRUCTION JOINT KEYWAY FORMED BY BEVELED 2"x8". PROVIDE BAR COUPLERS FOR BAR STEEL AT JOINT. PROVIDE ¾" V-GROOVE AT THE FRONT FACE AND 18" RUBBERIZED MEMBRANE WATERPROOFING AT THE BACKFACE.

▽ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

○ ½" FILLER TO EXTEND FROM ABUTMENT SEAT TO TOP OF WING. FILLER INCLUDED IN WING LENGTH.

⊠ INDICATES GIRDER NUMBER.

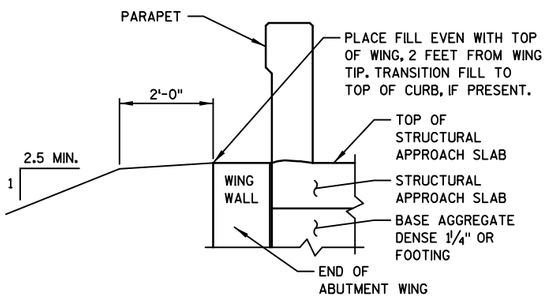
● STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

* ELEVATION GIVEN AT BACKFACE OF ABUTMENT.

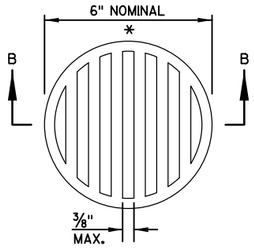
□ 4"x¾" FILLER, LENGTH OF ABUTMENT.

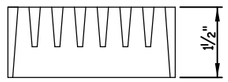
■ ¾" CORK FILLER ON VERTICAL BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER (TYP.).

◭ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE DETAIL THIS SHEET.



TYPICAL FILL SECTION AT WING TIPS





SECTION B-B

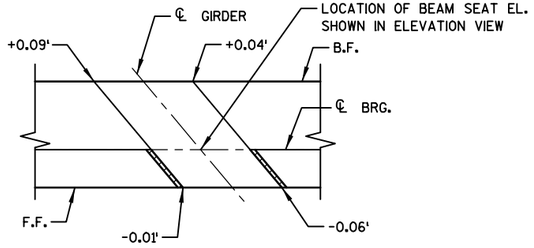
NOTES:

* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SHIELD SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND ATTACHMENT SCREWS SHALL BE INCLUDED WITH BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 x 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

RODENT SHIELD DETAIL



SLOPING BEAM SEAT DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-187

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WEST ABUTMENT

SHEET 6
152

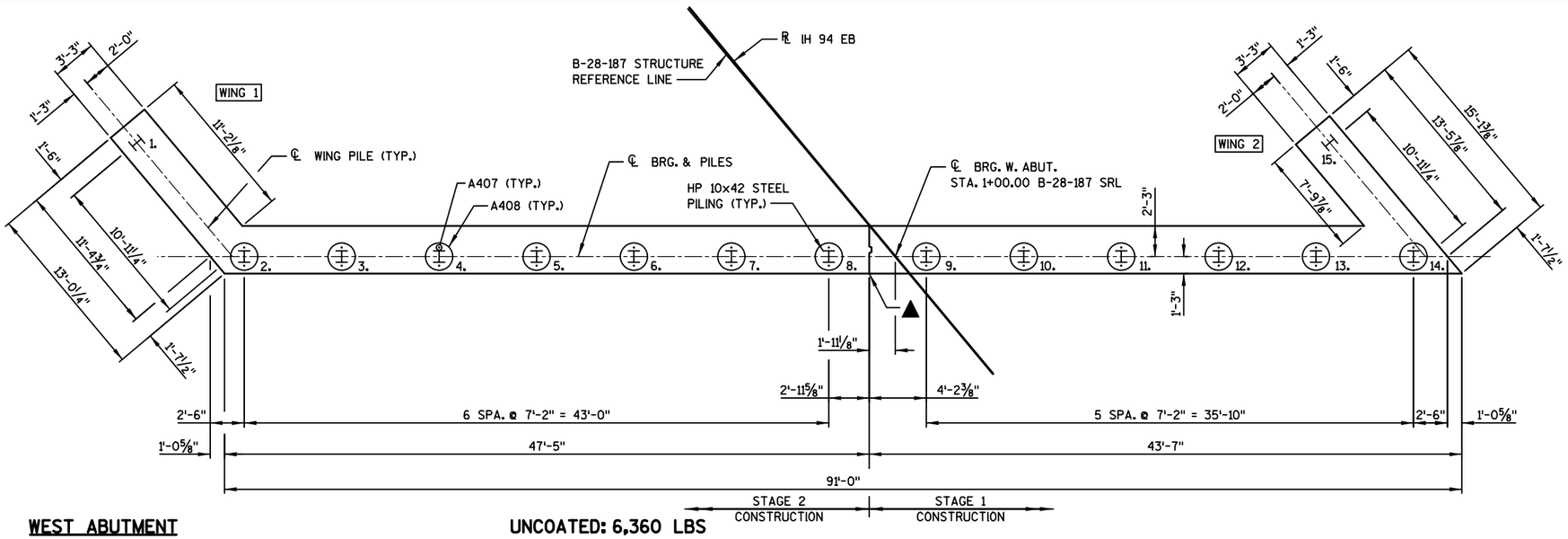
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STATE PROJECT NUMBER

1067-02-76



LEGEND

▽ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

◭ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE DETAIL ON "WEST ABUTMENT" SHEET.

● STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

▲ VERTICAL CONSTRUCTION JOINT KEYWAY FORMED BY BEVELED 2"X8". PROVIDE BAR COUPLERS FOR BAR STEEL AT JOINT. PROVIDE ¾" V-GROOVE AT THE FRONT FACE AND 18" RUBBERIZED MEMBRANE WATERPROOFING AT THE BACKFACE. FOR ALTERNATE CONSTRUCTION JOINT DETAILS, SEE "EAST ABUTMENT DETAILS" SHEET.

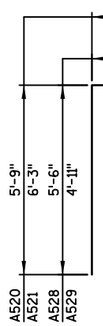
WEST ABUTMENT BILL OF BARS

UNCOATED: 6,360 LBS
COATED: 2,060 LBS

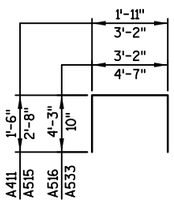
	MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
	A501	109	15'-6"	X		BODY - VERT. - STIRRUPS
* ◪	A602	11	43'-1"			BODY - F.F., TOP, BTM. - HORIZ. - STAGE 1
◪	A603	13	47'-5"			BODY - F.F., TOP, BTM. - HORIZ. - STAGE 2
	A804	13	17'-2"	X		BODY - B.F. - HORIZ.
◪	A605	5	27'-4"			BODY - B.F. - HORIZ. - STAGE 1
◪	A606	7	37'-0"			BODY - B.F. - HORIZ. - STAGE 2
	A407	26	2'-3"			BODY - PILES - VERT.
	A408	13	28'-0"	X		BODY - PILES - SPIRAL
* ◪	A409	3	42'-4"			BODY - TOP - HORIZ. - STAGE 1
** ◪	A410	6	25'-3"			BODY - TOP - HORIZ. - STAGE 2
	A411	59	4'-9"	X		BODY - TOP - VERT.
◪	A412	4	31'-0"			BODY - TOP - HORIZ. - STAGE 1
** ◪	A413	8	26'-0"			BODY - TOP - HORIZ. - STAGE 2
◪	A614	2	13'-3"			BODY - F.F., B.F. - HORIZ. - STAGE 1
	A515	30	8'-3"	X		BODY - TOP - VERT. - STAGE 1
	A516	48	11'-5"	X		BODY - TOP - VERT. - STAGE 2
	A517	10	22'-2"	X	X	WING 1 - LOWER - STIRRUPS - VERT.
	A518	9	12'-9"		X	WING 1 - LOWER - F.F. - HORIZ
	A719	10	13'-9"		X	WING 1 - LOWER - B.F., TOP - HORIZ
	A520	13	12'-2"	X	X	WING 1 - UPPER - VERT.
	A521	9	13'-2"	X	X	WING 1 - UPPER - VERT.
	A422	8	15'-7"		X	WING 1 - UPPER - F.F., B.F. - HORIZ.
	A423	10	7'-9"		X	WING 1 - UPPER - F.F., B.F. - HORIZ.
	A624	2	15'-7"		X	WING 1 - UPPER - HORIZ.
	A525	8	15'-8"	X	X	WING 2 - LOWER - STIRRUPS - VERT.
	A526	6	14'-7"		X	WING 2 - LOWER - F.F. - HORIZ
	A627	10	11'-5"		X	WING 2 - LOWER - B.F. - HORIZ
	A528	13	11'-8"	X	X	WING 2 - UPPER - VERT.
	A529	9	10'-6"	X	X	WING 2 - UPPER - VERT.
	A430	8	15'-7"		X	WING 2 - UPPER - F.F., B.F. - HORIZ.
	A431	6	7'-9"		X	WING 2 - UPPER - F.F., B.F. - HORIZ.
	A632	2	15'-7"		X	WING 2 - UPPER - HORIZ.
	A533	3	6'-0"	X		BODY - VERT. - NORTH END

* CUT BARS AS REQUIRED TO FIT SKEW IN CORNERS OF ABUTMENT.
** ONLY HALF OF SCHEDULED BARS REQUIRE COUPLER.
◪ BAR WITH COUPLER. SEE "SUPERSTRUCTURE DETAILS-2" SHEET FOR DETAILS AND NOTES.

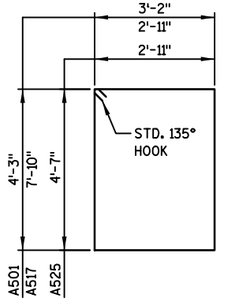
PILE PLAN



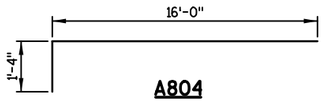
A520, A521, A528, A529



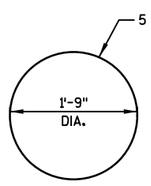
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A501, A517, A525



A804

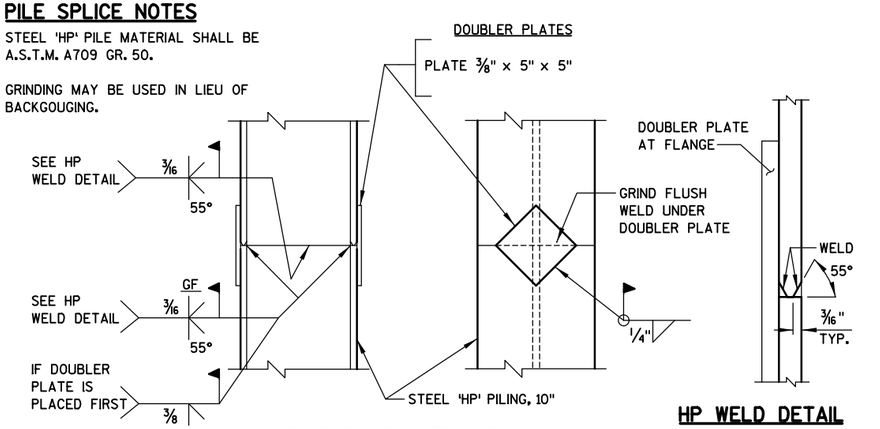


A408

PILE SPLICE NOTES

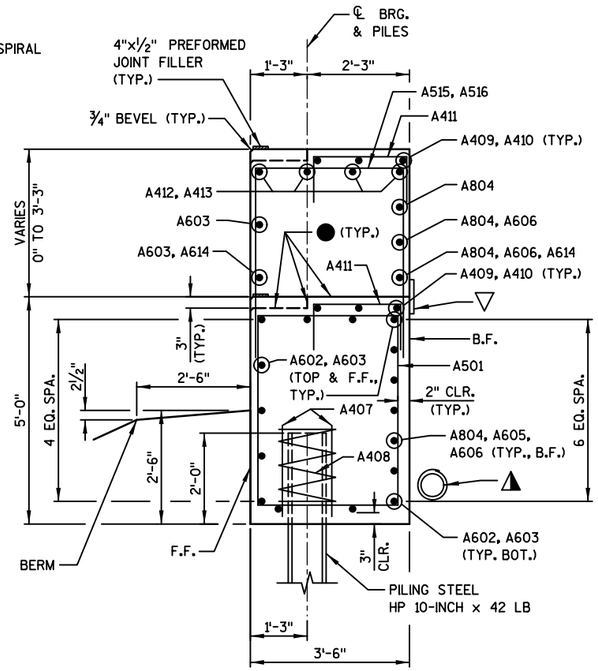
STEEL 'HP' PILE MATERIAL SHALL BE A.S.T.M. A709 GR. 50.

GRINDING MAY BE USED IN LIEU OF BACKGOUGING.



PILE SPLICE DETAILS

HP WELD DETAIL
FLANGE SHOWN, WEB SIMILAR



TYPICAL SECTION THRU BODY

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-187

DRAWN BY DTH | PLANS CK'D. KRB

WEST ABUTMENT DETAILS

SHEET 7
153

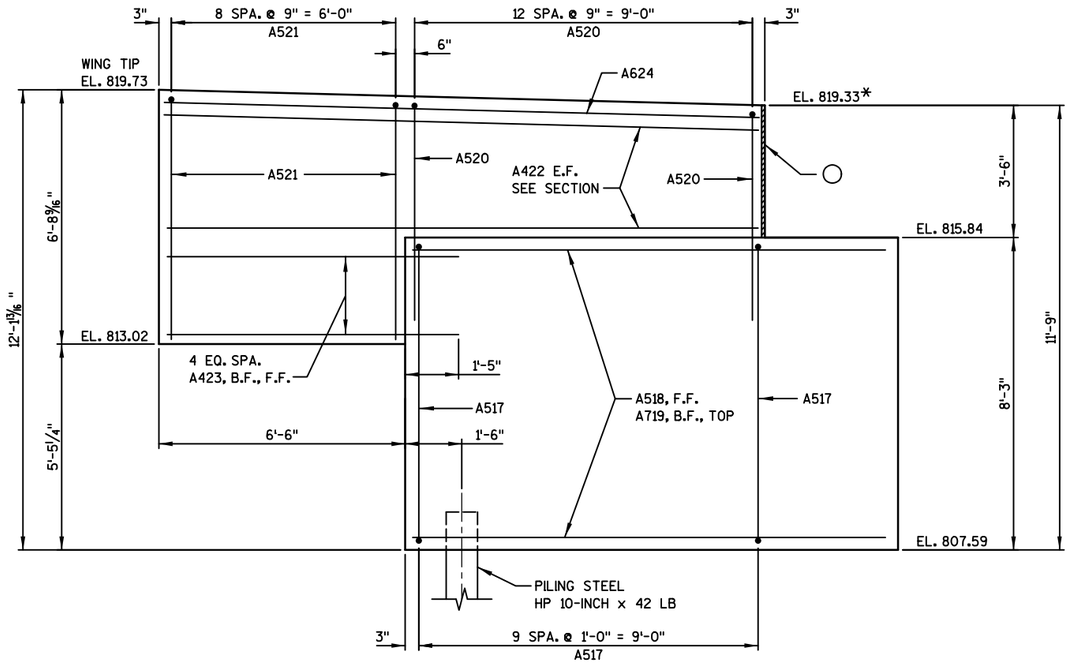
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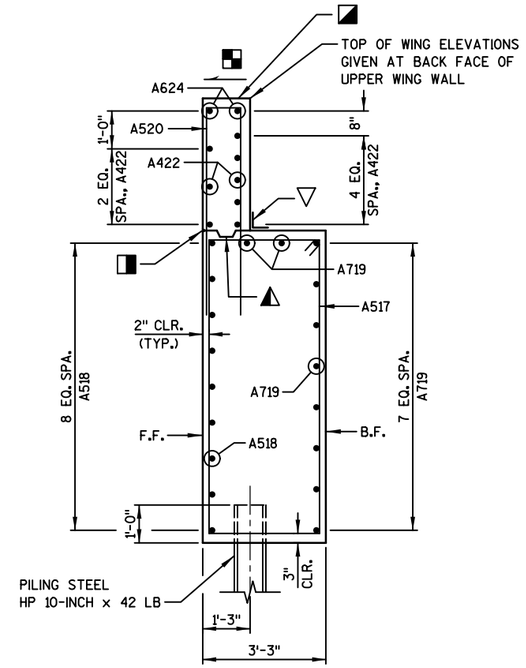
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STATE PROJECT NUMBER

1067-02-76



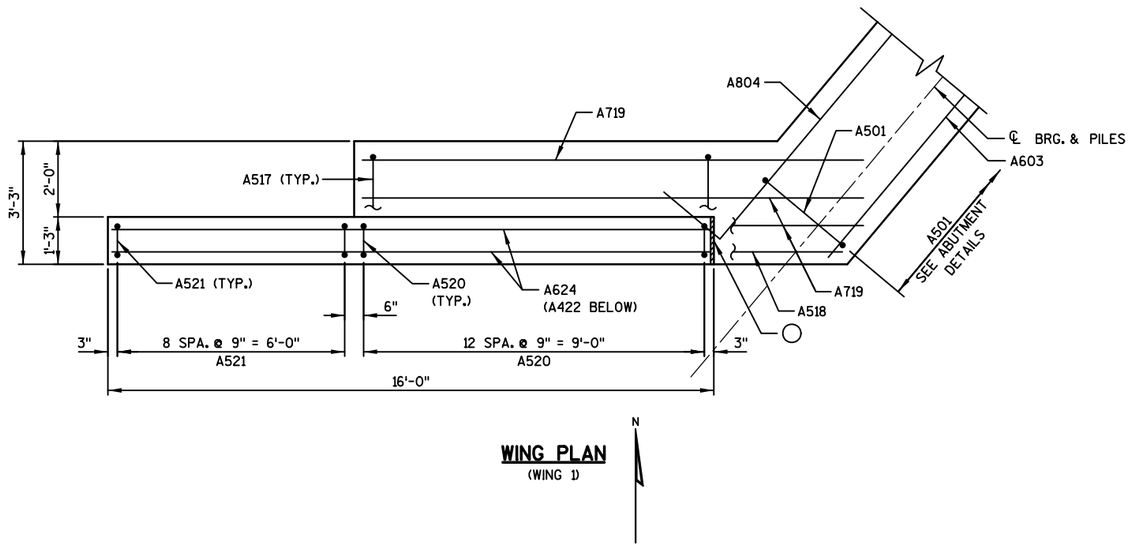
ELEVATION
(WING 1, FRONT FACE)



WING WITH PILE SECTION
(WING 1)

LEGEND

- ¾" "V" GROOVE ON FRONT FACE OF WINGWALL.
- OPTIONAL CONSTRUCTION JOINT FORMED BY BEVELED 2"x6" KEYWAY WITH 18" RUBBERIZED MEMBRANE ON BACKFACE.
- 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- ½" FILLER TO EXTEND FROM ABUTMENT SEAT TO TOP OF WING. FILLER INCLUDED IN WING LENGTH.
- SLOPE TO DRAIN.
- * ELEVATION GIVEN AT BACKFACE OF ABUTMENT.
- COAT WITH "PROTECTIVE SURFACE TREATMENT" AS PER THE STANDARD SPECIFICATIONS.



WING PLAN
(WING 1)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-187

DRAWN BY DTH | PLANS CK'D. KRB

WEST ABUTMENT
WING 1 DETAILS

SHEET 8
154

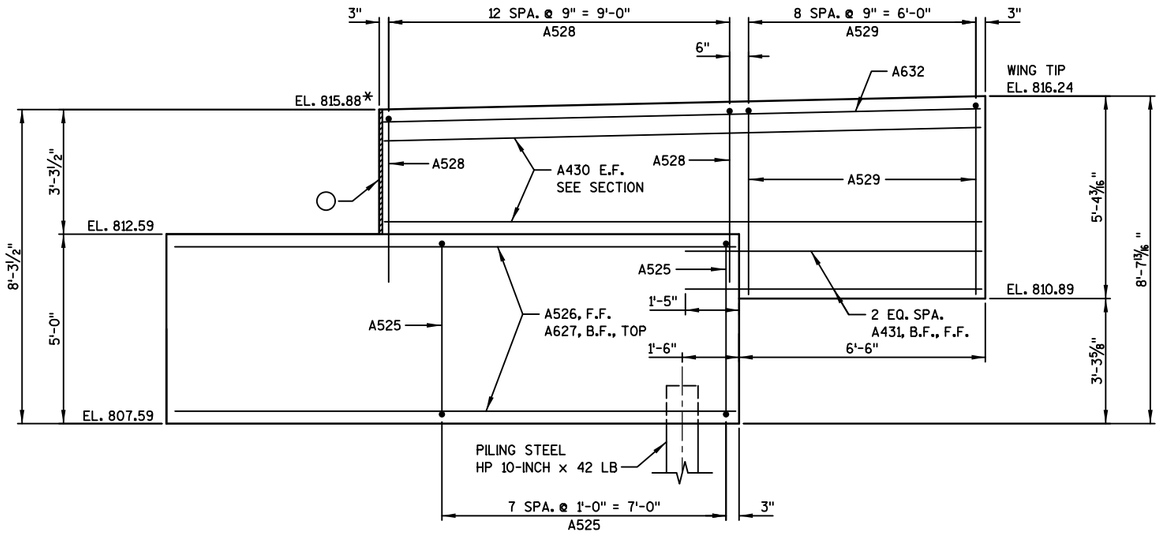
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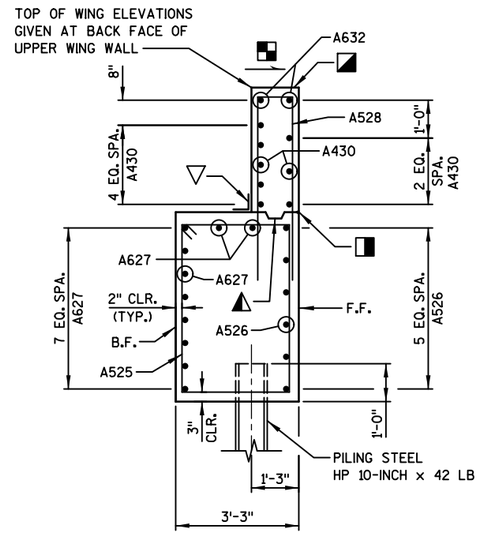
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STATE PROJECT NUMBER

1067-02-76



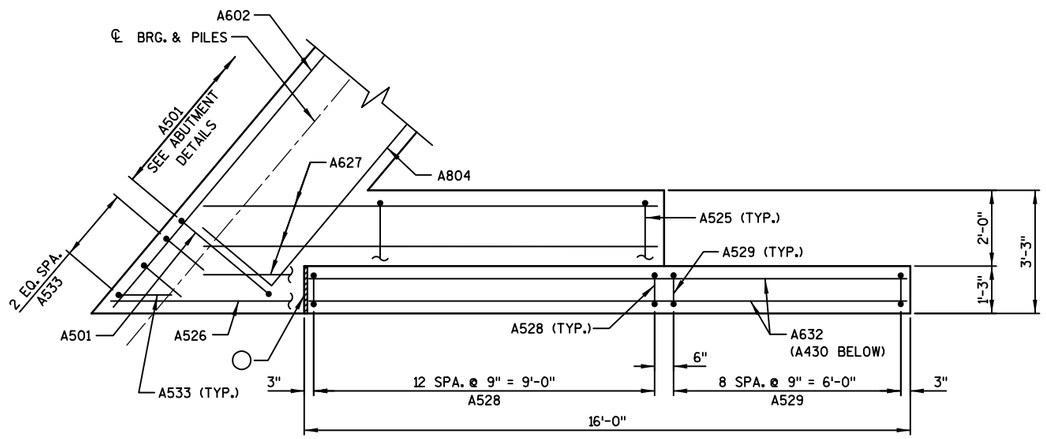
ELEVATION
(WING 2, FRONT FACE)



WING WITH PILE SECTION
(WING 2)

LEGEND

- ¾" "V" GROOVE ON FRONT FACE OF WINGWALL.
- OPTIONAL CONSTRUCTION JOINT FORMED BY BEVELED 2"x6" KEYWAY WITH 18" RUBBERIZED MEMBRANE ON BACKFACE.
- 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- ½" FILLER TO EXTEND FROM ABUTMENT SEAT TO TOP OF WING. FILLER INCLUDED IN WING LENGTH.
- SLOPE TO DRAIN.
- * ELEVATION GIVEN AT BACKFACE OF ABUTMENT.
- COAT WITH "PROTECTIVE SURFACE TREATMENT" AS PER THE STANDARD SPECIFICATIONS.



WING PLAN
(WING 2)

N

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

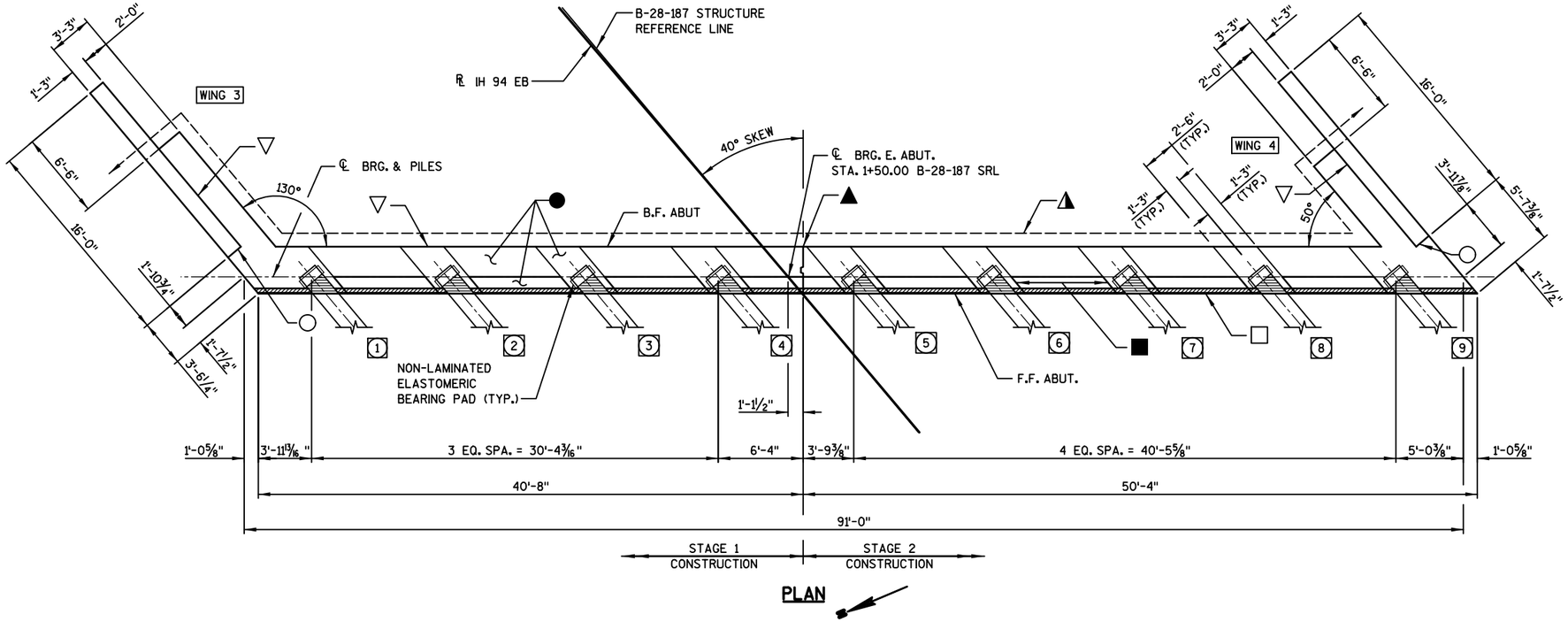
STRUCTURE B-28-187

DRAWN BY DTH | PLANS CK'D. KRB

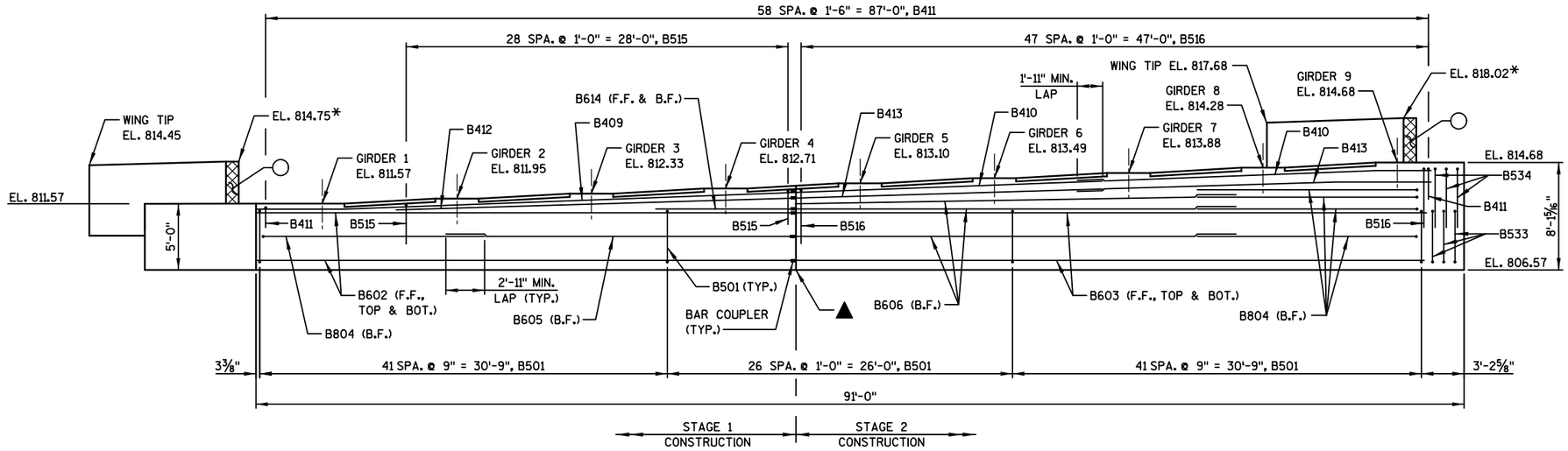
WEST ABUTMENT
WING 2 DETAILS

SHEET 9
155

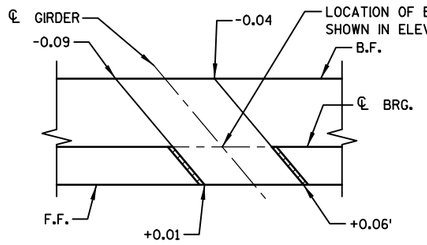
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PLAN



ELEVATION
(LOOKING EAST)



SLOPING BEAM SEAT DETAIL

STATE PROJECT NUMBER

1067-02-76

NOTES

SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW FINISHED ROADWAY SURFACE AT INSIDE FACE.

EAST ABUTMENT TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE AT EAST ABUTMENT. ESTIMATED 65 FEET LONG EACH.

SEE "WEST ABUTMENT DETAILS" SHEET FOR PILE SPLICE DETAILS.

SEE ABUTMENT AND WING DETAIL SHEETS FOR REINFORCING DETAILS.

ADJUST B501 BARS INTERFERING WITH PILES.

SEE "WEST ABUTMENT" SHEET FOR TYPICAL FILL SECTION AT WING TIPS.

LEGEND

▲ VERTICAL CONSTRUCTION JOINT KEYWAY FORMED BY BEVELED 2"x8". PROVIDE BAR COUPLERS FOR BAR STEEL AT JOINT. PROVIDE ¾" V-GROOVE AT THE FRONT FACE AND 18" RUBBERIZED MEMBRANE WATERPROOFING AT THE BACKFACE.

▽ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

○ ½" FILLER TO EXTEND FROM ABUTMENT SEAT TO TOP OF WING. FILLER INCLUDED IN WING LENGTH.

[#] INDICATES GIRDER NUMBER.

● STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

* ELEVATION GIVEN AT BACKFACE OF ABUTMENT.

□ 4"x¾" FILLER, LENGTH OF ABUTMENT.

■ ¾" CORK FILLER ON VERTICAL BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER (TYP.).

◭ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE DETAIL ON "WEST ABUTMENT" SHEET.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-187

DRAWN BY DTH | PLANS CK'D. KRB

EAST ABUTMENT

SHEET 10
156

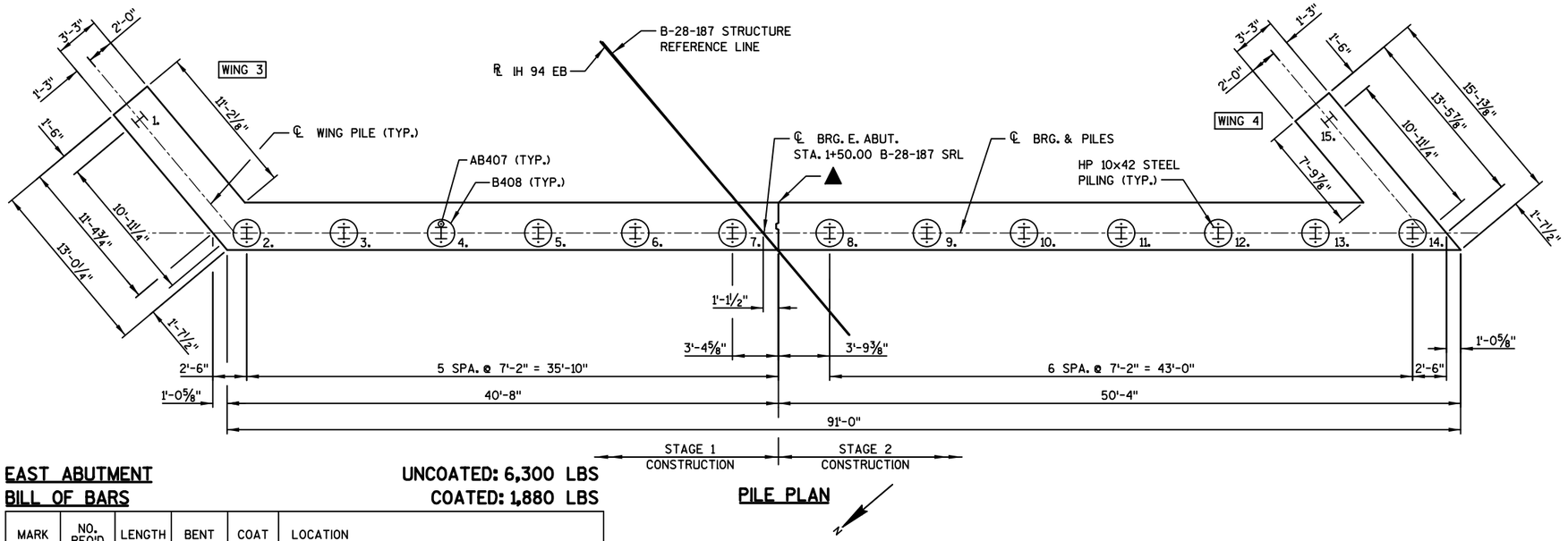
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STATE PROJECT NUMBER

1067-02-76



PILE PLAN

LEGEND

▽ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

◭ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE DETAIL ON "WEST ABUTMENT" SHEET.

● STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

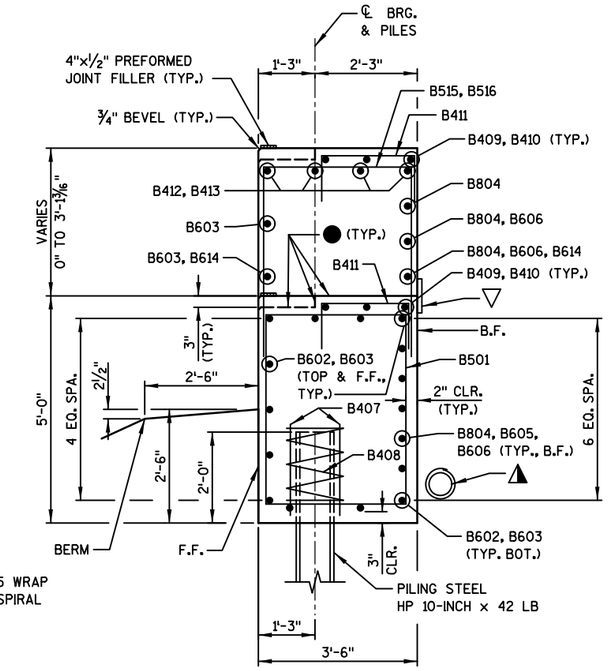
▲ VERTICAL CONSTRUCTION JOINT KEYWAY FORMED BY BEVELED 2"X8". PROVIDE BAR COUPLERS FOR BAR STEEL AT JOINT. PROVIDE ¾" V-GROOVE AT THE FRONT FACE AND 18" RUBBERIZED MEMBRANE WATERPROOFING AT THE BACKFACE.

EAST ABUTMENT BILL OF BARS

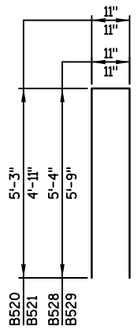
UNCOATED: 6,300 LBS
COATED: 1,880 LBS

	MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
	B501	109	15'-6"	X		BODY - VERT. - STIRRUPS
◪	B602	11	40'-8"			BODY - F.F., TOP, BTM. - HORIZ. - STAGE 1
* ◪	B603	13	49'-10"			BODY - F.F., TOP, BTM. - HORIZ. - STAGE 2
	B804	13	17'-2"	X		BODY - B.F. - HORIZ.
◪	B605	5	27'-4"			BODY - B.F. - HORIZ. - STAGE 1
◪	B606	7	34'-1"			BODY - B.F. - HORIZ. - STAGE 2
	B407	26	2'-3"			BODY - PILES - VERT.
	B408	13	28'-0"	X		BODY - PILES - SPIRAL
* ◪	B409	3	41'-6"			BODY - TOP - HORIZ. - STAGE 1
** ◪	B410	6	25'-6"			BODY - TOP - HORIZ. - STAGE 2
	B411	59	4'-9"	X		BODY - TOP - VERT.
◪	B412	4	28'-1"			BODY - TOP - HORIZ. - STAGE 1
** ◪	B413	8	25'-11"			BODY - TOP - HORIZ. - STAGE 2
◪	B614	2	11'-0"			BODY - F.F., B.F. - HORIZ. - STAGE 1
	B515	29	7'-9"	X		BODY - TOP - VERT. - STAGE 1
	B516	48	11'-3"	X		BODY - TOP - VERT. - STAGE 2
	B517	10	15'-8"	X	X	WING 3 - LOWER - STIRRUPS - VERT.
	B518	6	12'-9"		X	WING 3 - LOWER - F.F. - HORIZ
	B619	10	13'-0"		X	WING 3 - LOWER - B.F., TOP - HORIZ
	B520	13	11'-2"	X	X	WING 3 - UPPER - VERT.
	B521	9	10'-6"	X	X	WING 3 - UPPER - VERT.
	B422	8	15'-7"		X	WING 3 - UPPER - F.F., B.F. - HORIZ.
	B423	8	7'-9"		X	WING 3 - UPPER - F.F., B.F. - HORIZ.
	B624	2	15'-7"		X	WING 3 - UPPER - HORIZ.
	B525	8	21'-10"	X	X	WING 4 - LOWER - STIRRUPS - VERT.
	B526	9	14'-7"		X	WING 4 - LOWER - F.F. - HORIZ
	B727	10	12'-4"		X	WING 4 - LOWER - B.F. - HORIZ
	B528	13	11'-4"	X	X	WING 4 - UPPER - VERT.
	B529	9	12'-2"	X	X	WING 4 - UPPER - VERT.
	B430	8	15'-7"		X	WING 4 - UPPER - F.F., B.F. - HORIZ.
	B431	10	7'-9"		X	WING 4 - UPPER - F.F., B.F. - HORIZ.
	B632	2	15'-7"		X	WING 4 - UPPER - HORIZ.
	B533	3	6'-0"	X		BODY - VERT. - SOUTH END
	B534	3	4'-11"	X		BODY - VERT. - SOUTH END

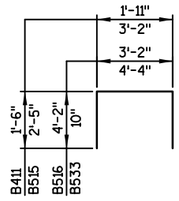
* CUT BARS AS REQUIRED TO FIT SKEW IN CORNERS OF ABUTMENT.
** ONLY HALF OF SCHEDULED BARS REQUIRE COUPLER.
◪ BAR WITH COUPLER. SEE "SUPERSTRUCTURE DETAILS-2" SHEET FOR DETAILS AND NOTES.



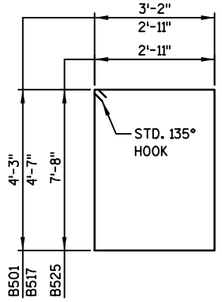
TYPICAL SECTION THRU BODY



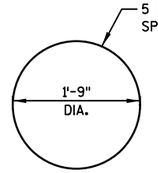
B520, B521, B528, B529



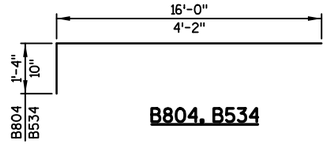
B411, B515, B516, B533



B501, B517, B525



B408



B804, B534

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-187

DRAWN BY DTH | PLANS CK'D. KRB

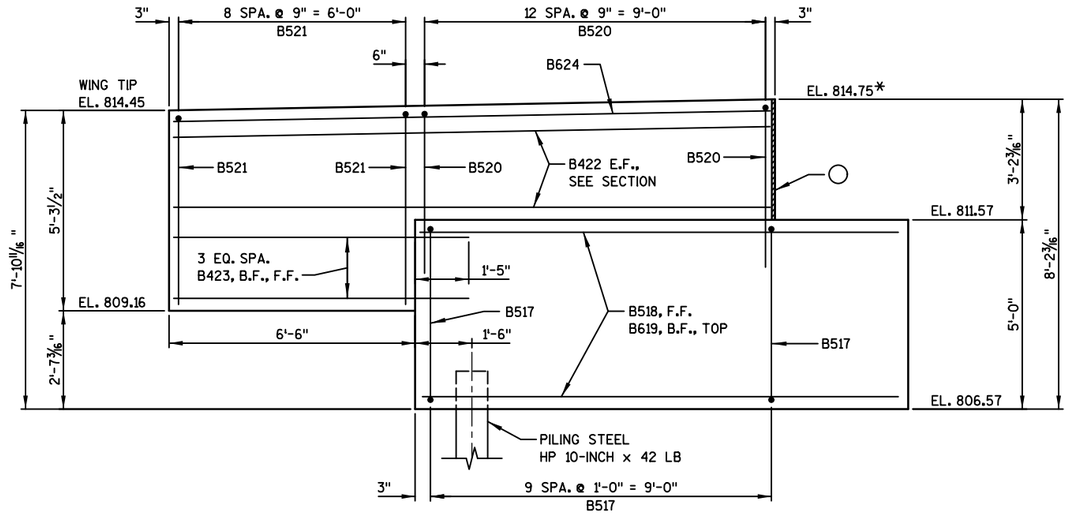
EAST ABUTMENT DETAILS

SHEET 11
157

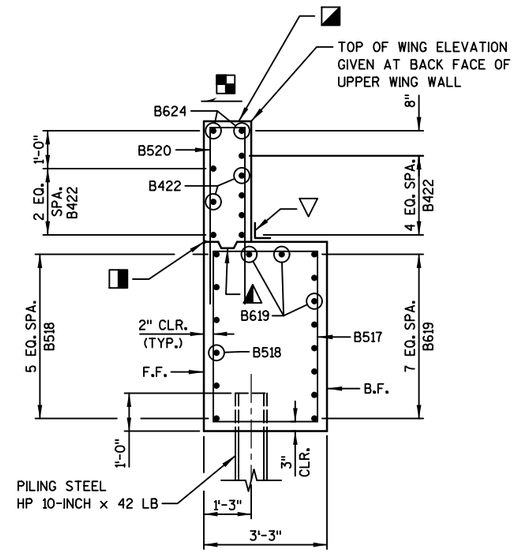
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STATE PROJECT NUMBER

1067-02-76



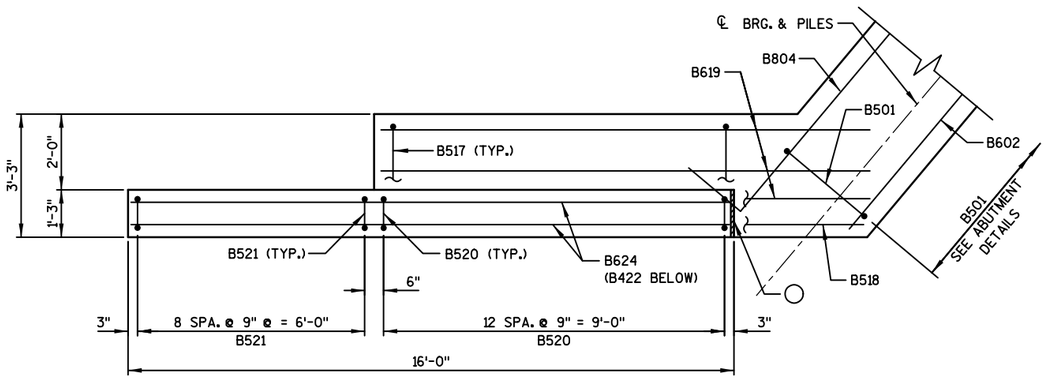
ELEVATION
(WING 3, FRONT FACE)



WING WITH PILE SECTION
(WING 3)

LEGEND

- ¾" "V" GROOVE ON FRONT FACE OF WINGWALL.
- OPTIONAL CONSTRUCTION JOINT FORMED BY BEVELED 2"x6" KEYWAY WITH 18" RUBBERIZED MEMBRANE ON BACKFACE.
- 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- ½" FILLER TO EXTEND FROM ABUTMENT SEAT TO TOP OF WING. FILLER INCLUDED IN WING LENGTH.
- SLOPE TO DRAIN.
- * ELEVATION GIVEN AT BACKFACE OF ABUTMENT.
- COAT WITH "PROTECTIVE SURFACE TREATMENT" AS PER THE STANDARD SPECIFICATIONS.



WING PLAN
(WING 3)

N

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-187

DRAWN BY DTH | PLANS CK'D. KRB

EAST ABUTMENT
WING 3 DETAILS

SHEET 12
158

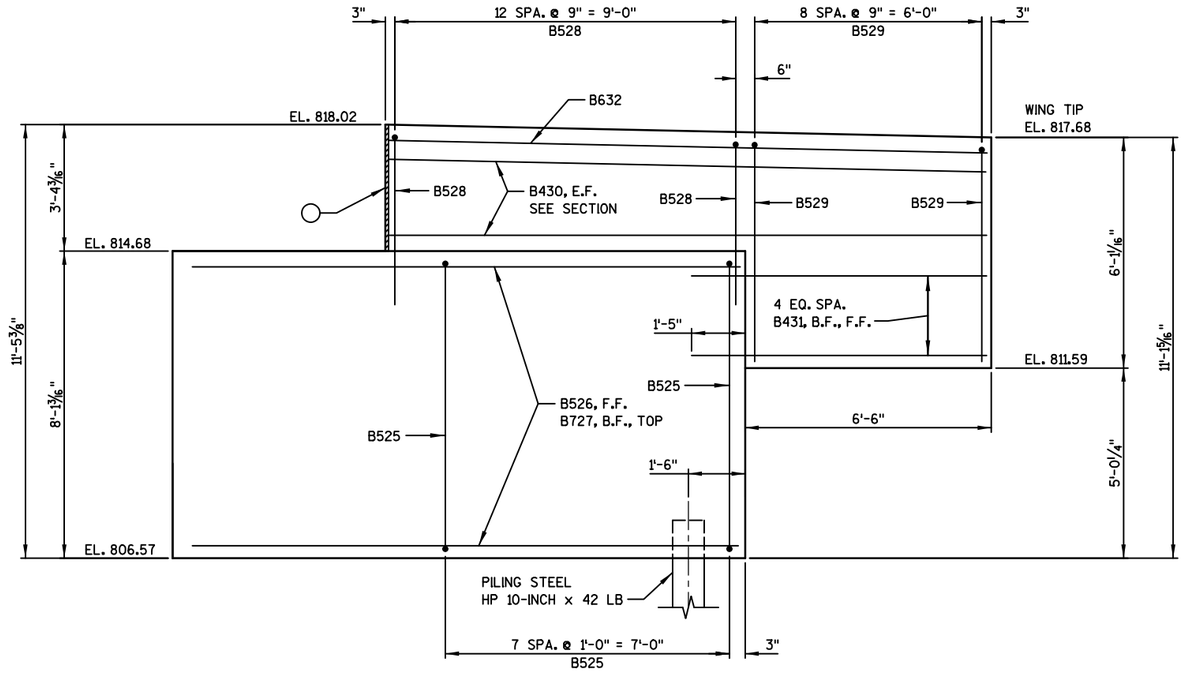
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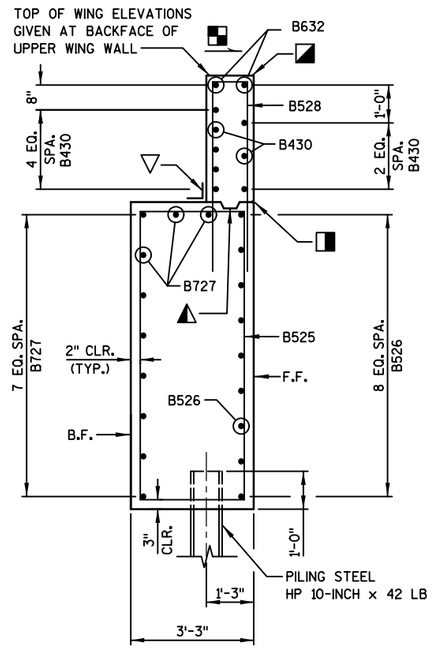
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STATE PROJECT NUMBER

1067-02-76



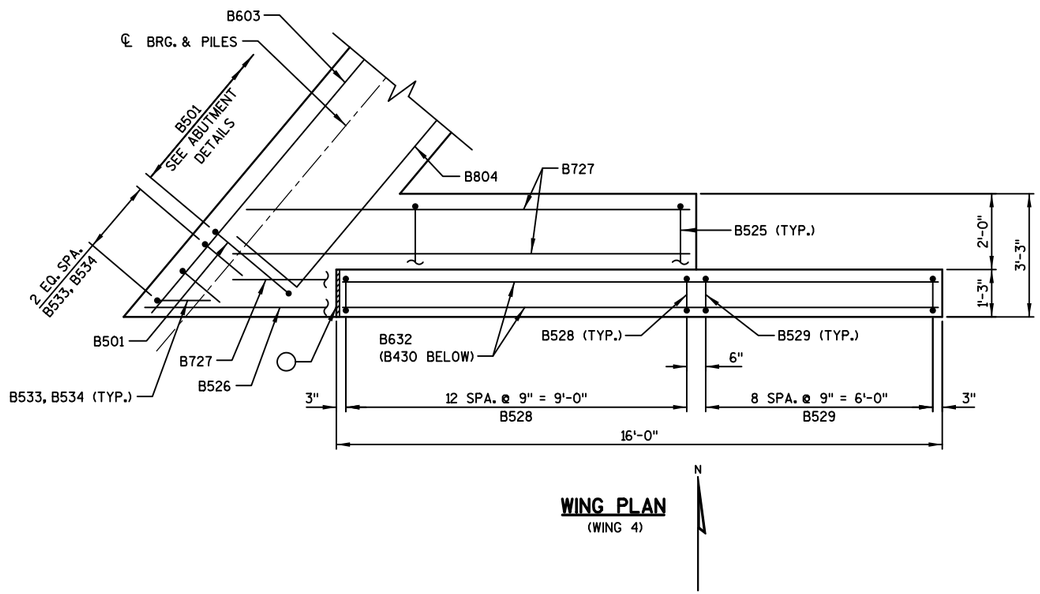
ELEVATION
(WING 4, FRONT FACE)



WING WITH PILE SECTION
(WING 4)

LEGEND

- ¾" "V" GROOVE ON FRONT FACE OF WINGWALL.
- OPTIONAL CONSTRUCTION JOINT FORMED BY BEVELED 2"x6" KEYWAY WITH 18" RUBBERIZED MEMBRANE ON BACKFACE.
- 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- ½" FILLER TO EXTEND FROM ABUTMENT SEAT TO TOP OF WING. FILLER INCLUDED IN WING LENGTH.
- SLOPE TO DRAIN.
- * ELEVATION GIVEN AT BACKFACE OF ABUTMENT.
- COAT WITH "PROTECTIVE SURFACE TREATMENT" AS PER THE STANDARD SPECIFICATIONS.



WING PLAN
(WING 4)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-187

DRAWN BY DTH | PLANS CK'D. KRB

EAST ABUTMENT
WING 4 DETAILS

SHEET 13
159

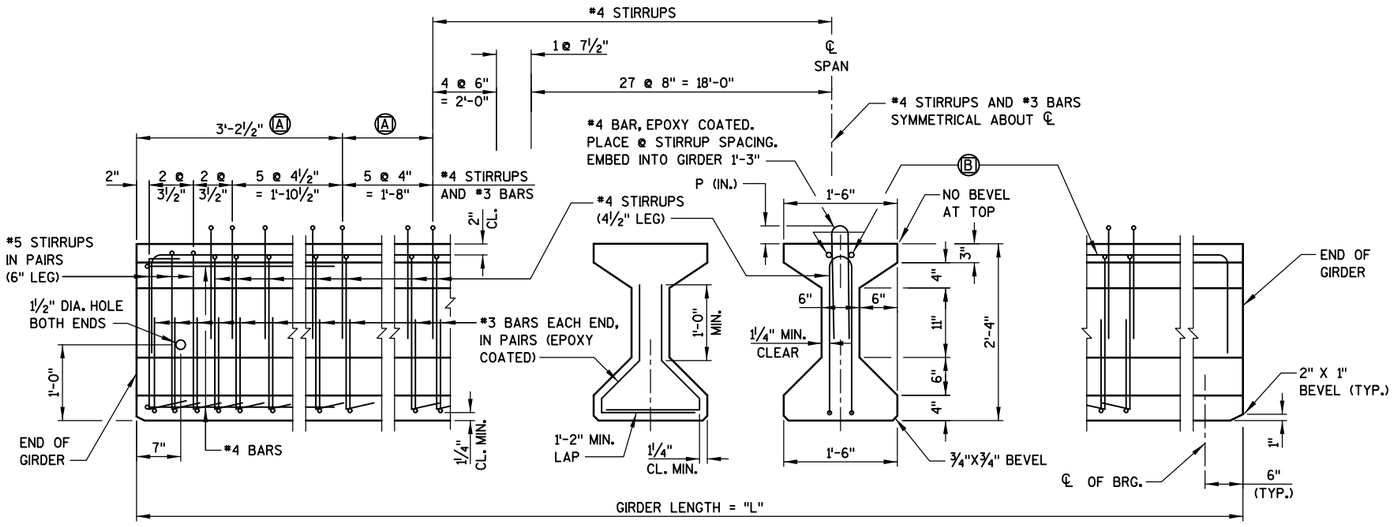
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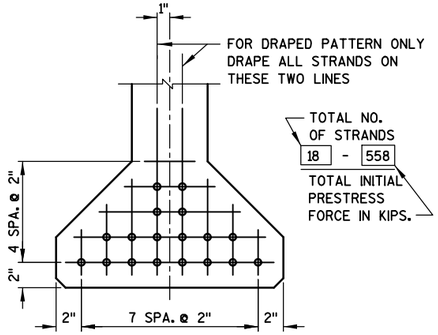
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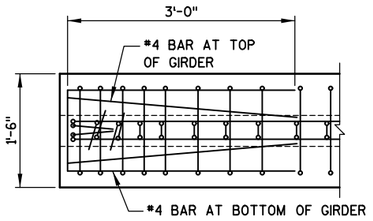
SIDE VIEW & TYPICAL SECTION IN SPAN

Ⓐ DETAIL TYP. AT EACH END

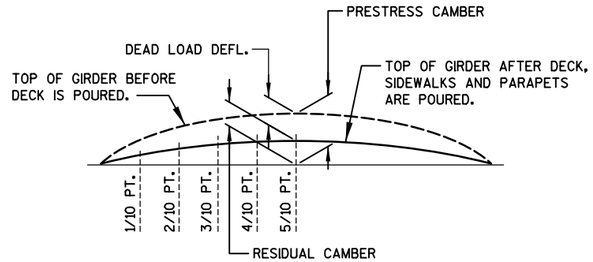
Ⓑ 2-BARS (NO. 5) BEND DOWN 16 BAR DIA. AT ENDS



STRAND ARRANGEMENT AT ℄ SPAN



TOP VIEW OF GIRDER ENDS



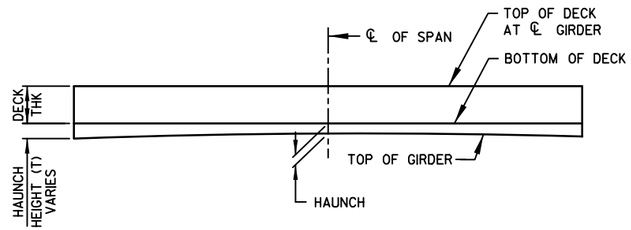
CAMBER AND DEFLECTION DIAGRAM

* THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

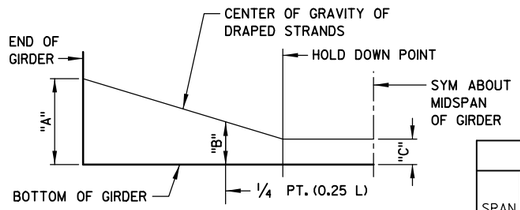
SPAN	CAMBER (IN.) *
1	1.49

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS.

THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.



ELEVATION

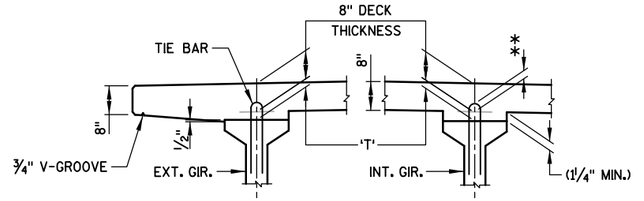


DRAPED STRAND PROFILE

* MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CONC. STRGTH. f'c (P.S.I.)	"P" (IN.) 1ST 1/3 OF GIRDER	"P" (IN.) MID 1/3 OF GIRDER	"P" (IN.) END 1/3 OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.)	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	UNDRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.)
1	1,9	51'-0"	0.20	0.40	0.56	0.66	0.70	0.66	0.56	0.40	0.20	8000	7.25	7.00	7.25	0.50	18	6800	23.0	9.5	12.5	5.0	--	--
1	2-8	51'-0"	0.23	0.46	0.64	0.75	0.79	0.75	0.64	0.46	0.23	8000	7.25	7.00	7.25	0.50	18	6800	23.0	9.5	12.5	5.0	--	--



DECK HAUNCH DETAIL

IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR, THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE ENGINEER IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
- DECK THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 3⅜" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".

GENERAL NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 2" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 2" OF THE TOP FLANGE.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS. SEE SECTION 503.3.3 OF WISDOT STANDARD SPECIFICATIONS FOR GUIDANCE.

STRANDS SHALL BE FLUSH WITH END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, END OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

SPACING SHOWN FOR *4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A1064 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.

PRESTRESSING STRANDS SHALL BE 0.5" DIA.-7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI.

BEND EACH END OF *4 STIRRUPS 4½" AND *5 STIRRUPS 6".

FOR DIAPHRAGM INSERT & CONNECTON DETAILS SEE "STEEL DIAPHRAGM" SHEET.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-187

DRAWN BY DTH | PLANS CK'D. KRB

28" PRESTRESSED GIRDER DETAILS

SHEET 14
160

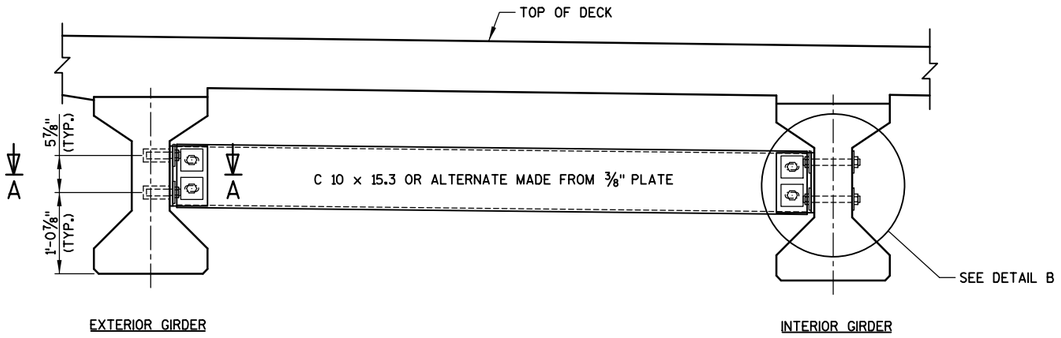
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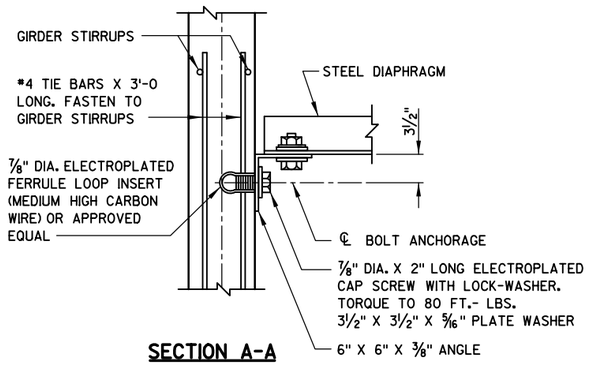
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STATE PROJECT NUMBER

1067-02-76



PART TRANSVERSE SECTION AT DIAPHRAGM



SECTION A-A

(FOR EXTERIOR ATTACHMENT)

NOTES

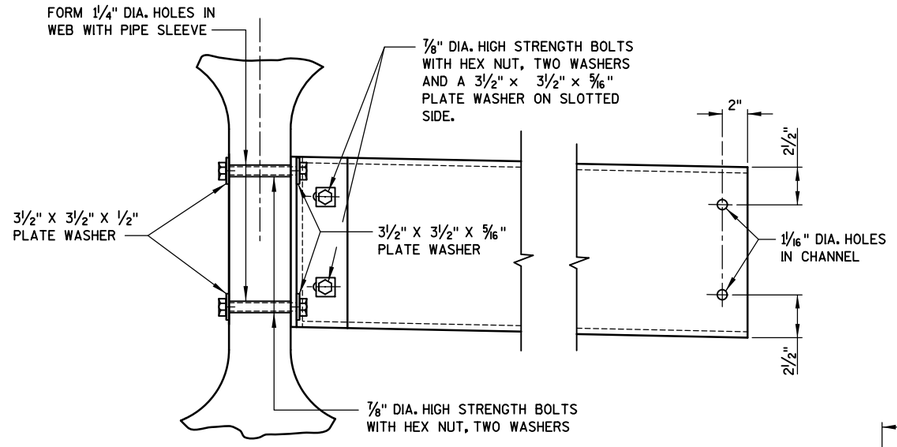
ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-28-187", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

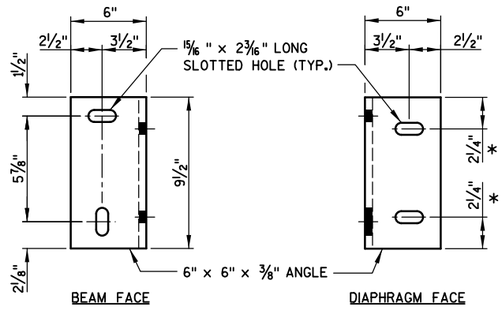
ALL DIAPHRAGM MATERIAL INCLUDING BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AFTER FABRICATION.

STEEL DIAPHRAGM TO CONCRETE WEB CONNECTION SHALL BE SNUG-TIGHT PLUS ¼ TURN, UNLESS NOTED OTHERWISE. HIGH STRENGTH BOLTS FOR WEB CONNECTION SHALL MEET THE REQUIREMENTS FOR ASTM A325 OR ASTM A449.



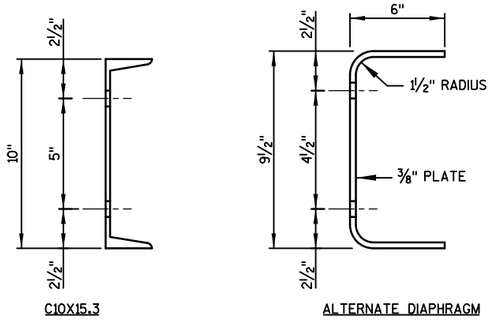
DETAIL B

(FOR STAGGERED DIAPHRAGMS)

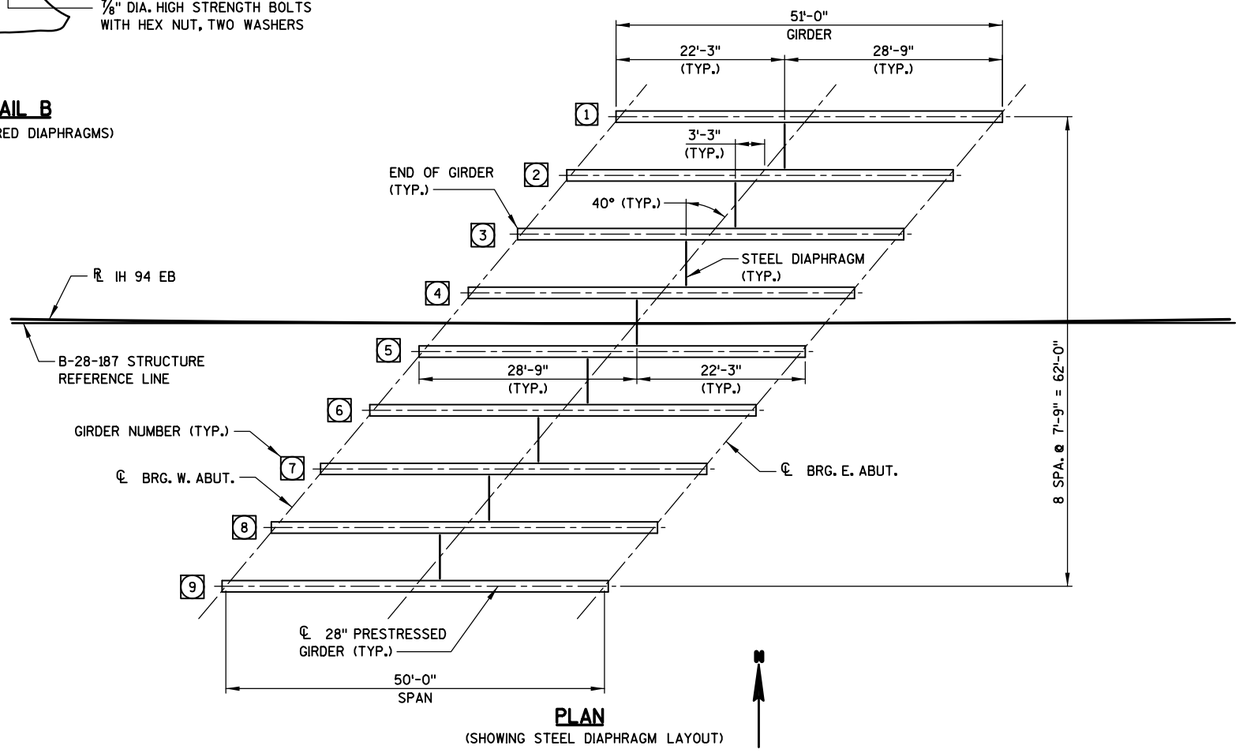


DIAPHRAGM SUPPORT

* 2½" FOR ALTERNATE PLATE DIAPHRAGM



SECTION THRU DIAPHRAGM



PLAN

(SHOWING STEEL DIAPHRAGM LAYOUT)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-187

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STEEL DIAPHRAGMS

SHEET 15
161

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STATE PROJECT NUMBER

1067-02-76

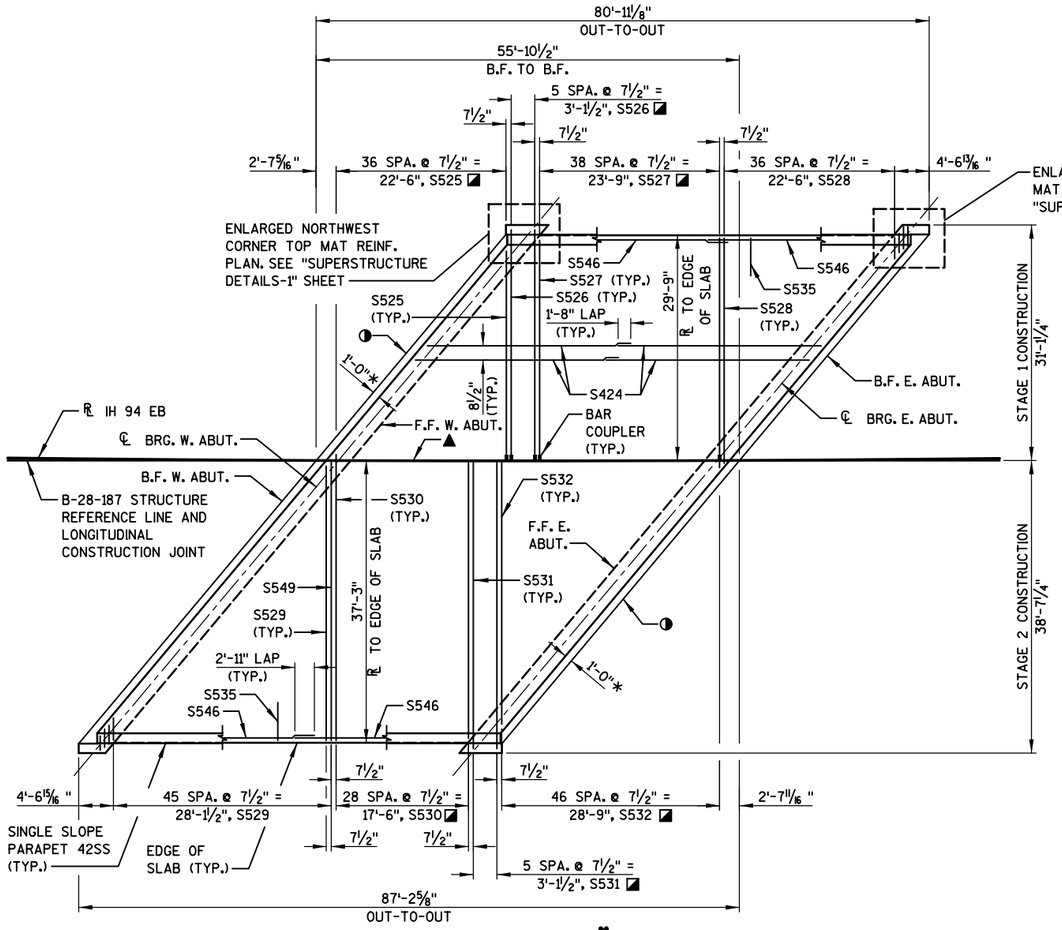
LEGEND

▲ LONGITUDINAL CONSTRUCTION JOINT FORMED BY A SURFACE BEVELED 2"x2". CENTER KEYWAY BETWEEN MATS.

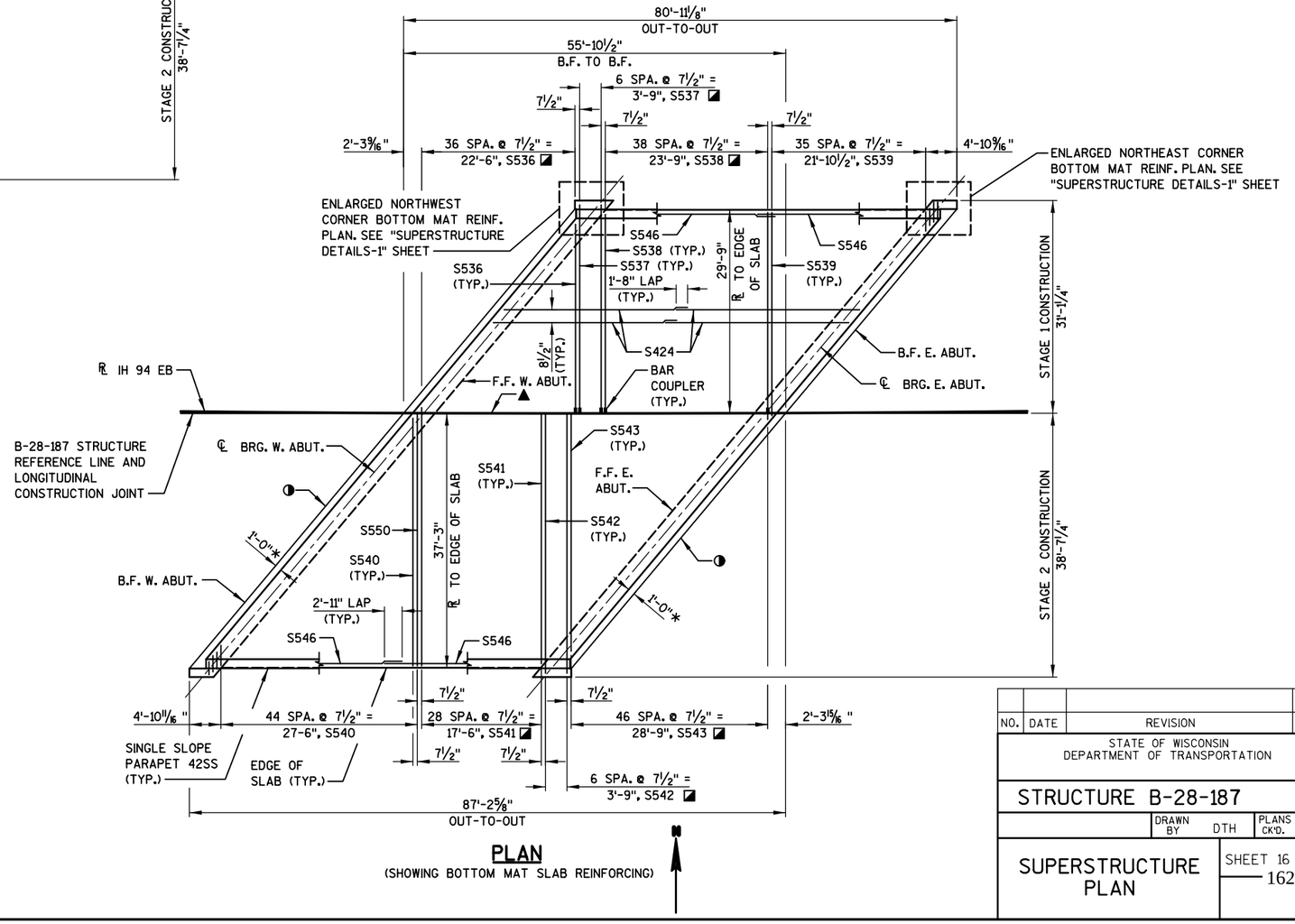
◪ BAR WITH COUPLER. SEE "SUPERSTRUCTURE DETAILS-2" SHEET FOR DETAILS. TYPICAL ALONG CONSTRUCTION JOINT.

* DIMENSION IS NORMAL TO ℄ SUBSTRUCTURE.

◑ 1'-0" WIDE BY 1'-4" DEEP PAVING NOTCH.



PLAN
(SHOWING TOP MAT SLAB REINFORCING)



PLAN
(SHOWING BOTTOM MAT SLAB REINFORCING)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-187

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SUPERSTRUCTURE PLAN

SHEET 16
162

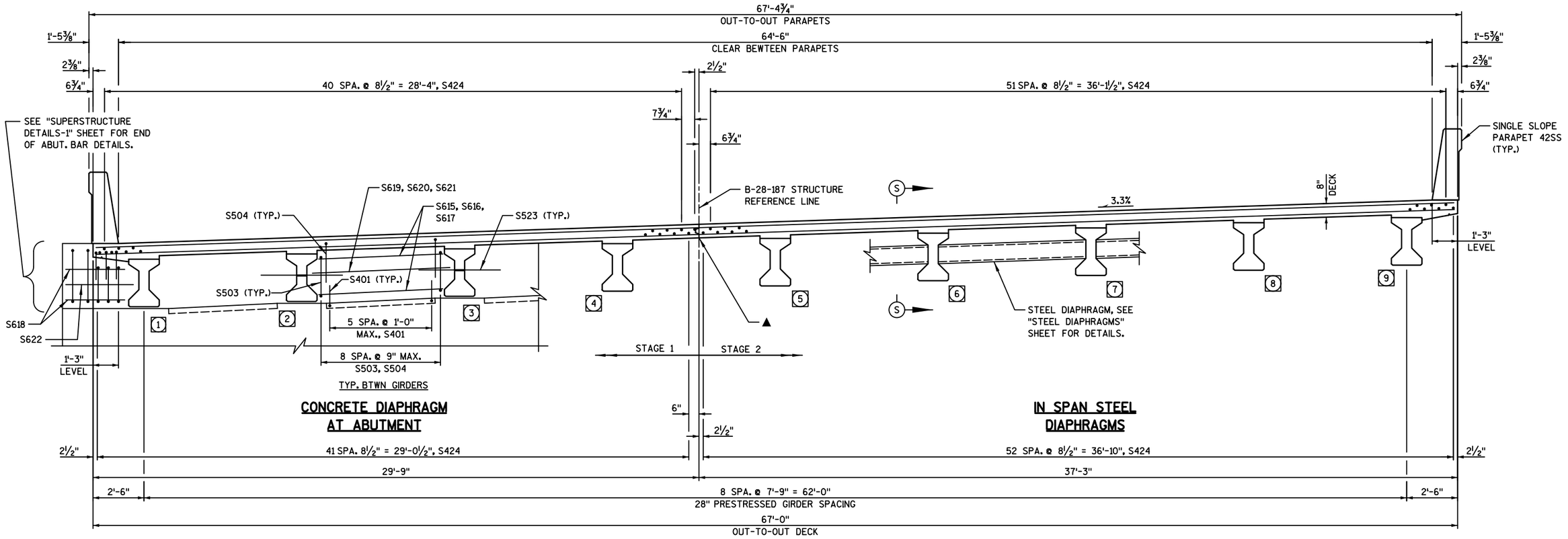
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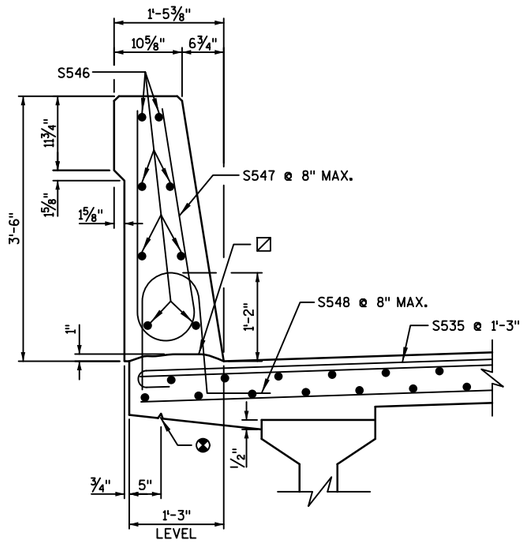
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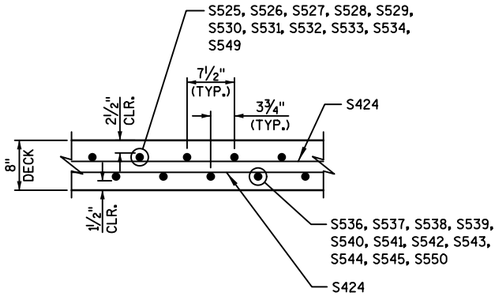


CROSS SECTION THRU BRIDGE

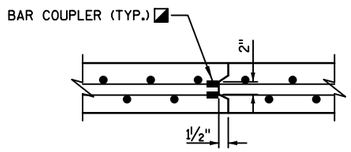
(LOOKING EAST)



SECTION THRU PARAPET ON BRIDGE



SECTION S-S



SECTION THRU LONGITUDINAL JOINT

NOTES

SEE SUPERSTRUCTURE DETAILS SHEETS FOR REINFORCING DETAILS.

LEGEND

- (#) INDICATES GIRDER NUMBER.
- ⊗ ¾" V-GROOVE REQ'D. EXTEND TO 6" FROM F.F. OF ABUT. DIAPH.
- ⊘ CONST. JOINT-STRIKE OFF AS SHOWN AND LEAVE ROUGH.
- ◪ SEE "SUPERSTRUCTURE DETAILS-2" SHEET FOR BAR COUPLER DETAILS AND NOTES.
- ▲ LONGITUDINAL CONSTRUCTION JOINT FORMED BY A SURFACE BEVELED 2"×2". CENTER KEYWAY BETWEEN MATS. SEE DETAIL THIS SHEET.

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-187

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SUPERSTRUCTURE SECTION

SHEET 17
163

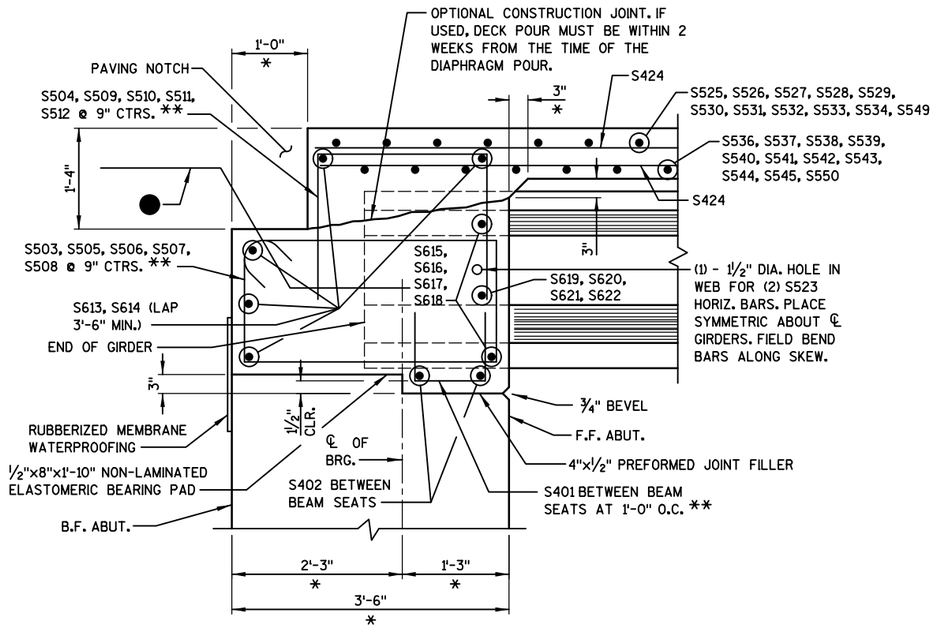
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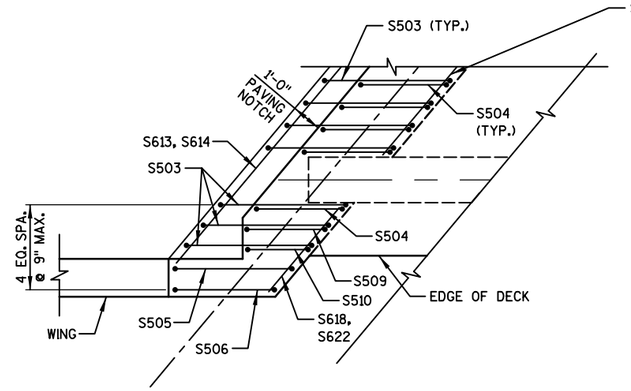
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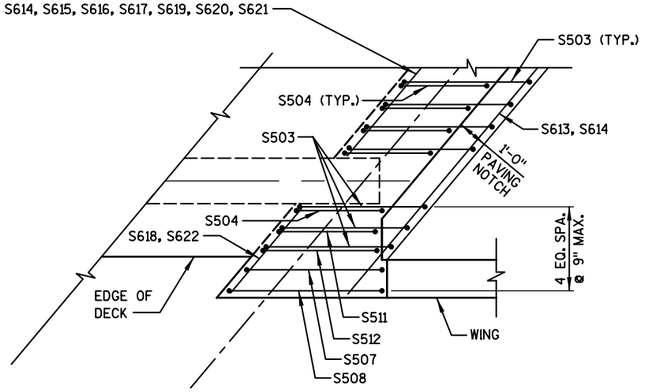


PART LONGIT. SECTION



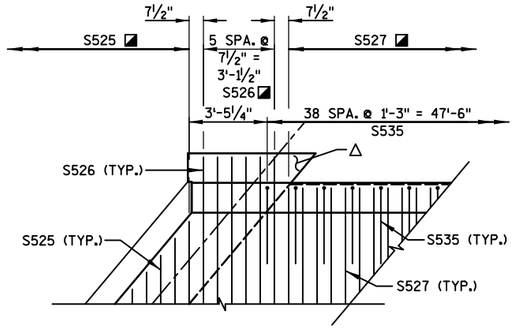
ENLARGED SOUTHWEST CORNER ABUT. DIAPHRAGM REINFORCING PLAN

(NORTHEAST CORNER SIMILAR)



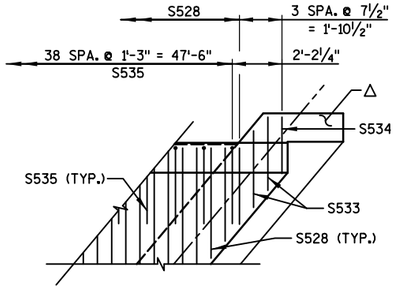
ENLARGED SOUTHEAST CORNER ABUT. DIAPHRAGM REINFORCING PLAN

(NORTHWEST CORNER SIMILAR)



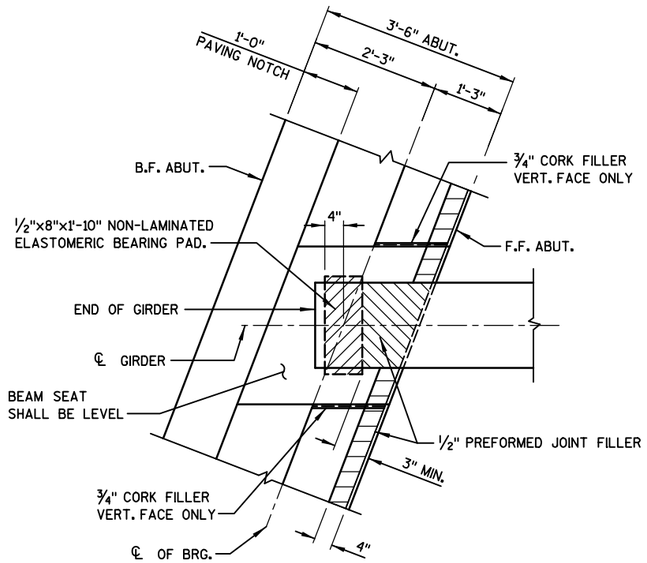
ENLARGED NORTHWEST CORNER TOP MAT REINFORCING PLAN

(SOUTHEAST CORNER SIMILAR)

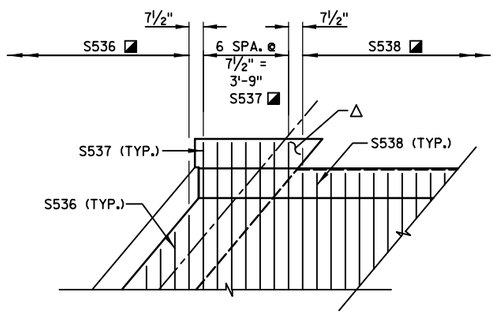


ENLARGED NORTHEAST CORNER TOP MAT REINFORCING PLAN

(SOUTHWEST CORNER SIMILAR)

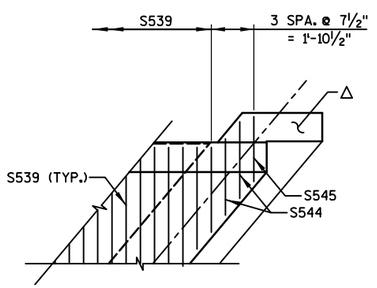


BEARING PAD DETAIL



ENLARGED NORTHWEST CORNER BOTTOM MAT REINFORCING PLAN

(SOUTHEAST CORNER SIMILAR)



ENLARGED NORTHEAST CORNER BOTTOM MAT REINFORCING PLAN

(SOUTHWEST CORNER SIMILAR)

LEGEND

* DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE UNITS.

** BARS PLACED PARALLEL TO GIRDERS. SPACING PERPENDICULAR TO ℄ GIRDERS

● SS901. SEE "STRUCTURAL APPROACH SLAB" SHEET FOR DETAILS. ADJUST SPACING AS NECESSARY TO AVOID CONFLICTS WITH PRESTRESSED GIRDERS.

△ COAT TOP SURFACE OF DIAPHRAGM CONCRETE OUTSIDE OF PARAPETS WITH "PROTECTIVE SURFACE TREATMENT".

◪ BAR WITH COUPLER. SEE "SUPERSTRUCTURE DETAILS-2" SHEET FOR DETAILS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-187

DRAWN BY DTH | PLANS CK'D. KRB

SUPERSTRUCTURE DETAILS - 1

SHEET 18
164

8

8

FILE NAME : S:\MAD\1000--1099\1089\399\Micros\Plan\080118_sd.dgn

STATE PROJECT NUMBER

1067-02-76

SUPERSTRUCTURE
BILL OF BARS

COATED: 27,700 LBS

	MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
* ◪	S401	96	3'-8"	X	X	ABUT. DIAPHRAGM - VERT. - BTWN BEAM SEATS
	S402	32	6'-5"		X	ABUT. DIAPHRAGM - HORIZ. - BTWN BEAM SEATS
	S503	156	12'-4"	X	X	ABUT. DIAPHRAGM - VERT.
	S504	148	6'-9"	X	X	ABUT. DIAPHRAGM - VERT.
	S505	2	14'-0"	X	X	ABUT. DIAPHRAGM - VERT. - ENDS
	S506	2	12'-10"	X	X	ABUT. DIAPHRAGM - VERT. - ENDS
	S507	2	15'-2"	X	X	ABUT. DIAPHRAGM - VERT. - ENDS
	S508	2	16'-4"	X	X	ABUT. DIAPHRAGM - VERT. - ENDS
	S509	2	6'-6"	X	X	ABUT. DIAPHRAGM - VERT. - ENDS
	S510	2	5'-11"	X	X	ABUT. DIAPHRAGM - VERT. - ENDS
	S511	2	7'-1"	X	X	ABUT. DIAPHRAGM - VERT. - ENDS
	S512	2	7'-8"	X	X	ABUT. DIAPHRAGM - VERT. - ENDS
* ◪	S613	20	21'-3"		X	ABUT. DIAPHRAGM - HORIZ. - B.F., TOP - STAGE 1
* ◪	S614	20	26'-2"		X	ABUT. DIAPHRAGM - HORIZ. - B.F., TOP - STAGE 2
	S615	28	7'-9"		X	ABUT. DIAPHRAGM - HORIZ. - F.F.
◪	S616	2	4'-0"		X	ABUT. DIAPHRAGM - HORIZ. - F.F. - STAGE 1
◪	S617	2	3'-9"		X	ABUT. DIAPHRAGM - HORIZ. - F.F. - STAGE 2
	S618	2	3'-7"		X	ABUT. DIAPHRAGM - HORIZ. - F.F. -ENDS
	S619	14	8'-9"		X	ABUT. DIAPHRAGM - HORIZ. - F.F.
◪	S620	2	4'-6"		X	ABUT. DIAPHRAGM - HORIZ. - F.F. - STAGE 1
◪	S621	2	4'-3"		X	ABUT. DIAPHRAGM - HORIZ. - F.F. - STAGE 2
	S622	2	4'-1"		X	ABUT. DIAPHRAGM - HORIZ. - F.F. -ENDS
	S523	36	6'-0"		X	ABUT. DIAPHRAGM - HORIZ. - GIRDER ENDS
	S424	378	27'-4"		X	SLAB - LONG. - TOP AND BOT.
△ ◪	S525	37	14'-8"		X	SLAB - TRANS. - TOP - STAGE 1
◪	S526	6	30'-11"		X	SLAB - TRANS. - TOP - STAGE 1
◪	S527	39	29'-7"		X	SLAB - TRANS. - TOP - STAGE 1
△	S528	37	16'-9"		X	SLAB - TRANS. - TOP - STAGE 1
△	S529	46	20'-1"		X	SLAB - TRANS. - TOP - STAGE 2
◪	S530	29	37'-1"		X	SLAB - TRANS. - TOP - STAGE 2
◪	S531	6	38'-5"		X	SLAB - TRANS. - TOP - STAGE 2
△ ◪	S532	47	18'-6"		X	SLAB - TRANS. - TOP - STAGE 2
	S533	4	3'-3"		X	SLAB - TRANS. - TOP - CORNER - STAGE 1 AND 2
	S534	2	2'-5"		X	SLAB - TRANS. - TOP - CORNER - STAGE 1 AND 2
	S535	78	4'-5"	X	X	SLAB - TRANS. - TOP - HOOK - STAGE 1 AND 2
△ ◪	S536	37	14'-4"		X	SLAB - TRANS. - BOT. - STAGE 1
◪	S537	7	30'-11"		X	SLAB - TRANS. - BOT. - STAGE 1
◪	S538	39	29'-7"		X	SLAB - TRANS. - BOT. - STAGE 1
△	S539	36	16'-9"		X	SLAB - TRANS. - BOT. - STAGE 1
△	S540	45	20'-1"		X	SLAB - TRANS. - BOT. - STAGE 2
◪	S541	29	37'-1"		X	SLAB - TRANS. - BOT. - STAGE 2
◪	S542	7	38'-5"		X	SLAB - TRANS. - BOT. - STAGE 2
△ ◪	S543	47	18'-1"		X	SLAB - TRANS. - BOT. - STAGE 2
	S544	4	3'-4"		X	SLAB - TRANS. - BOT. - CORNER - STAGE 1 AND 2
	S545	2	2'-10"		X	SLAB - TRANS. - BOT. - CORNER - STAGE 1 AND 2
	S546	32	28'-0"		X	PARAPET - LONG.
	S547	162	6'-8"	X	X	PARAPET - VERT.
	S548	162	4'-5"	X	X	PARAPET - VERT.
	S549	1	37'-1"		X	SLAB - TRANS. - TOP - STAGE 2
	S550	1	37'-1"		X	SLAB - TRANS. - BOT. - STAGE 2

LEGEND

△ BAR WITH SERIES, SEE TABLE THIS SHEET.

◪ BAR WITH COUPLER, SEE DETAILS THIS SHEET.

* ONLY HALF OF SCHEDULED BARS REQUIRE COUPLER.

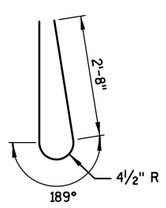
BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S525	1 SERIES OF 37	1'-3" TO 28'-1"
S528	1 SERIES OF 37	3'-4" TO 30'-2"
S529	1 SERIES OF 46	3'-4" TO 36'-10"
S532	1 SERIES OF 47	1'-4" TO 35'-7"
S536	1 SERIES OF 37	11" TO 27'-9"
S539	1 SERIES OF 36	3'-8" TO 29'-9"
S540	1 SERIES OF 45	3'-8" TO 36'-6"
S543	1 SERIES OF 47	11" TO 35'-2"

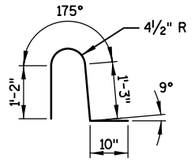
BUNDLE AND TAG EACH SERIES SEPARATELY.

TOP OF DECK ELEVATIONS

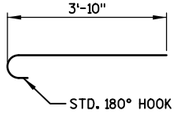
	SPAN 1											
	CL BRG. W. ABUT.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	CL BRG. E. ABUT.
N. DECK EDGE	815.78	815.67	815.57	815.46	815.36	815.26	815.16	815.06	814.96	814.86	814.77
GIRDER 1	815.91	815.80	815.69	815.59	815.48	815.38	815.28	815.18	815.08	814.98	814.89
GIRDER 2	816.31	816.20	816.09	815.98	815.88	815.77	815.67	815.57	815.47	815.37	815.27
GIRDER 3	816.71	816.60	816.49	816.38	816.27	816.16	816.06	815.95	815.85	815.75	815.65
GIRDER 4	817.11	817.00	816.89	816.78	816.67	816.56	816.45	816.34	816.24	816.14	816.04
LONG. CONST. JOINT	817.32	817.21	817.09	816.98	816.87	816.76	816.65	816.55	816.44	816.34	816.24
GIRDER 5	817.52	817.40	817.29	817.18	817.06	816.95	816.85	816.74	816.63	816.53	816.42
GIRDER 6	817.93	817.81	817.69	817.58	817.47	817.35	817.24	817.13	817.03	816.92	816.81
GIRDER 7	818.34	818.22	818.10	817.98	817.87	817.75	817.64	817.53	817.42	817.31	817.21
GIRDER 8	818.75	818.63	818.51	818.39	818.27	818.16	818.04	817.93	817.82	817.71	817.60
GIRDER 9	819.17	819.04	818.92	818.80	818.68	818.57	818.45	818.33	818.22	818.11	818.00
S. DECK EDGE	819.30	819.18	819.06	818.93	818.81	818.70	818.58	818.47	818.35	818.24	818.13



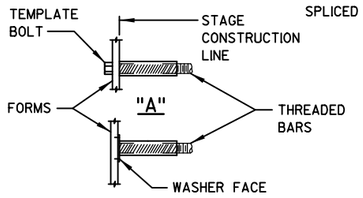
S547



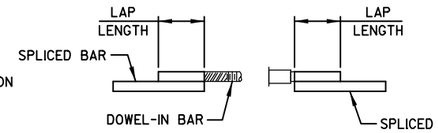
S548



S535



"B"



DOWEL BAR SPLICER

ONE PIECE THREADED SPLICER

SPLICER ALTERNATIVES

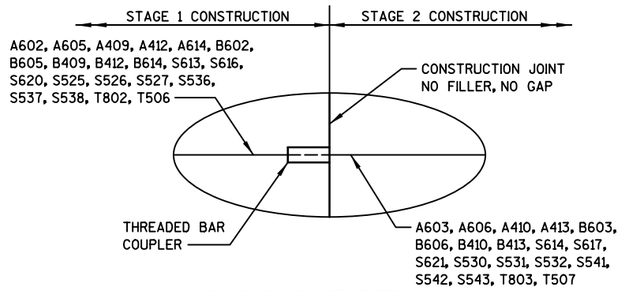
INSTALLATION AND SETTING METHODS

"A" SET SPLICER BY MEANS OF A TEMPLATE BOLT.
"B" SET SPLICER BY NAILING TO WOOD FORMS OR CEMENTING TO STEEL FORMS.

DOWEL BAR SPLICER LAP LENGTHS

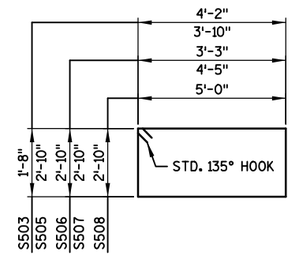
CONCRETE UNDER BAR	BAR SIZE	4	5	6	8
12" OR LESS	f'c = 3500	1'-8"	2'-8"	3'-2"	5'-6"
	f'c = 4000	1'-8"	2'-8"	3'-2"	5'-2"
MORE THAN 12"	f'c = 3500	2'-3"	2'-11"	3'-6"	6'-1"
	f'c = 4000	2'-3"	2'-11"	3'-6"	5'-8"

BAR LENGTH COMPUTED TO CL LONGIT. JOINT AND SHALL BE MODIFIED IF REQUIRED TO BAR COUPLER MANUFACTURER RECOMMENDATIONS. PAY BASED ON BARS AS DETAILED.

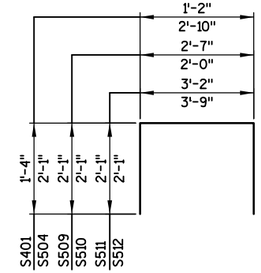


BAR COUPLER DETAIL

BAR LENGTHS HAVE BEEN COMPUTED TO ℄ OF CONSTRUCTION JOINT AND SHALL BE MODIFIED TO BAR COUPLER MANUFACTURER RECOMMENDATIONS.



S503, S505, S506, S507, S508



S401, S504, S509, S510, S511, S512

BAR COUPLER NOTES

STEEL SPLICE (COUPLER) ASSEMBLY SHALL BE AN APPROVED TYPE AND SHALL DEVELOP IN TENSION AT LEAST 125% OF THE YIELD STRENGTH OF THE SPLICED REINFORCEMENT BARS.

DOWEL BAR SPLICER SHALL BE OF MINIMUM 60 KSI YIELD STRENGTH, AND HAVE TENSILE STRENGTH AREA EQUAL OR GREATER THAN THAT OF THE LAPPED REINFORCEMENT BARS.

DOWEL BAR SPLICERS SHALL MEET THE DEFORMATION REQUIREMENTS FOR STANDARD ASTM DEFORMED REINFORCING BARS.

FOR DOWEL BAR SPLICER, ALL REINFORCEMENT BARS SHALL BE LAPPED AND TIED TO THE SPLICER BARS.

SPLICER (COUPLER) ASSEMBLY IN THE SLAB SHALL BE EPOXY COATED IN ACCORDANCE WITH THE REQUIREMENTS FOR REINFORCEMENT BARS.

OTHER SYSTEMS OF SIMILAR DESIGN MAY BE SUBMITTED TO THE ENGINNER FOR APPROVAL. APPROVAL SHALL BE BASED ON CERTIFIED TEST RESULTS FROM AN APPROVED TESTING LABORATORY THAT THE PROPOSED SPLICER (COUPLER) ASSEMBLY SATISFIES THE FOLLOWING REQUIREMENT:

(1) MINIMUM CAPACITY = 1.25 X fy X AREA OF SPLICED REINFORCEMENT BAR.

WHERE fy = YIELD STRENGTH OF SPLICED REINFORCEMENT BARS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-187

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SUPERSTRUCTURE DETAILS - 2

SHEET 19
165

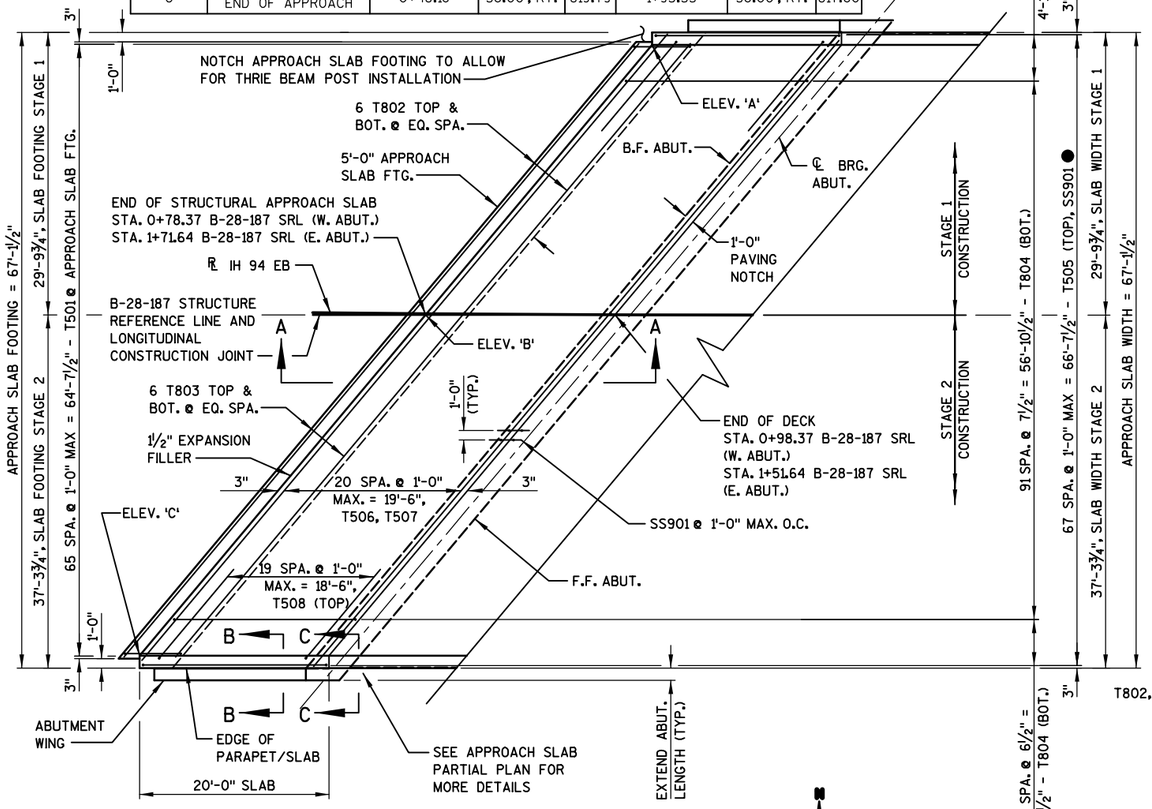
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TOP OF APPROACH SLAB ELEVATIONS

LOCATION	DESCRIPTION	WEST APPROACH SLAB			EAST APPROACH SLAB		
		STATION (B-28-187 SRL)	OFFSET TO B-28-187 SRL	ELEV.	STATION (B-28-187 SRL)	OFFSET TO B-28-187 SRL	ELEV.
'A'	NORTH FLOW LINE AT END OF APPROACH	1+02.29	28.50', LT.	816.33	1+41.42	28.50', LT.	814.44
'B'	B-28-187 SRL AT END OF APPROACH SLAB	0+78.37	0.00'	817.83	1+71.64	0.00'	815.81
'C'	SOUTH FLOW LINE AT END OF APPROACH	0+48.16	36.00', RT.	819.79	1+95.55	36.00', RT.	817.60



APPROACH SLAB PLAN

(WEST ABUTMENT SHOWN, EAST ABUTMENT SIMILAR)

STRUCTURAL APPROACH SLAB BILL OF BARS

COATED: 31,030 LBS

MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
T501	132	15'-2"	X	X	APPROACH SLAB FTG. - STIRRUP
* ◪ T802	24	38'-8"		X	APPROACH SLAB FTG. - TRANS. - STAGE 1
* ◪ T803	24	48'-3"		X	APPROACH SLAB FTG. - TRANS. - STAGE 2
T804	220	21'-6"	X	X	APPROACH SLAB LONG. - BOT.
T505	136	19'-8"		X	APPROACH SLAB LONG. - TOP
◪ T506	84	38'-8"		X	APPROACH SLAB TRANS. - TOP & BOT. - STAGE 1
◪ T507	84	48'-3"		X	APPROACH SLAB TRANS. - TOP & BOT. - STAGE 2
T508	80	4'-1"	X	X	APPROACH SLAB TRANS. - TOP - WING

NUMBER OF BARS LISTED IN TABLE IS TOTAL REQUIRED FOR WEST AND EAST STRUCTURAL APPROACH SLABS.

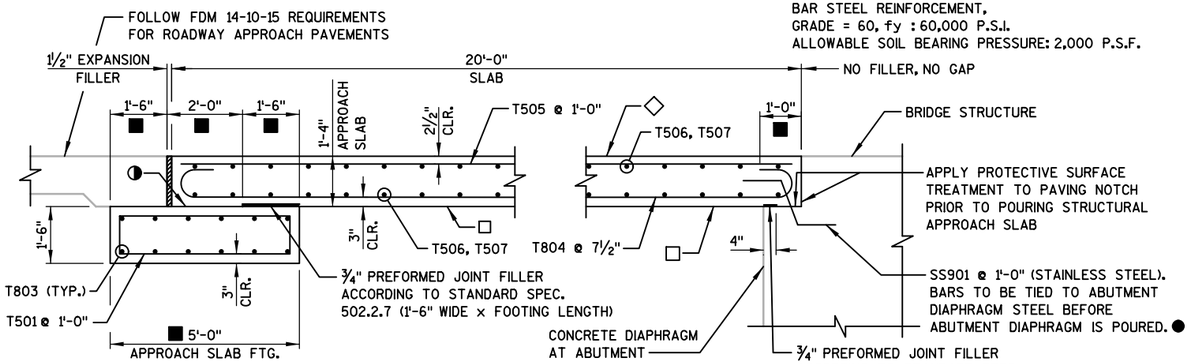
* FIELD CUT BARS AT NOTCH FOR THRIE BEAM POST AS NEEDED.

STAINLESS STEEL BILL OF BARS

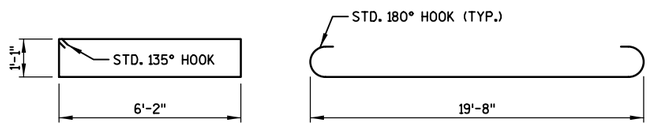
COATED: 2,310 LBS

MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
SS901	136	5'-0"	X		CONC. ABUT. DIAPH. TO APPROACH SLAB

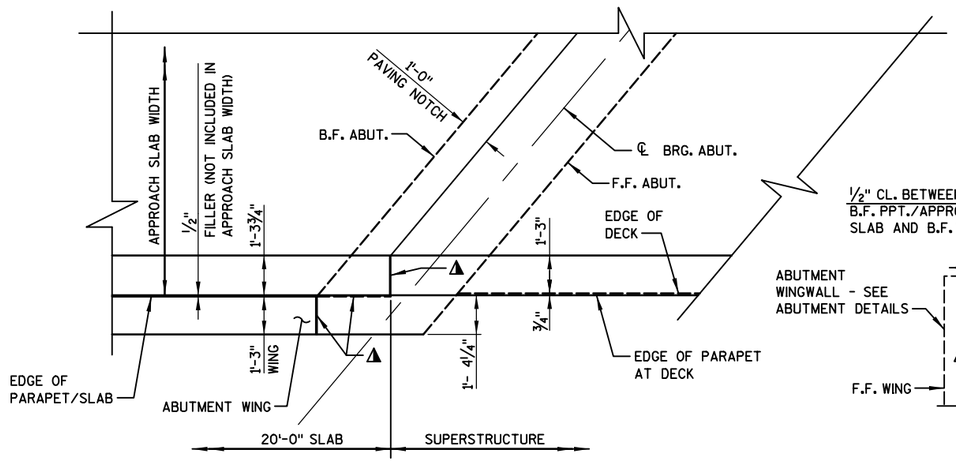
NUMBER OF BARS LISTED IN TABLE IS TOTAL REQUIRED FOR WEST AND EAST STRUCTURAL APPROACH SLABS.



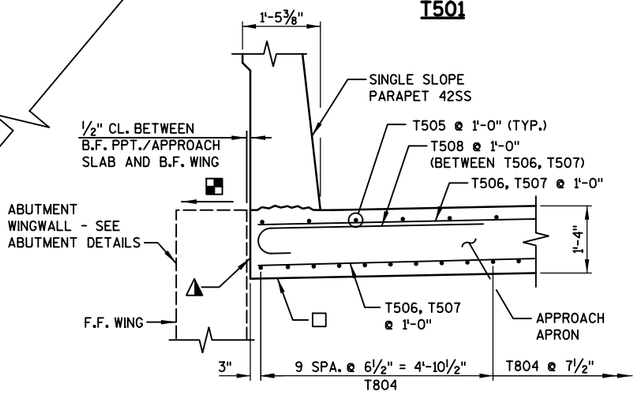
SECTION A-A



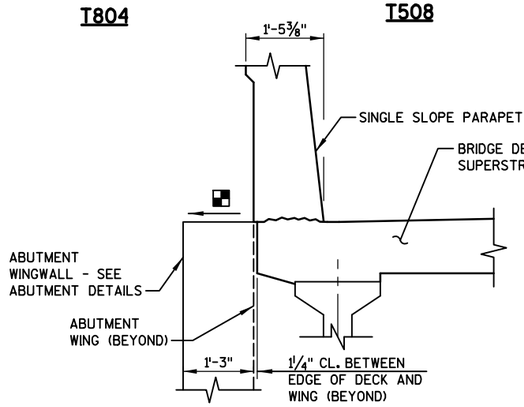
T501 T804 T508 SS901



APPROACH SLAB PARTIAL PLAN



SECTION B-B



SECTION C-C

LEGEND

- ◭ SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE).
- ◑ STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE TOP OF FOOTING.
- □ PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE TOP OF SUBGRADE BENEATH SLAB.
- ◇ COAT WITH "PROTECTIVE SURFACE TREATMENT" AS PER THE STANDARD SPECIFICATIONS.

  ADJUST SS901 SPACING AS NECESSARY TO AVOID CONFLICTS WITH PRESTRESSED GIRDERS.
- ■ MEASURED NORMAL TO ABUTMENT.
- ◪ SLOPE TO DRAIN.
- ◪ BAR WITH COUPLER, SEE DETAILS ON "SUPERSTRUCTURE DETAILS - 2" SHEET.

DESIGN DATA

CONCRETE STRENGTH, f'c: 4,000 P.S.I.
BAR STEEL REINFORCEMENT,
GRADE = 60, fy : 60,000 P.S.I.
ALLOWABLE SOIL BEARING PRESSURE: 2,000 P.S.F.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-187

DRAWN BY DTH | PLANS CK'D. KRB

STRUCTURAL APPROACH SLAB

SHEET 20
166

STATE PROJECT NUMBER
1067-02-76

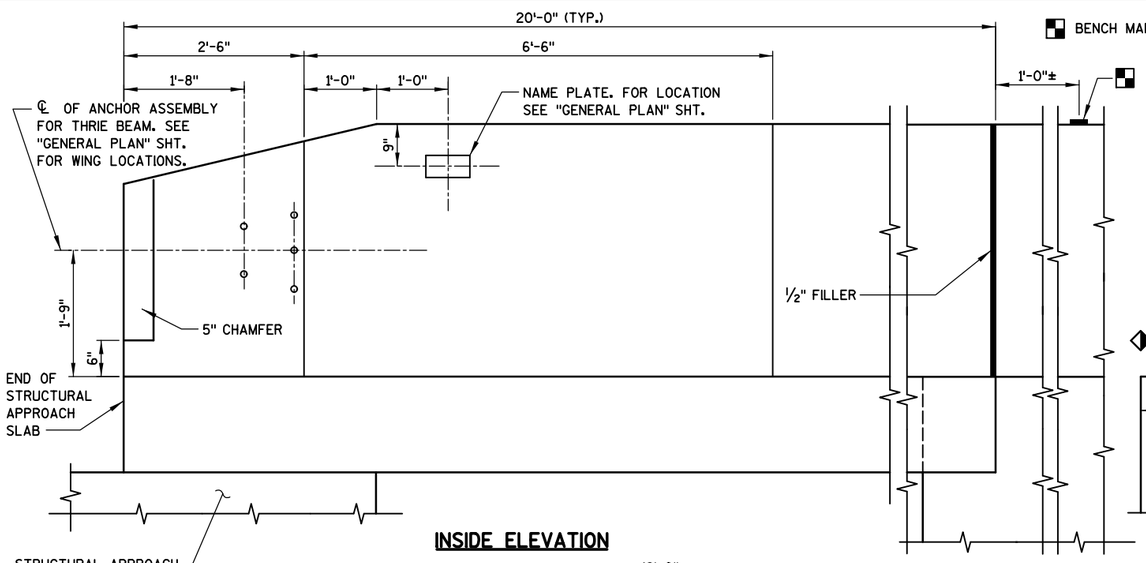
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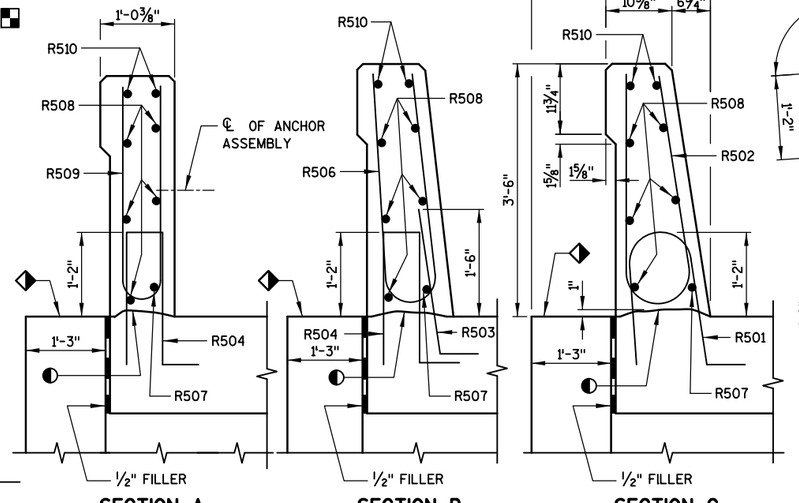
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STATE PROJECT NUMBER

1067-02-76



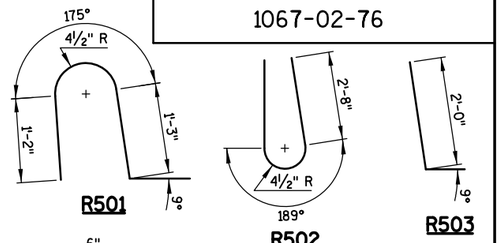
INSIDE ELEVATION

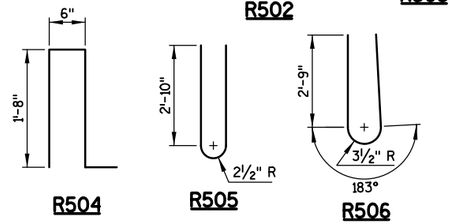


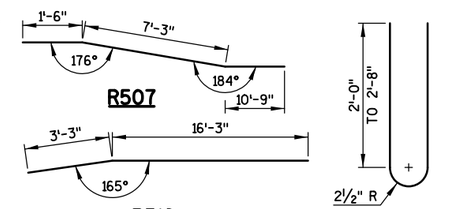
SECTION A

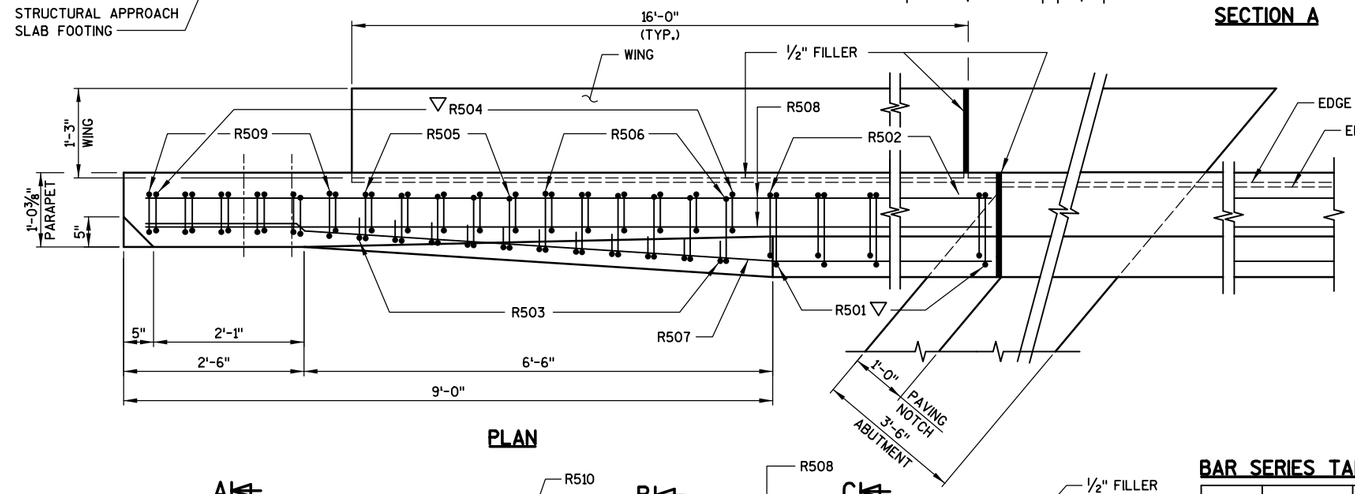
SECTION B

SECTION C

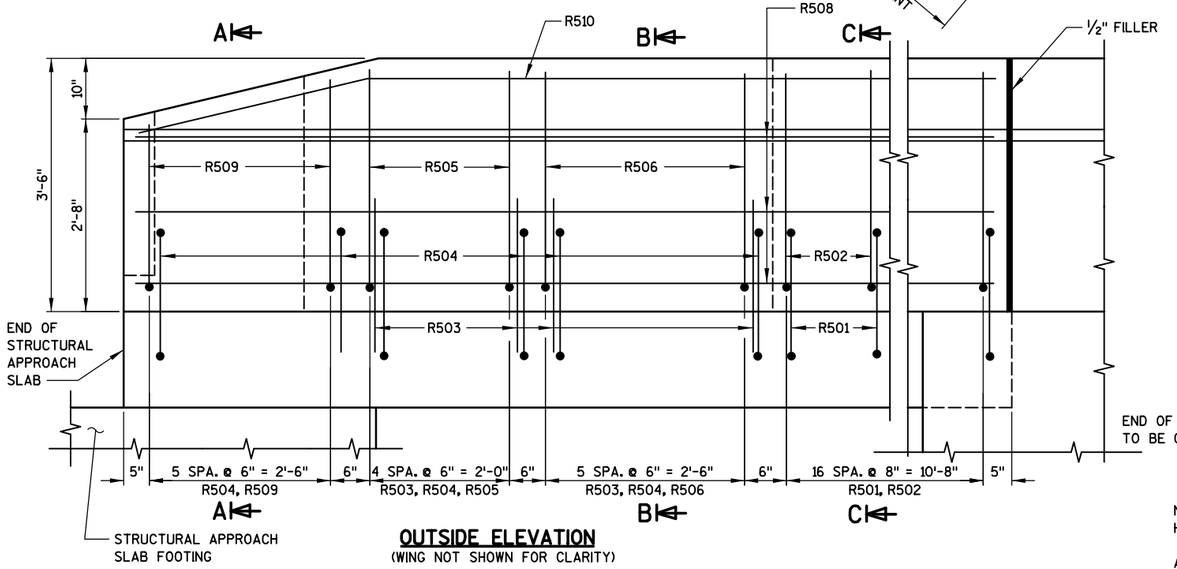








PLAN



OUTSIDE ELEVATION
(WING NOT SHOWN FOR CLARITY)

SINGLE SLOPE PARAPET 42SS
BILL OF BARS

COATED: 2,300 LBS

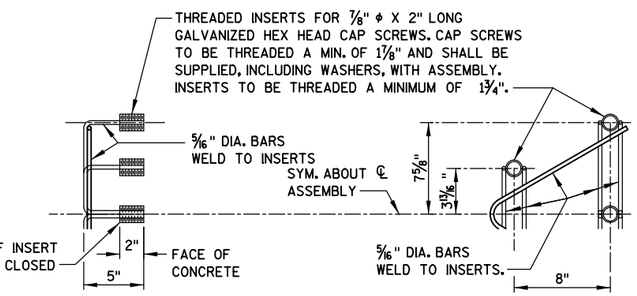
MARK	NO. REQ'D W. APPROACH	NO. REQ'D E. APPROACH	LENGTH	BENT	COAT	BAR SERIES	LOCATION
R501	34	34	4'-5"	X	X		PARAPET - VERT.
R502	34	34	6'-8"	X	X		PARAPET - VERT.
R503	22	22	2'-9"	X	X		PARAPET - VERT.
R504	34	34	4'-4"	X	X		PARAPET - VERT.
R505	10	10	6'-5"	X	X		PARAPET - VERT.
R506	12	12	6'-6"	X	X		PARAPET - VERT.
R507	2	2	19'-6"	X	X		PARAPET - HORIZ.
R508	10	10	19'-6"		X		PARAPET - HORIZ.
R509	12	12	5'-5"	X	X	⚠	PARAPET - VERT.
R510	4	4	19'-6"	X	X		PARAPET - HORIZ.

⚠ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
R509	4 SERIES OF 6	4'-9" TO 6'-1"

BUNDLE AND TAG EACH SERIES SEPARATELY.



DETAIL OF ANCHOR ASSEMBLY

NOTE:
HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY BID ITEM SHALL BE "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

LEGEND

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

◆ SLOPE FOR DRAINAGE

▽ R501, R503, AND R504 BARS TO BE TIED TO STRUCTURAL APPROACH SLAB STEEL BEFORE STRUCTURAL APPROACH SLAB IS POURED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-187

DRAWN BY DTH | PLANS CK'D. KRB

SINGLE SLOPE PARAPET 42SS W/ STRUC. APP. SLAB

SHEET 21
167

8

8

FILE NAME : S:\MAD\1000--1099\1089\399\Micros\Plan\080121_sp.dgn

IH 94 - STAGE 1 PHASE 2

IH 94		AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)		
STATION	DISTANCE	CUT	UNUSABLE PAVEMENT MATERIAL	FILL	EBS	CUT NOTE 1	UNUSABLE PAVEMENT MATERIAL NOTE 2	FILL NOTE 2	EBS	CUT 1.00 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 3
1236+82.59	0	9.4	0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0
1237+00.00	17	8.8	0	0.0	0.4	5.9	0.0	0.0	0.3	5.9	0.0	6
1238+00.00	100	7.1	0	0.0	0.4	29.4	0.0	0.0	1.5	35.3	0.0	35
1239+00.00	100	6.5	0	0.0	0.3	25.2	0.0	0.0	1.3	60.5	0.0	61
1240+00.00	100	10.4	0	0.0	0.5	31.4	0.0	0.0	1.6	91.9	0.0	92
1241+00.00	100	15.5	0	0.0	0.8	48.1	0.0	0.0	2.4	140.0	0.0	140
1242+00.00	100	18.7	0	0.0	0.9	63.4	0.0	0.0	3.2	203.4	0.0	203
1243+00.00	100	11.8	0	0.5	0.6	56.4	0.0	0.9	2.8	259.8	1.1	259
1244+00.00	100	12.3	0	1.6	0.6	44.6	0.0	3.9	2.2	304.4	5.9	299
1245+00.00	100	12.4	0	5.7	0.6	45.7	0.0	13.5	2.3	350.2	22.8	327
1246+00.00	100	16.0	0	0.0	0.8	52.5	0.0	10.6	2.6	402.7	36.1	367
1247+00.00	100	13.9	0	13.4	0.7	55.4	0.0	24.9	2.8	458.1	67.2	391
1248+00.00	100	11.6	0	10.1	0.6	47.2	0.0	43.6	2.4	505.3	121.7	384
1249+00.00	100	11.9	0	14.2	0.6	43.4	0.0	45.0	2.2	548.7	178.0	371
1250+00.00	100	11.4	0	13.3	0.6	43.2	0.0	50.9	2.2	591.9	241.6	350
1251+00.00	100	10.9	0	21.8	0.5	41.3	0.0	65.0	2.1	633.1	322.8	310
1252+00.00	100	10.0	0	35.5	1,054.5	38.6	0.0	106.1	1,953.8	671.8	455.5	216
1253+00.00	100	8.5	0	40.0	940.5	34.2	0.0	139.9	3,694.4	705.9	630.4	75
1254+00.00	100	9.7	0	41.9	841.0	33.6	0.0	151.8	3,299.1	739.5	820.2	-81
1254+81.09	81	20.2	0	67.8	746.5	44.8	0.0	164.8	2,383.9	784.4	1,026.2	-242
1255+00.00	19	18.5	0	41.9	699.0	13.5	0.0	38.4	506.2	797.9	1,074.2	-276
1255+06.00	6	18.0	0	64.5	676.0	4.1	0.0	11.8	152.8	802.0	1,088.9	-287
1255+31.00	25	19.0	0	37.7	572.5	17.1	0.0	47.4	578.0	819.1	1,148.1	-329
1256+00.00	69	18.5	0	43.2	486.0	47.9	0.0	103.4	1,352.5	867.0	1,277.4	-410
1257+00.00	100	22.7	0	39.5	360.5	76.3	0.0	153.1	1,567.6	943.3	1,468.8	-525
1257+74.00	74	50.0	0	14.4	331.5	99.6	0.0	73.9	948.3	1,042.9	1,561.2	-518
				COLUMN TOTALS		1,042.9	0.0	1,248.9	16,468.3			

NOTES:

1) CUT: CUT INCLUDES UNUSABLE PAVEMENT MATERIAL
2) FILL: FILL DOES NOT INCLUDE UNUSABLE PAVEMENT MATERIAL
3) MASS ORDINATE = (CUT - UNUSABLE PAVEMENT MATERIAL) - (FILL * FILL FACTOR)

IH 94 - STAGE 1 PHASE 2

IH 94		AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)		
STATION	DISTANCE	CUT	UNUSABLE PAVEMENT MATERIAL	FILL	EBS	CUT NOTE 1	UNUSABLE PAVEMENT MATERIAL NOTE 2	FILL NOTE 2	EBS	CUT 1.00 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 3
1258+50.00	0	44.0	0	17.5	645.5	0.0	0.0	0.0	0.0	0.0	0.0	0
1259+00.00	50	19.9	0	28.6	619.5	59.1	0.0	42.6	1,171.3	59.1	53.3	6
1260+00.00	100	12.8	0	40.2	531.5	60.5	0.0	127.2	2,131.5	119.6	212.3	-93
1261+00.00	100	14.5	0	37.2	477.0	50.4	0.0	143.2	1,867.6	170.0	391.3	-221
1261+92.15	92	12.4	0	43.9	187.0	45.7	0.0	138.4	1,133.1	215.7	564.4	-349
1262+00.00	8	12.3	0	45.4	186.0	3.6	0.0	13.0	54.2	219.3	580.6	-361
1263+00.00	100	9.0	0	67.0	191.5	39.4	0.0	208.2	699.1	258.6	840.9	-582
1264+00.00	100	7.8	0	62.4	109.5	31.0	0.0	239.7	557.4	289.6	1,140.5	-851
1265+00.00	100	7.5	0	63.0	96.0	28.2	0.0	232.3	380.6	317.9	1,430.9	-1,113
1266+00.00	100	7.0	0	54.3	108.0	26.9	0.0	217.3	377.8	344.7	1,702.5	-1,358
1267+00.00	100	7.8	0	49.9	107.5	27.3	0.0	192.9	399.1	372.0	1,943.6	-1,572
1268+00.00	100	7.5	0	34.0	121.0	28.2	0.0	155.3	423.1	400.3	2,137.8	-1,738
1269+00.00	100	11.3	0	14.6	141.5	34.7	0.0	90.0	486.1	435.0	2,250.3	-1,815
1270+00.00	100	60.2	0	0.0	0.0	132.2	0.0	27.0	262.0	567.2	2,284.0	-1,717
1271+00.00	100	13.5	0	22.4	139.5	136.4	0.0	41.5	258.3	703.6	2,335.9	-1,632
1272+00.00	100	14.5	0	8.8	137.0	51.9	0.0	57.8	512.0	755.5	2,408.2	-1,653
1273+00.00	100	14.7	0	0.0	32.0	54.1	0.0	16.3	313.0	809.5	2,428.6	-1,619
1274+00.00	100	1.4	0	0.2	48.5	29.8	0.0	0.4	149.1	839.4	2,429.1	-1,590
1275+00.00	100	1.4	0	0.4	49.0	5.1	0.0	1.1	180.6	844.4	2,430.4	-1,586
1275+65.84	66	3.1	0	0.0	0.0	5.4	0.0	0.4	59.7	849.8	2,431.0	-1,581
				COLUMN TOTALS		849.8	0.0	1,944.8	11,415.6			

NOTES:

1) CUT: CUT INCLUDES UNUSABLE PAVEMENT MATERIAL
2) FILL: FILL DOES NOT INCLUDE UNUSABLE PAVEMENT MATERIAL
3) MASS ORDINATE = (CUT - UNUSABLE PAVEMENT MATERIAL) - (FILL * FILL FACTOR)

FILE NAME : S:\MAD\1000--1099\1089\399\ACAD\CIVIL3D\SHEETSPLAN\090101_EW.DWG
LAYOUT NAME - 090101_EW - 090101_EW
PLOT DATE : 6/19/2018 4:57 PM PLOT BY : GRIMME, SARA PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 49

IH 94 - STAGE 2

IH 94		AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)		
STATION	DISTANCE	CUT	UNUSABLE PAVEMENT MATERIAL	FILL	EBS	CUT NOTE 1	UNUSABLE PAVEMENT MATERIAL NOTE 2	FILL NOTE 2	EBS	CUT 1.00 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 3
1249+42.32	0	12.2	0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0
1250+00.00	58	11.6	0	4.6	0.6	25.4	0.0	4.9	1.3	25.4	6.1	19
1250+53.00	53	11.7	0	10.5	0.6	22.8	0.0	14.8	1.1	48.2	24.6	24
1250+78.00	25	11.1	0	11.7	0.6	10.5	0.0	10.3	0.5	58.7	37.4	21
1251+00.00	22	10.4	0	6.1	0.5	8.8	0.0	7.3	0.4	67.5	46.5	21
1251+03.00	3	10.3	0	5.4	0.5	1.2	0.0	0.6	0.1	68.6	47.3	21
1252+00.00	97	12.6	0	0.0	0.6	41.1	0.0	9.6	2.1	109.7	59.4	50
1253+00.00	100	12.0	0	7.7	0.6	45.4	0.0	14.2	2.3	155.1	77.1	78
1254+00.00	100	12.3	0	5.9	0.6	44.9	0.0	25.0	2.2	200.0	108.4	92
1255+00.00	100	11.2	0	28.9	0.6	43.5	0.0	64.4	2.2	243.5	188.9	55
1256+00.00	100	8.3	0	15.5	0.4	36.1	0.0	82.4	1.8	279.6	291.9	-12
1256+02.55	3	8.3	13	15.5	0.4	0.8	0.6	1.5	0.0	280.4	293.7	-14
1257+00.00	97	110.0	13	29.7	5.5	213.4	46.9	81.6	10.7	493.8	395.8	50
1257+20.00	20	109.9	13	48.9	5.5	81.4	9.6	29.1	4.1	575.2	432.2	86
				COLUMN TOTALS		575.2	57.2	345.7	28.8			

NOTES:

1) CUT: CUT INCLUDES UNUSABLE PAVEMENT MATERIAL
2) FILL: FILL DOES NOT INCLUDE UNUSABLE PAVEMENT MATERIAL
3) MASS ORDINATE = (CUT - UNUSABLE PAVEMENT MATERIAL) - (FILL * FILL FACTOR)

IH 94 - STAGE 2

IH 94		AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)		
STATION	DISTANCE	CUT	UNUSABLE PAVEMENT MATERIAL	FILL	EBS	CUT NOTE 1	UNUSABLE PAVEMENT MATERIAL NOTE 2	FILL NOTE 2	EBS	CUT 1.00 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 3
1258+10.26	0	105.3	0	17.4	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0
1258+40.69	0	105.3	13	17.4	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0
1259+00.00	90	110.4	13	0.0	5.5	355.7	28.8	38.4	17.8	355.7	48.1	279
1259+79.85	80	108.0	13	0.0	5.4	323.0	38.4	0.0	16.1	678.7	48.1	563
				COLUMN TOTALS		678.7	67.3	38.4	33.9			

NOTES:

1) CUT: CUT INCLUDES UNUSABLE PAVEMENT MATERIAL
2) FILL: FILL DOES NOT INCLUDE UNUSABLE PAVEMENT MATERIAL
3) MASS ORDINATE = (CUT - UNUSABLE PAVEMENT MATERIAL) - (FILL * FILL FACTOR)

IH 94 - STAGE 3

IH 94		AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)		
STATION	DISTANCE	CUT	UNUSABLE PAVEMENT MATERIAL	FILL	EBS	CUT NOTE 1	UNUSABLE PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS	CUT 1.00 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 3
1239+22.59	0	1.3	1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0
1240+00.00	77	1.4	1	0.0	0.1	3.8	1.4	0.0	0.2	3.8	0.0	2
1240+15.20	15	2.6	1	0.0	0.1	1.1	0.3	0.0	0.1	4.9	0.0	3
1241+00.00	85	4.2	1	0.0	0.2	10.7	2.7	0.0	0.5	15.6	0.0	11
1242+00.00	100	6.0	2	0.1	0.3	18.9	5.9	0.2	0.9	34.4	0.3	24
1243+00.00	100	8.8	3	0.0	0.4	27.5	8.7	0.2	1.4	61.9	0.6	42
1244+00.00	100	13.0	3	0.0	0.6	40.4	11.3	0.0	2.0	102.3	0.6	71
1245+00.00	100	18.3	4	0.0	0.9	57.9	13.7	0.0	2.9	160.2	0.6	116
1246+00.00	100	19.9	5	0.0	1.0	70.7	16.1	0.0	3.5	230.9	0.6	170
1247+00.00	100	27.9	6	0.0	1.4	88.6	18.9	0.0	4.4	319.4	0.6	240
1248+00.00	100	30.5	6	0.0	1.5	108.2	21.7	0.0	5.4	427.7	0.6	326
1249+00.00	100	35.3	7	0.0	1.8	121.9	24.3	0.0	6.1	549.6	0.6	424
1250+00.00	100	40.2	8	0.0	2.0	139.9	26.7	0.0	7.0	689.5	0.6	537
1250+77.56	78	45.7	8	0.0	2.3	123.3	21.5	0.0	6.2	812.9	0.6	639
1251+00.00	22	46.9	8	0.0	2.3	38.5	6.5	0.0	1.9	851.4	0.6	671
1251+40.31	40	50.9	8	0.0	2.5	73.0	12.2	0.0	3.7	924.4	0.6	732
1252+00.00	60	55.3	9	0.0	2.8	117.4	18.9	0.0	5.9	1,041.8	0.6	830
1253+00.00	100	37.7	7	0.0	1.9	172.2	29.3	0.0	8.6	1,214.0	0.6	973
1253+85.00	85	2.3	1	0.4	0.1	62.9	11.8	0.6	3.1	1,276.9	1.3	1,024
1253+92.59	8	1.7	0	2.6	0.1	0.6	0.1	0.4	0.0	1,277.5	1.8	1,024
				COLUMN TOTALS		1,277.5	252.0	1.5	63.9			

NOTES:

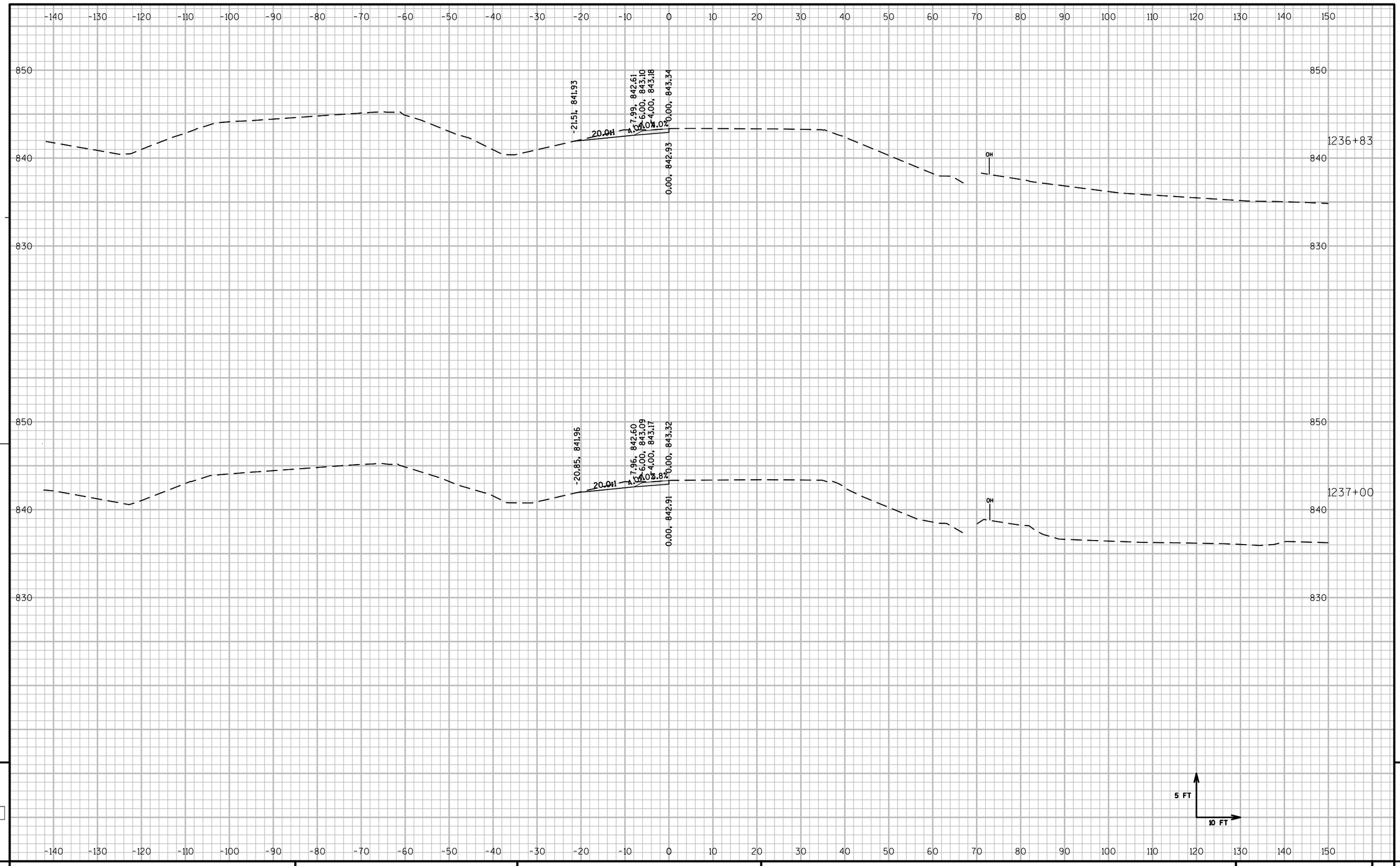
1) CUT: CUT INCLUDES UNUSABLE PAVEMENT MATERIAL
2) FILL: FILL DOES NOT INCLUDE UNUSABLE PAVEMENT MATERIAL
3) MASS ORDINATE = (CUT - UNUSABLE PAVEMENT MATERIAL) - (FILL * FILL FACTOR)

IH 94 - STAGE 3

IH 94		AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)		
STATION	DISTANCE	CUT	UNUSABLE PAVEMENT MATERIAL	FILL	EBS	CUT NOTE 1	UNUSABLE PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS	CUT 1.00 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 3
1258+79.84	0	2.2	0	41.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0
1259+00.00	20	5.5	2	22.1	0.3	2.9	0.6	23.8	0.1	2.9	29.7	-27
1260+00.00	100	59.5	9	0.0	3.0	120.3	20.0	40.8	6.0	123.2	80.8	22
1261+00.00	100	56.1	9	0.0	2.8	213.9	33.0	0.0	10.7	337.1	80.8	203
1261+58.85	59	57.4	9	0.0	2.9	123.6	18.7	0.0	6.2	460.8	80.8	308
1262+00.00	41	59.1	10	0.0	3.0	88.8	13.9	0.0	4.4	549.6	80.8	383
1262+04.30	4	59.9	10	0.0	3.0	9.5	1.5	0.0	0.5	559.0	80.8	391
1263+00.00	96	81.0	9	0.0	4.1	249.8	32.4	0.0	12.5	808.8	80.8	608
1263+24.30	24	91.7	9	0.0	4.6	77.7	7.9	0.0	3.9	886.5	80.8	678
1264+00.00	76	81.7	8	0.0	4.1	243.0	23.7	0.0	12.2	1,129.5	80.8	897
1265+00.00	100	66.7	8	0.0	3.3	274.7	28.9	0.0	13.7	1,404.2	80.8	1,143
1266+00.00	100	61.8	7	0.0	3.1	238.0	26.3	0.0	11.9	1,642.2	80.8	1,354
1267+00.00	100	49.3	6	0.0	2.5	205.8	23.5	0.0	10.3	1,848.0	80.8	1,537
1268+00.00	100	37.6	5	0.0	1.9	160.9	21.1	0.0	8.0	2,008.9	80.8	1,677
1269+00.00	100	26.7	5	0.0	1.3	118.9	19.4	0.0	5.9	2,127.8	80.8	1,776
1270+00.00	100	14.4	8	0.4	0.7	76.0	24.3	0.7	3.8	2,203.8	81.8	1,827
1271+00.00	100	13.7	3	0.0	0.7	51.9	20.9	0.7	2.6	2,255.7	82.7	1,857
1272+00.00	100	9.1	3	0.0	0.5	42.1	10.9	0.0	2.1	2,297.9	82.7	1,888
1273+00.00	100	6.1	2	0.0	0.3	28.2	8.3	0.0	1.4	2,326.1	82.7	1,908
1274+00.00	100	5.8	2	0.0	0.3	22.1	6.7	0.0	1.1	2,348.2	82.7	1,923
1274+57.64	58	5.7	2	0.0	0.3	12.2	3.6	0.0	0.6	2,360.4	82.7	1,932
1275+00.00	42	5.8	2	0.0	0.3	9.0	2.7	0.0	0.5	2,369.4	82.7	1,938
1275+65.84	66	4.0	2	0.0	0.2	11.9	4.1	0.0	0.6	2,381.3	82.7	1,946
				COLUMN TOTALS		2,381.3	352.5	66.2	119.1			

NOTES:

1) CUT: CUT INCLUDES UNUSABLE PAVEMENT MATERIAL
2) FILL: FILL DOES NOT INCLUDE UNUSABLE PAVEMENT MATERIAL
3) MASS ORDINATE = (CUT - UNUSABLE PAVEMENT MATERIAL) - (FILL * FILL FACTOR)

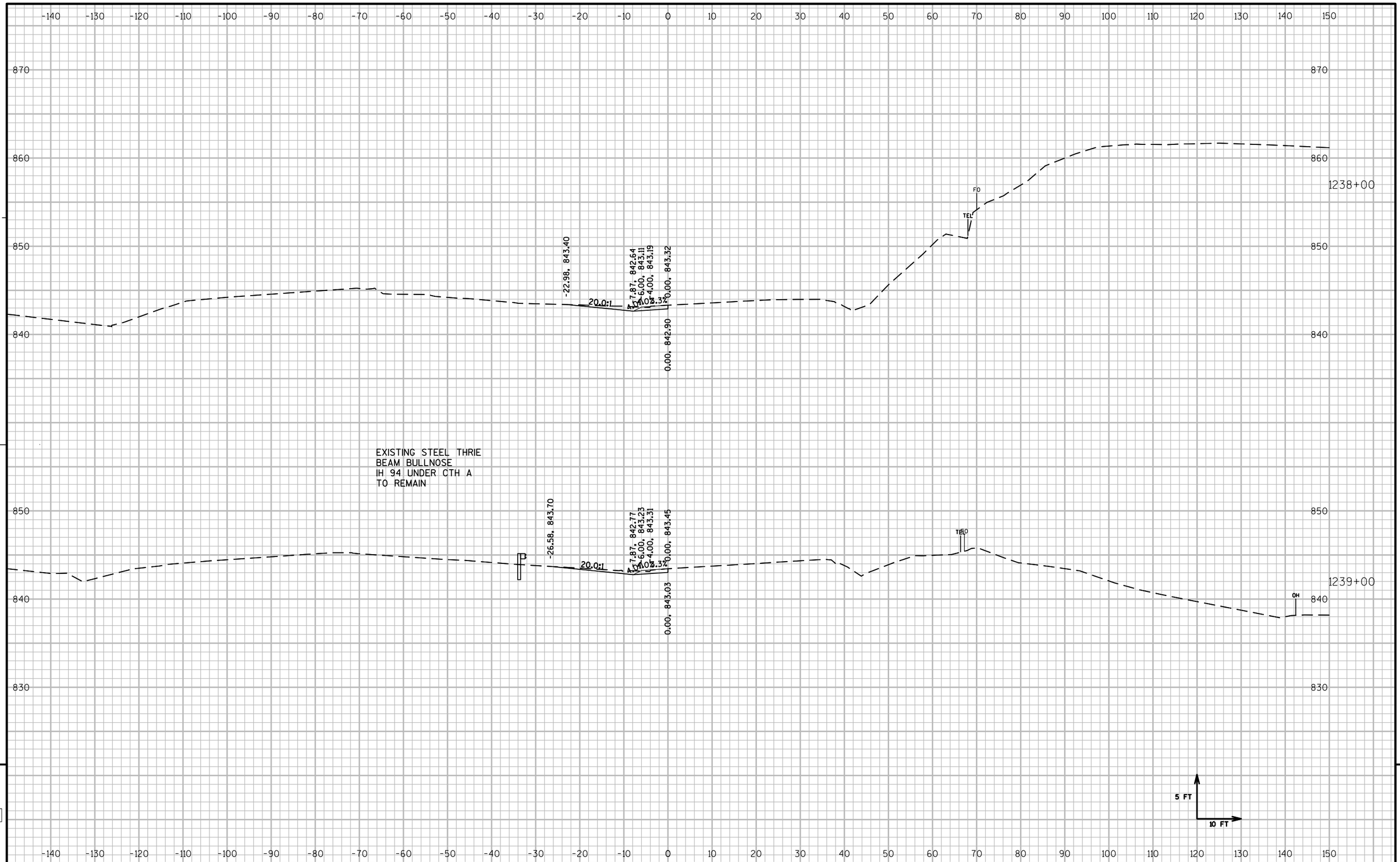


PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 1	SHEET 171	E

FILE NAME : S:\MAD\1000--1099\1089\399\ROADWAY\CROSS SECTIONS\090201_XS_EXPL FOR UTIL.DWG
LAYOUT NAME - 090201_XS - 090201_XS

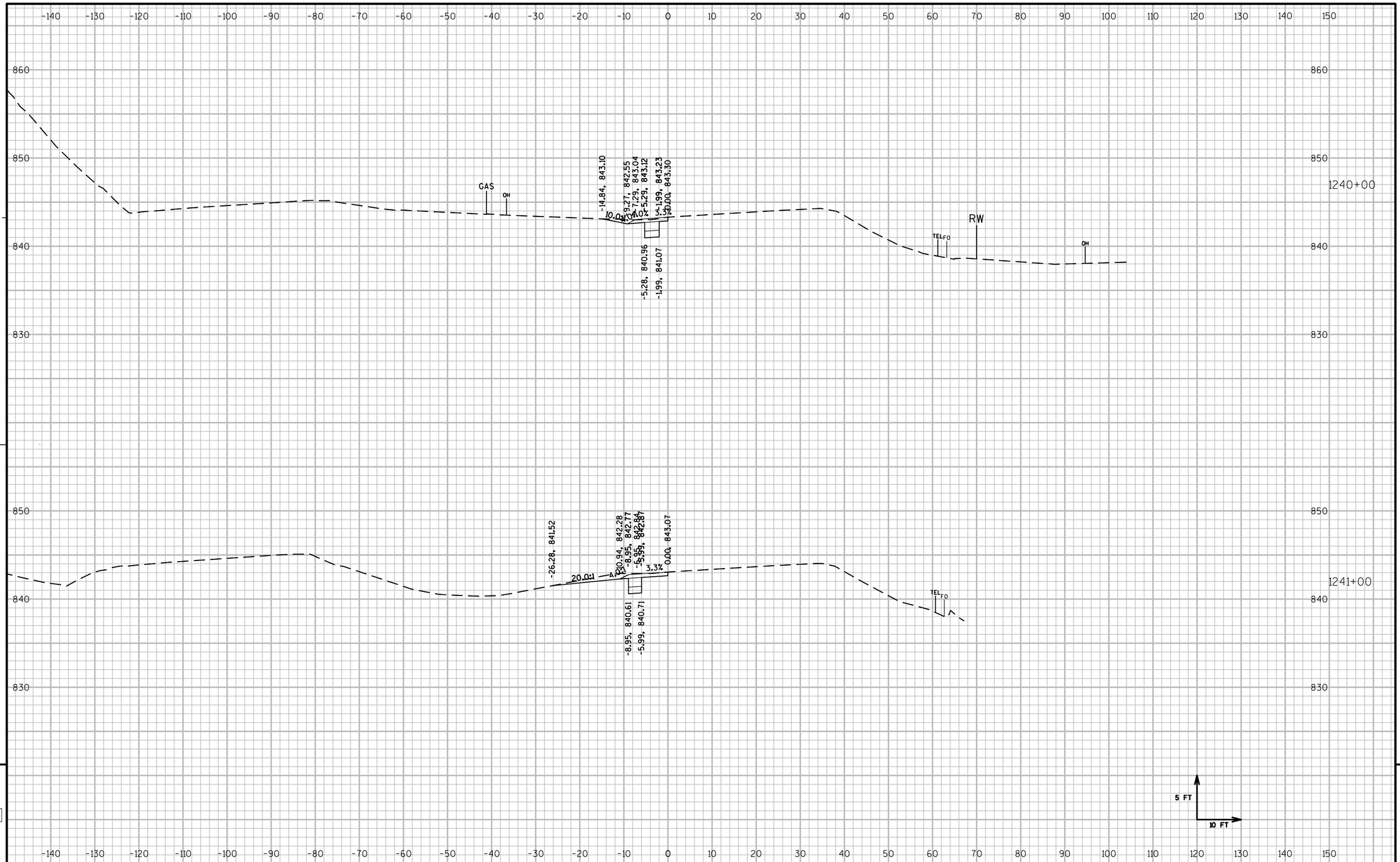
PLOT DATE : 5/12/2009 7:43:31 AM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49



PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 1	SHEET 172	E

FILE NAME : S:\MAD\1000--1099\1089\399\[illegible]\090201_XS - 090202_XS
LAYOUT NAME - 090201_XS - 090202_XS
PLOT DATE : [illegible] PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF
WISDOT/CADDS SHEET 49

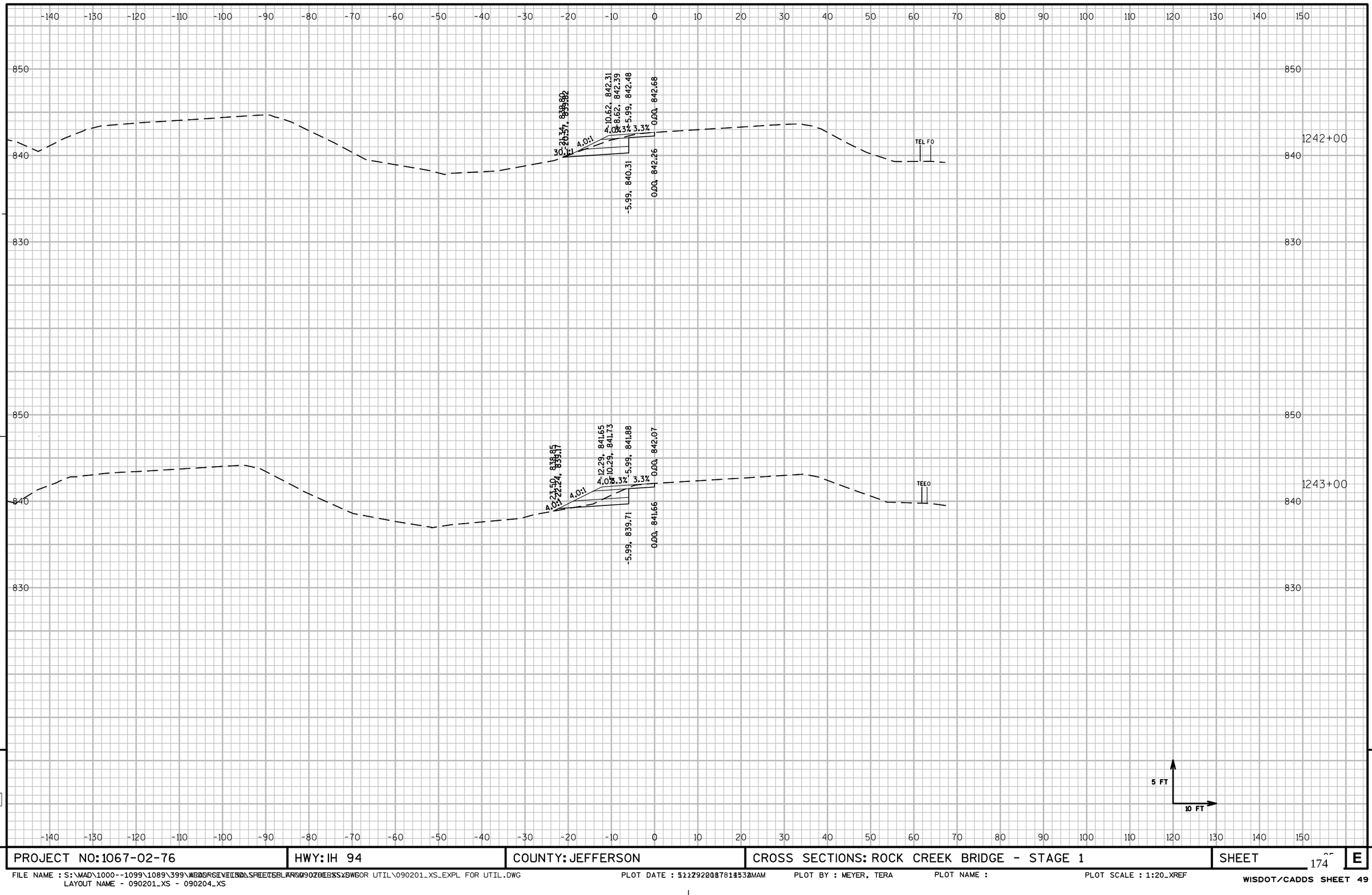


PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 1	SHEET 173	E

FILE NAME : S:\MAD\1000--1099\1089\399\WORKING\SHEETS\ROCK CREEK BRIDGE STAGE 1 FOR UTIL\090201_XS_EXPL FOR UTIL.DWG
LAYOUT NAME - 090201_XS - 090203_XS

PLOT DATE : 5/27/2008 7:15:32 AM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49

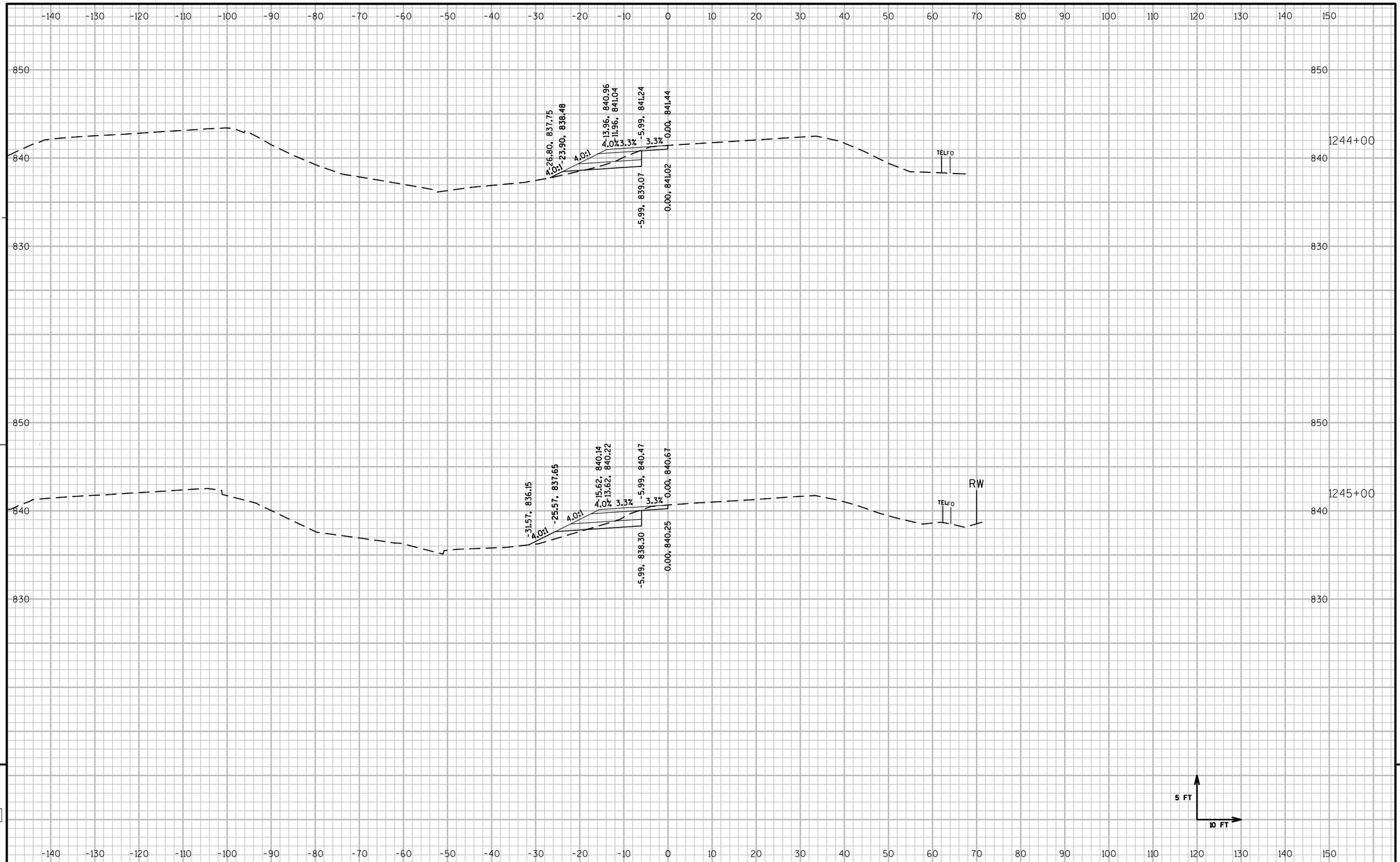


PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 1	SHEET 174	E

FILE NAME : S:\MAD\1000--1099\1089\399\WEBDGN\FINAL SHEETS AND XSECS\090201_XS_EXPL FOR UTIL.DWG
LAYOUT NAME - 090201_XS - 090204_XS

PLOT DATE : 5/12/2021 7:51:32 AM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49

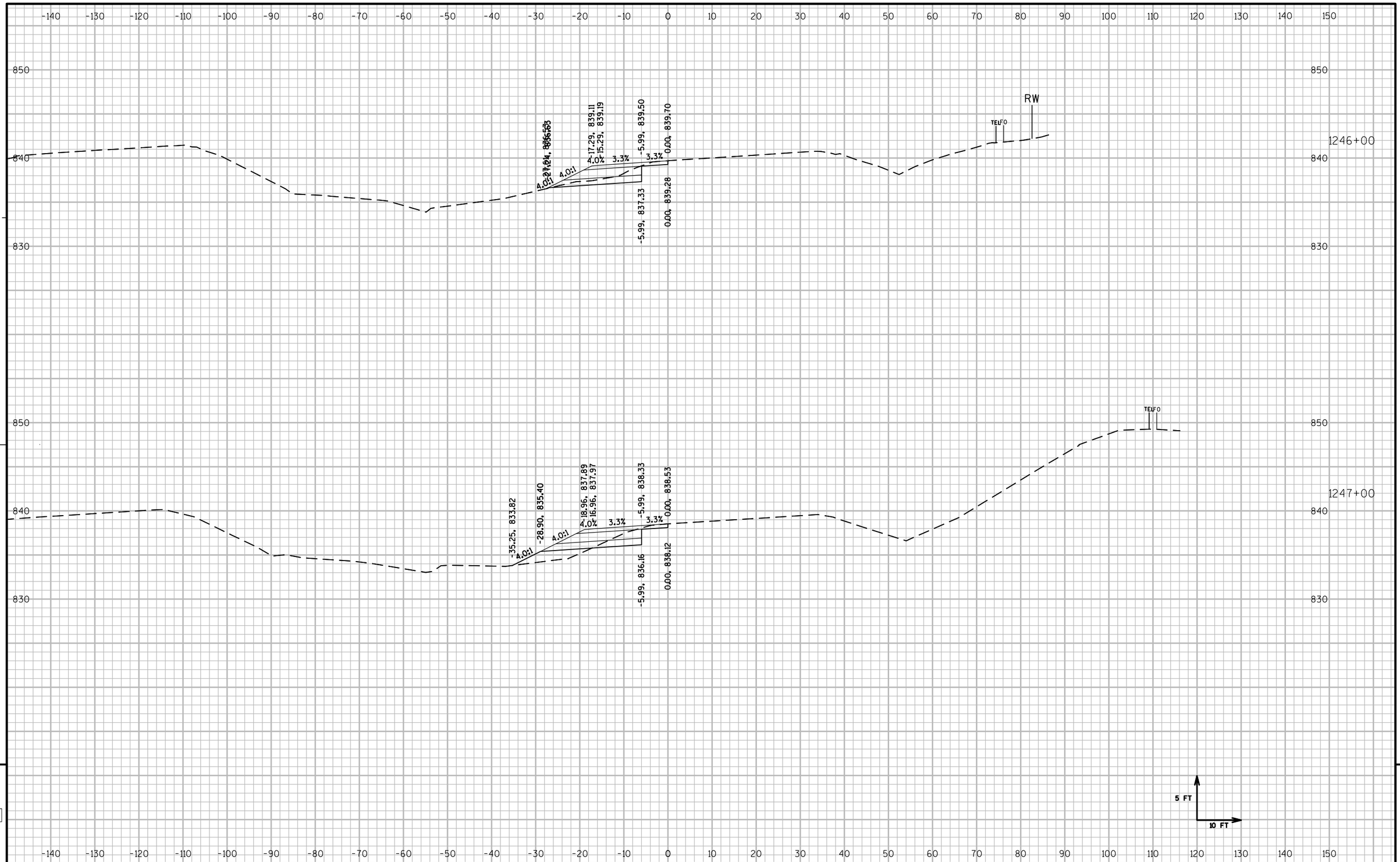


PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 1	SHEET 175	E

FILE NAME : S:\MAD\1000--1099\1089\399\[illegible]\090201_XS_EXPL FOR UTIL.DWG
LAYOUT NAME - 090201_XS - 090205_XS

PLOT DATE : [illegible] PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49

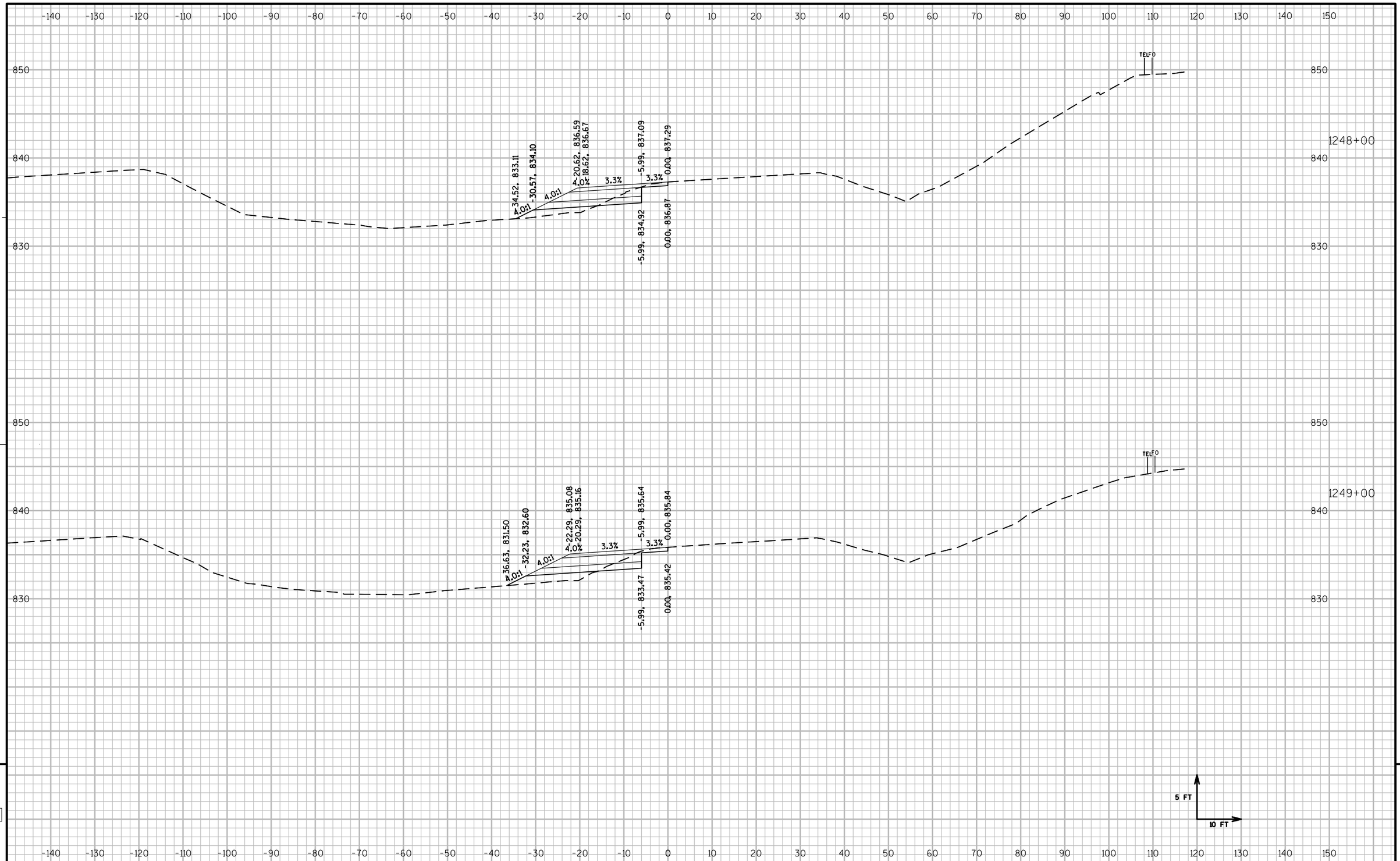


PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 1	SHEET 176	E

FILE NAME : S:\MAD\1000--1099\1089\399\WEBDGN\ELEVATION SHEETS AND CROSS SECTIONS FOR UTIL\090201_XS_EXPL FOR UTIL.DWG
LAYOUT NAME - 090201_XS - 090206_XS

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WISDOT/CADDS SHEET 49

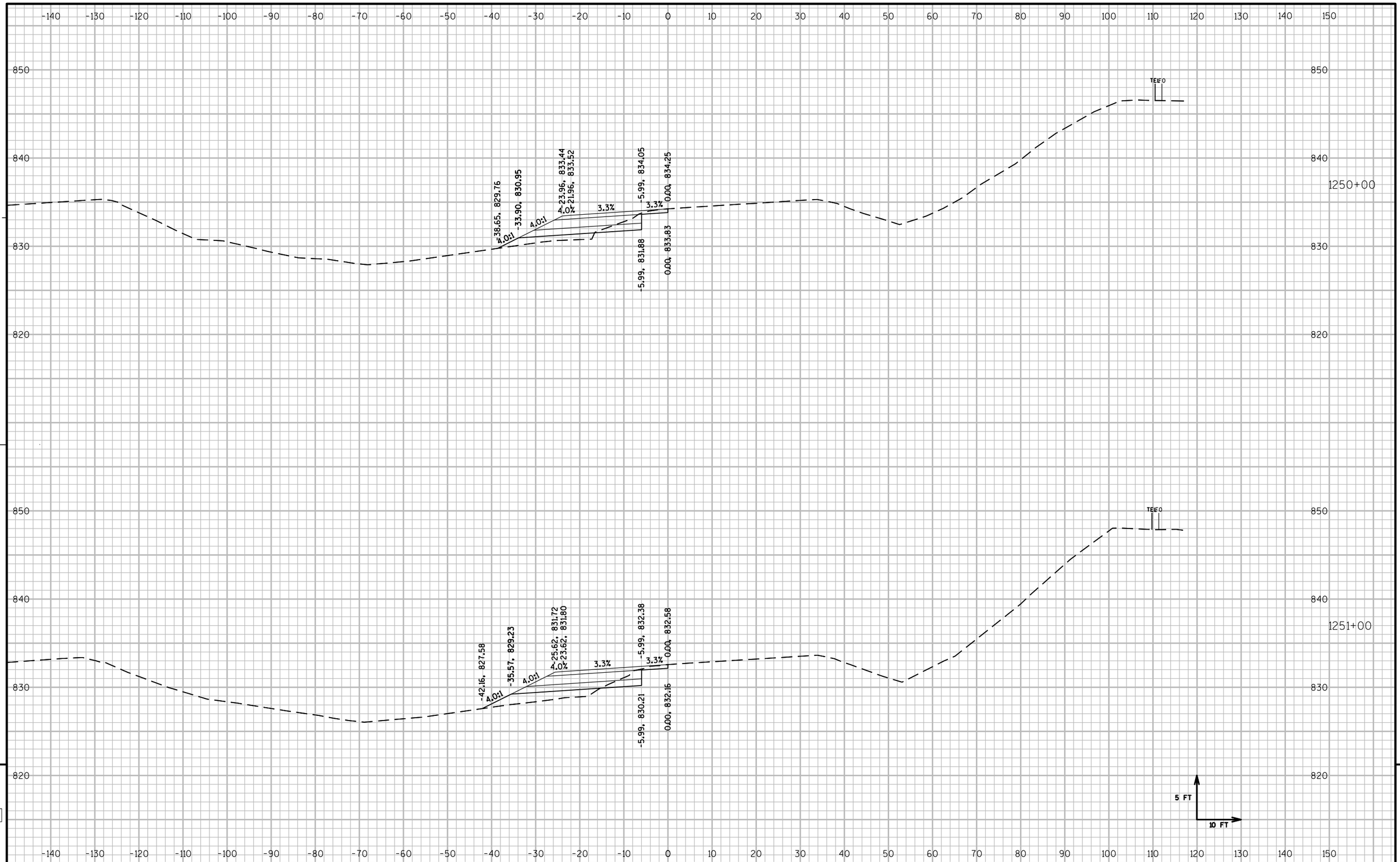


PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 1	SHEET 177	E

FILE NAME : S:\MAD\1000--1099\1089\399\[illegible]\090201_XS_EXPL FOR UTIL.DWG
LAYOUT NAME - 090201_XS - 090207_XS

PLOT DATE : [illegible] PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49

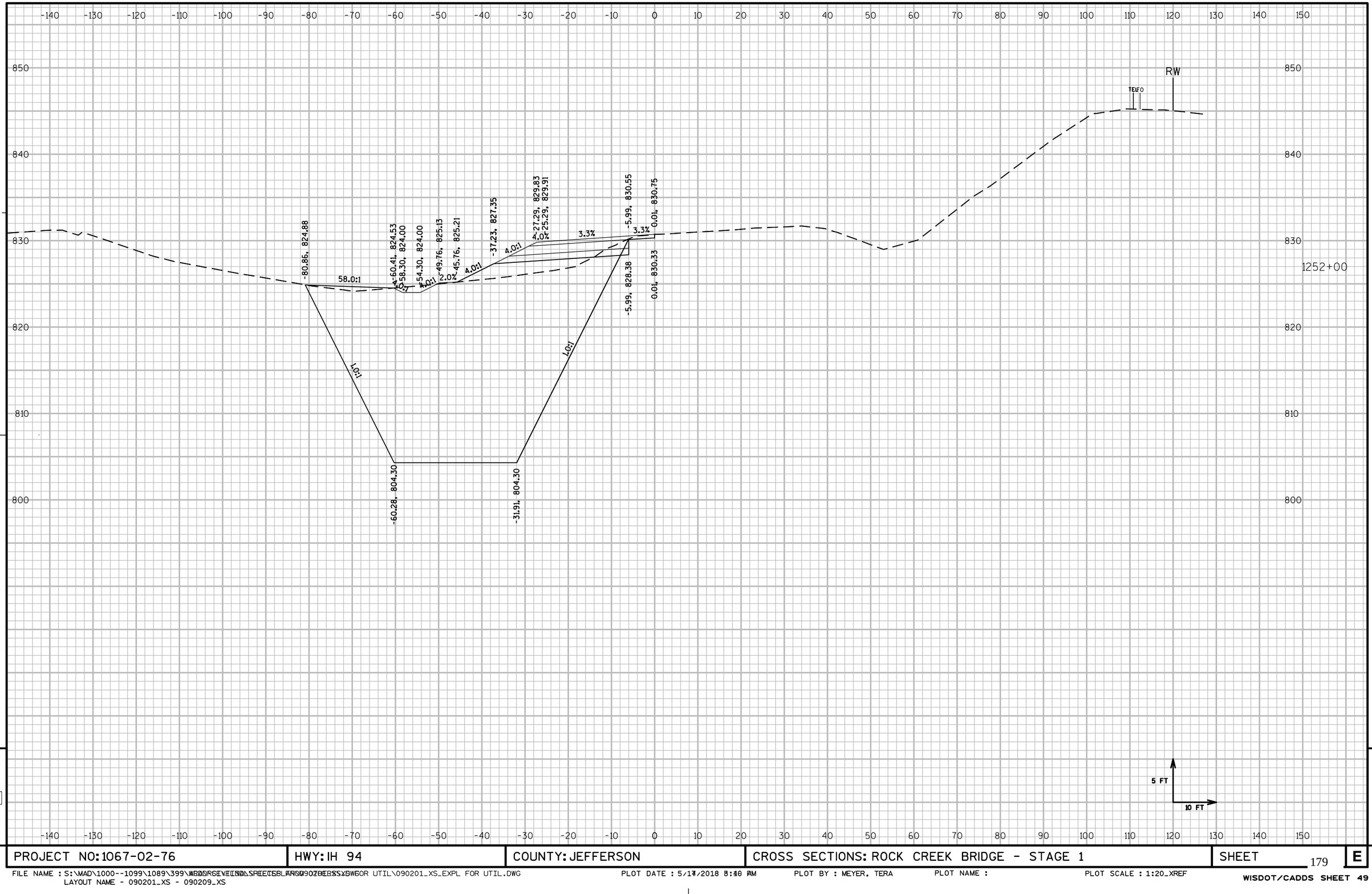


PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 1	SHEET 178	E

FILE NAME : S:\MAD\1000--1099\1089\399\[illegible]\090201_XS_EXPL FOR UTIL.DWG
LAYOUT NAME - 090201_XS - 090208_XS

PLOT DATE : [illegible] PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49

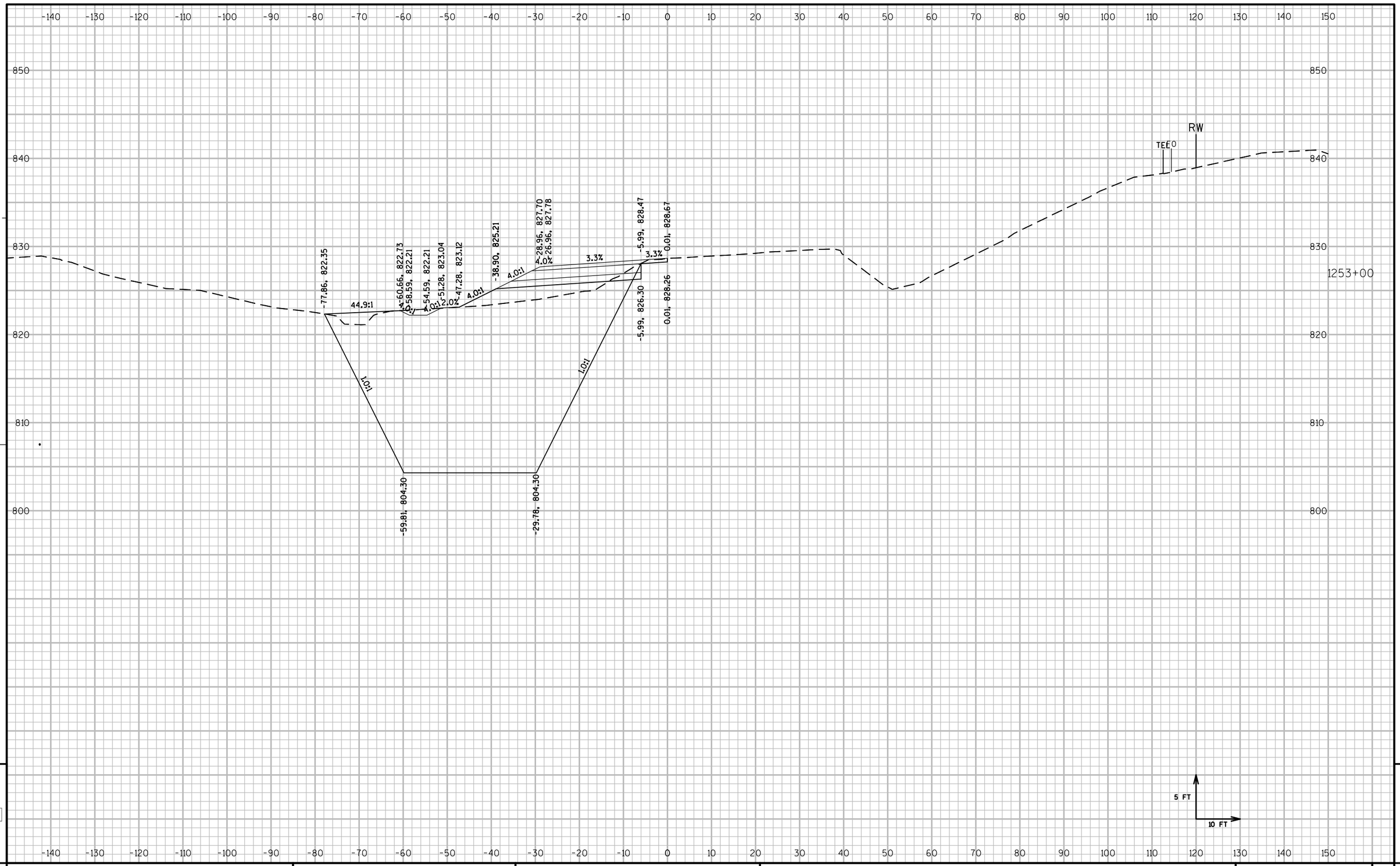


PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 1	SHEET	E

FILE NAME : S:\MAD\1000--1099\1089\399\WEBSERVICES\SHEETS\LAYOUTS\090201_XS_EXPL FOR UTIL.DWG
LAYOUT NAME - 090201_XS - 090209_XS

PLOT DATE : 5/17/2018 8:40 AM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

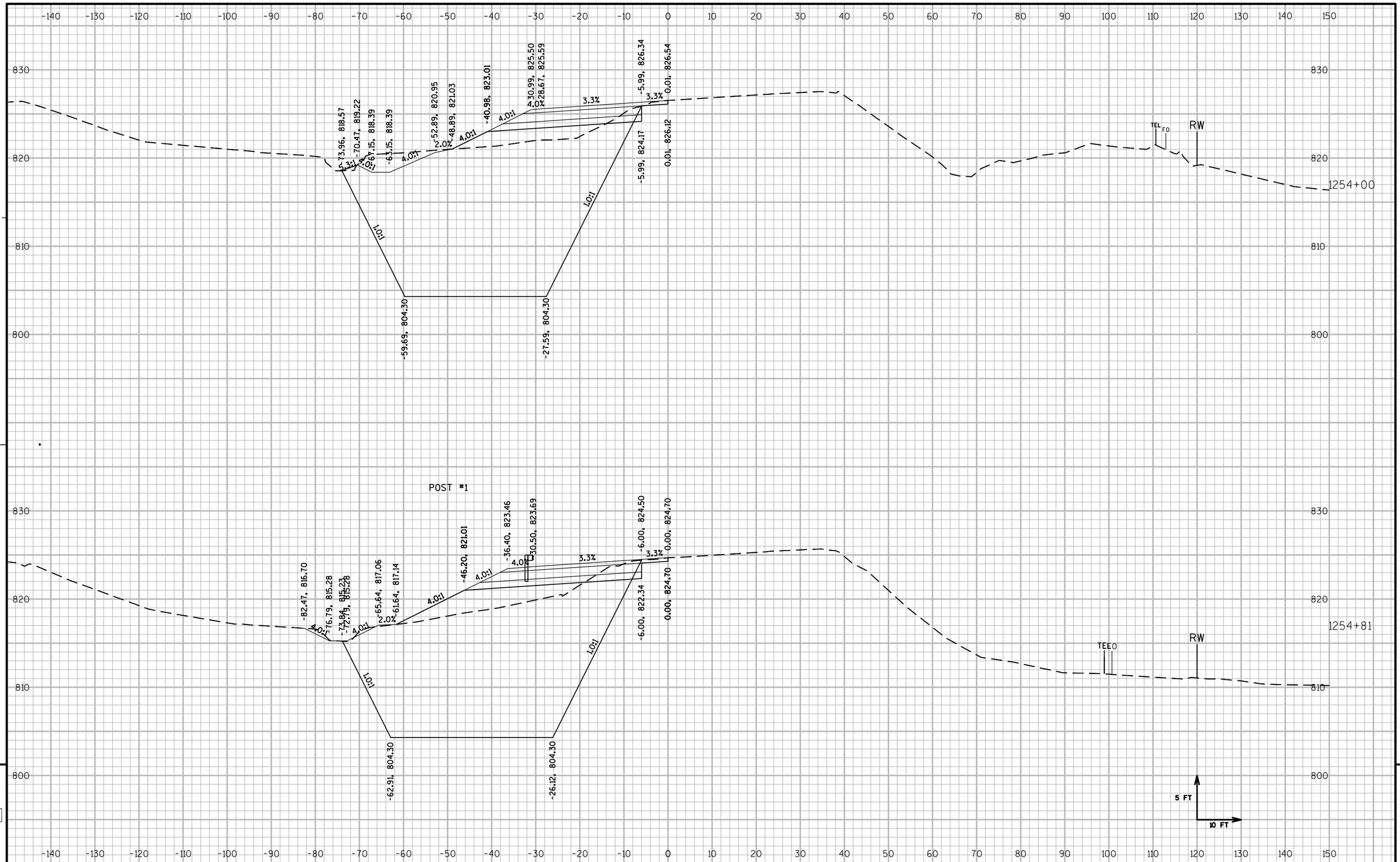
WISDOT/CADDS SHEET 49



PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 1	SHEET 180	E

FILE NAME : S:\MAD\1000--1099\1089\399\ACAD\CIVIL3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090201_XS - 090210_XS

PLOT DATE : 5/14/2018 3:10 PM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

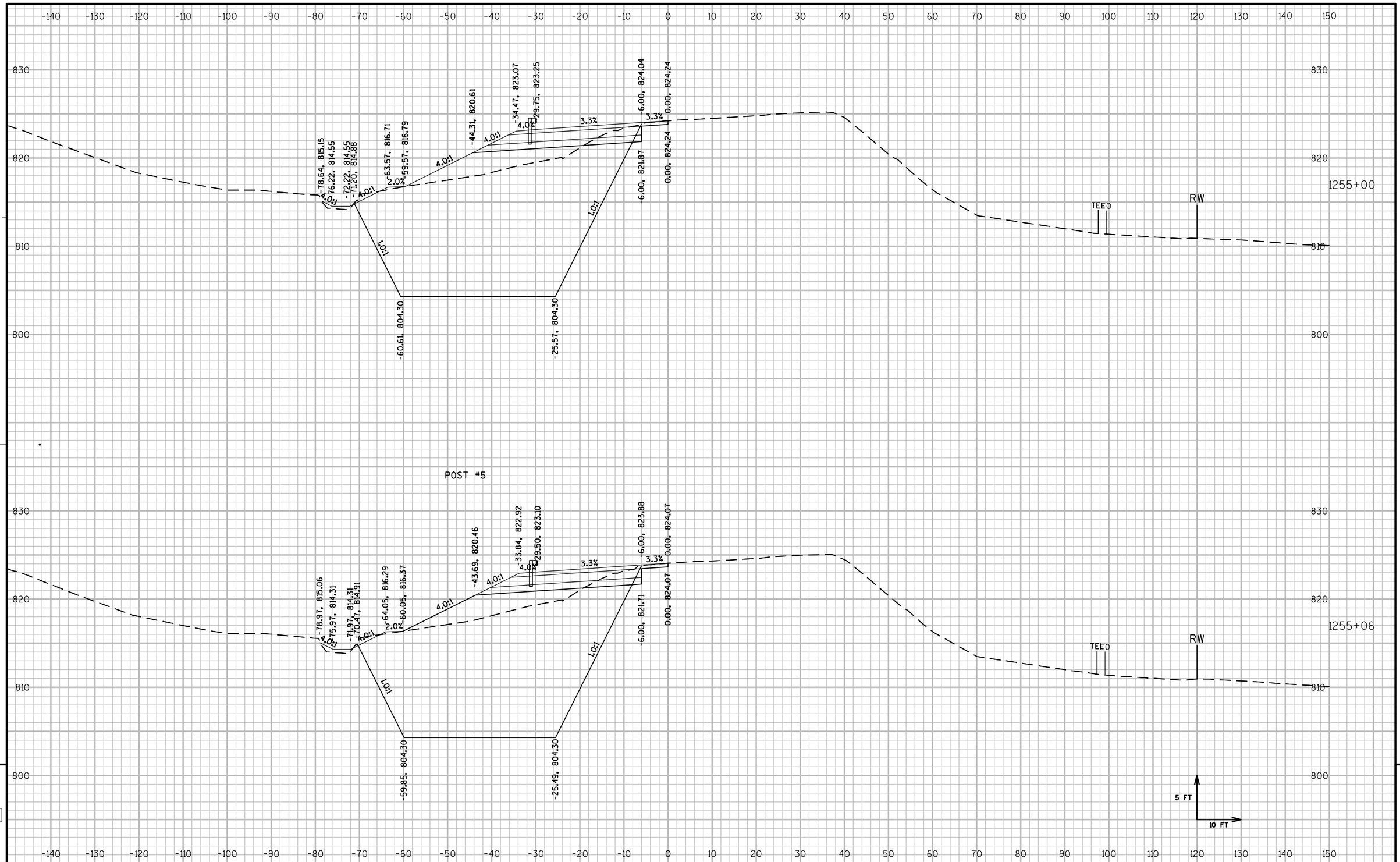


PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 1	SHEET 181	E

FILE NAME : S:\MAD\1000--1099\1089\399\[illegible]\090201_XS_EXPL FOR UTIL.DWG
LAYOUT NAME - 090201_XS - 090211_XS

PLOT DATE : 5/17/2018 8:10 AM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49

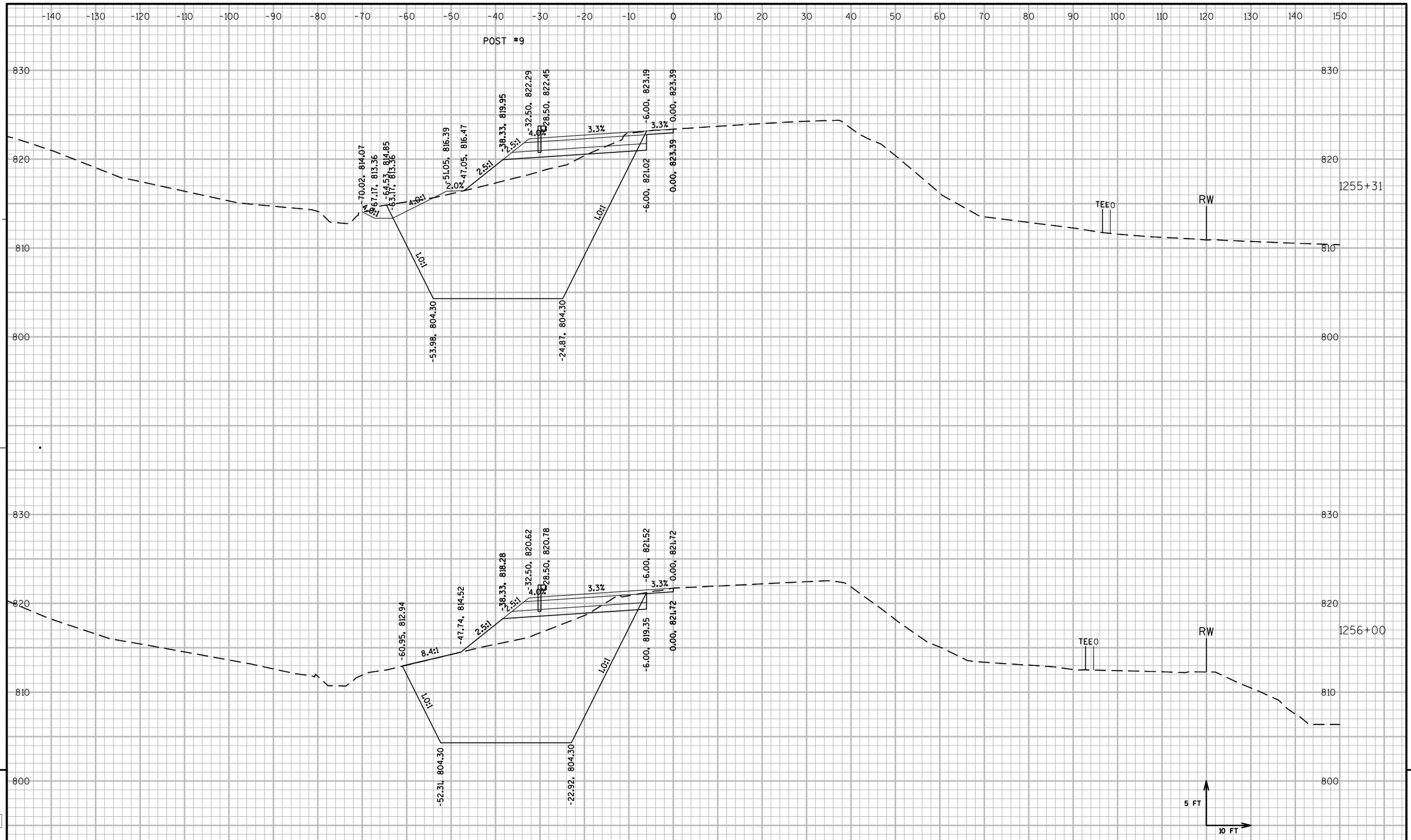


PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 1	SHEET 182 E

FILE NAME : S:\MAD\1000--1099\1089\399\ACAD\CIVIL3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090201_XS - 090212_XS

PLOT DATE : 5/14/2018 3:10 PM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49

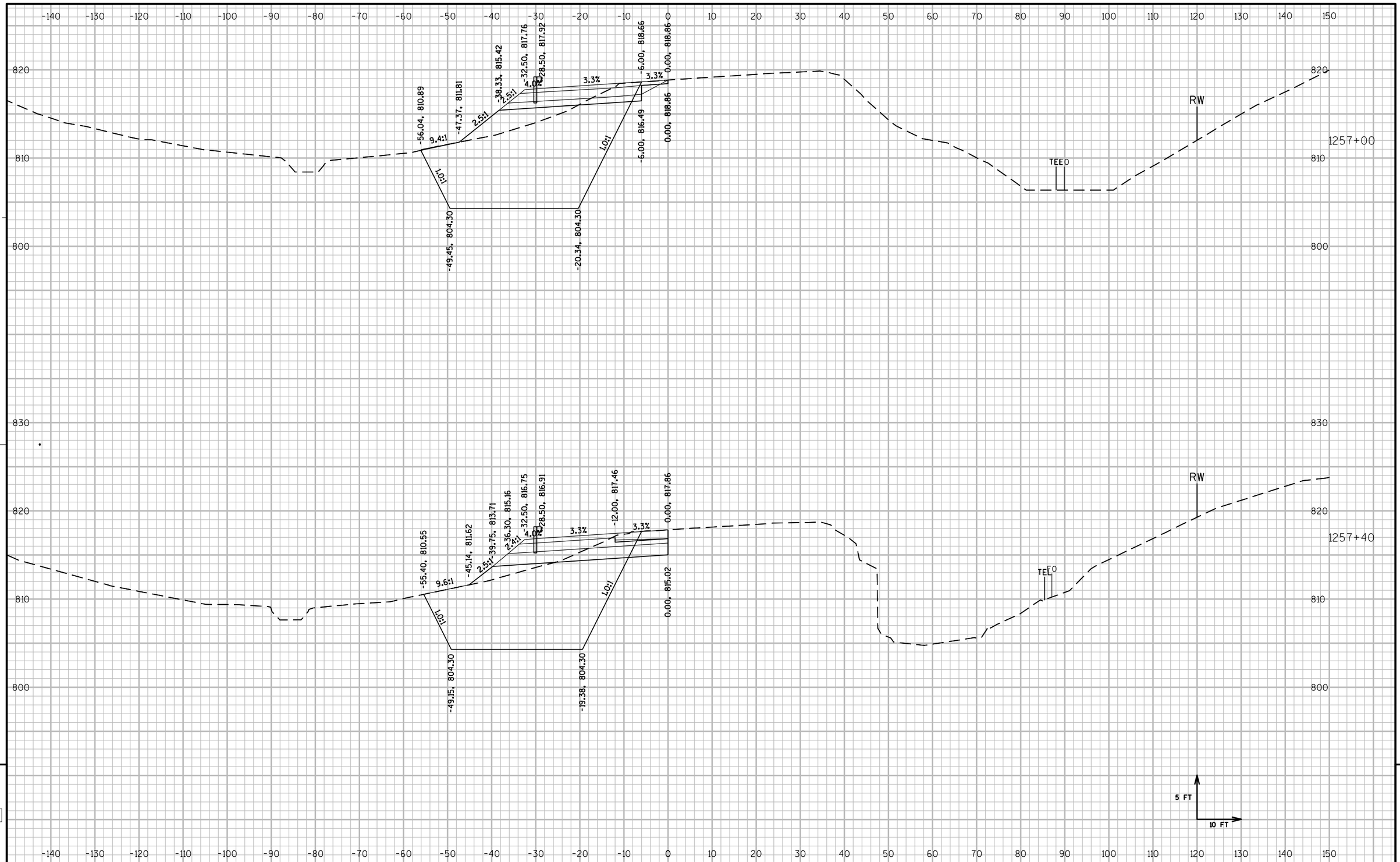


PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 1	SHEET 183	E

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LAYOUT NAME - 090201_XS - 090213_XS

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WISDOT/CADDS SHEET 49

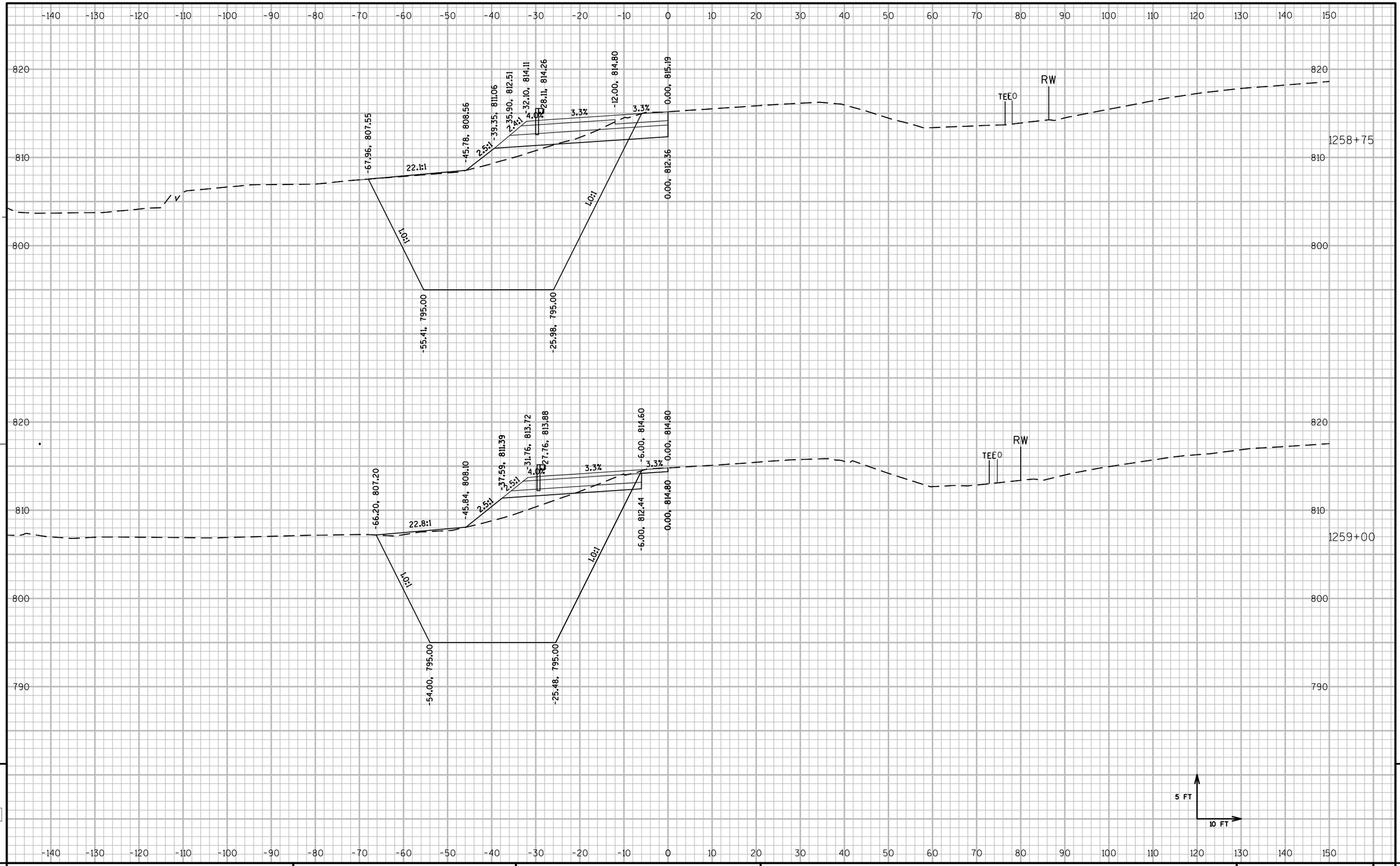


PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 1	SHEET 184	E

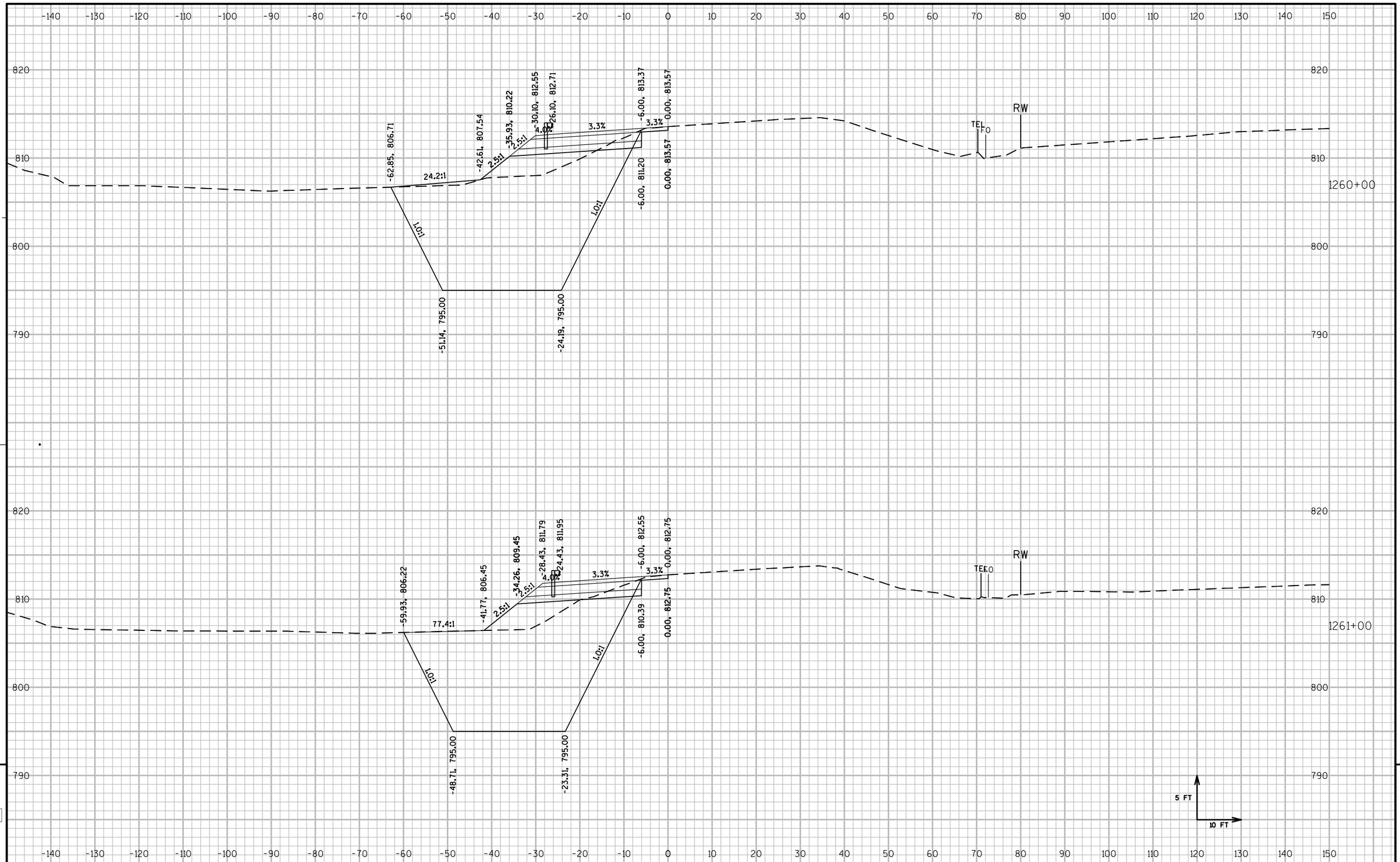
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LAYOUT NAME - 090201_XS - 090214_XS

PLOT DATE : 5/14/2018 3:10 PM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49



PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 1	SHEET 185	E

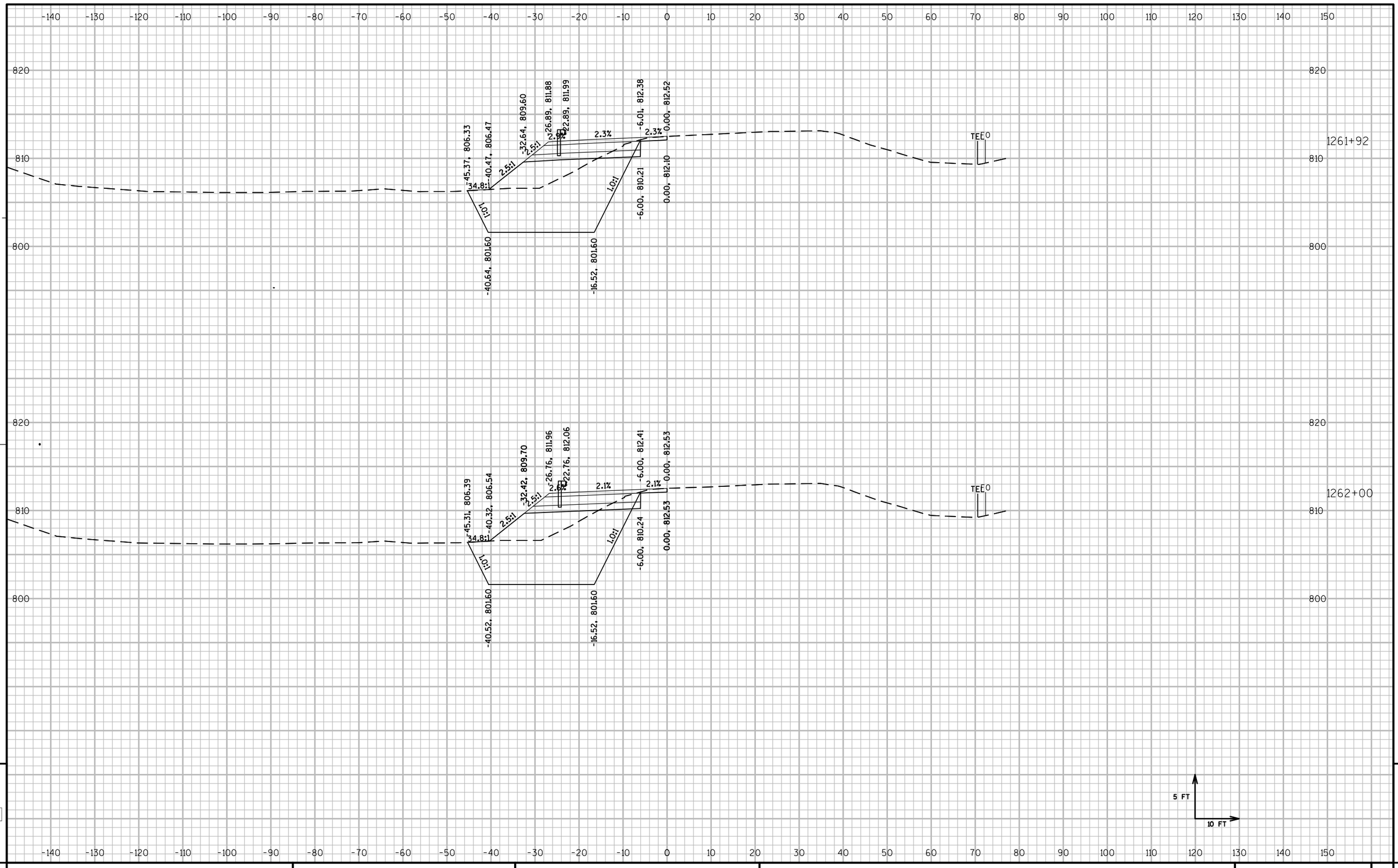


PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 1	SHEET 186	E

FILE NAME : S:\MAD\1000--1099\1089\399\ACAD\CIVIL3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090201_XS - 090216_XS

PLOT DATE : 5/14/2018 3:10 PM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

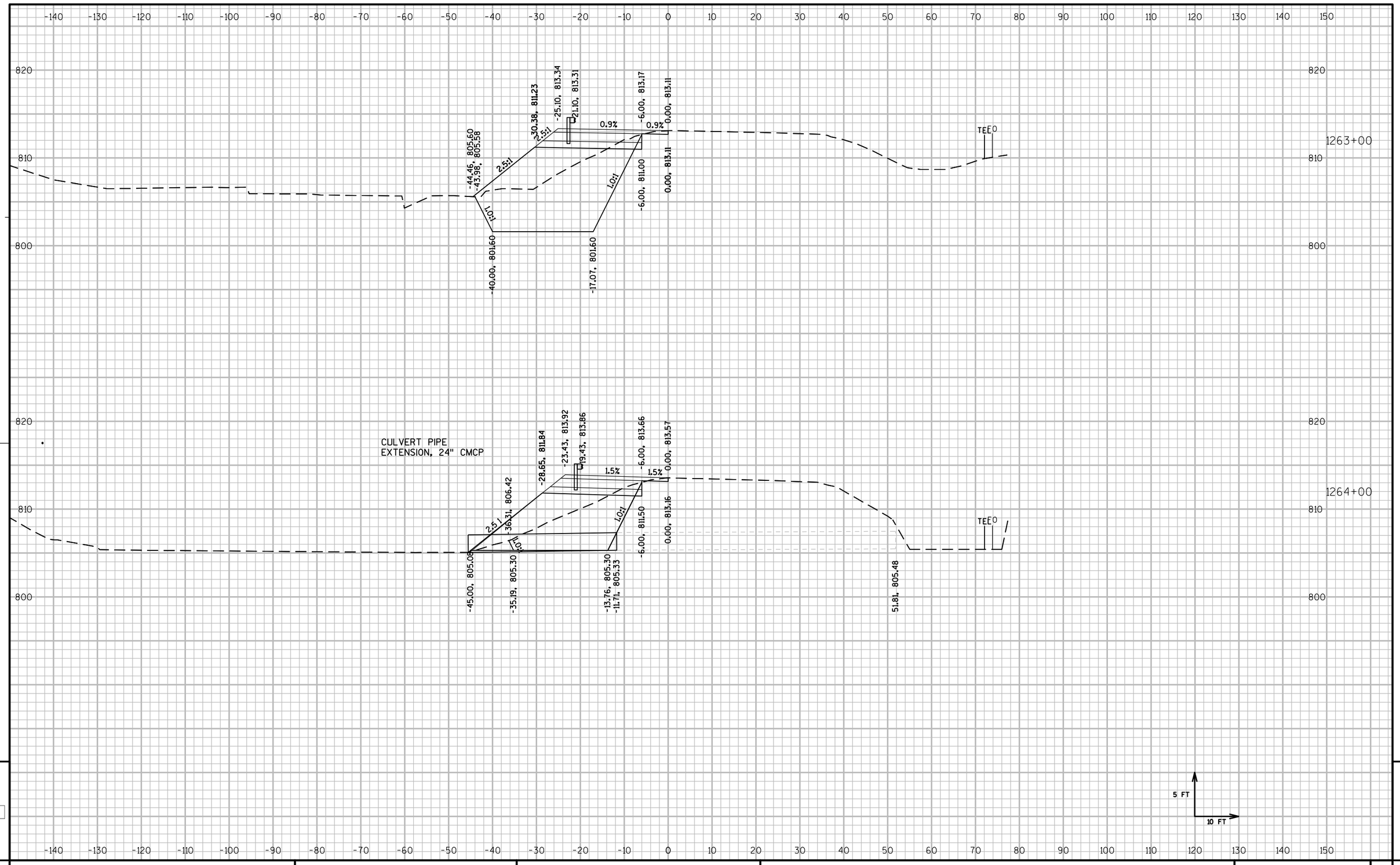
WISDOT/CADDS SHEET 49



PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 1	SHEET 187	E

FILE NAME : S:\MAD\1000--1099\1089\399\ACAD\CIVIL3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090201_XS - 090217_XS

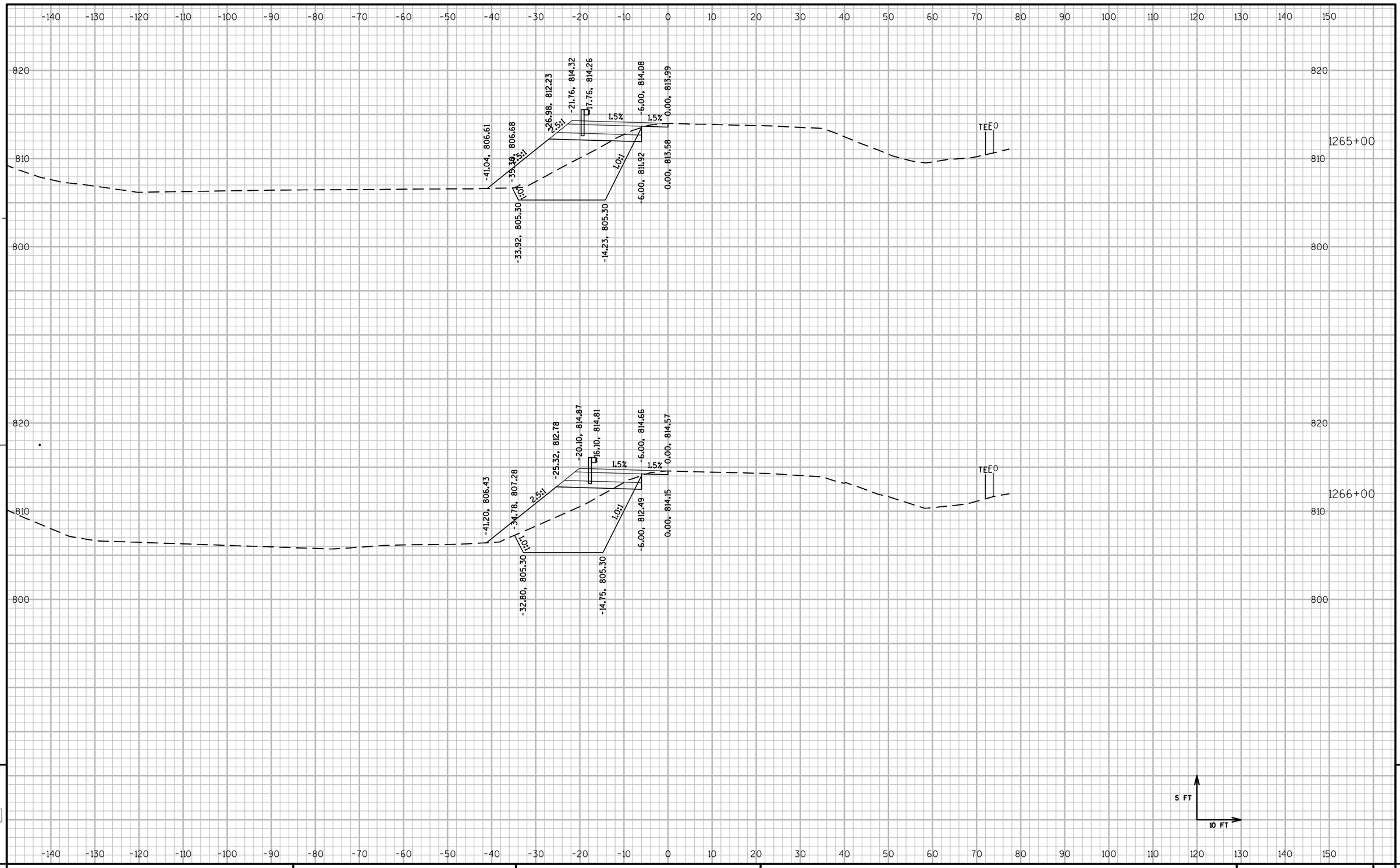
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PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 1	SHEET 188	E

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LAYOUT NAME - 090201_XS - 090218_XS

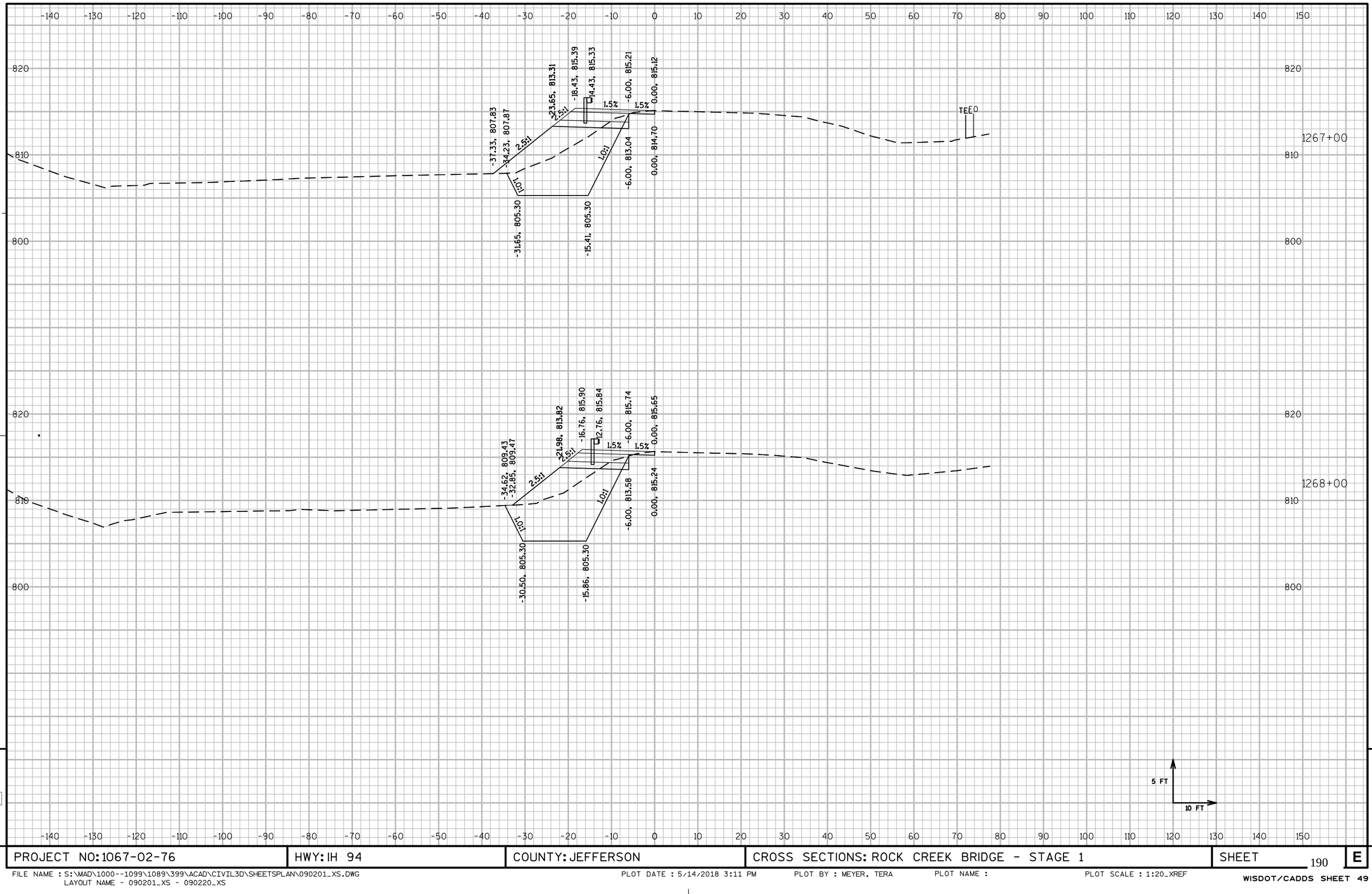
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PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 1	SHEET 189	E

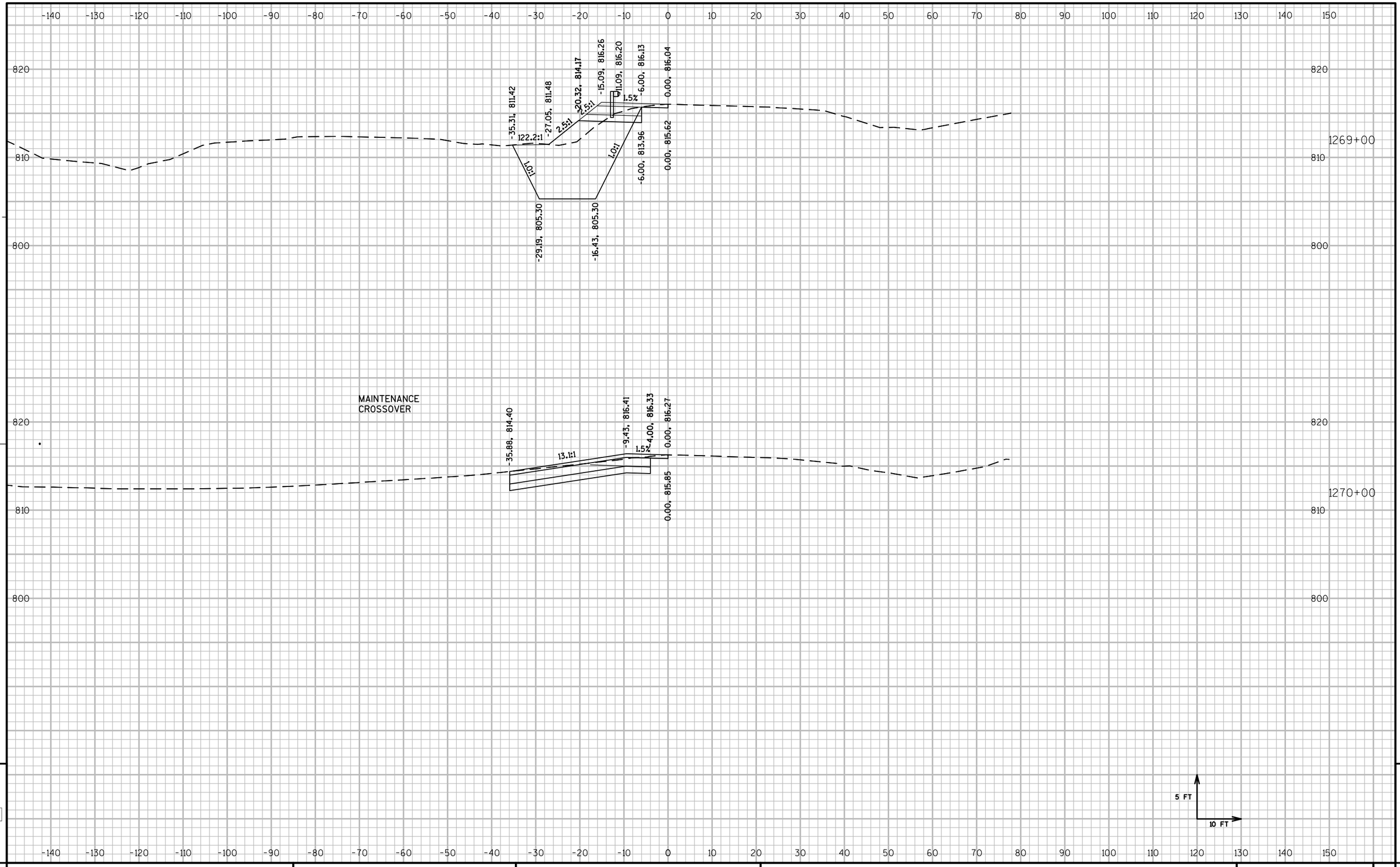
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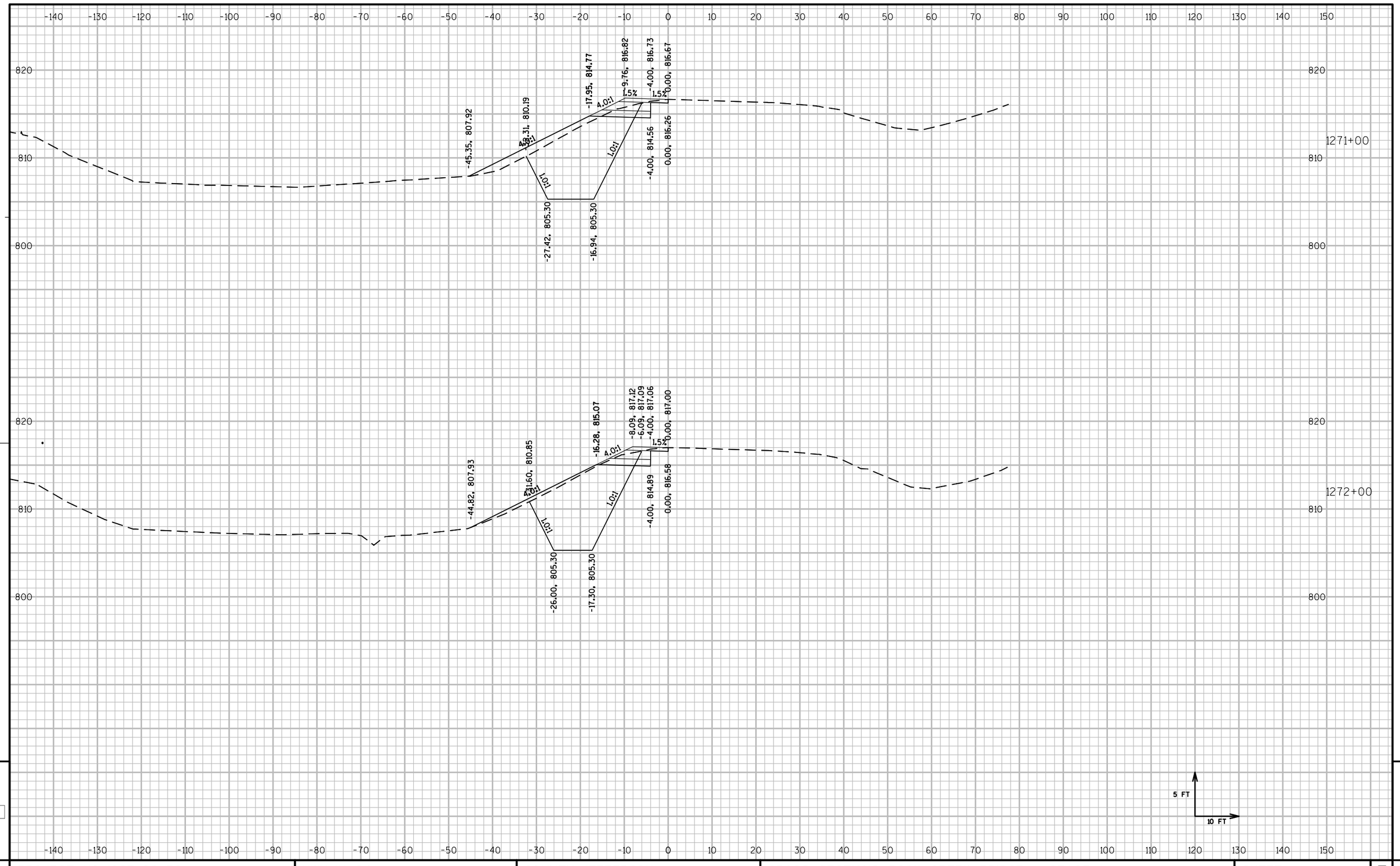


PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 1	SHEET 190	E

FILE NAME : S:\MAD\1000--1099\1089\399\ACAD\CIVIL3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090201_XS - 090220_XS
PLOT DATE : 5/14/2018 3:11 PM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF
WISDOT/CADDS SHEET 49

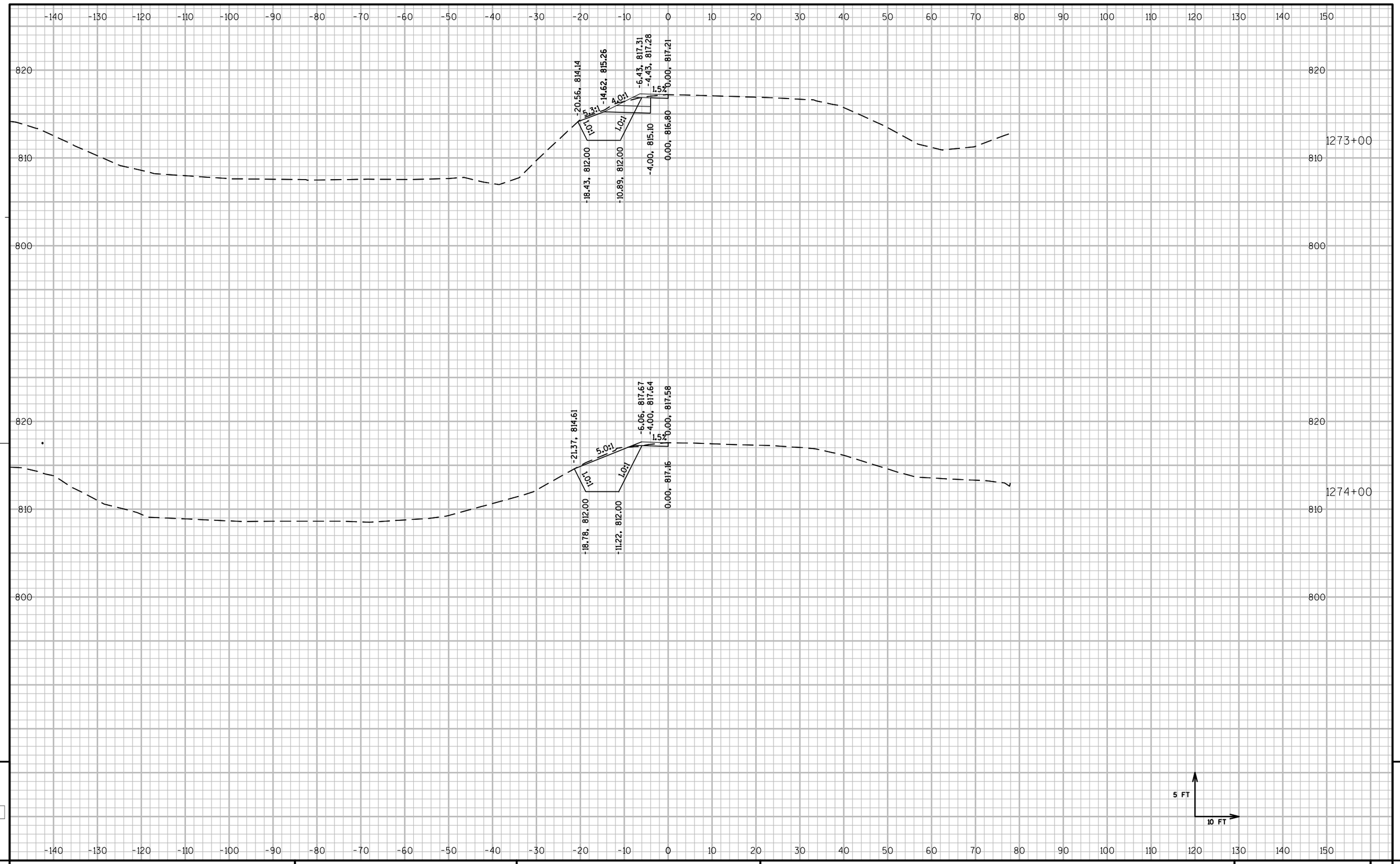


PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 1	SHEET 191	E



PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 1	SHEET 192	E

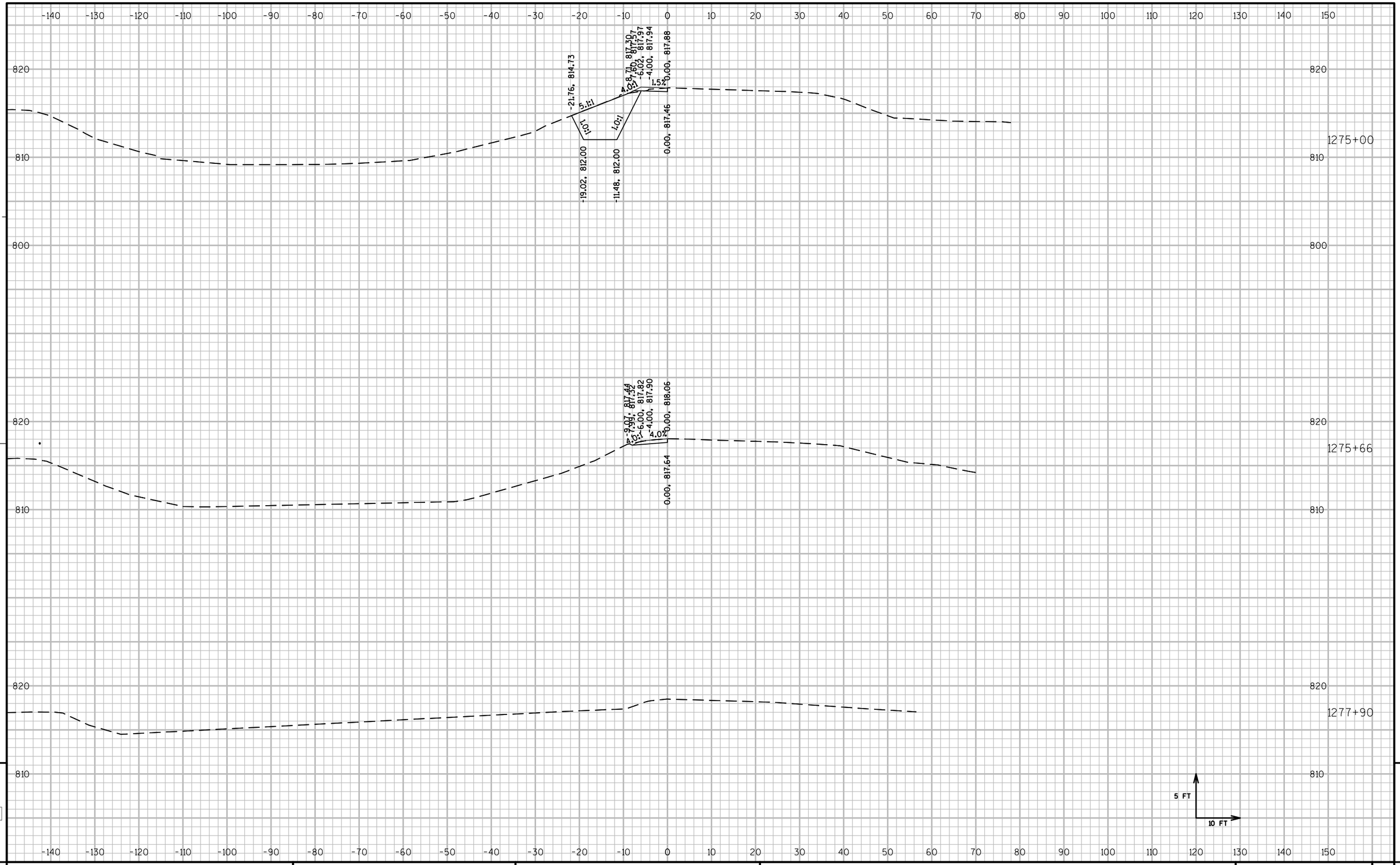
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LAYOUT NAME - 090201_XS - 090222_XS
PLOT DATE : 5/14/2018 3:11 PM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF
WISDOT/CADDS SHEET 49



PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 1	SHEET 193	E

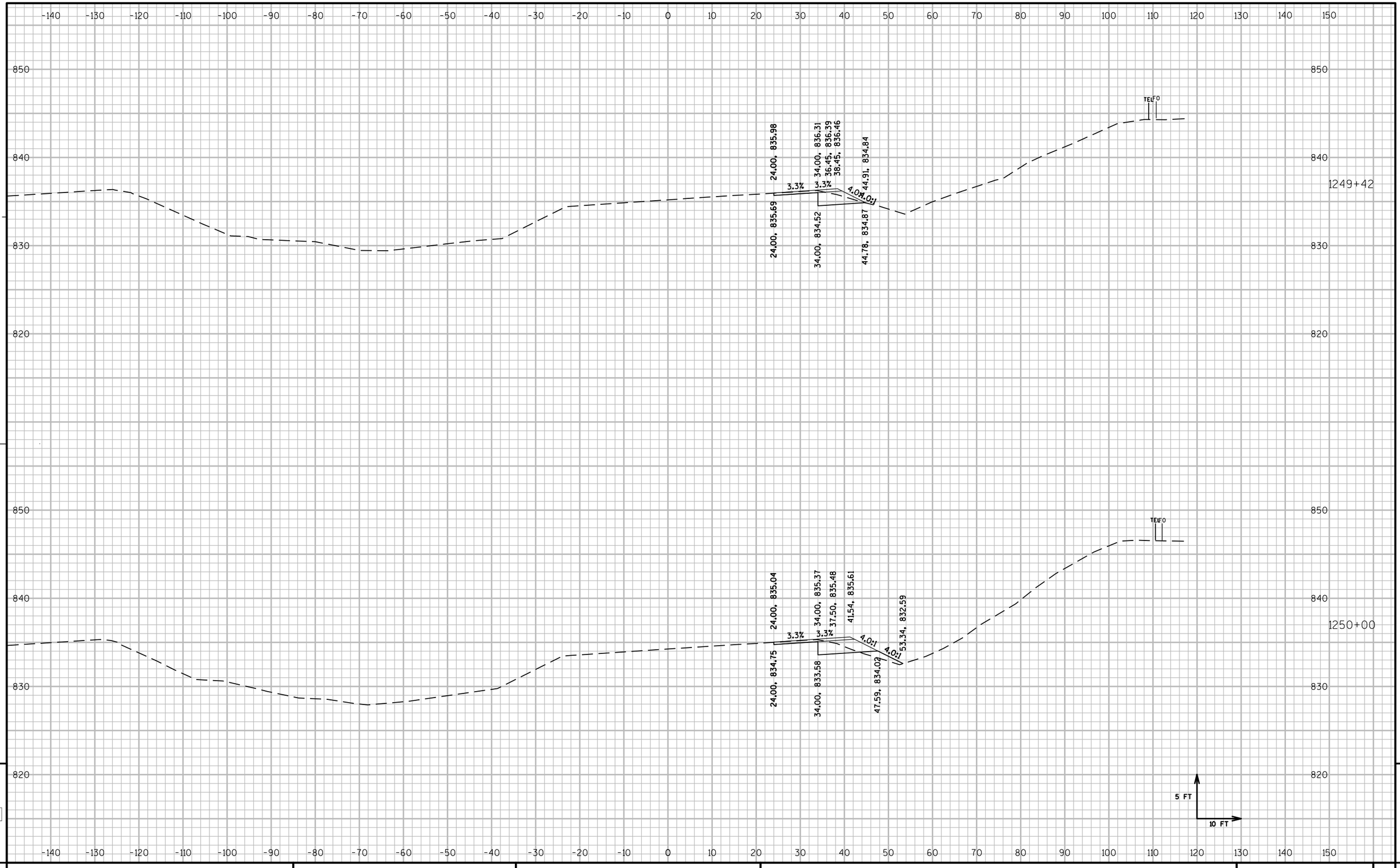
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LAYOUT NAME - 090201_XS - 090223_XS

PLOT DATE : 5/14/2018 3:11 PM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF



PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 1	SHEET 194	E

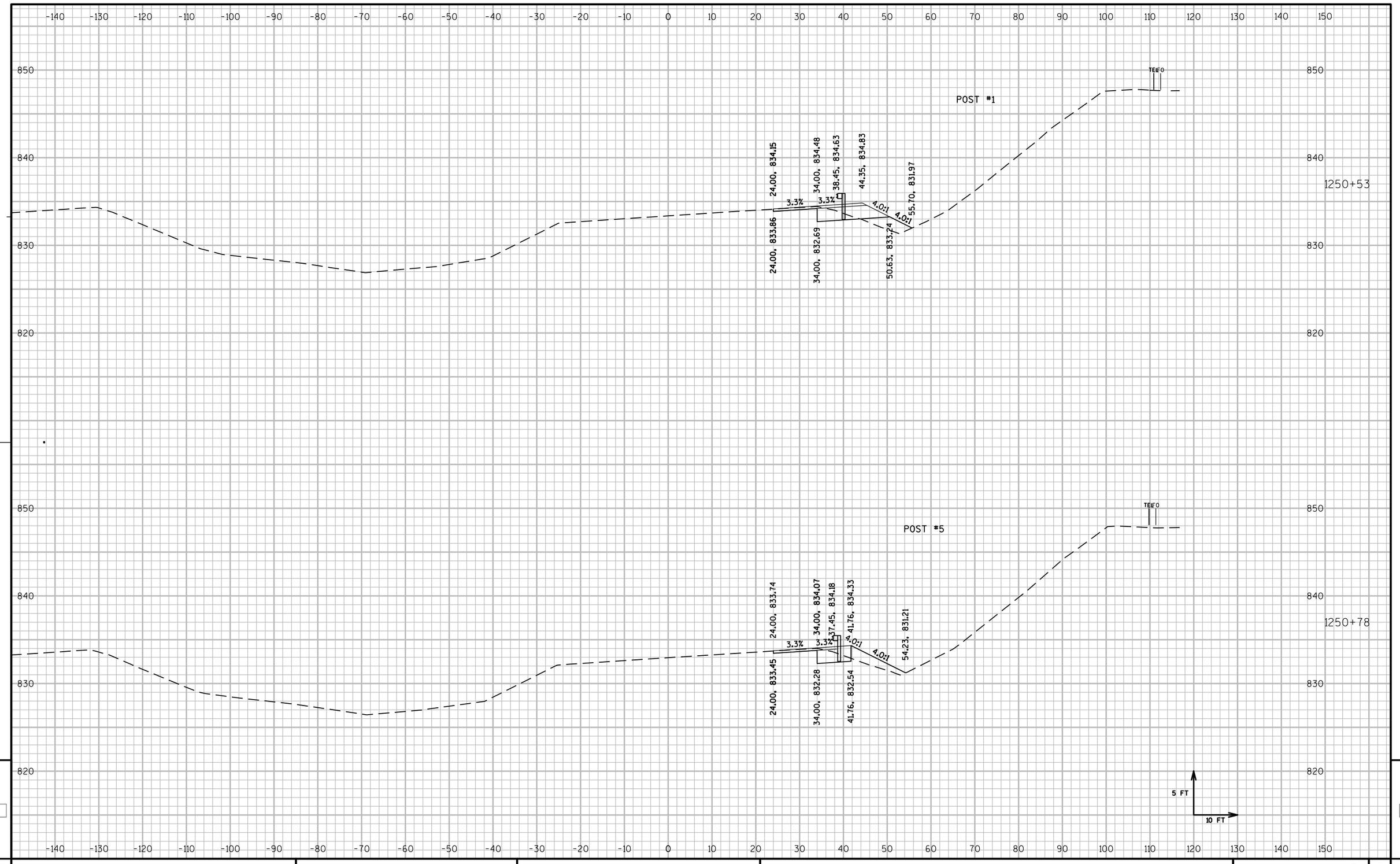
FILE NAME : S:\MAD\1000--1099\1089\399\ACAD\CIVIL3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090201_XS - 090224_XS
PLOT DATE : 5/14/2018 3:11 PM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF
WISDOT/CADDS SHEET 49



PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 2	SHEET 195	E

FILE NAME : S:\MAD\1000--1099\1089\399\ACAD\CIVIL3D\SHEETSPLAN\090230_XS.DWG
LAYOUT NAME - 090230_XS

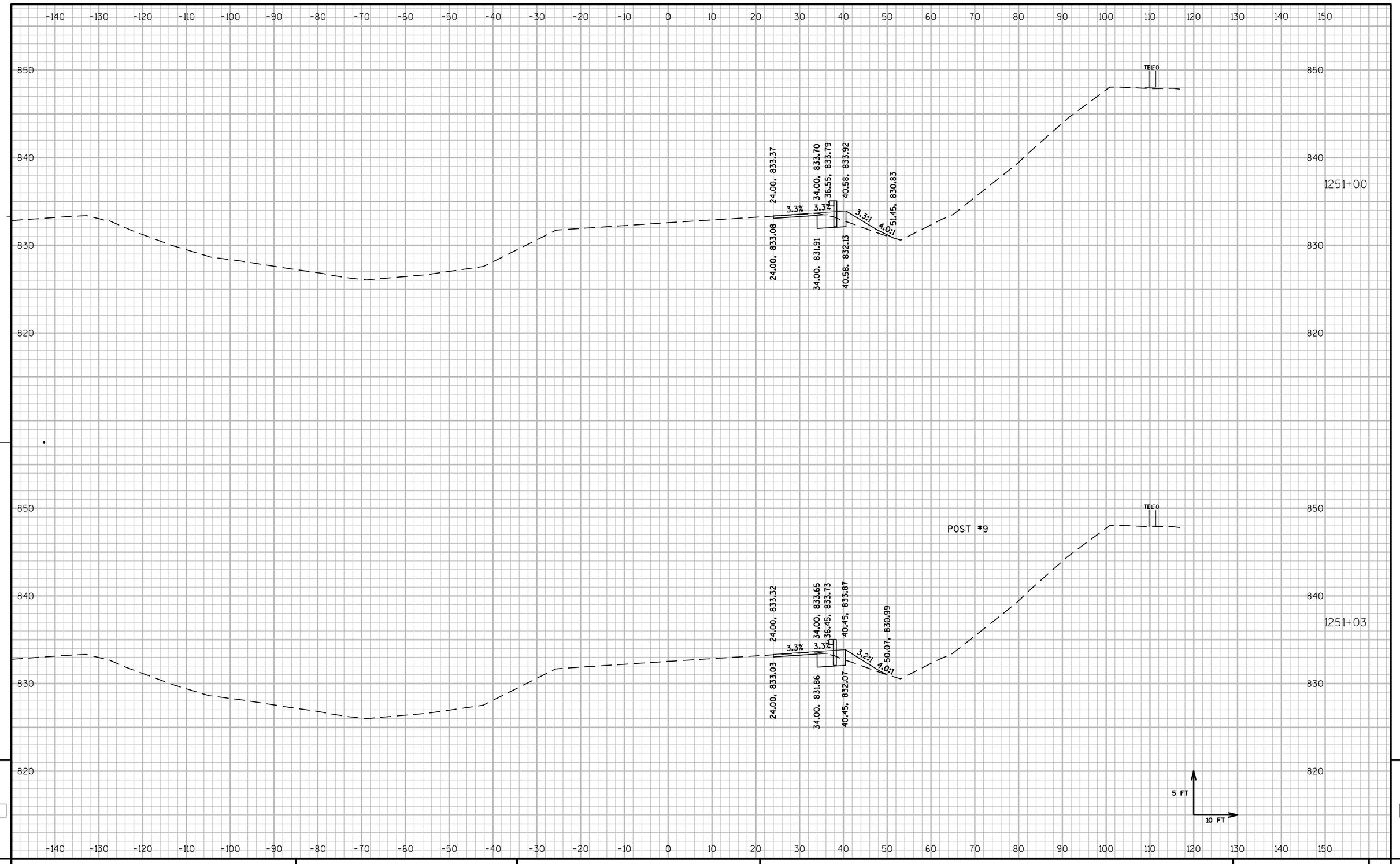
PLOT DATE : 11/29/2017 9:33 AM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF



PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 2	SHEET 196	E

FILE NAME : S:\MAD\1000--1099\1089\399\ACAD\CIVIL3D\SHEETSPLAN\090230_XS.DWG
LAYOUT NAME - 090231_XS

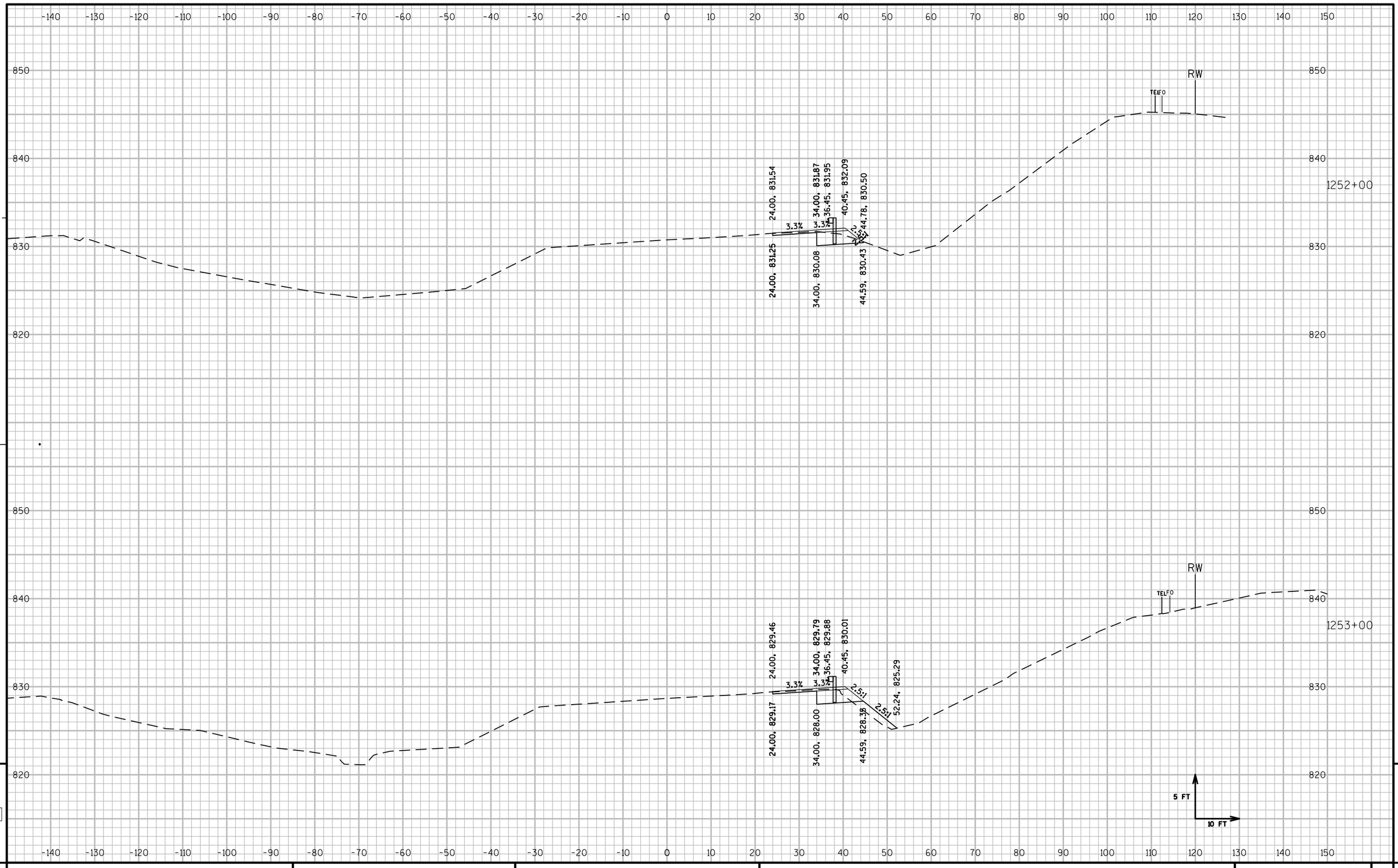
PLOT DATE : 11/29/2017 9:33 AM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF



PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 2	SHEET 197	E

FILE NAME : S:\MAD\1000--1099\1089\399\ACAD\CIVIL3D\SHEETSPLAN\090230_XS.DWG
LAYOUT NAME - 090232_XS

PLOT DATE : 11/29/2017 9:33 AM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

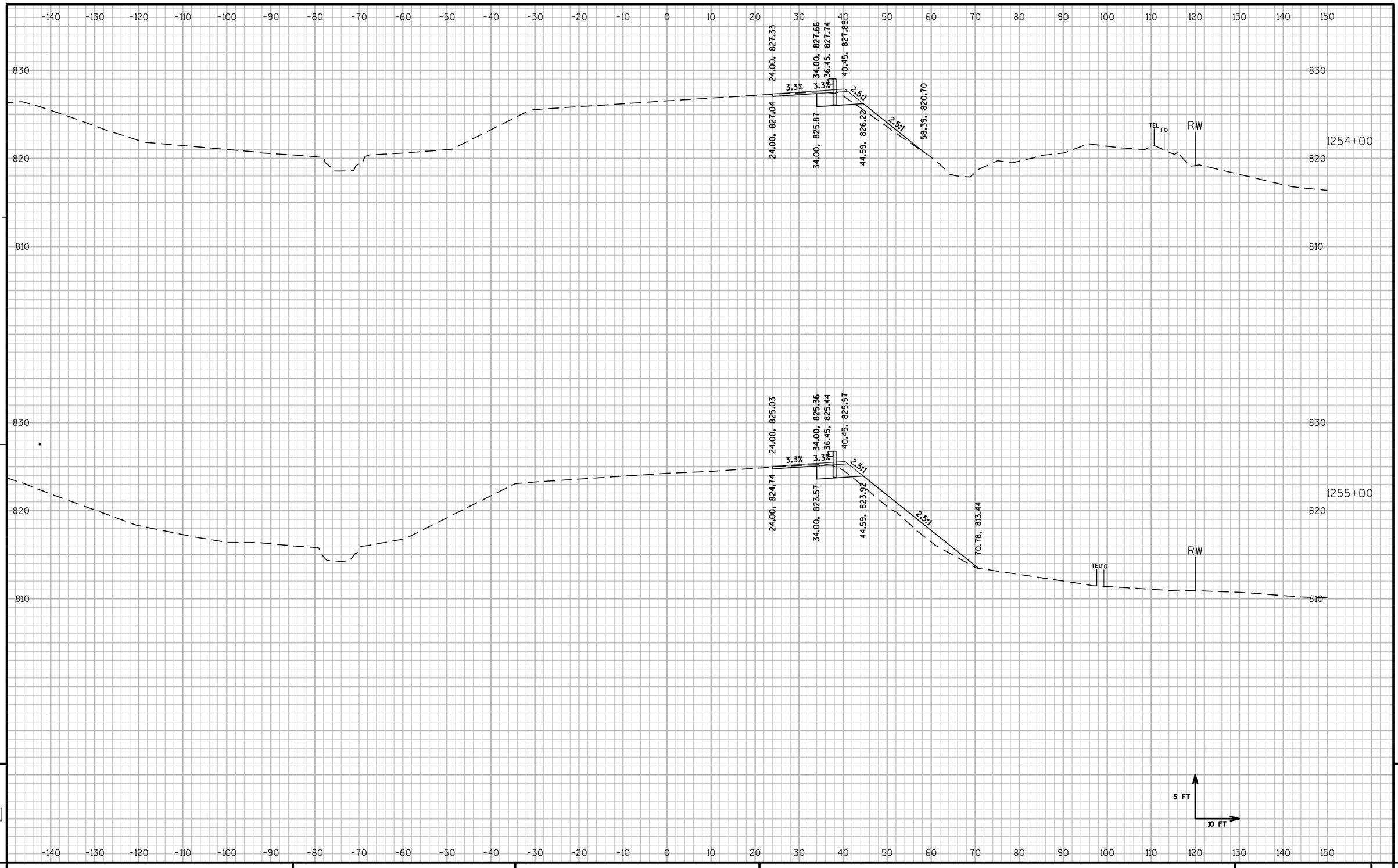


PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 2	SHEET 198	E

FILE NAME : S:\MAD\1000--1099\1089\399\[illegible]\090230_XS_EXPL FOR UTIL.DWG
LAYOUT NAME - 090233_XS

PLOT DATE : [illegible] PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49

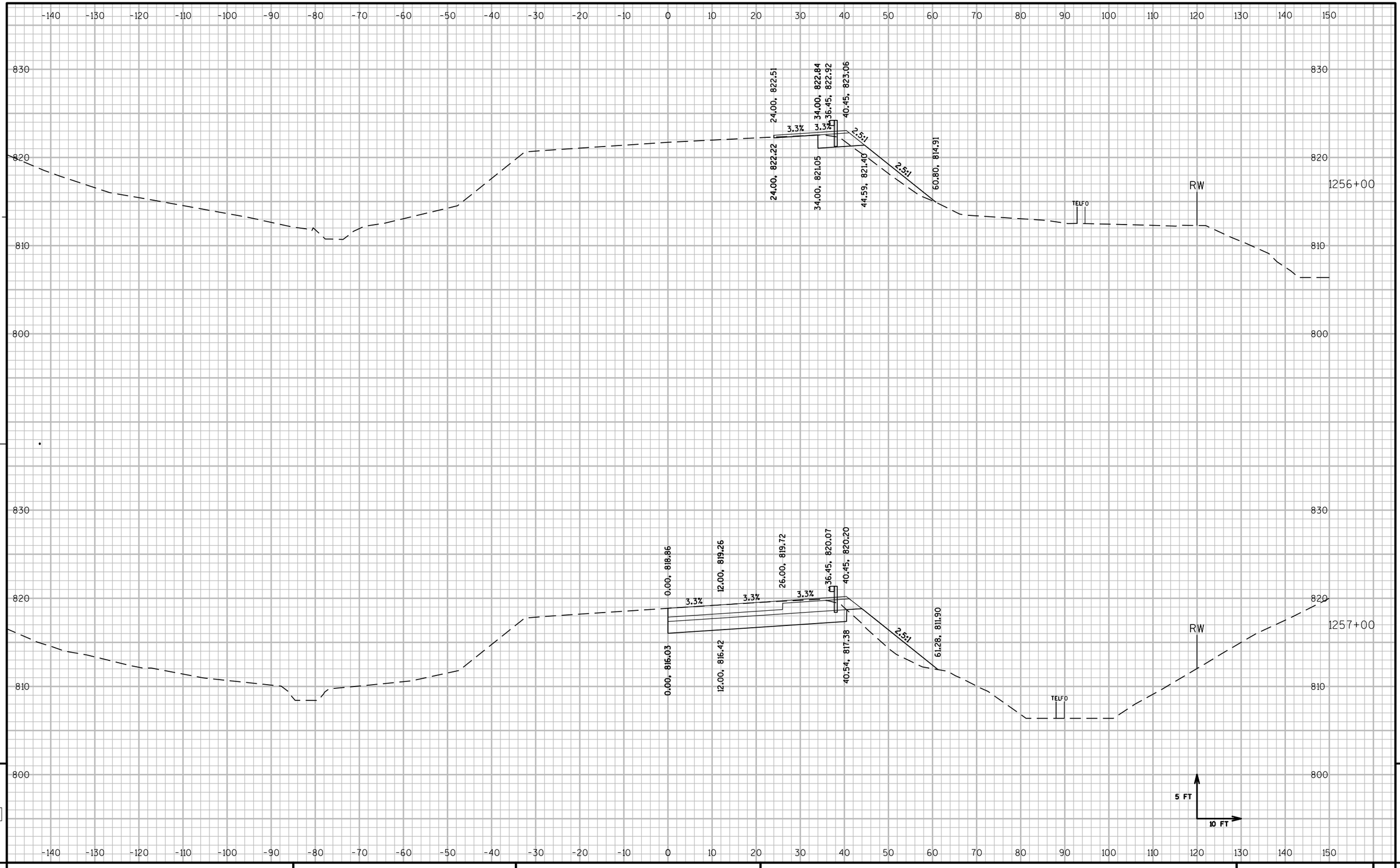


PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 2	SHEET 199	E

FILE NAME : S:\MAD\1000--1099\1089\399\[illegible]\090230_XS_EXPL FOR UTIL.DWG
LAYOUT NAME - 090234_XS

PLOT DATE : [illegible] PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49

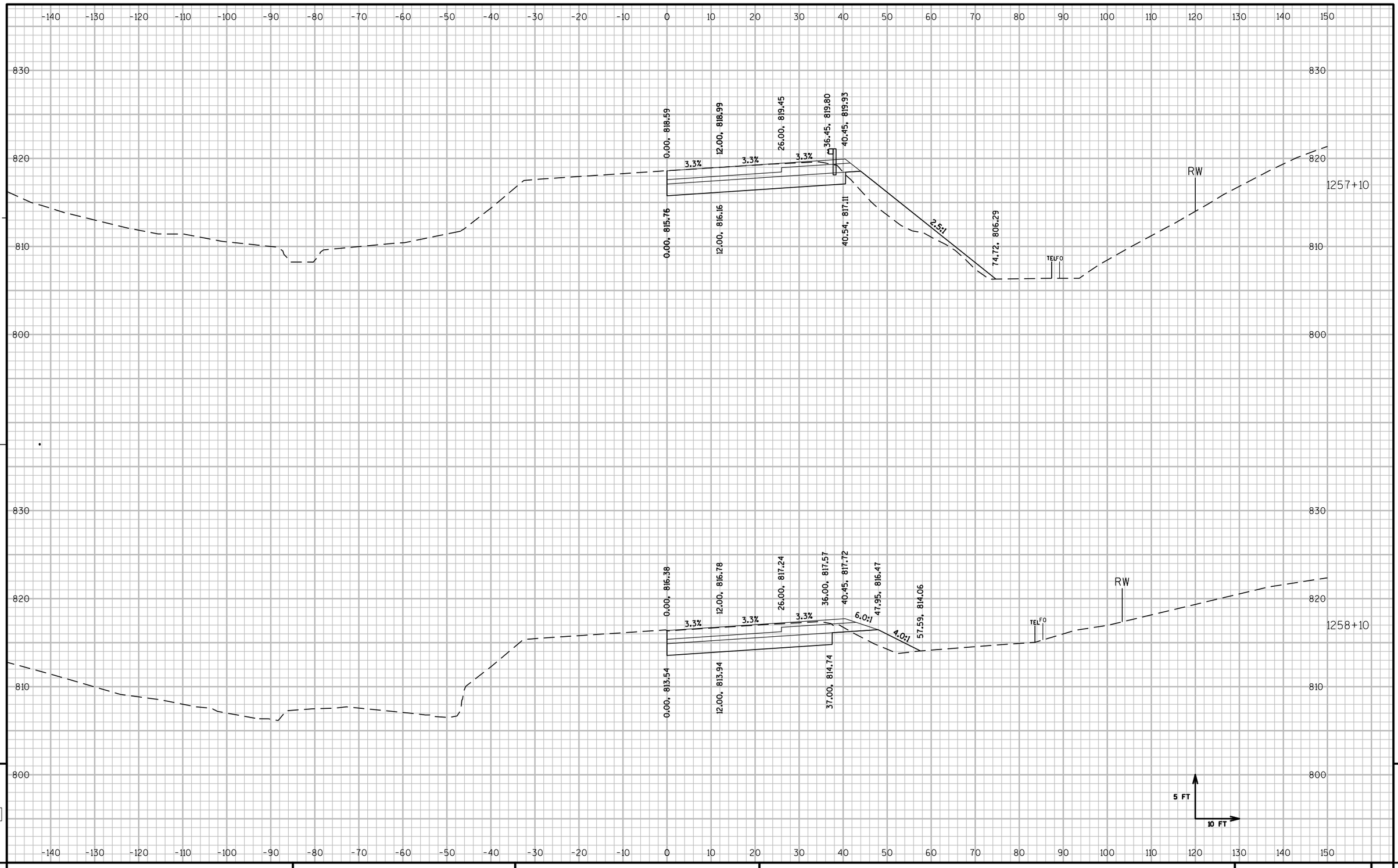


PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 2	SHEET 200	E

FILE NAME : S:\MAD\1000--1099\1089\399\[illegible]\090230_XS_EXPL FOR UTIL.DWG
LAYOUT NAME - 090235_XS

PLOT DATE : [illegible] PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49

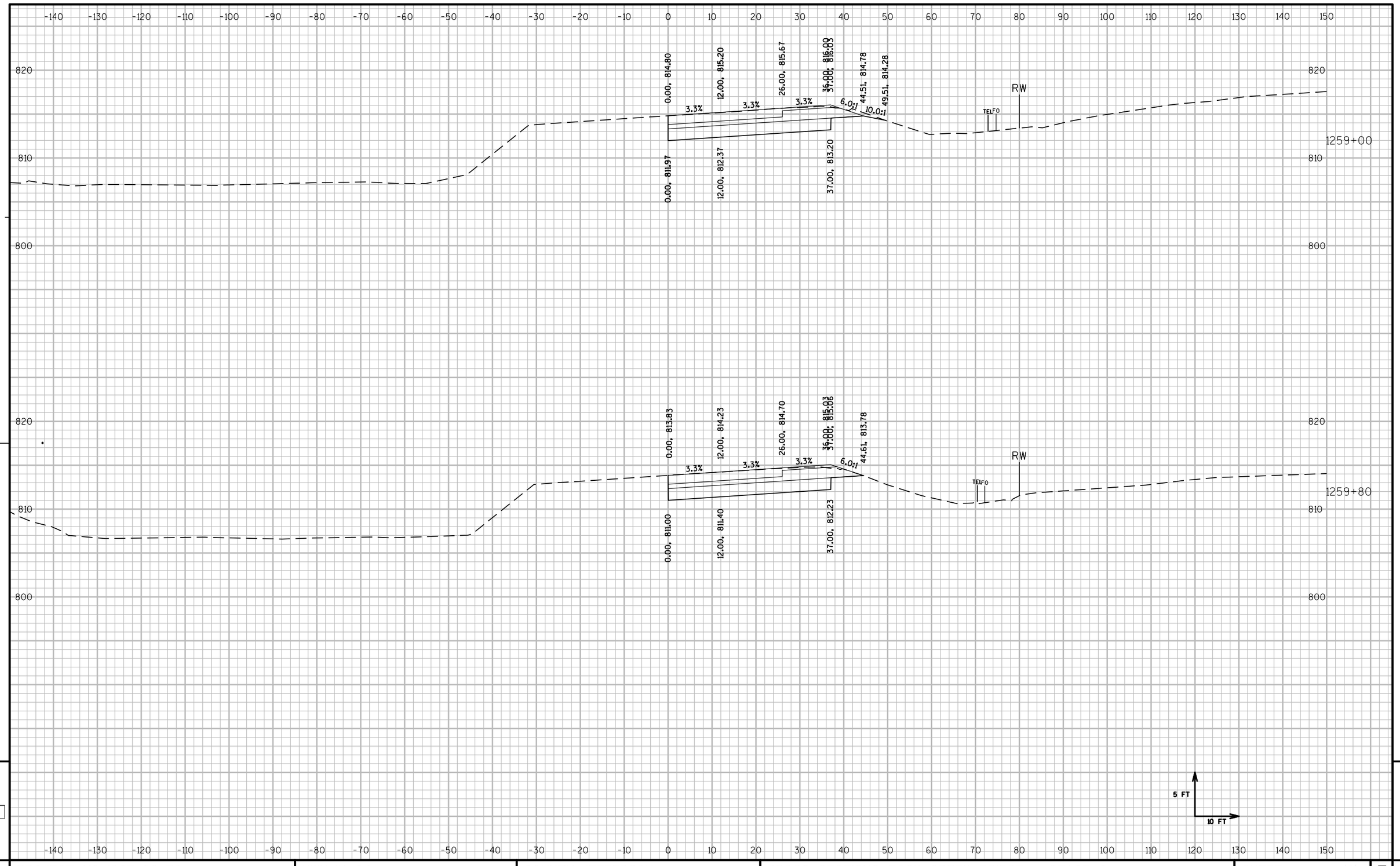


PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 2	SHEET 201	E

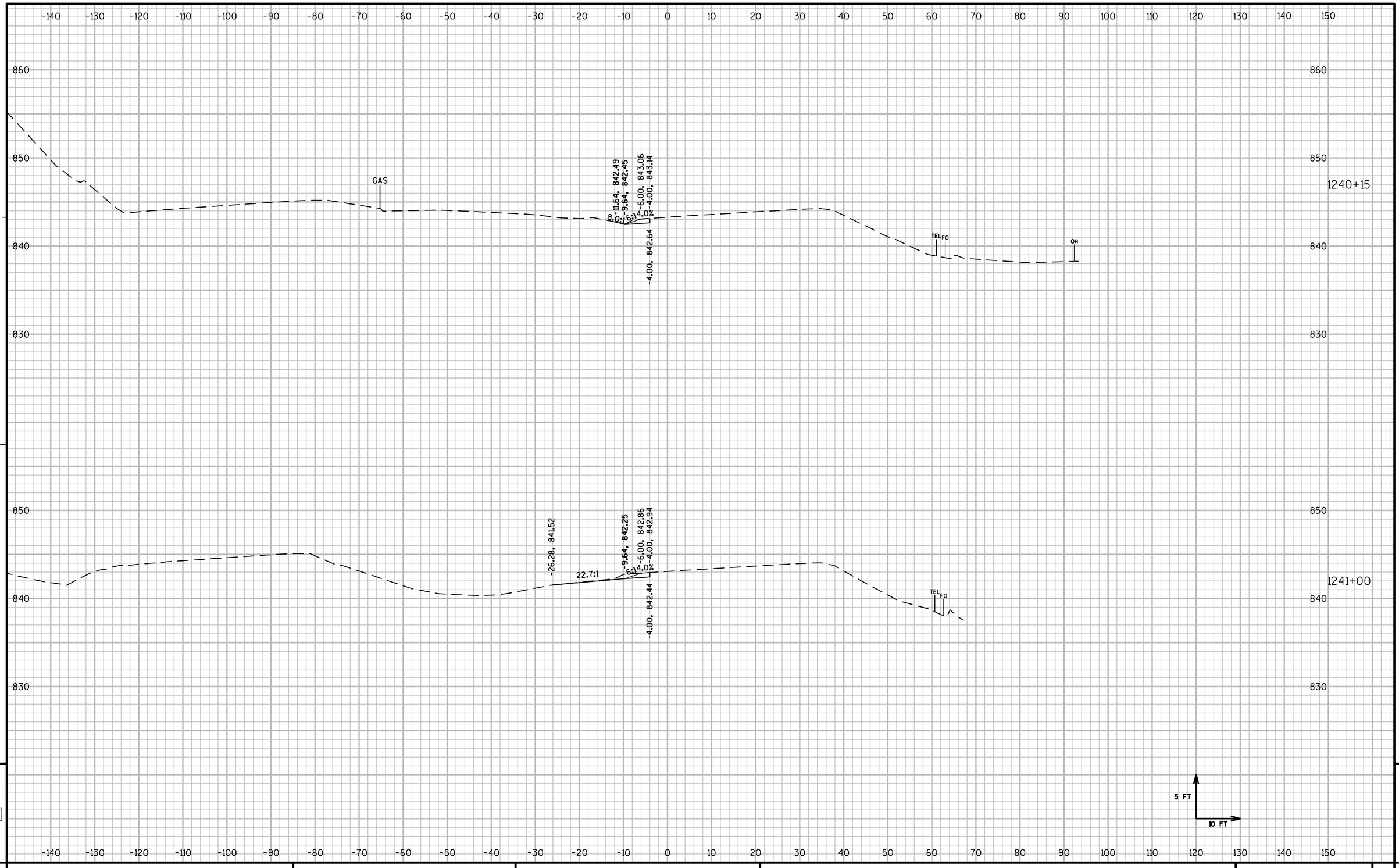
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LAYOUT NAME - 090236_XS

PLOT DATE : [illegible] PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49



PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 2	SHEET 202	E

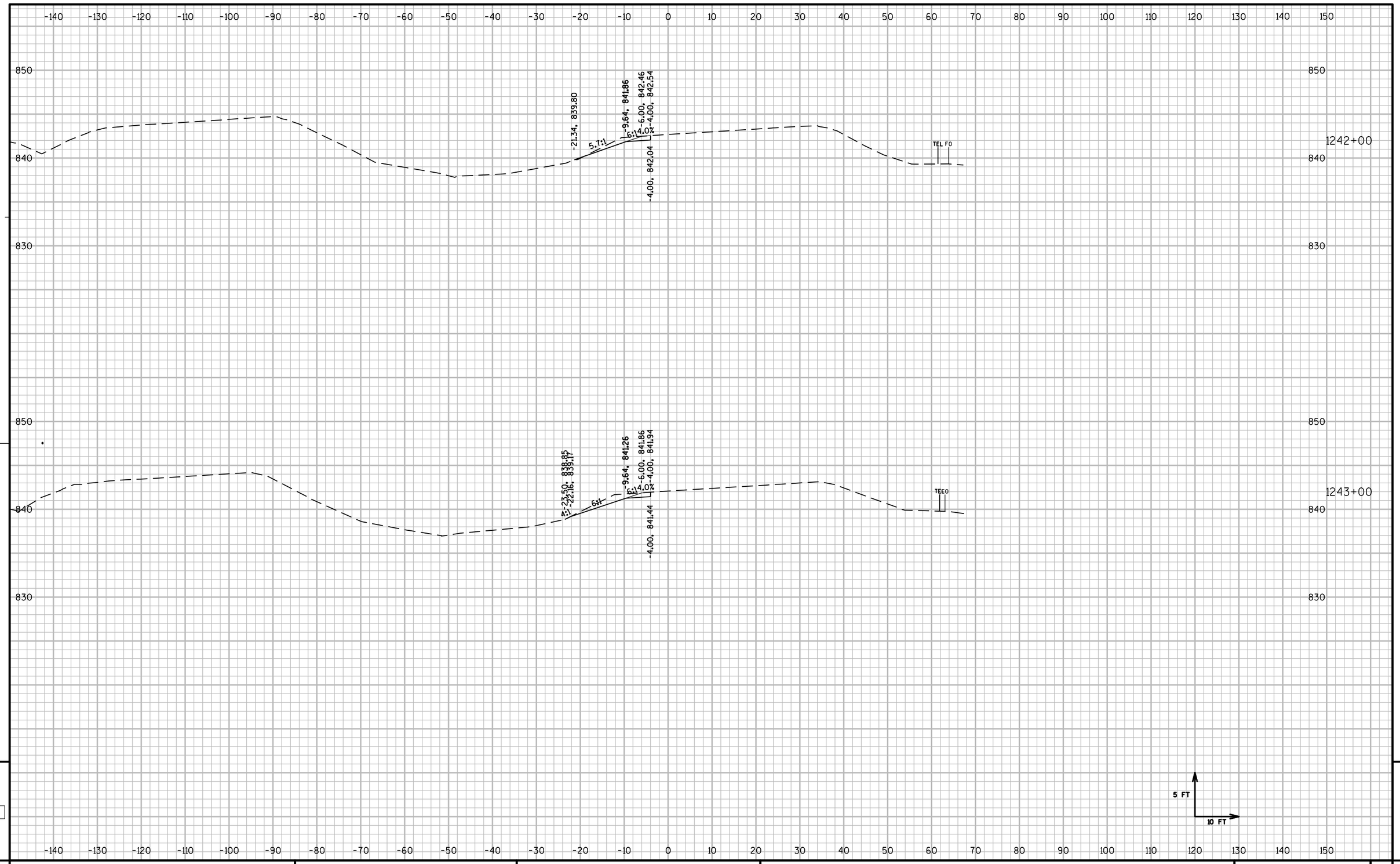


PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 3	SHEET 203	E

FILE NAME : S:\MAD\1000--1099\1089\399\[illegible]\090260_XS_EXPL FOR UTIL.DWG
LAYOUT NAME - 090260_XS_EXPL FOR UTIL - 090260_XS

PLOT DATE : [illegible] PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

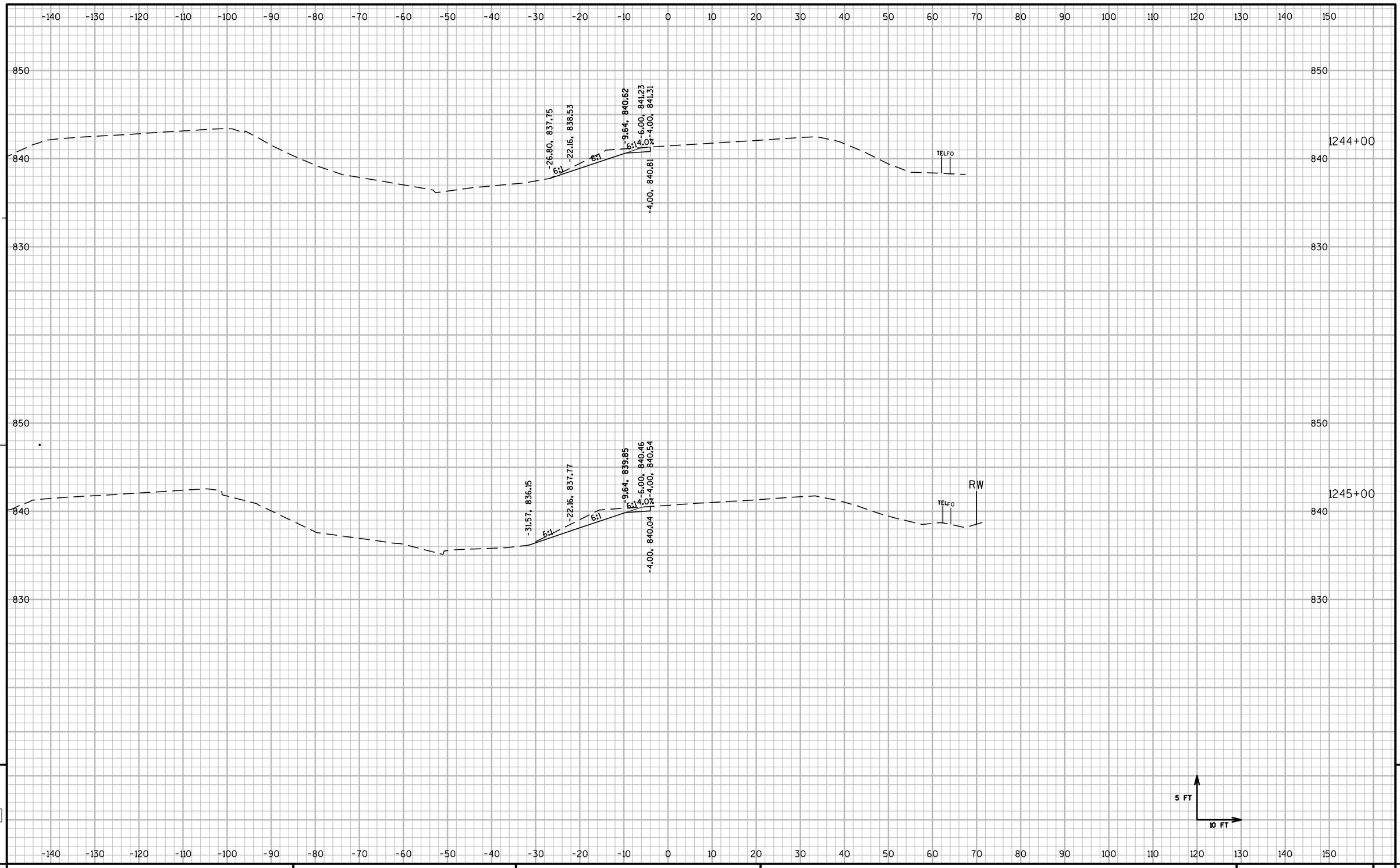
WISDOT/CADDS SHEET 49



PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 3	SHEET 204	E

FILE NAME : S:\MAD\1000--1099\1089\399\ROADWAY\CROSS SECTIONS\090260_XS_EXPL FOR UTIL.DWG
LAYOUT NAME - 090261_XS_EXPL FOR UTIL - 090261_XS

PLOT DATE : 5/28/2013 7:40:03 AM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

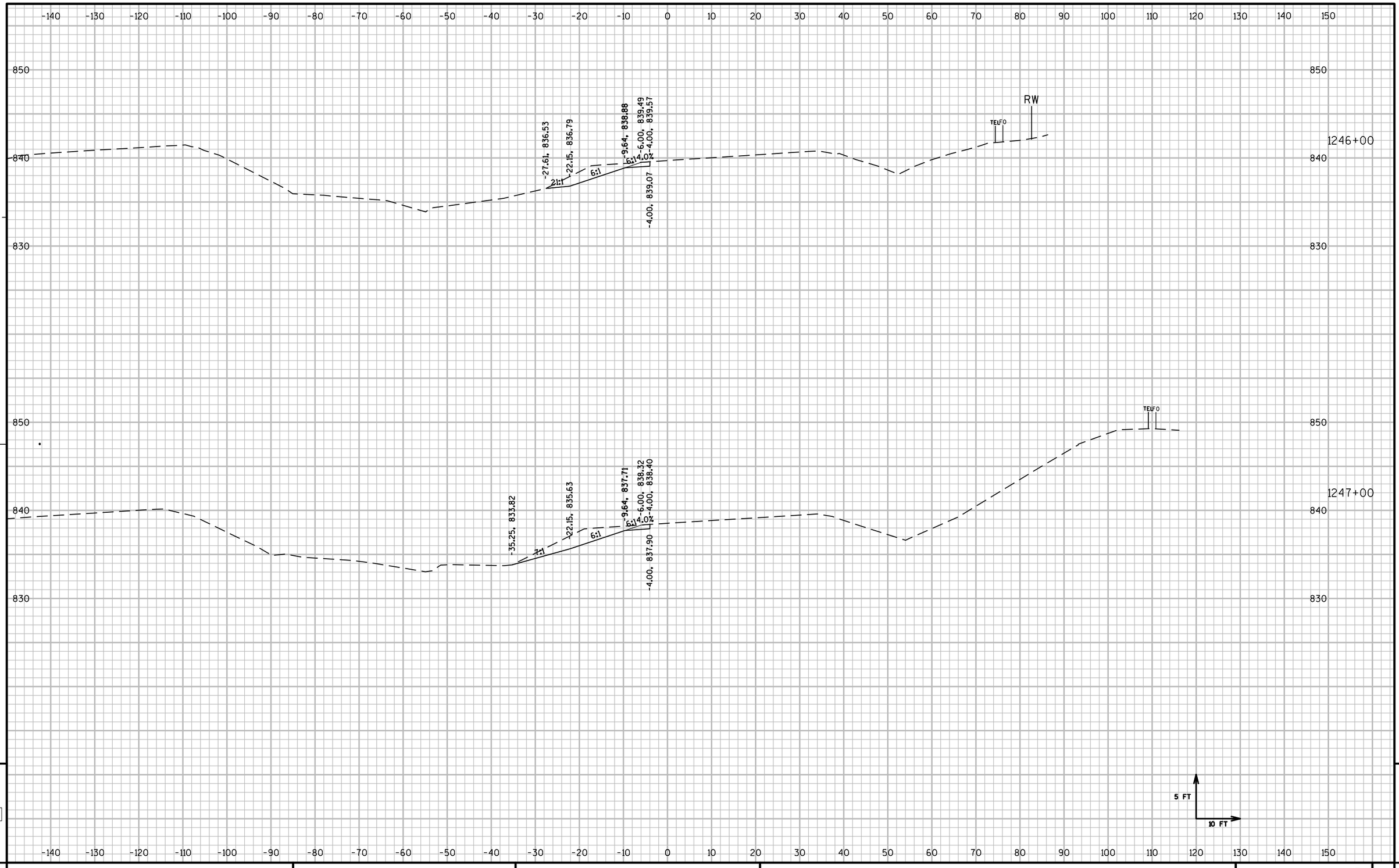


PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 3	SHEET 205	E

FILE NAME : S:\MAD\1000--1099\1089\399\WSDOT\SHEETS\090260_XS_EXPL FOR UTIL.DWG
LAYOUT NAME - 090260_XS_EXPL FOR UTIL - 090262_XS

PLOT DATE : 5/28/2013 7:04:04 AM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49

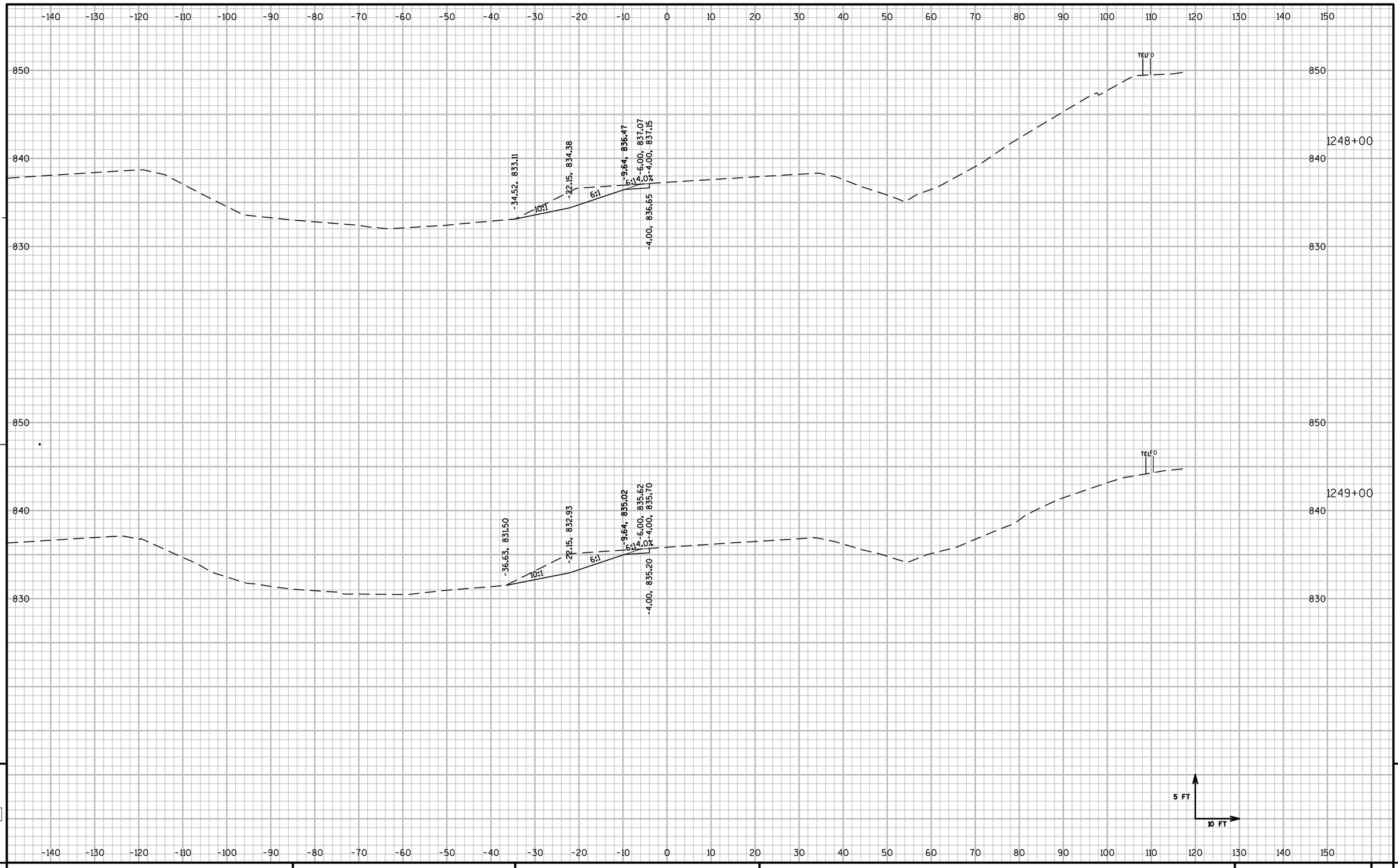


PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 3	SHEET 206	E

FILE NAME : S:\MAD\1000--1099\1089\399\[illegible]\090260_XS_EXPL FOR UTIL.DWG
LAYOUT NAME - 090263_XS_EXPL FOR UTIL - 090263_XS

PLOT DATE : [illegible] PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49

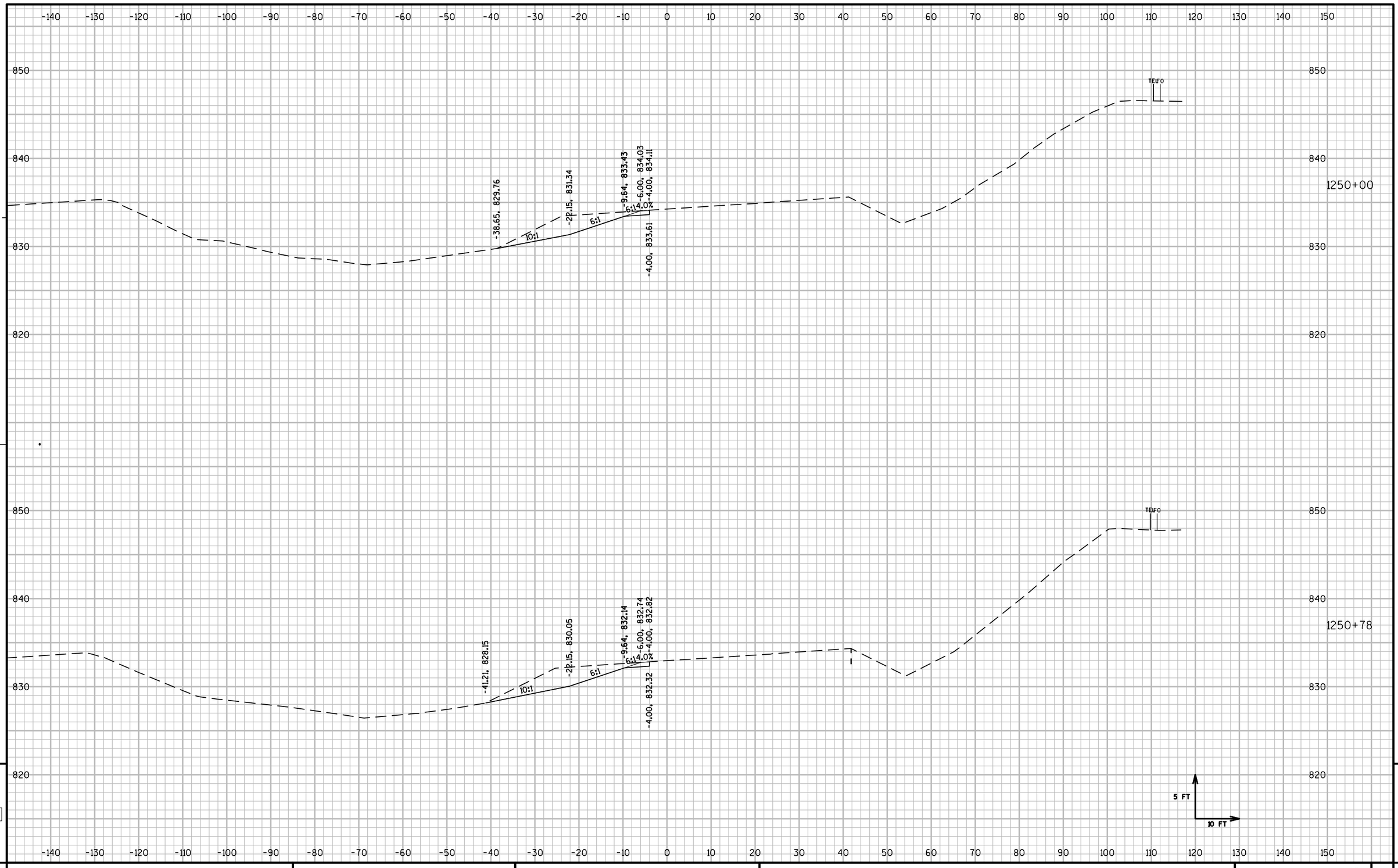


PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 3	SHEET 207	E

FILE NAME : S:\MAD\1000--1099\1089\399\WEBDGN\[illegible]\090260_XS_EXPL FOR UTIL.DWG
LAYOUT NAME - 090260_XS_EXPL FOR UTIL - 090264_XS

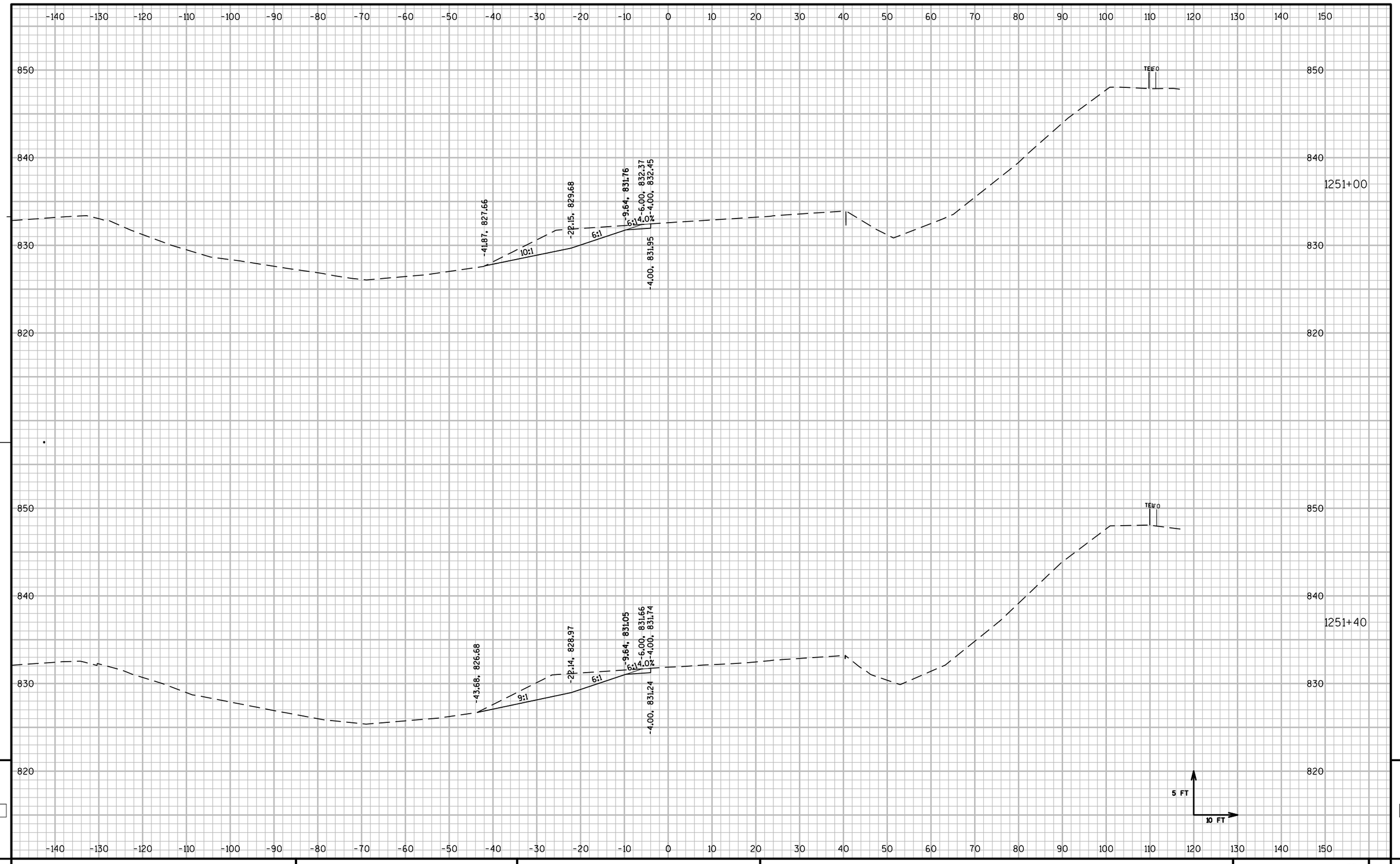
PLOT DATE : 5/28/2013 7:44:04 AM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49



PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 3	SHEET 208	E

FILE NAME : S:\MAD\1000--1099\1089\399\ROADWAY\CROSS SECTIONS\090260_XS_EXPL FOR UTIL.DWG
LAYOUT NAME - 090265_XS_EXPL FOR UTIL - 090265_XS
PLOT DATE : 5/28/2013 7:40:04 AM
PLOT BY : MEYER, TERA
PLOT NAME :
PLOT SCALE : 1:20_XREF
WISDOT/CADDS SHEET 49

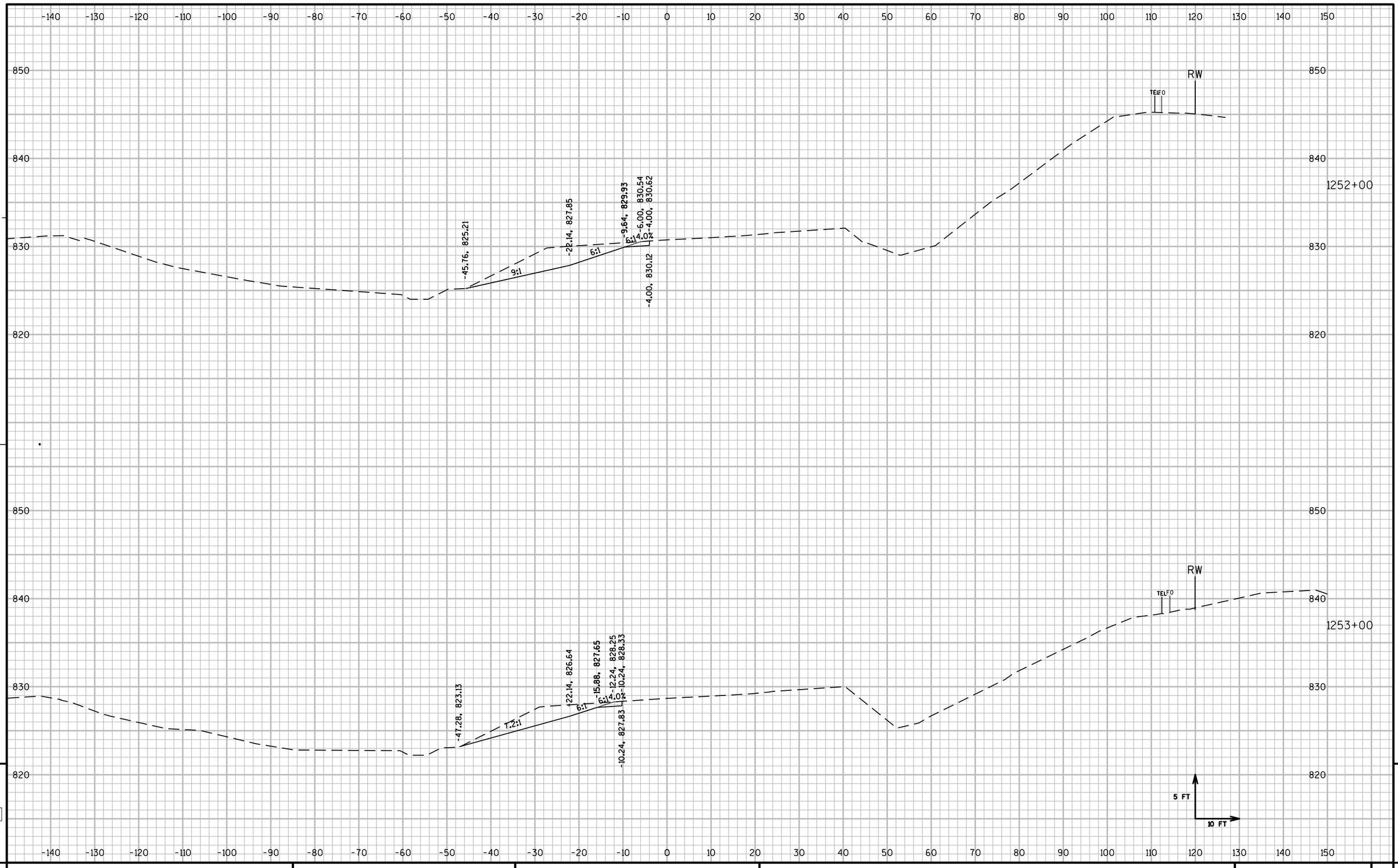


PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 3	SHEET 209	E

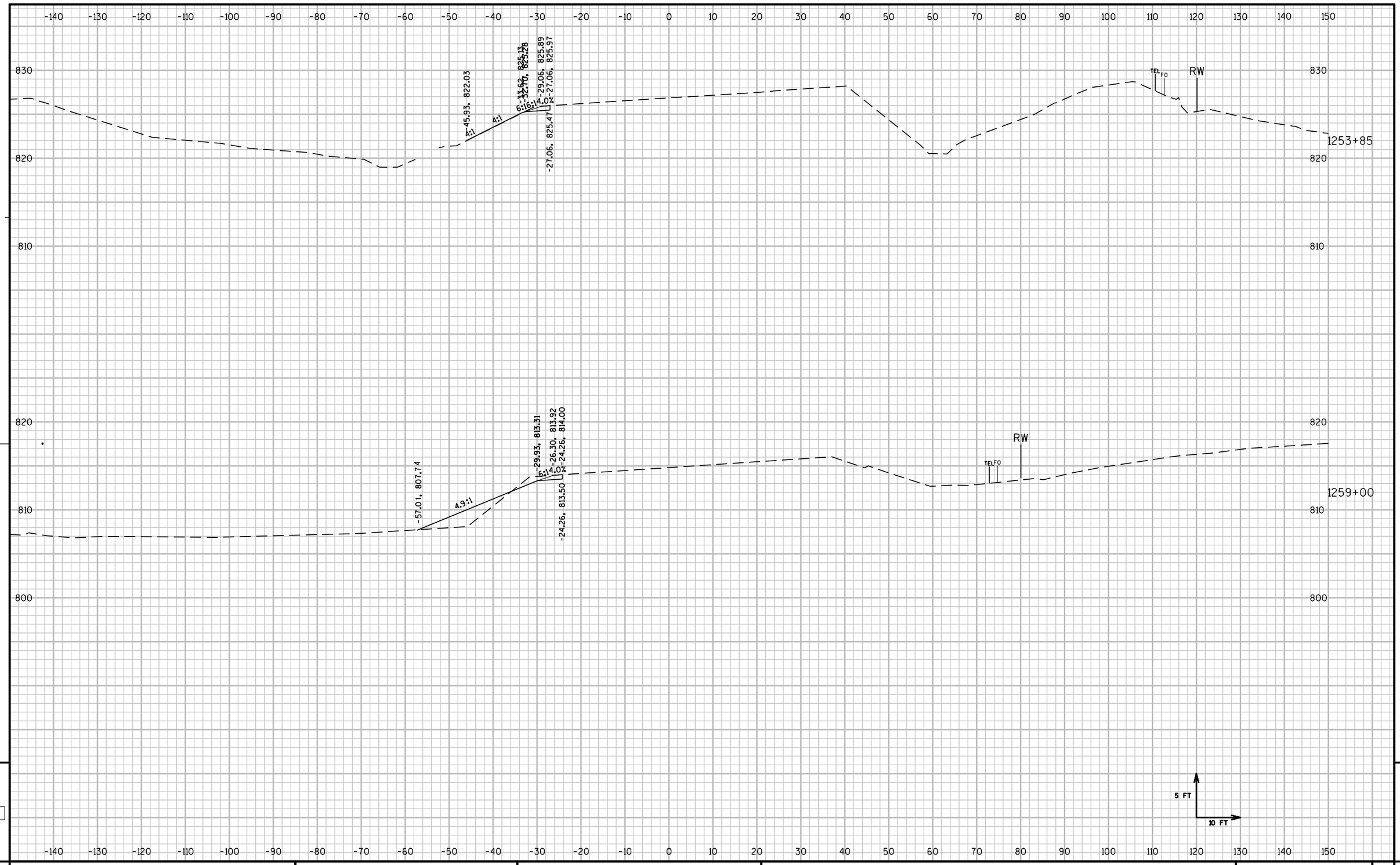
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LAYOUT NAME - 090260_XS_EXPL FOR UTIL - 090266_XS

PLOT DATE : [illegible] PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49



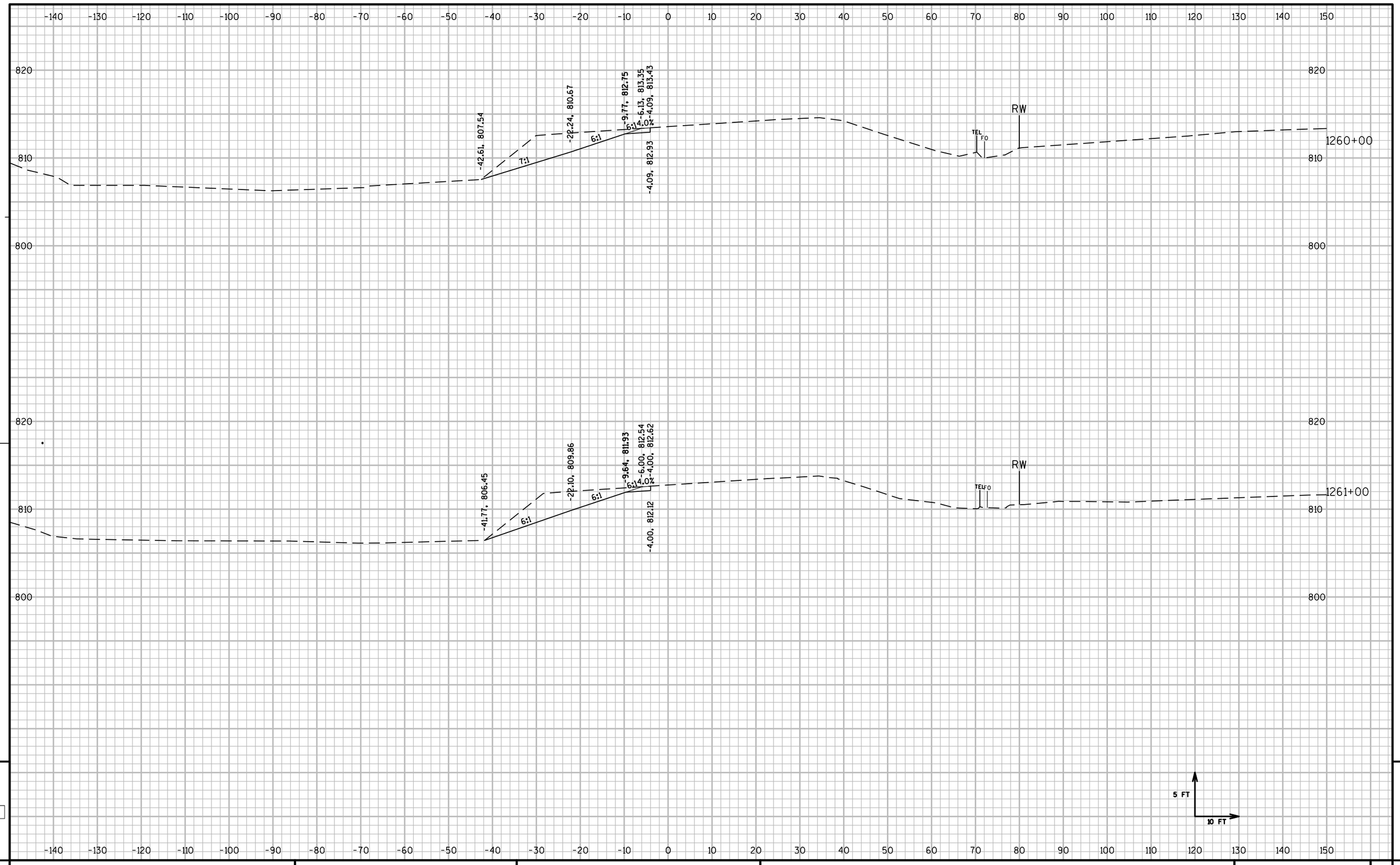
PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 3	SHEET 210	E



PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 3	SHEET 211	E

FILE NAME : S:\MAD\1000--1099\1089\399\ROADWAY\SHEETS\LAYOUT\090268XSXDWG
LAYOUT NAME - 090268_XS_EXPL FOR UTIL - 090268_XS
S:\MAD\1000--1099\1089\399\ROADWAY\SHEETS\090260_XS_EXPL FOR UTIL.DWG
PLOT DATE : 5/28/2008 7:40:04 AM
PLOT BY : MEYER, TERA
PLOT NAME :
PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49

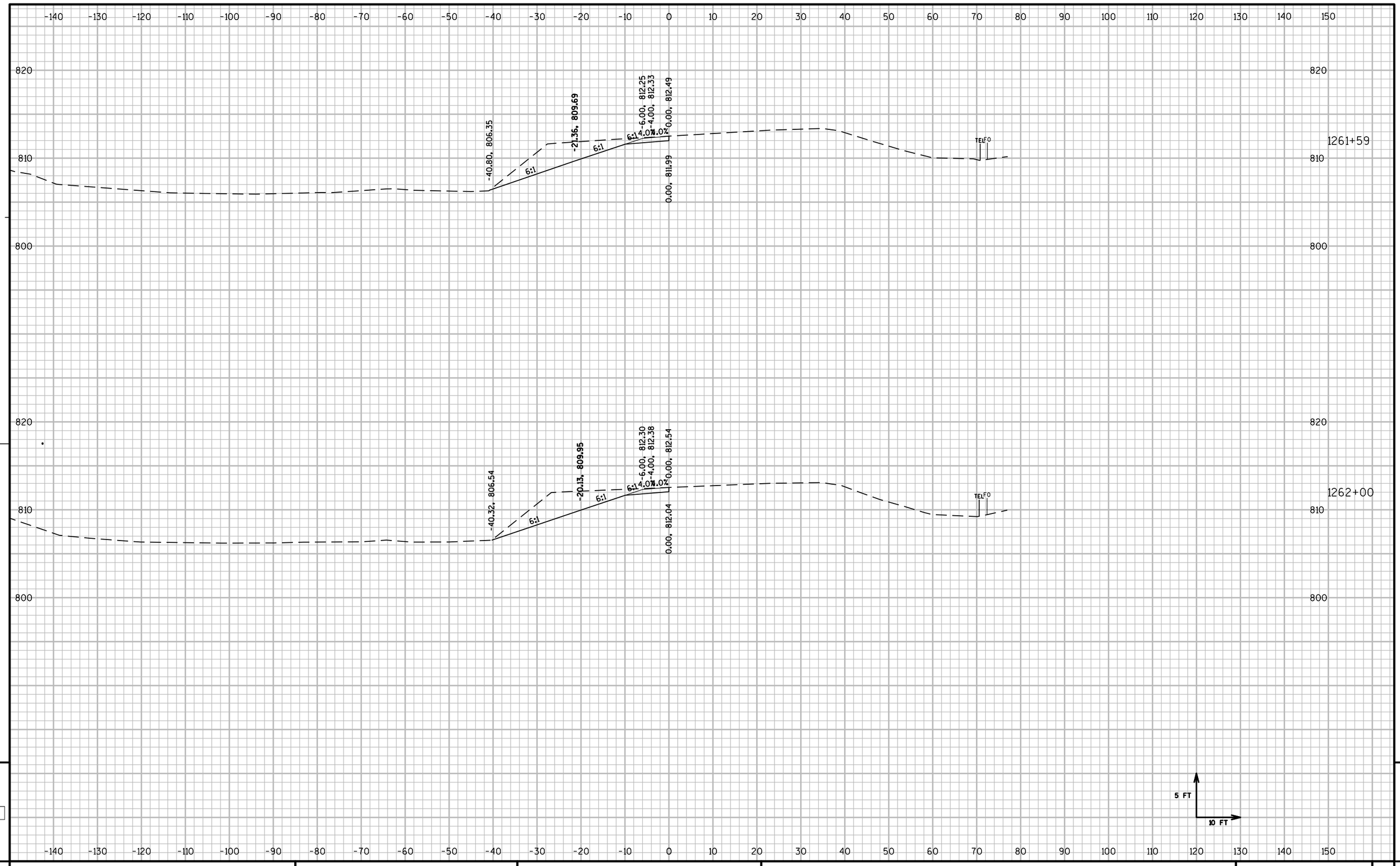


PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 3	SHEET 212	E

FILE NAME : S:\MAD\1000--1099\1089\399\ROADWAY\CROSS SECTIONS\090260_XS_EXPL FOR UTIL\090260_XS_EXPL FOR UTIL.DWG
LAYOUT NAME - 090260_XS_EXPL FOR UTIL - 090269_XS

PLOT DATE : 5/28/2008 7:40:04 AM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

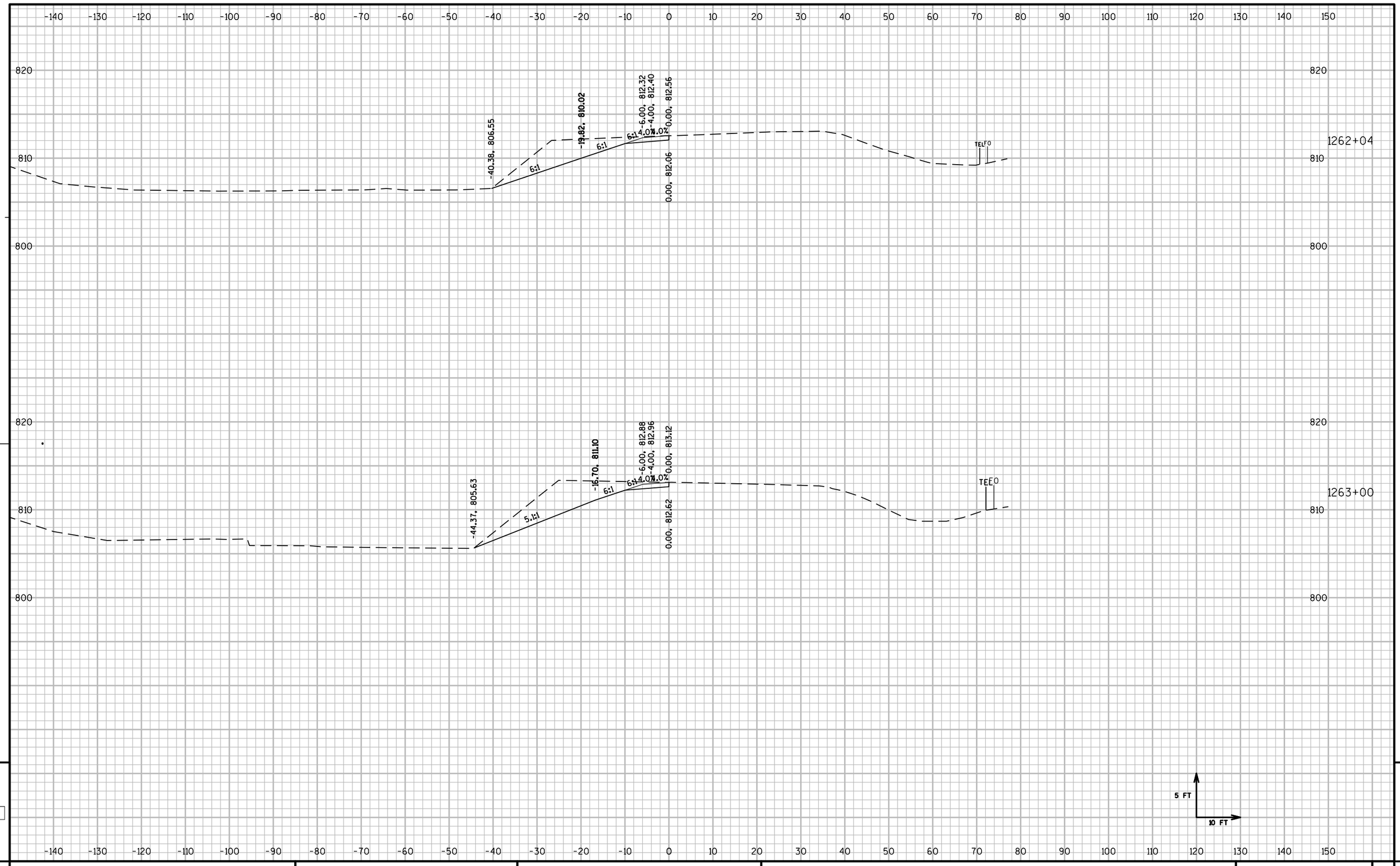
WISDOT/CADDS SHEET 49



PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 3	SHEET 213	E

FILE NAME : S:\MAD\1000--1099\1089\399\ROADWAY\CROSS SECTIONS\090260_XS_EXPL FOR UTIL.DWG
LAYOUT NAME - 090260_XS_EXPL FOR UTIL - 090270_XS

PLOT DATE : 5/28/2008 7:40:04 AM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

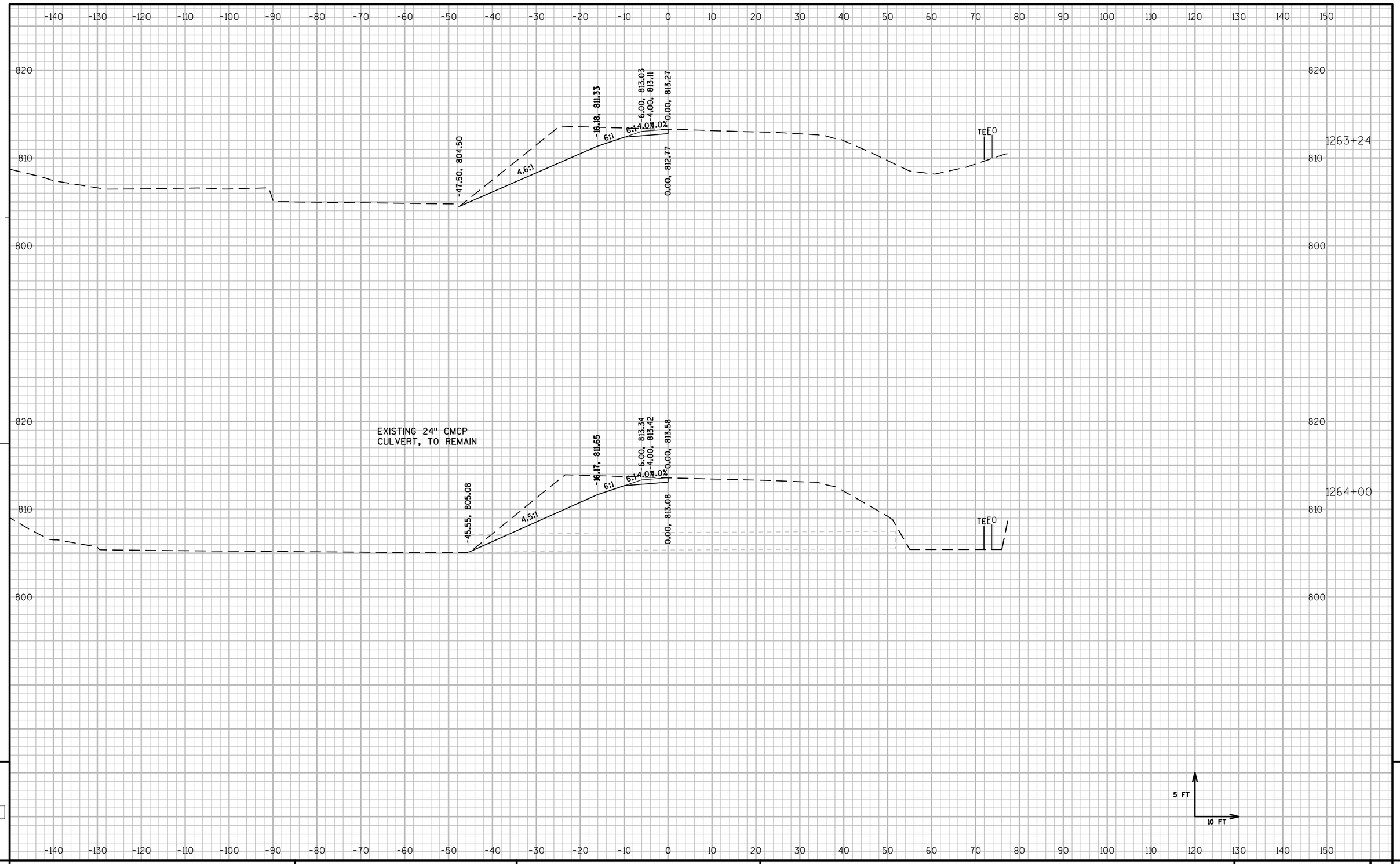


PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 3	SHEET 214	E

FILE NAME : S:\MAD\1000--1099\1089\399\ROADWAY\DESIGN\SHEETS\LAYOUT\090260_XS_EXPL FOR UTIL.DWG
LAYOUT NAME - 090260_XS_EXPL FOR UTIL - 090271_XS

PLOT DATE : 5/28/2009 7:40:04 AM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

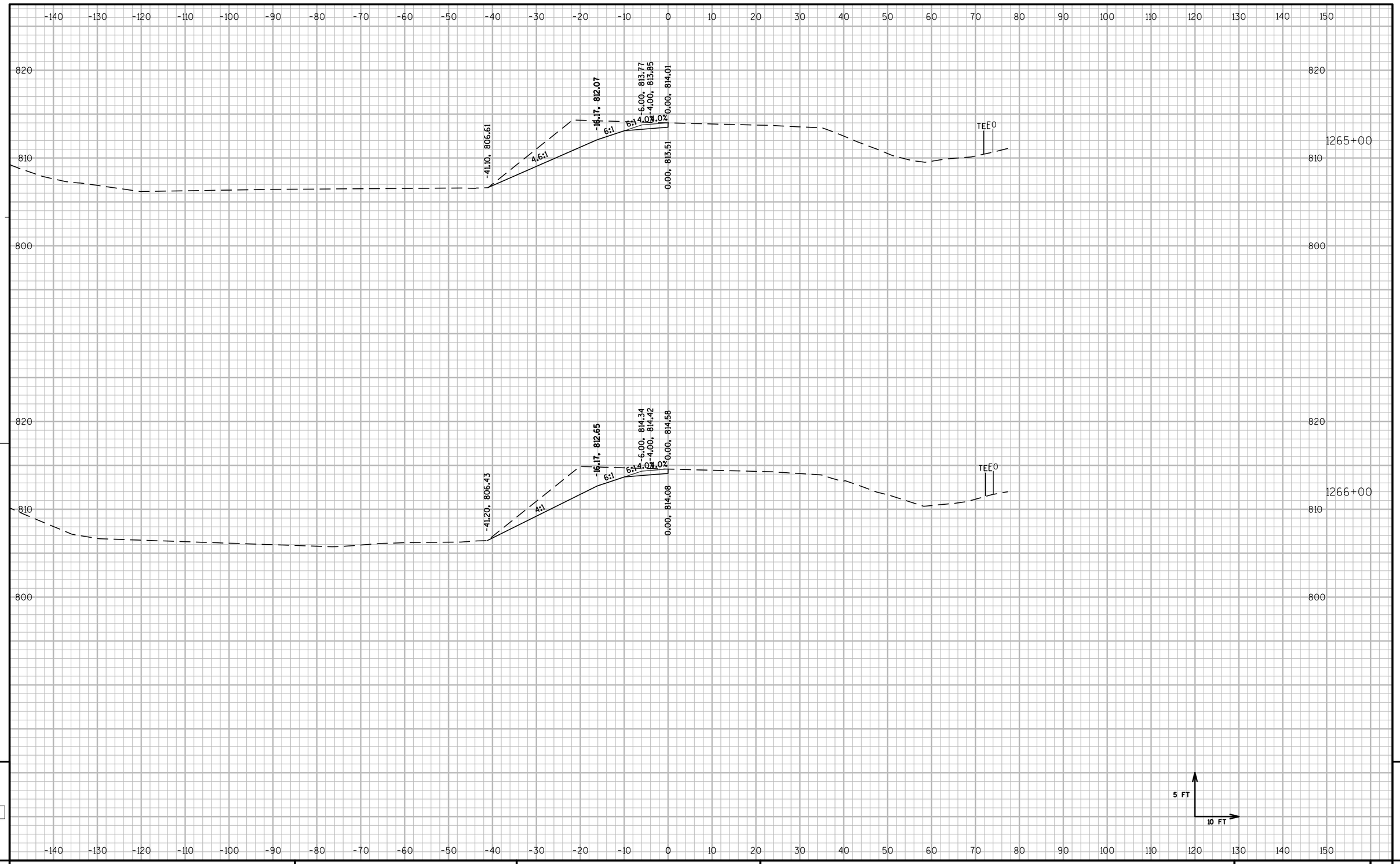
WISDOT/CADDS SHEET 49



PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 3	SHEET 215	E

FILE NAME : S:\MAD\1000--1099\1089\399\ACAD\CIVIL3D\SHEETSPLAN\090260_XS.DWG
LAYOUT NAME - 090272_XS

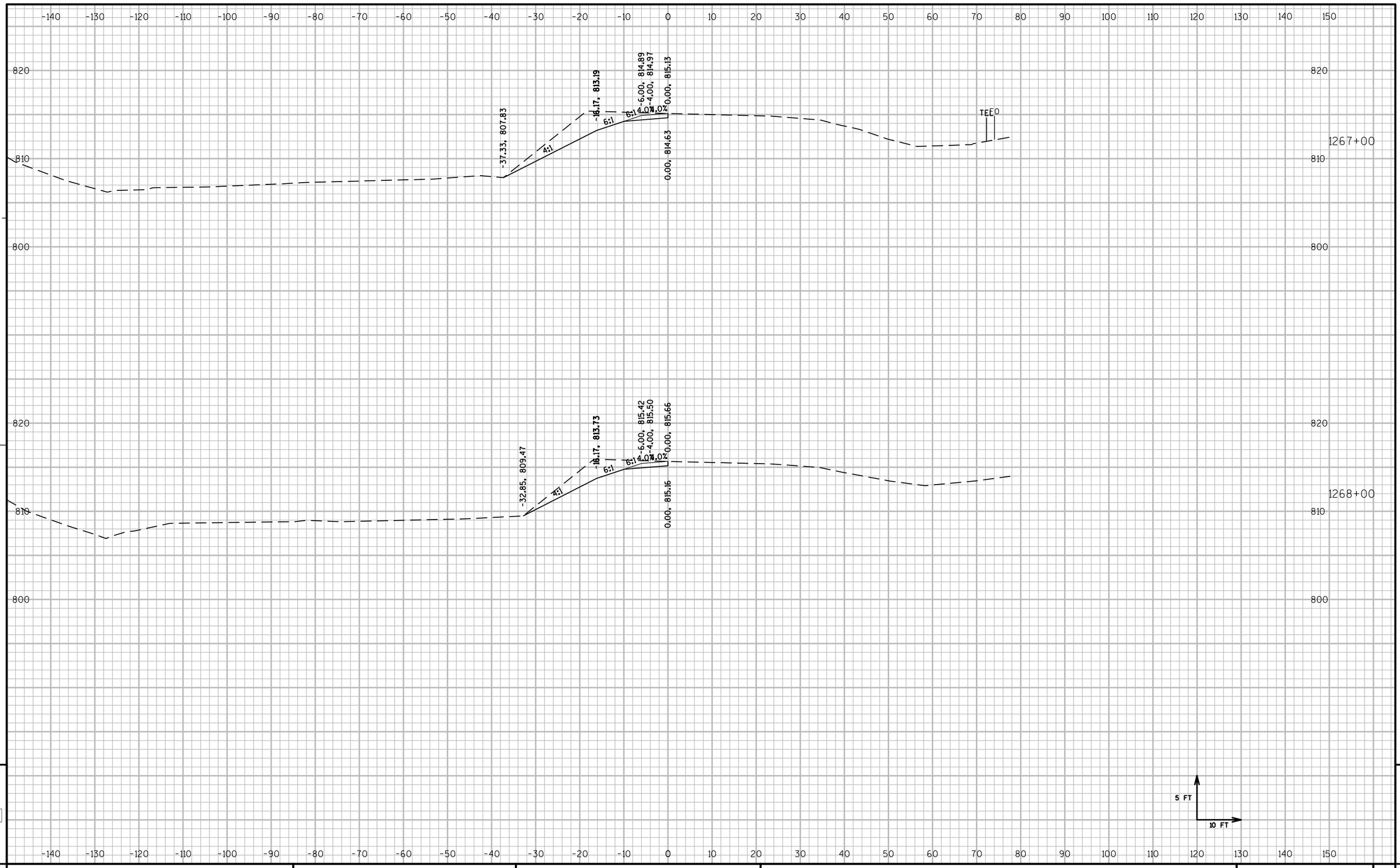
PLOT DATE : 11/30/2017 3:24 PM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF



PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 3	SHEET 216	E

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LAYOUT NAME - 090273_XS

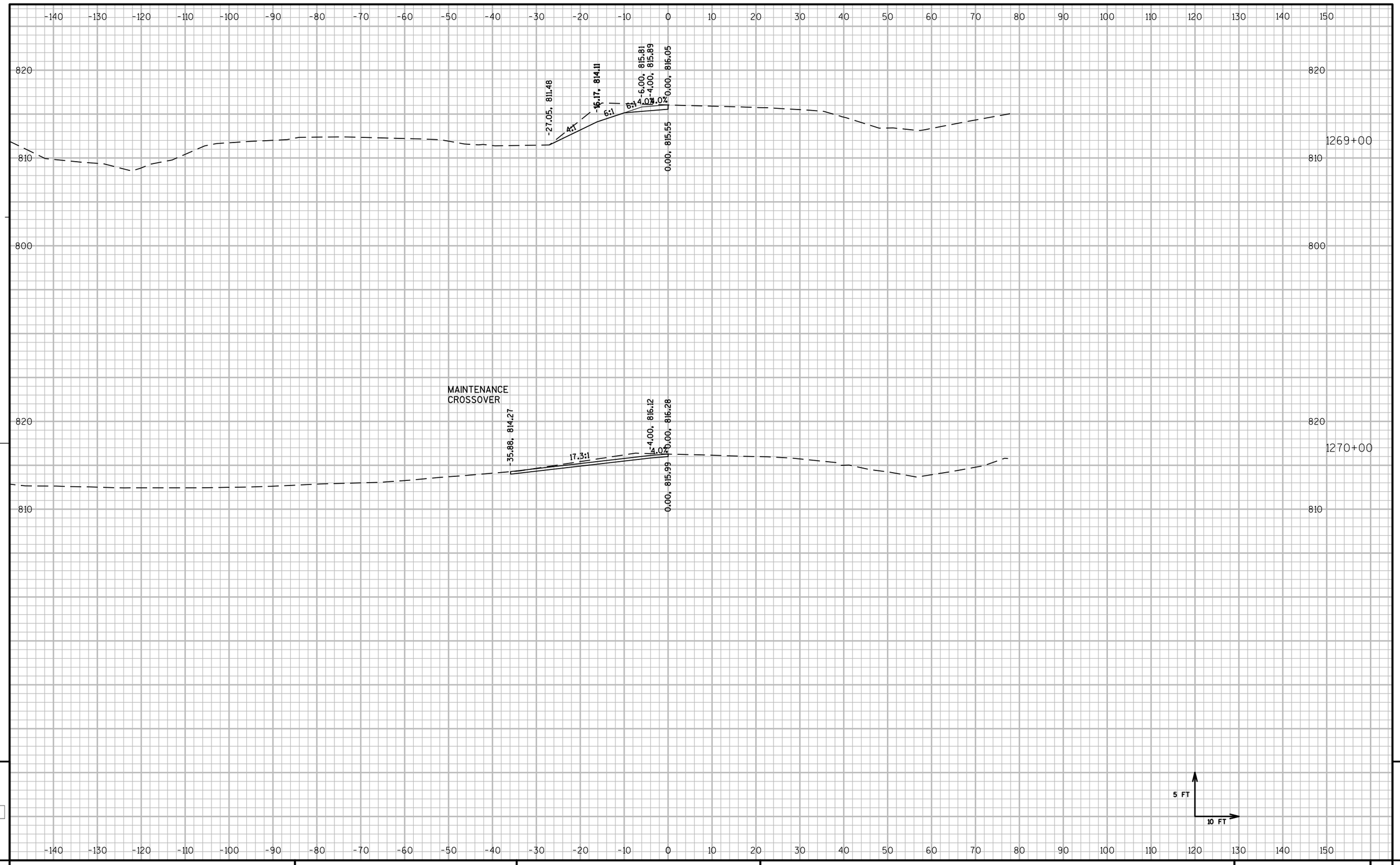
PLOT DATE : 11/29/2017 4:05 PM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF



PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 3	SHEET 217	E

FILE NAME : S:\MAD\1000--1099\1089\399\ACAD\CIVIL3D\SHEETSPLAN\090260_XS.DWG
LAYOUT NAME - 090274_XS

PLOT DATE : 11/29/2017 4:05 PM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

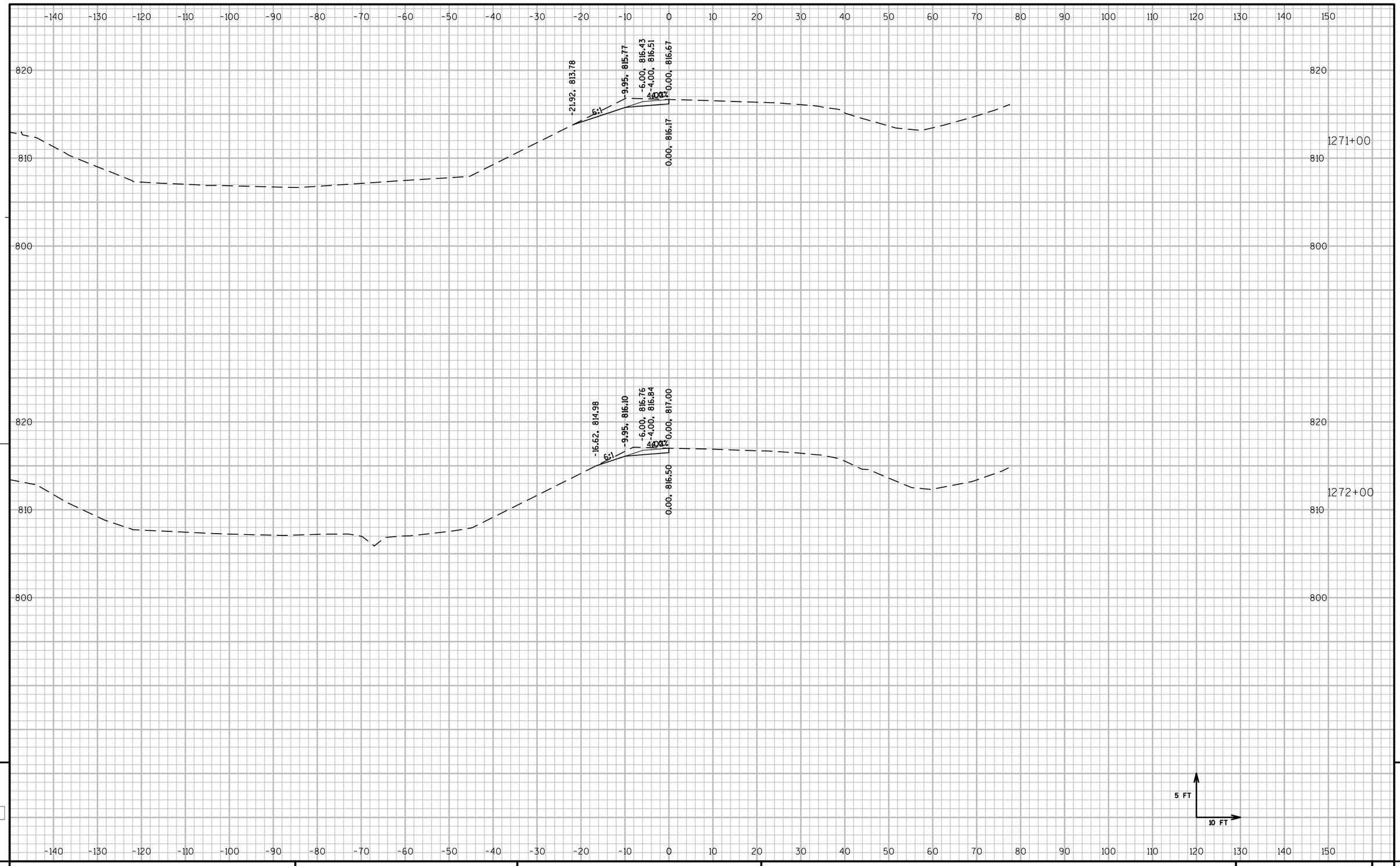


PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 3	SHEET 218	E

FILE NAME : S:\MAD\1000--1099\1089\399\ACAD\CIVIL3D\SHEETSPLAN\090260_XS.DWG
LAYOUT NAME - 090275_XS

PLOT DATE : 11/30/2017 3:24 PM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

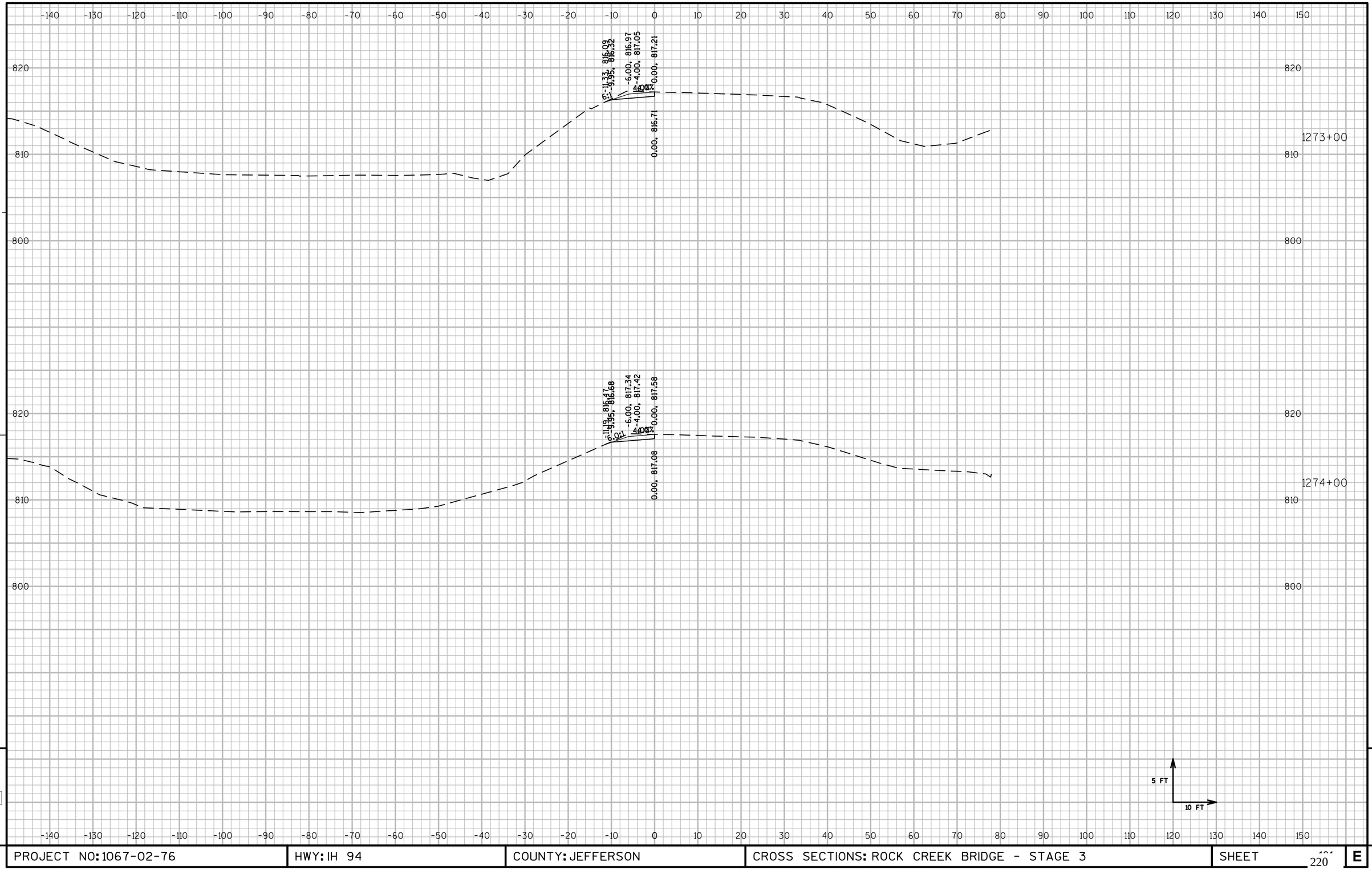
WISDOT/CADDS SHEET 49



PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 3	SHEET 219	E

FILE NAME : S:\MAD\1000--1099\1089\399\ACAD\CIVIL3D\SHEETSPLAN\090260_XS.DWG
LAYOUT NAME - 090276_XS

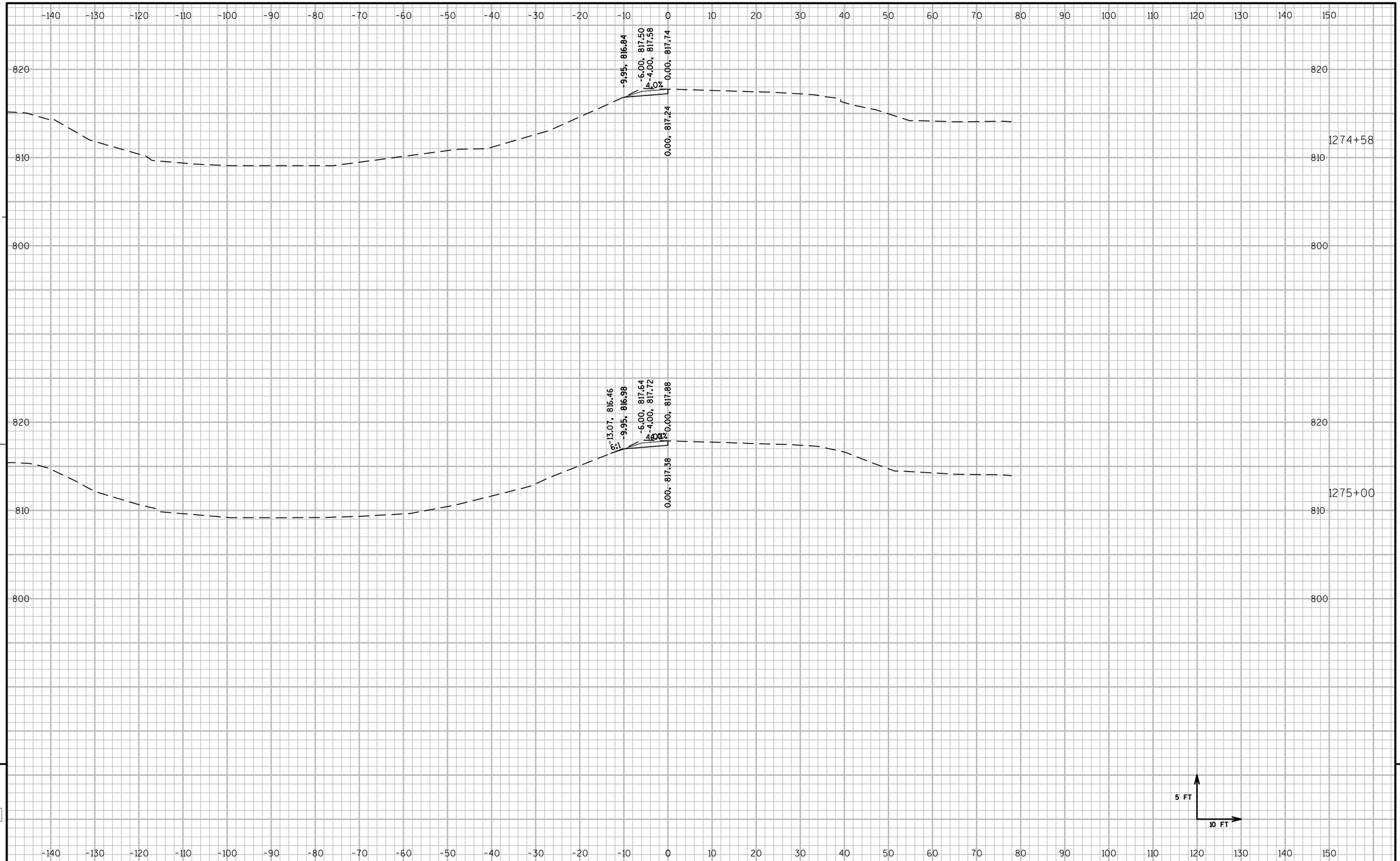
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PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 3	SHEET 220	E

FILE NAME : S:\MAD\1000--1099\1089\399\ACAD\CIVIL3D\SHEETSPLAN\090260_XS.DWG
LAYOUT NAME - 090277_XS

PLOT DATE : 11/30/2017 9:23 AM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

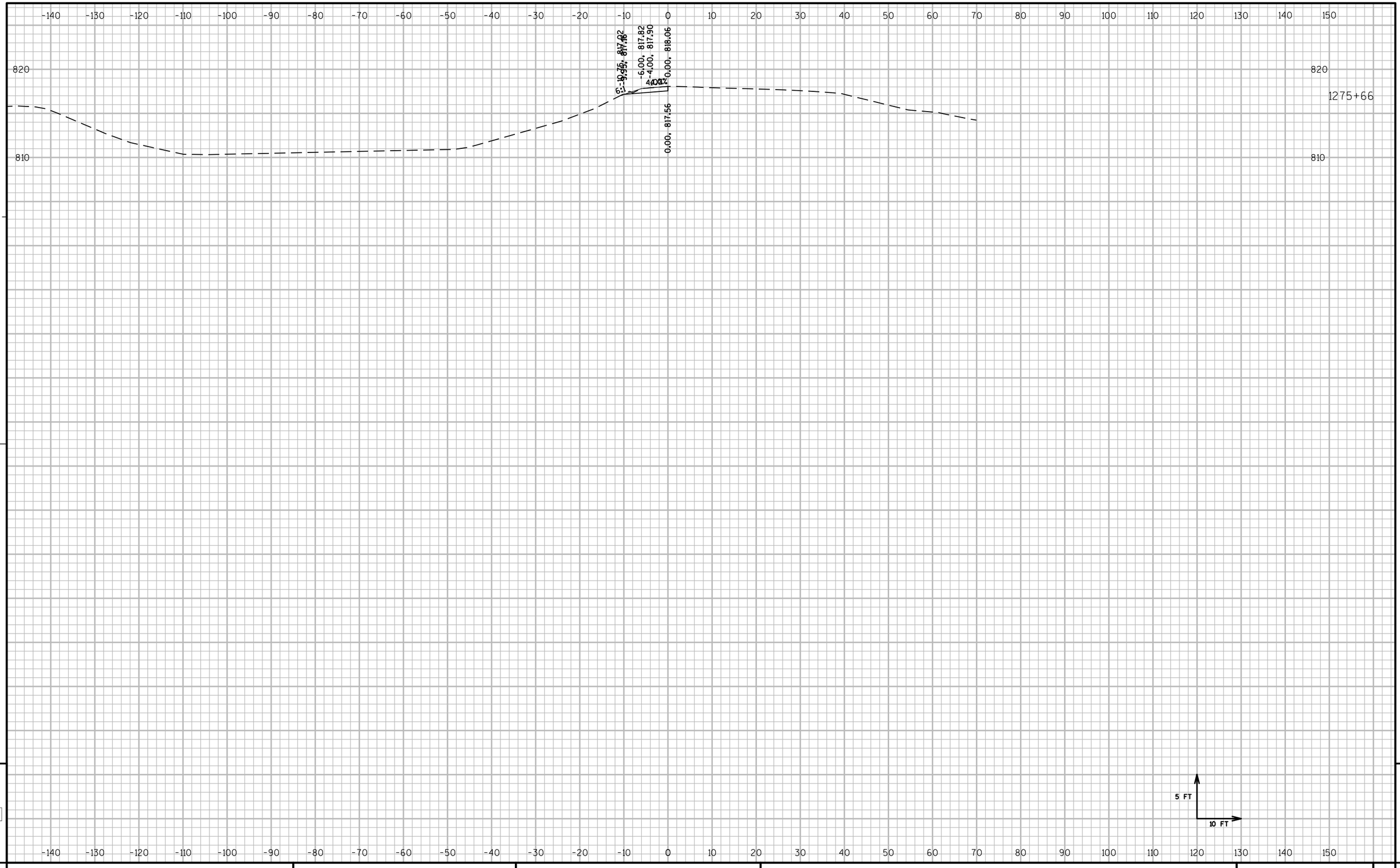


PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 3	SHEET 221	E

FILE NAME : S:\MAD\1000--1099\1089\399\ACAD\CIVIL3D\SHEETSPLAN\090260_XS.DWG
LAYOUT NAME - 090278_XS

PLOT DATE : 11/30/2017 9:23 AM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49



PROJECT NO: 1067-02-76	HWY: IH 94	COUNTY: JEFFERSON	CROSS SECTIONS: ROCK CREEK BRIDGE - STAGE 3	SHEET 222	E

FILE NAME : S:\MAD\1000--1099\1089\399\ACAD\CIVIL3D\SHEETSPLAN\090260_XS.DWG
LAYOUT NAME - 090279_XS

PLOT DATE : 11/29/2017 4:05 PM PLOT BY : MEYER, TERA PLOT NAME : PLOT SCALE : 1:20_XREF

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov

MAD

FEBRUARY 2020

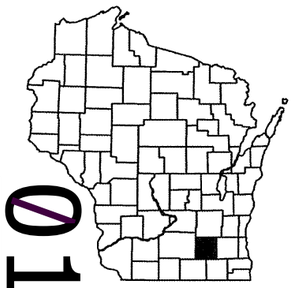
PROJECT ID: 1067-04-71
WITH: 1066-06-72 & 1067-02-76

COUNTY: JEFFERSON

ORDER OF SHEETS

Section No. 1 Title
Section No. 2 Typical Sections and Details (Includes Erosion Control Plans)
Section No. 3 Estimate of Quantities
Section No. 3 Miscellaneous Quantities
~~Section No. 4 Right of Way Plat~~
Section No. 5 Plan and Profile
Section No. 6 Standard Detail Drawings
Section No. 7 Sign Plates
~~Section No. 8 Structure Plans~~
~~Section No. 9 Computer Earthwork Data~~
~~Section No. 9 Cross Sections~~

TOTAL SHEETS = 114





DESIGN DESIGNATION		IH 94
A.A.D.T. (2015)	=	41,290
A.A.D.T. (2035)	=	49,590
D.H.V. (2040)	=	6,760
D.D. (2040)	=	59/41
T. (2040)	=	11.1%
DESIGN SPEED	=	70 MPH
ESALS	=	11,000,000

CONVENTIONAL SYMBOLS

PLAN

- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA
- HIGH VOLTAGE (CAUTION)

PROFILE

- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (95.36)
- CULVERT (Profile View)

UTILITIES

- ELECTRIC (E)
- FIBER OPTIC (FO)
- GAS (G)
- SANITARY SEWER (SAN)
- STORM SEWER (SS)
- TELEPHONE (T)
- WATER (W)
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

MADISON - OCONOMOWOC

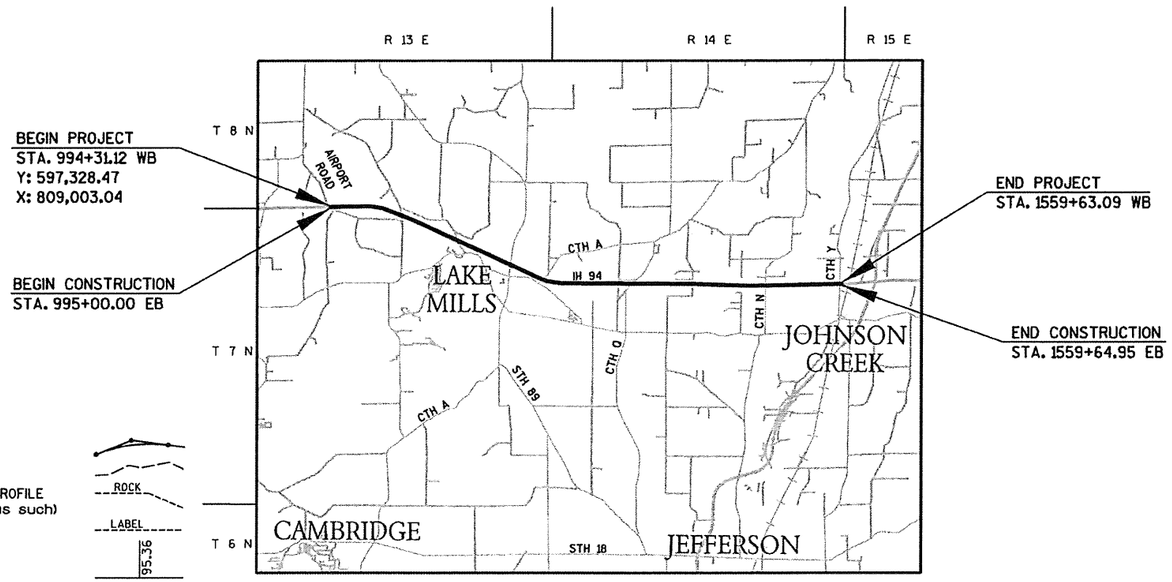
AIRPORT ROAD TO CTH Y

IH 94

JEFFERSON COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1067-04-71	WISC 2020033	1

STATE PROJECT NUMBER
1067-04-71



BEGIN PROJECT
STA. 994+31.12 WB
Y: 597,328.47
X: 809,003.04

BEGIN CONSTRUCTION
STA. 995+00.00 EB

END PROJECT
STA. 1559+63.09 WB

END CONSTRUCTION
STA. 1559+64.95 EB

LAYOUT
SCALE 0 1.5 MI.

TOTAL NET LENGTH OF CENTERLINE = 10.707 MI.

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, JEFFERSON COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCE MAY BE USED AS GROUND DISTANCES.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988, NAVD (2012).

ORIGINAL PLANS PREPARED BY:

STRAND ASSOCIATES®
910 West Wingra Drive
Madison, WI 53715
608 251-4843
608 251-8655 FAX
www.strand.com

WISCONSIN
JOSHUA PACHNIAK
E-45056
MADISON
WI
PROFESSIONAL ENGINEER
10-8-19

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	Strand Associates, Inc.
Designer	Strand Associates, Inc.
Project Manager	Jim Buschkopf
Regional Examiner	SW Region
Regional Supervisor	Scott Schoenmann
C.O. Examiner	

APPROVED FOR THE DEPARTMENT
DATE: 10/11/19 (Signature)

E

GENERAL NOTES

THE WB AND EB ALIGNMENTS ARE APPROXIMATLEY THE INSIDE MEDIAN LANE EDGE.

THERE ARE UTILITY FACILITIES WITHIN THE PROJECT AREA THAT ARE NOT SHOWN ON THE PLANS. CONTRACTOR SHALL COORDINATE THEIR CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGERS HOTLINE AND/OR A DIRECT CALL TO THE UTILITIES THAT HAVE FACILITIES IN THE AREA. NOT ALL UTILITIES ARE MEMBERS OF DIGGERS HOTLINE.

ADJUST THE LOCATIONS OF CONTRACT ITEMS UNDER THIS CONTRACT TO AVOID CONFLICTS WITH THE EXISTING UTILITY FACILITIES, UNLESS OTHERWISE SPECIFIED IN THE CONTRACT SPECIAL PROVISIONS.

THE CONTRACTOR'S PAVING OPERATIONS SHALL BE CONSISTENT WITH THE PLAN TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT PAVEMENT HMA LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING LANE.

NO LONGITUDINAL HMA PAVEMENT COLD JOINT IS ALLOWED BETWEEN THE OUTSIDE LANE AND OUTSIDE SHOULDER.

HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 112 LB/SY/IN.

PROTECT EXISTING HEIGHT MODERNIZATION SURVEY STATIONS AND SECTION CORNERS WITHIN THE PROJECT LIMITS.

HMA PAVEMENT SUMMARY TABLE

3.75" HMA PAVEMENT (OVERLAY)		
LAYER	THICKNESS	HMA TYPE
UPPER LAYER LOWER LAYER	1.75" 2"	4 HT 58-28 H 4 HT 58-28 S
2" HMA PAVEMENT (OVERLAY)		
UPPER LAYER	2"	4 HT 58-28 H

UTILITIES

* AT&T LEGACY - COMMUNICATION LINE
ATTENTION: WILLIAM KOENIG
110 N MAIN STREET
CULVER, IN 46511
OFFICE: (574) 842-8830
MOBILE: (608) 628-0575
E-MAIL: wekoenig@att.net

* ATC MANAGEMENT, INC. - ELECTRICITY
ATTENTION: CHRIS DAILEY
P.O. BOX 47
WAUKESHA, WI 53187
(262) 506-6884
E-MAIL: cdailey@atcllc.com

* CHARTER COMMUNICATIONS - COMMUNICATION LINE
ATTENTION: RON FRASE
N 3760 CTH DJ
JUNEAU, WI 53039
(608) 438-9648
E-MAIL: ronald.frase@charter.com

* FRONTIER COMMUNICATIONS OF WILLC - COMMUNICATION LINE
ATTENTION: RUSS RYAN
118 DIVISION ST.
PLYMOUTH, WI 53073
(920) 583-3275
E-MAIL: russell.w.ryan@ftr.com

* LAKE MILLS LIGHT AND WATER DEPARTMENT - ELECTRICITY
ATTENTION: PAUL HERMANSON
155 INDUSTRIAL DRIVE
LAKE MILLS, WI 53563
(920) 648-4026
E-MAIL: phermanson@ci.lake-mills.wi.us

* VILLAGE OF JOHNSON CREEK - WATER
ATTENTION: ARIC MINDEMANN
125 DEPOT ST.
JOHNSON CREEK, WI 53038-0238
(920) 699-3752
E-MAIL: aricm@johnsoncreekwi.org

* WISCONSIN DEPARTMENT OF TRANSPORTATION - COMMUNICATION LINE
ATTENTION: JOHN MITTELSTADT
433 W. ST PAUL AVENUE
MILWAUKEE, WI 53203-3007
(414) 205-7859
E-MAIL: john.mittelstadt@dot.wi.gov

* WISCONSIN DEPARTMENT OF TRANSPORTATION - RWIS
ATTENTION: MIKE ADAMS
P.O. BOX 7986
MADISON, WI 53707-7986
(608) 266-5004
E-MAIL: michael.adams@dot.wi.gov

* WE ENERGIES - ELECTRIC
ATTENTION: BRYAN STOEHR
500 S 116TH
WEST ALLIS, WI 53214
(414) 944-5516
E-MAIL: bryan.stoehr@we-energies.com

* WE ENERGIES - GAS OPERATIONS
ATTENTION: SCOTT HOLSTEIN
700 S KANE STREET
BURLINGTON, WI 53105
(262) 763-1084
E-MAIL: scott.holstein@we-energies.com

SECTION 2 ORDER OF SHEETS

GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
PLAN DETAILS
ADVANCED WARNING SIGNING
CONSTRUCTION STAGING TYPICALS

ABBREVIATIONS

DES.	DESIRABLE
MAX.	MAXIMUM
MI.	MILE
MIN.	MINIMUM
SEG.	SEGMENT
VAR.	VARIES

* DENOTES DIGGERS HOTLINE MEMBER

DIGGERS HOTLINE
Dial 811 or (800)242-8511
www.DiggersHotline.com

WISDOT CONTACT

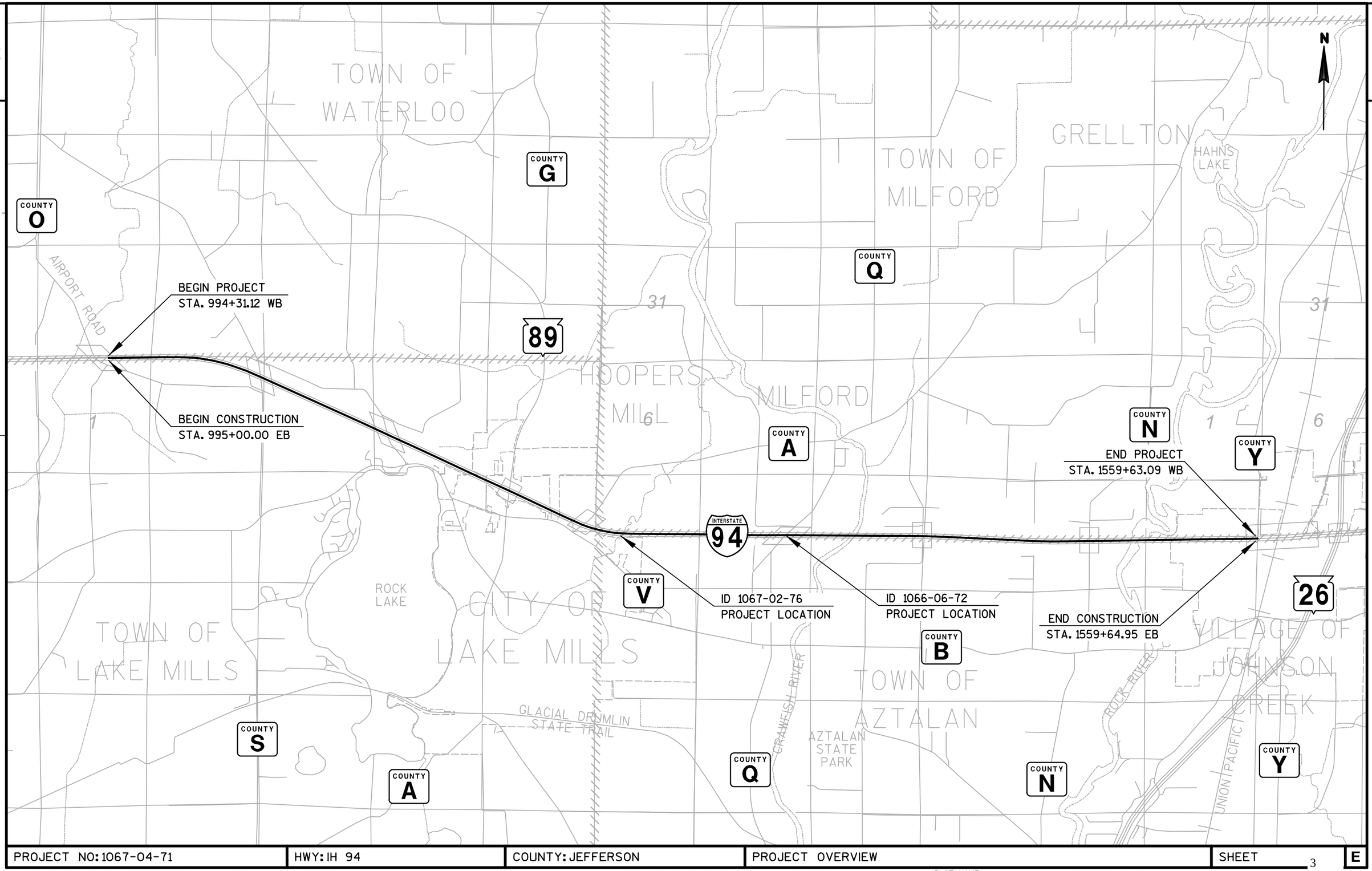
JIM BUSCHKOPF, P.E.
WISDOT SW REGION-EDGERTON OFFICE
111 INTERSTATE BLVD.
EDGERTON, WI 53534
(608) 884-7133
E-MAIL: james.buschkopf@dot.wi.gov

DESIGN CONTACT

JOSH PACHNIAK, P.E.
STRAND ASSOCIATES, INC.
910 WEST WINGRA DRIVE
MADISON, WI 53715
(608) 251-4843
E-MAIL: josh.pachniak@strand.com

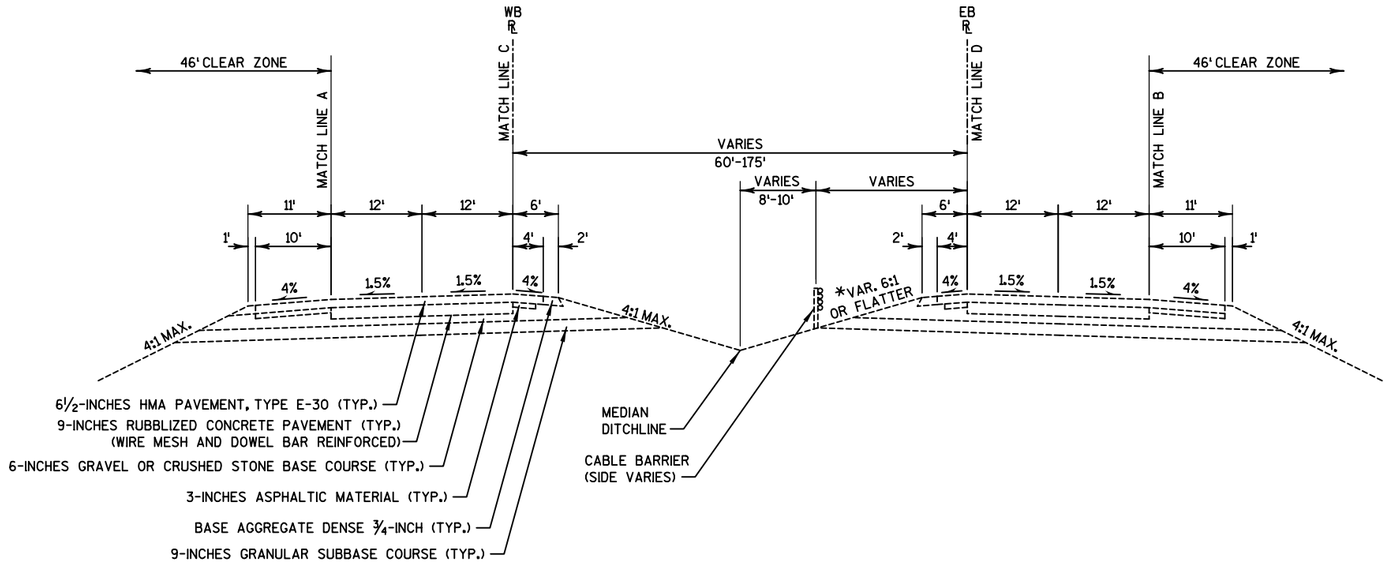
DNR LIAISON

SHELLEY WARWICK
SOUTH CENTRAL REGION
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711
(608) 444-2835
E-MAIL: shelley.warwick@wisconsin.gov



PROJECT NO: 1067-04-71	HWY: IH 94	COUNTY: JEFFERSON	PROJECT OVERVIEW	SHEET 3	E

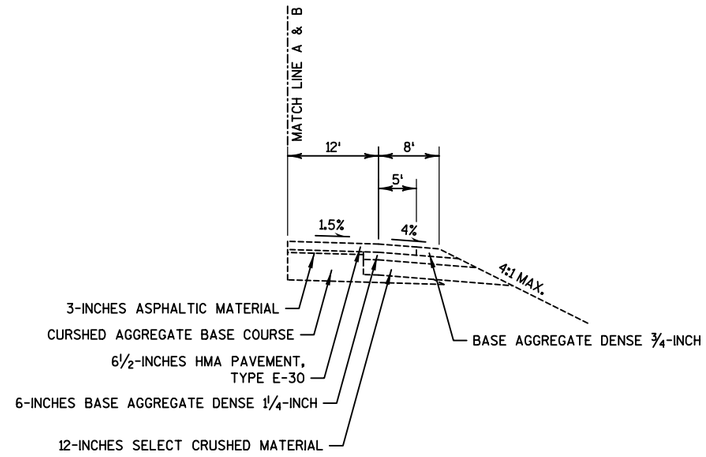
** SEE PLAN SECTION FOR BEAM GUARD LOCATIONS



TYPICAL EXISTING SECTION IH 94

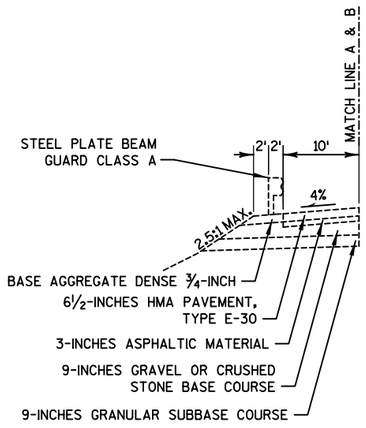
STA. 994+31 WB - STA. 1559+63 WB
STA. 995+00 EB - STA. 1559+65 EB

* 10:1 OR FLATTER AHEAD OF AND ALONG BEAM GUARD



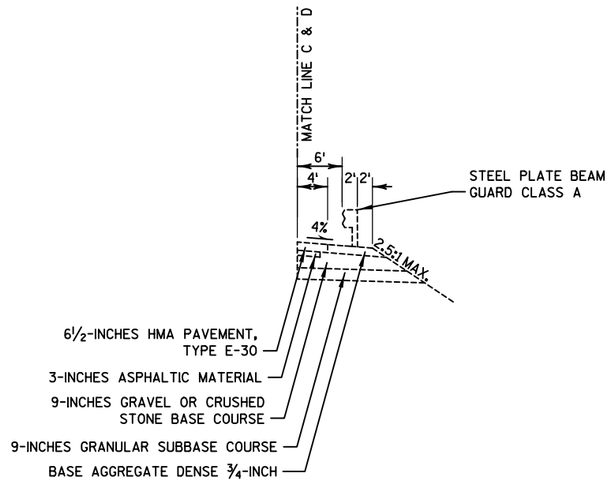
TYPICAL EXISTING SECTION IH 94

AT STH 89 AND REST STOP ACCELLERATION AND DECELERATION LANES
MIRROR FOR WB DIRECTION



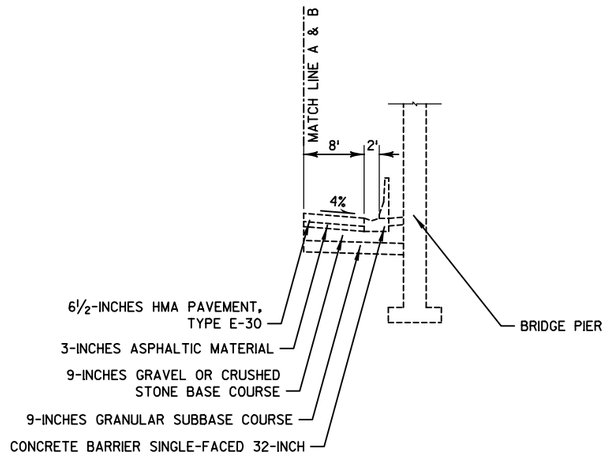
TYPICAL EXISTING SECTION IH 94

AT BEAM GUARD LOCATIONS**
MIRROR FOR EB DIRECTION



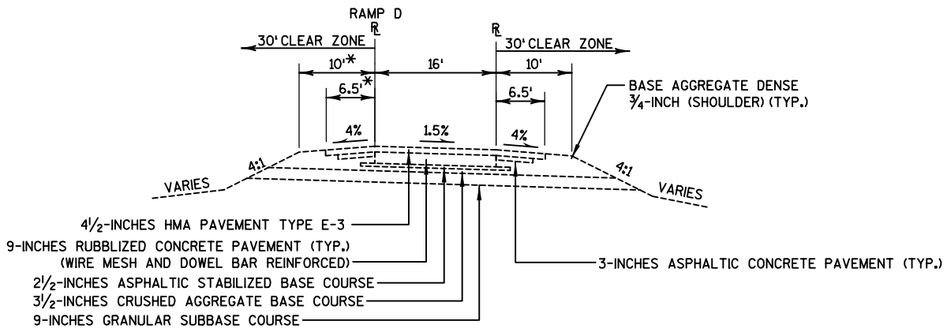
TYPICAL EXISTING SECTION IH 94

AT BEAM GUARD LOCATIONS**
MIRROR FOR EB DIRECTION



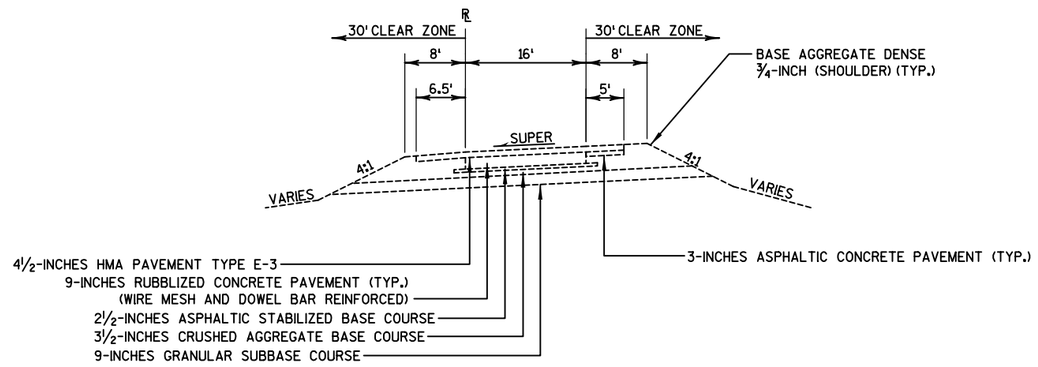
TYPICAL EXISTING SECTION IH 94

AT STH 89, CTH A, CTH Q, ZIEBELL ROAD, AND CTH N
MIRROR FOR WB DIRECTION



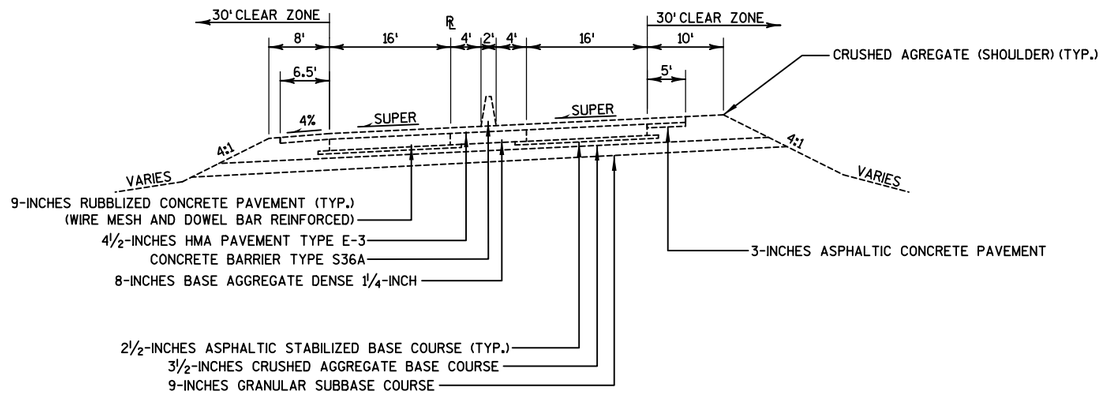
TYPICAL EXISTING SECTION - A, C & D RAMPS

IH 94 EB - STH 89 EXIT & ENTRANCE RAMPS (A & C RAMPS)
IH 94 WB - STH 89 EXIT RAMP (D RAMP)
*SHOULDER IS 5' PAVED AND 8' TOTAL ON THE D RAMP
STA. 1192+18 A - STA. 1201+89 A
STA. 1202+24 B - STA. 1207+75 B
STA. 1203+06 D - STA. 1209+83 D



TYPICAL EXISTING SECTION - B RAMP

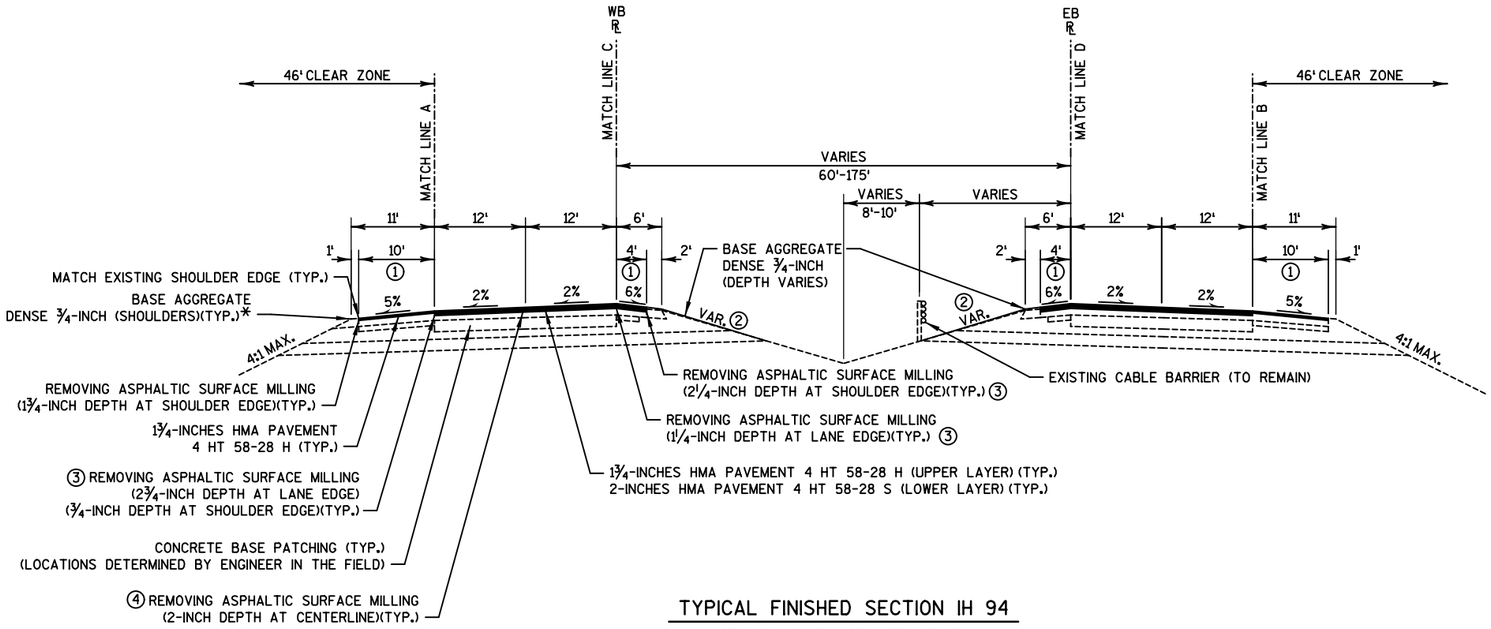
IH 94 WB - STH 89 ENTRANCE RAMP
STA 1201+83 B - STA 1207+75 B



TYPICAL EXISTING SECTION - BD RAMP

IH 94 WB - STH 89 EXIT/ENTRANCE RAMP
STA 1202+81 BD - STA 1207+75 BD

PROJECT NO: 1067-04-71	HWY: IH 94	COUNTY: JEFFERSON	TYPICAL EXISTING SECTIONS	SHEET 5	E



TYPICAL FINISHED SECTION IH 94

STA. 994+31 WB - STA. 1559+63 WB
STA. 995+00 EB - STA. 1559+65 EB
* MATCH EXISTING AGGREGATE SHOULDER SLOPE

** SEE PLAN SECTION FOR BEAM GUARD LOCATIONS

① ASPHALTIC SHOULDER RUMBLE STRIPS REQ'D. SEE STANDARD DETAIL DRAWING "SHOULDER RUMBLE STRIP, MILLING" FOR ADDITIONAL INFORMATION.

② 10:1 MAX. IN FRONT OF EXISTING CABLE GUARD.

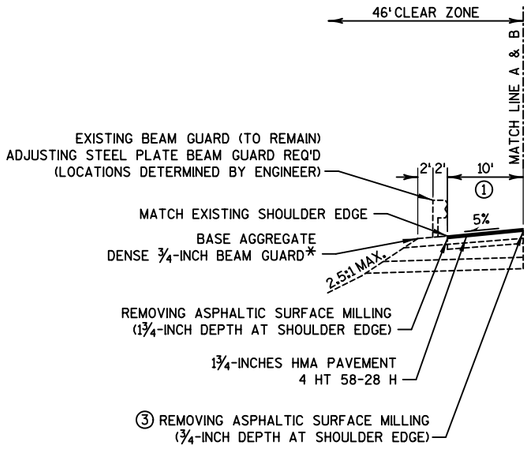
4:1 MAX. WHEN THE EXISTING SIDE SLOPE IS FLATTER THAN A 4:1.

3:1 MAX. WHEN THE SIDE SLOPE IS BETWEEN A 4:1 AND A 3:1.

MATCH EXISTING SLOPE WHEN SIDE SLOPE IS STEEPER THAN A 3:1.

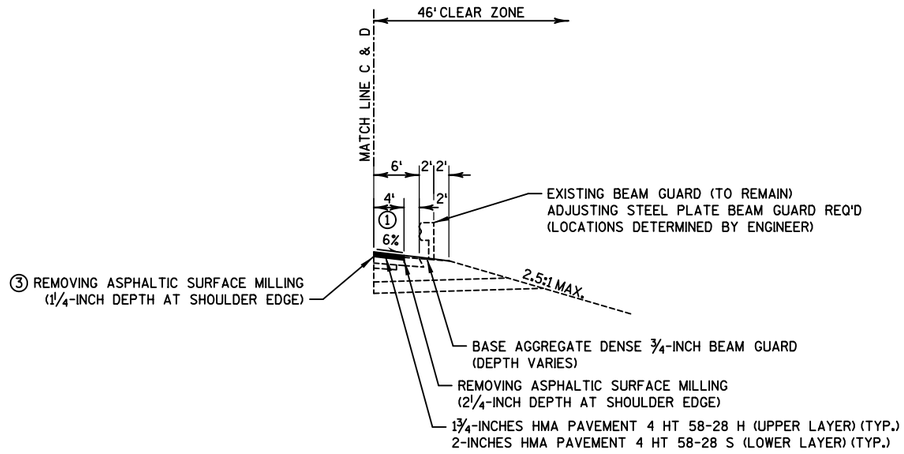
③ INCREASE EXISTING 1.5% CROSS SLOPE TO 2% WITH VARIABLE DEPTH MILLING OPERATION. HOLD 2" MILL DEPTH AT THE EXISTING ROADWAY CENTERLINE AND MILL AT A 2% CROSS SLOPE TOWARDS THE SHOULDERS. MILLING DEPTHS PROVIDED ARE BASED ON THE CROSS SLOPES IN THE TYPICAL EXISTING SECTIONS. DEPTHS MAY VARY DEPENDING ON FIELD CONDITIONS.

④ SEE CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION ON MILLING AND PAVING OPERATIONS AT THE EXISTING LANE CENTERLINE JOINT.



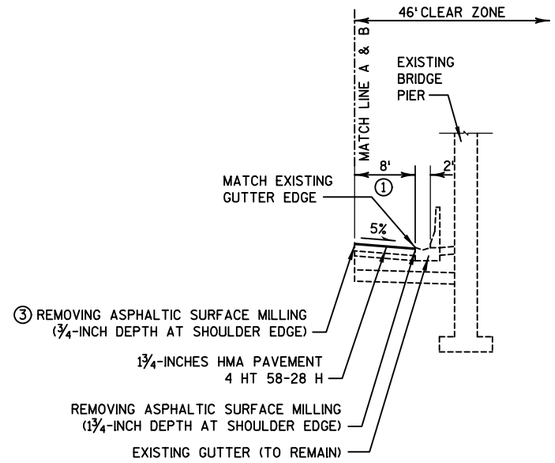
TYPICAL FINISHED SECTION IH 94

AT BEAM GUARD LOCATIONS**
MIRROR FOR EB DIRECTION
* MATCH EXISTING AGGREGATE SHOULDER SLOPE



TYPICAL FINISHED SECTION IH 94

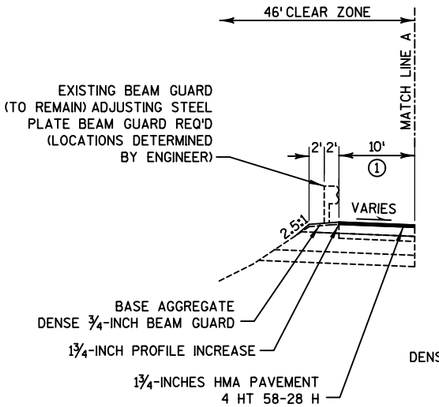
AT BEAM GUARD LOCATIONS**
MIRROR FOR EB DIRECTION



TYPICAL FINISHED SECTION IH 94

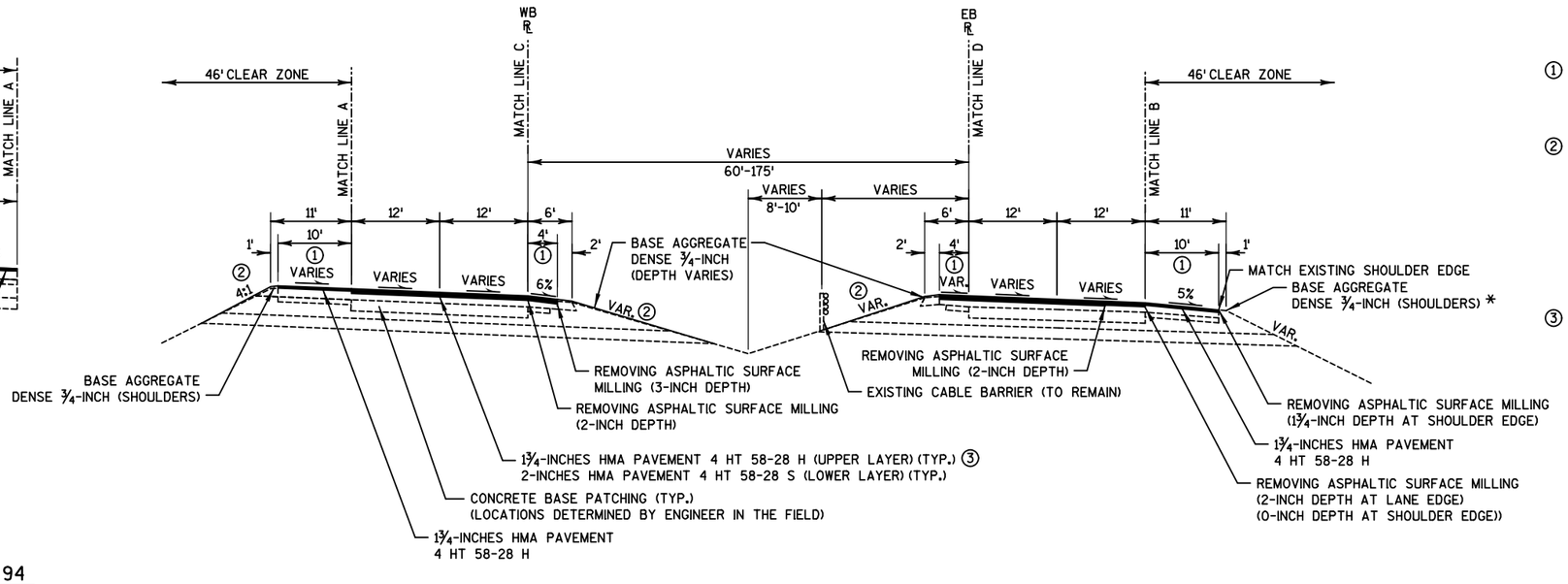
AT STH 89, CTH A, CTH Q, ZIEBELL ROAD, AND CTH N
MIRROR FOR WB DIRECTION

PROJECT NO: 1067-04-71	HWY: IH 94	COUNTY: JEFFERSON	TYPICAL FINISHED SECTIONS	SHEET 6	E



TYPICAL FINISHED SECTION IH 94

AT BEAM GUARD LOCATIONS**



TYPICAL FINISHED SECTION IH 94

IN SUPERELEVATION SECTIONS

* MATCH EXISTING AGGREGATE SHOULDER SLOPE

** SEE PLAN SECTION FOR BEAM GUARD LOCATIONS

① ASPHALTIC SHOULDER RUMBLE STRIPS REQ'D. SEE STANDARD DETAIL DRAWING "SHOULDER RUMBLE STRIP, MILLING" FOR ADDITIONAL INFORMATION.

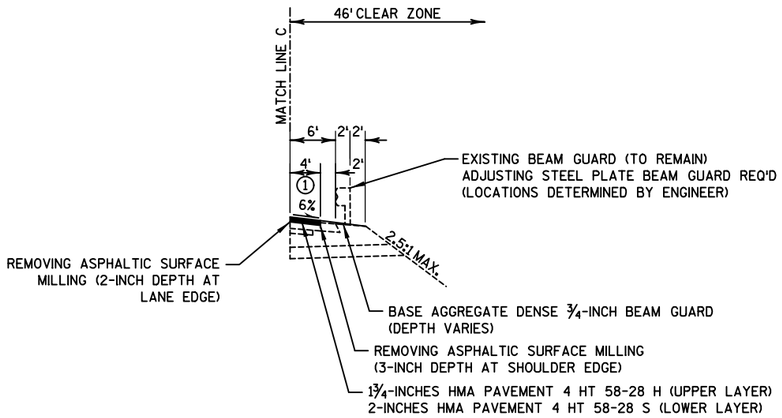
② 10:1 MAX. IN FRONT OF EXISTING CABLE GUARD.

4:1 MAX. WHEN THE EXISTING SIDE SLOPE IS FLATTER THAN A 4:1.

3:1 MAX. WHEN THE SIDE SLOPE IS BETWEEN A 4:1 AND A 3:1.

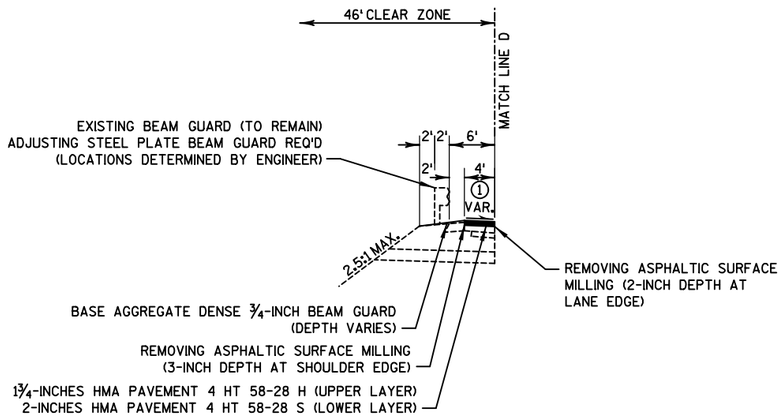
MATCH EXISTING SLOPE WHEN SIDE SLOPE IS STEEPER THAN A 3:1.

③ SEE CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION ON MILLING AND PAVING OPERATIONS AT THE EXISTING LANE CENTERLINE JOINT.



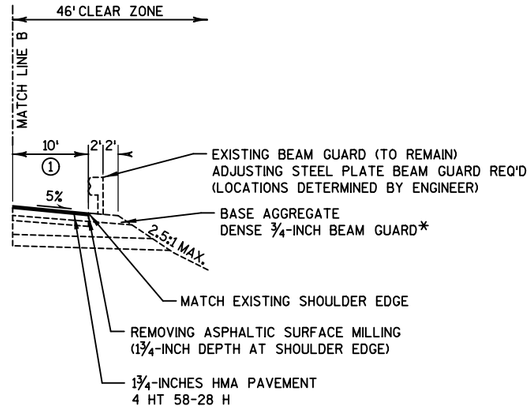
TYPICAL FINISHED SECTION IH 94

AT BEAM GUARD LOCATIONS**



TYPICAL FINISHED SECTION IH 94

AT BEAM GUARD LOCATIONS**

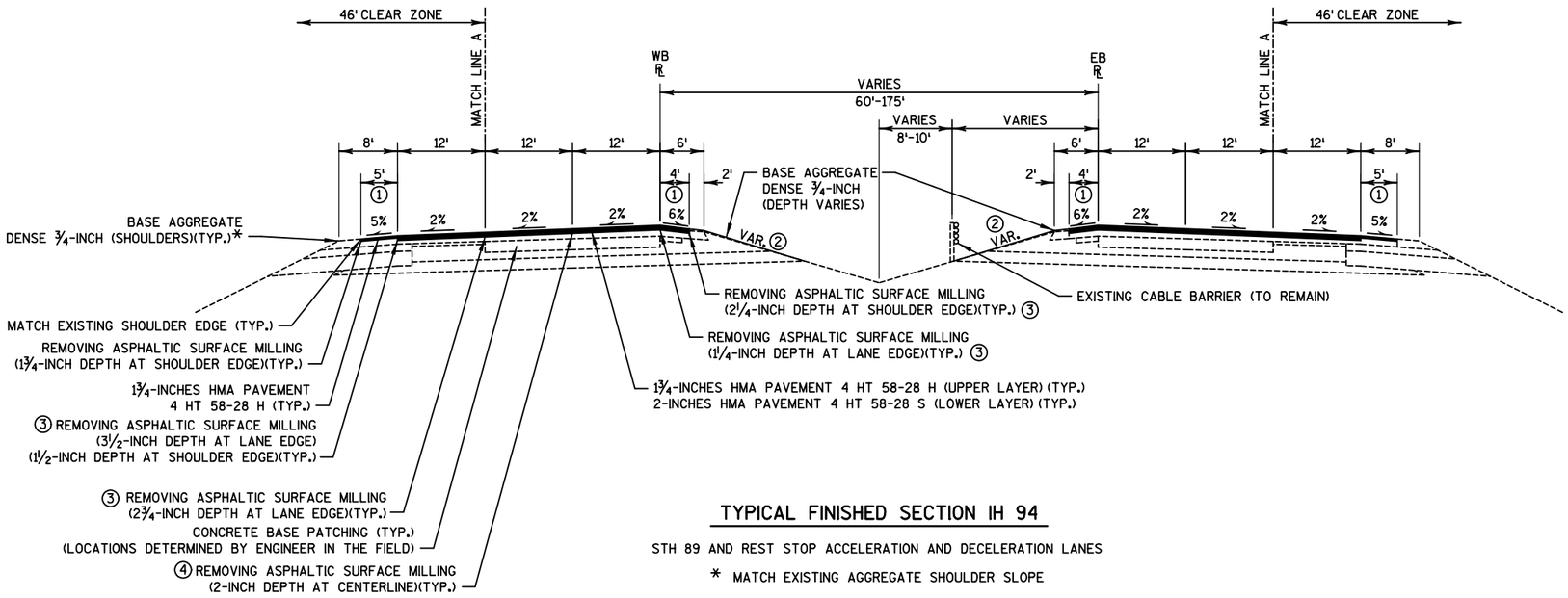


TYPICAL FINISHED SECTION IH 94

AT BEAM GUARD LOCATIONS

* MATCH EXISTING AGGREGATE SHOULDER SLOPE

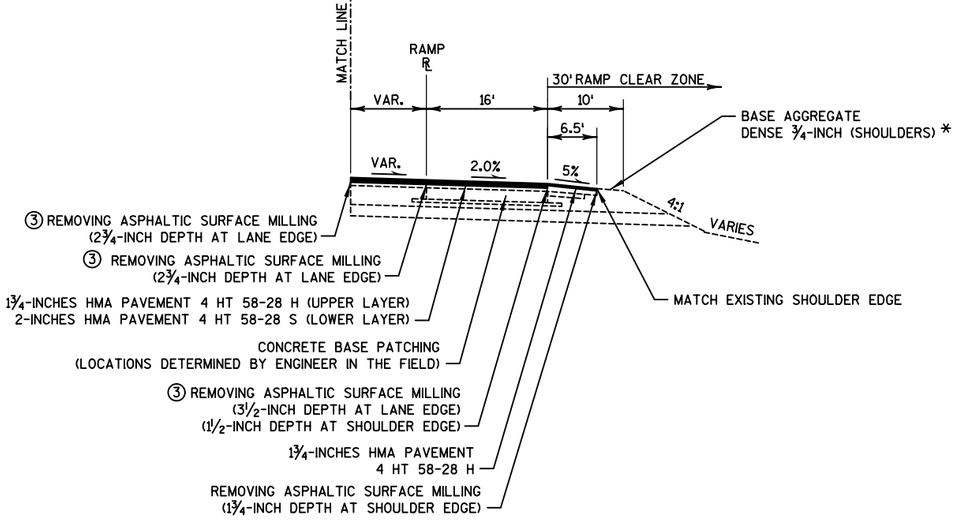
PROJECT NO: 1067-04-71	HWY: IH 94	COUNTY: JEFFERSON	TYPICAL FINISHED SECTIONS	SHEET 7	E



TYPICAL FINISHED SECTION IH 94

STH 89 AND REST STOP ACCELERATION AND DECELERATION LANES

* MATCH EXISTING AGGREGATE SHOULDER SLOPE



TYPICAL FINISHED SECTION IH 94

STH 89 AND REST STOP RAMP GORES

MIRROR FOR WB DIRECTION

* MATCH EXISTING AGGREGATE SHOULDER SLOPE

** SEE PLAN SECTION FOR BEAM GUARD LOCATIONS

① ASPHALTIC SHOULDER RUMBLE STRIPS REQ'D. SEE STANDARD DETAIL DRAWING "SHOULDER RUMBLE STRIP, MILLING" FOR ADDITIONAL INFORMATION.

② 10:1 MAX. IN FRONT OF EXISTING CABLE GUARD.

4:1 MAX. WHEN THE EXISTING SIDE SLOPE IS FLATTER THAN A 4:1.

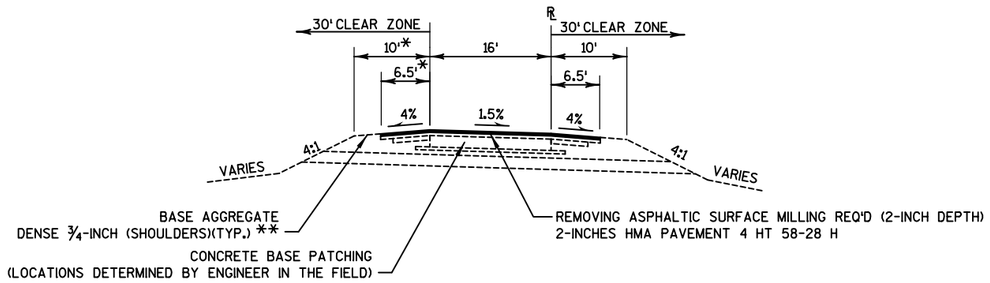
3:1 MAX. WHEN THE SIDE SLOPE IS BETWEEN A 4:1 AND A 3:1.

MATCH EXISTING SLOPE WHEN SIDE SLOPE IS STEEPER THAN A 3:1.

③ INCREASE EXISTING 1.5% CROSS SLOPE TO 2% WITH VARIABLE DEPTH MILLING OPERATION. HOLD 2" MILL DEPTH AT THE EXISTING ROADWAY CENTERLINE AND MILL AT A 2% CROSS SLOPE TOWARDS THE SHOULDERS. MILLING DEPTHS PROVIDED ARE BASED ON THE CROSS SLOPES IN THE TYPICAL EXISTING SECTIONS. DEPTHS MAY VARY DEPENDING ON FIELD CONDITIONS.

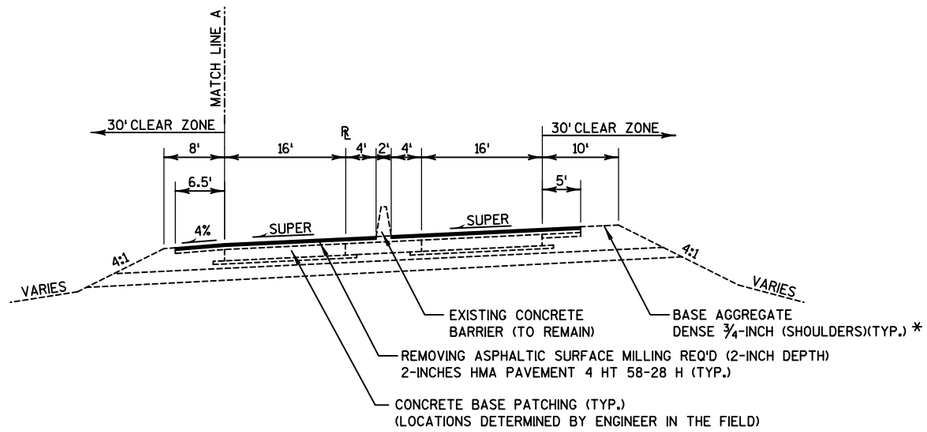
④ SEE CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION ON MILLING AND PAVING OPERATIONS AT THE EXISTING LANE CENTERLINE JOINT.

PROJECT NO: 1067-04-71	HWY: IH 94	COUNTY: JEFFERSON	TYPICAL FINISHED SECTIONS	SHEET 8	E



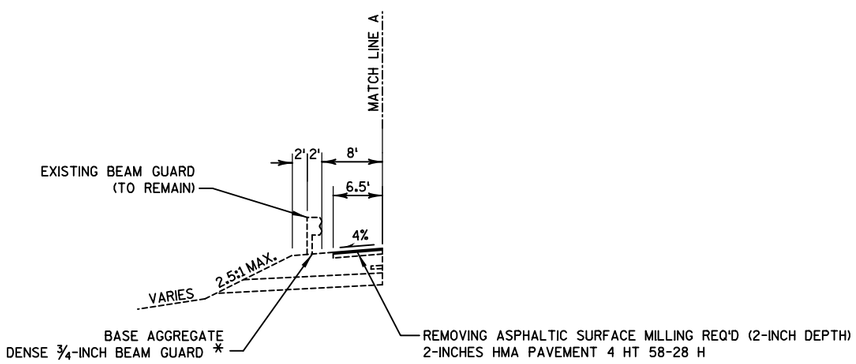
TYPICAL FINISHED SECTION - A, C & D RAMPS

IH 94 EB - STH 89 EXIT & ENTRANCE RAMPS (A & C RAMPS)
IH 94 WB - STH 89 EXIT RAMP (D RAMP)
*SHOULDER IS 5'PAVED AND 8'TOTAL ON THE STH 89 WB EXIT RAMP
STA. 1192+18 A - STA. 1201+89 A
STA. 1202+24 B - STA. 1207+75 B
STA. 1203+06 D - STA. 1209+83 D
** MATCH EXISTING AGGREGATE SHOULDER SLOPE



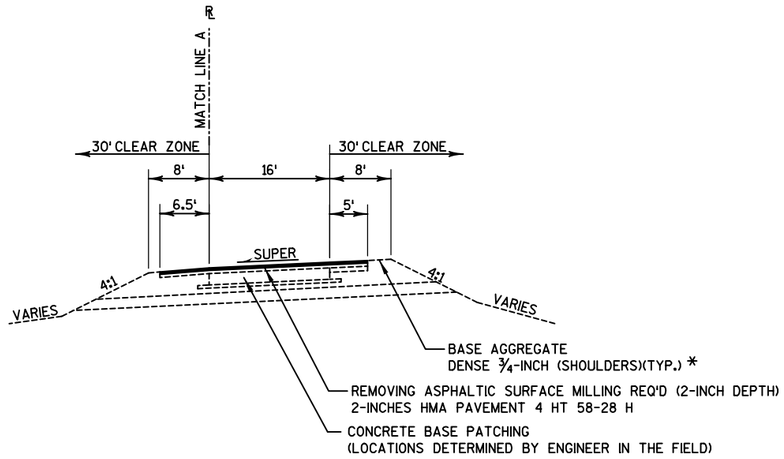
TYPICAL FINISHED SECTION - BD RAMP

IH 94 WB - STH 89 EXIT/ENTRANCE RAMP
(STA 1202+81 BD - STA 1207+75 BD)
* MATCH EXISTING AGGREGATE SHOULDER SLOPE



TYPICAL FINISHED SECTION - BD RAMP

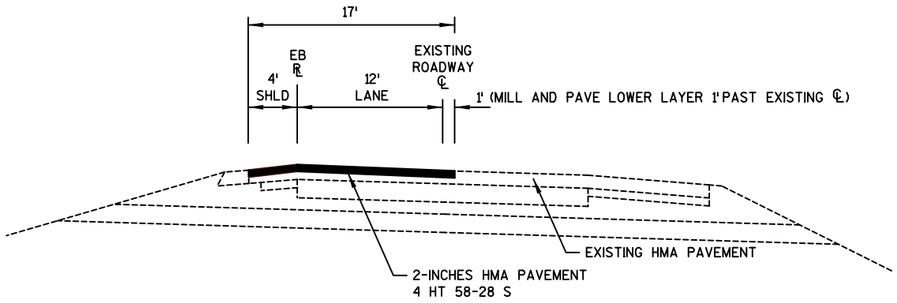
STA. 1201+34 B - STA. 1202+52 B
* MATCH EXISTING AGGREGATE SHOULDER SLOPE



TYPICAL FINISHED SECTION - B RAMP

IH 94 EB - STH 89 ENTRANCE RAMP
(STA 1198+79 B - STA 1207+75 B)
* MATCH EXISTING AGGREGATE SHOULDER SLOPE

PROJECT NO: 1067-04-71	HWY: IH 94	COUNTY: JEFFERSON	TYPICAL FINISHED SECTIONS	SHEET 9	E

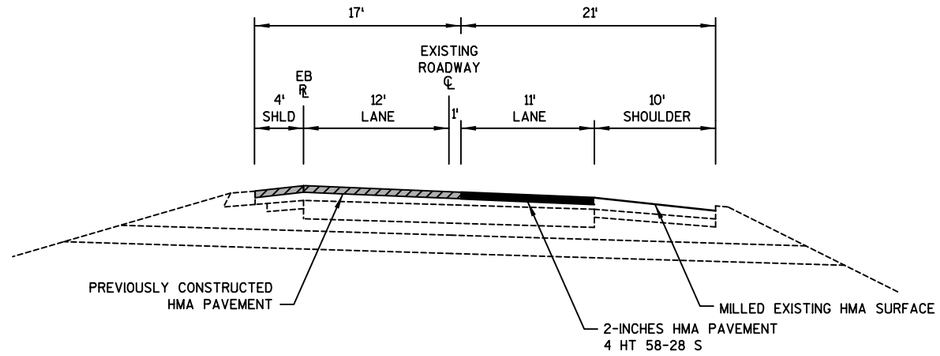


STAGE 2A

NOTE:

1. COMPLETE REMOVING ASPHALTIC SURFACE MILLING AND LOWER LAYER OF HMA PAVING FOR 4' MEDIAN SHOULDER, 12' MEDIAN THROUGH LANE, AND 1' OVER THE EXISTING LANE EDGE INTO THE OUTSIDE THROUGH LANE.

2. EASTBOUND DIRECTION IS SHOWN. MIRROR FOR WESTBOUND DIRECTION.

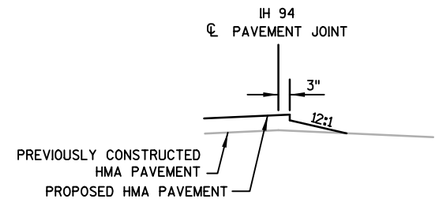


STAGE 2B

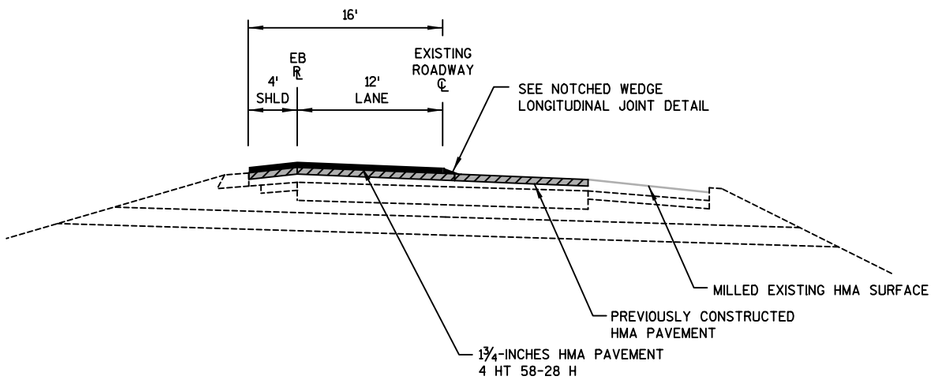
NOTE:

1. COMPLETE REMOVING ASPHALTIC SURFACE MILLING FOR REMAINING 11' OF OUTSIDE THROUGH LANE AND 10' OUTSIDE SHOULDER AND PAVE LOWER LAYER OF HMA FOR THE REMAINING 11' OF OUTSIDE THROUGH LANE.

2. EASTBOUND DIRECTION IS SHOWN. MIRROR FOR WESTBOUND DIRECTION.



NOTCHED WEDGE LONGITUDINAL JOINT DETAIL

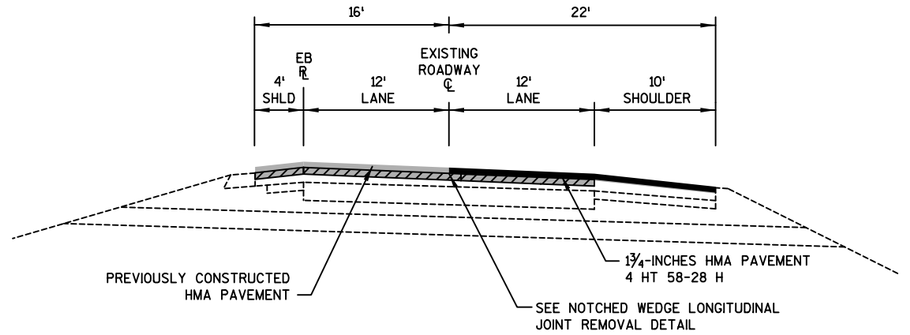


STAGE 3A

NOTE:

1. COMPLETE UPPER LAYER OF HMA PAVING FOR 4' MEDIAN SHOULDER AND 12' MEDIAN THROUGH LANE. THE ROADWAY CENTERLINE JOINT FOR THE UPPER HMA LAYER WILL BE LOCATED AT THE EXISTING ROADWAY CENTERLINE JOINT AND BE OFFSET 1' FROM THE LOWER HMA LAYER CENTERLINE JOINT.

2. EASTBOUND DIRECTION IS SHOWN. MIRROR FOR WESTBOUND DIRECTION.

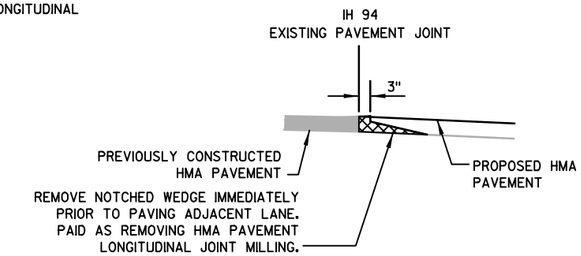


STAGE 3B

NOTE:

1. COMPLETE UPPER LAYER OF HMA PAVING FOR 12' OUTSIDE THROUGH LANE AND 10' OUTSIDE SHOULDER. THE ROADWAY CENTERLINE JOINT FOR THE UPPER HMA LAYER WILL BE LOCATED AT THE EXISTING ROADWAY CENTERLINE JOINT AND BE OFFSET 1' FROM THE LOWER HMA LAYER CENTERLINE JOINT.

2. EASTBOUND DIRECTION IS SHOWN. MIRROR FOR WESTBOUND DIRECTION.



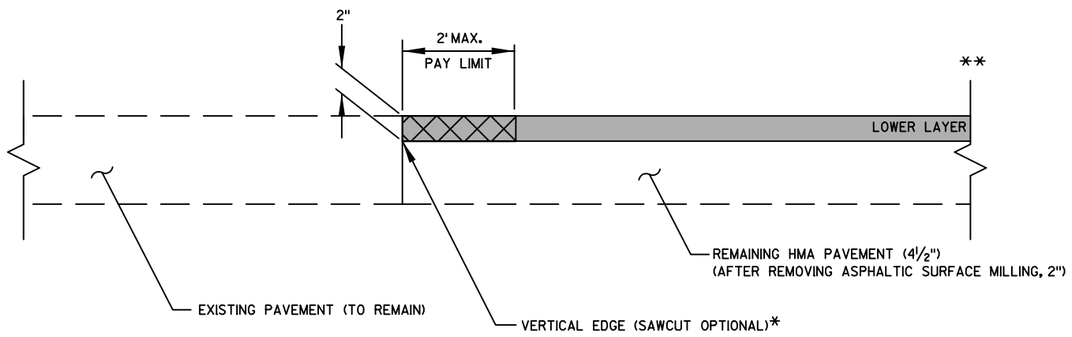
NOTCHED WEDGED LONGITUDINAL JOINT REMOVAL DETAIL

HMA PAVING SEQUENCE

PROJECT NO: 1067-04-71	HWY: IH 94	COUNTY: JEFFERSON	CONSTRUCTION DETAILS - HMA PAVING SEQUENCE	SHEET 10	E

2

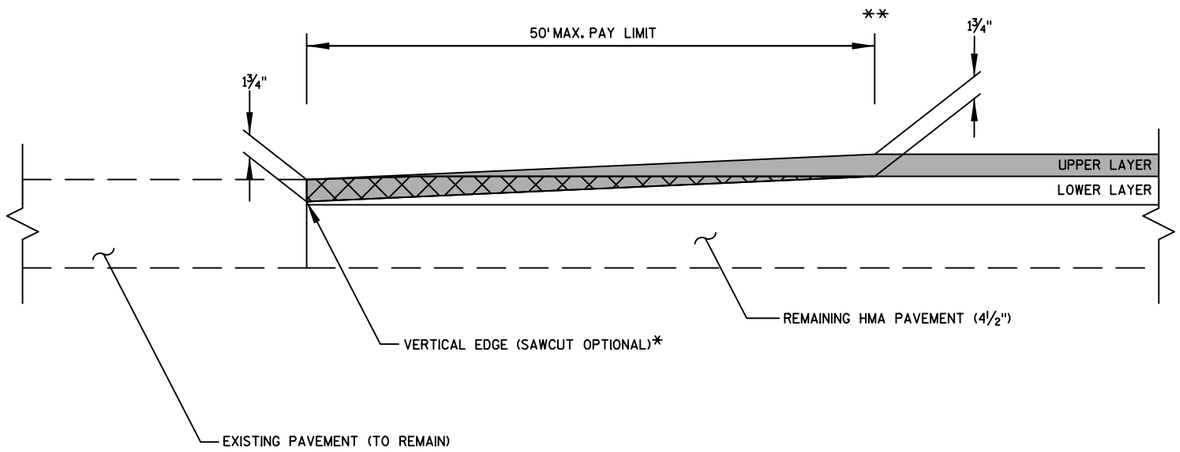
*NOT PAID FOR SEPARATELY



HMA PAVEMENT

REMOVING ASPHALTIC SURFACE BUTT JOINTS

LOWER PAVEMENT LAYER



HMA PAVEMENT

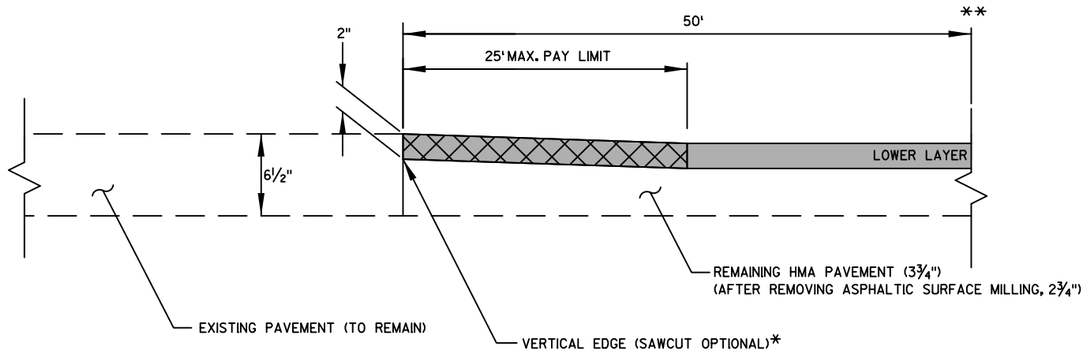
REMOVING ASPHALTIC SURFACE BUTT JOINTS

UPPER PAVEMENT LAYER

REMOVING ASPHALTIC SURFACE BUTT JOINTS - IH 94 PROJECT LIMITS AND STRUCTURE APPROACHES

**TRANSITION PAVEMENT CROSS SLOPE TO MATCH EXISTING CROSS SLOPE. SEE PLAN SECTION FOR ADDITIONAL INFORMATION.

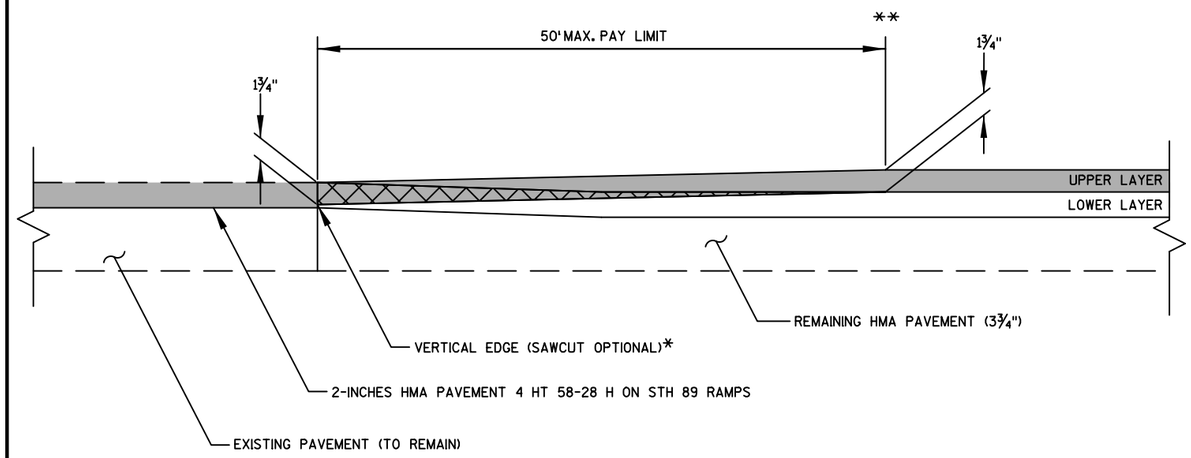
*NOT PAID FOR SEPARATELY



HMA PAVEMENT

REMOVING ASPHALTIC SURFACE BUTT JOINTS

LOWER PAVEMENT LAYER



HMA PAVEMENT

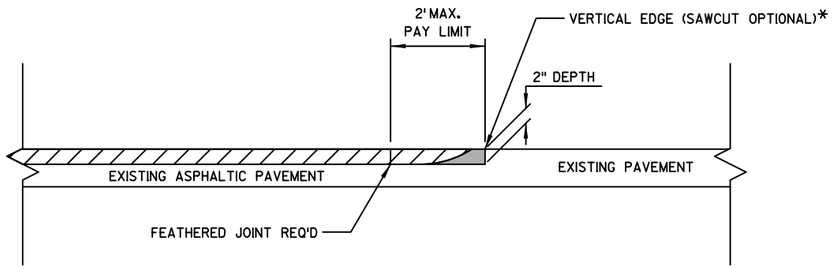
REMOVING ASPHALTIC SURFACE BUTT JOINTS

UPPER PAVEMENT LAYER

REMOVING ASPHALTIC SURFACE BUTT JOINTS - RAMP GORES

**TRANSITION PAVEMENT CROSS SLOPE TO MATCH EXISTING CROSS SLOPE. SEE PLAN SECTION FOR ADDITIONAL INFORMATION.

*NOT PAID FOR SEPARATELY

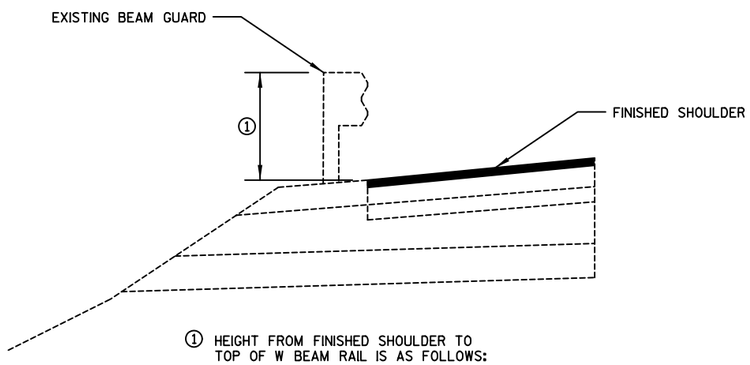


REMOVING ASPHALTIC SURFACE MILLING (2-INCH DEPTH)

REMOVE ASPHALTIC SURFACE WEDGE AT BUTT JOINT TO CREATE VERTICAL EDGE
PAID FOR UNDER BID ITEM REMOVING ASPHALTIC SURFACE BUTT JOINTS

REMOVING ASPHALTIC SURFACE BUTT JOINTS - STH 89 RAMP TERMINALS

A, BD, & C RAMPS



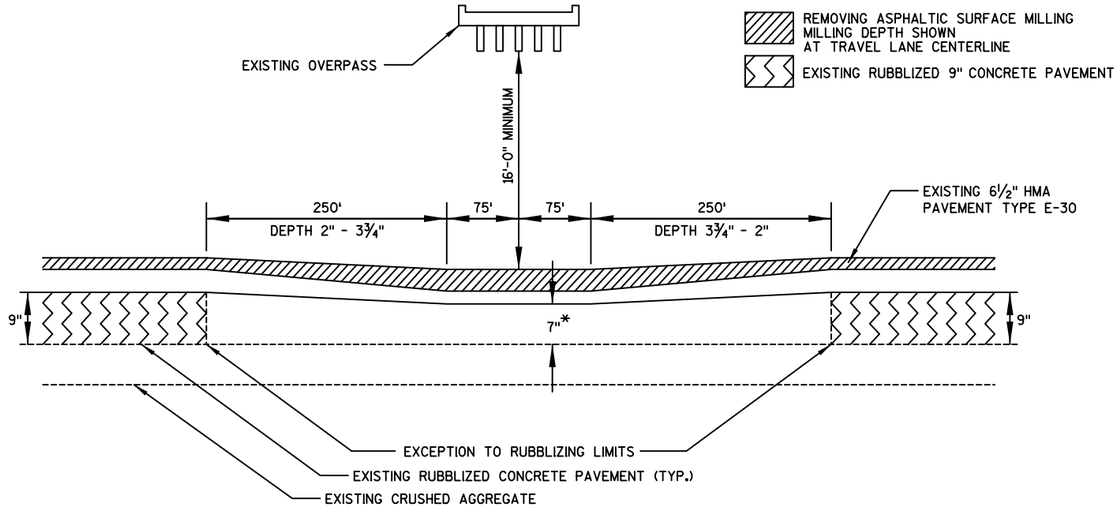
① HEIGHT FROM FINISHED SHOULDER TO TOP OF W BEAM RAIL IS AS FOLLOWS:

27¾-INCHES TO 29-INCHES FOR STEEL PLATE BEAM GUARD CLASS A

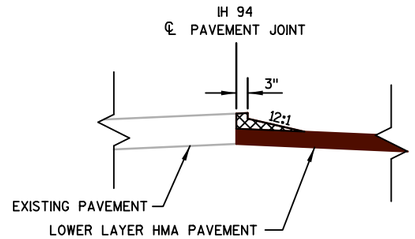
27¾-INCHES TO 32-INCHES FOR MGS GUARDRAIL

ADJUSTING BEAM GUARD DETAIL

ADJUST BEAM GUARD IN ACCORDANCE WITH STANDARD SPEC 614.



*NOTE: 2" OF THE CONCRETE PAVEMENT WAS MILLED OFF DURING THE FALL OF 2009 AT STH 89 TO MAINTAIN VERTICAL CLEARANCE UNDER THE BRIDGE AFTER PLACEMENT OF 2" ASPHALT OVERLAY.

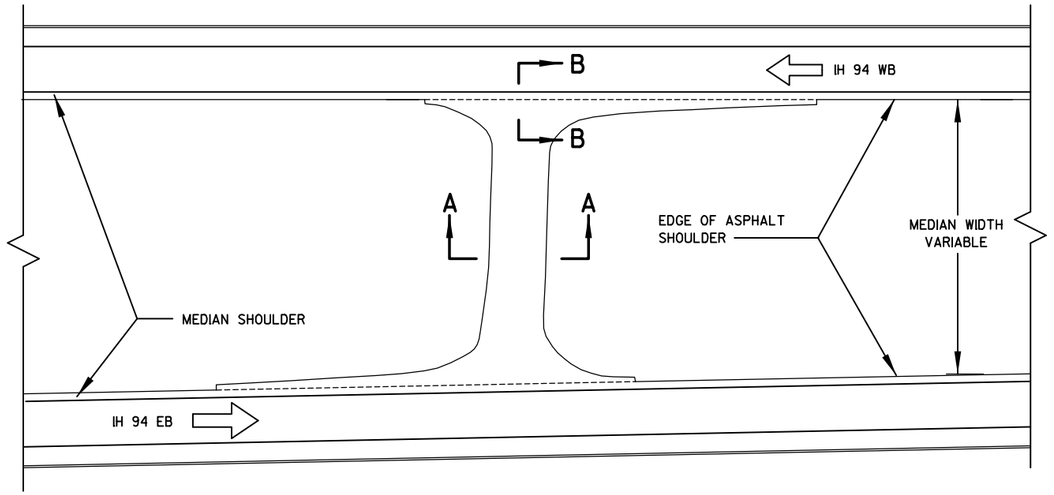


NOTCHED WEDGE LONGITUDINAL JOINT DETAIL

NOTE: NOTCHED WEDGE LONGITUDINAL JOINT IS REQUIRED BETWEEN STAGES 2A AND 2B WHERE MILL DEPTH IS 3¾-INCHES. PLACE THE NOTCHED WEDGE LONGITUDINAL JOINT DURING STAGE 2A AND REMOVE DURING STAGE 2B. PLACEMENT WILL BE PAID AS HMA PAVEMENT 4 HT 58-28 S AND REMOVAL WILL BE PAID AS REMOVING HMA PAVEMENT LONGITUDINAL JOINT MILLING.

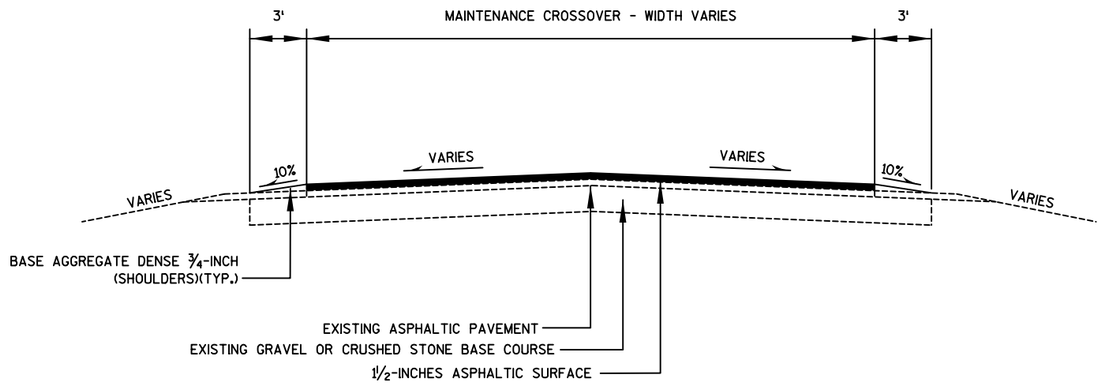
PAVING UNDER BRIDGE DETAIL

WB AND EB IH 94 AT STH 89 OVERPASS
WB IH 94 AT CTH A OVERPASS

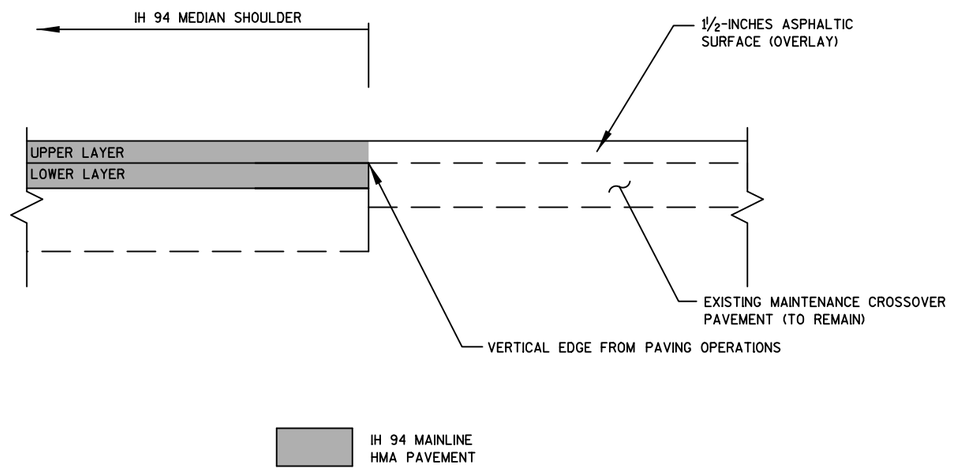


PLAN VIEW

NOTE:
MAINTENANCE, REPAIRS, AND RESTORATION OF MAINTENANCE CROSSOVERS REQUIRED BECAUSE OF CONTRACTOR HAULING OPERATIONS ARE INCIDENTAL TO ITEM MAINTENANCE AND REPAIR OF HAUL ROADS.



SECTION A-A

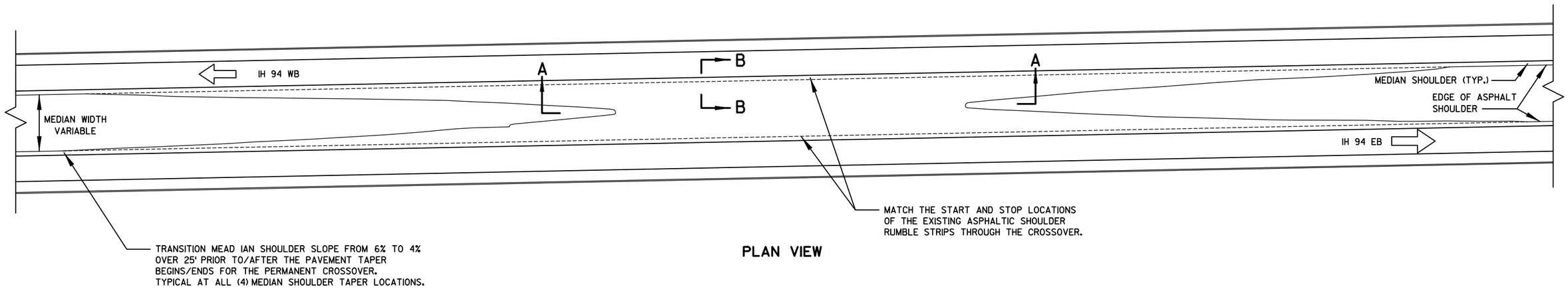


SECTION B-B

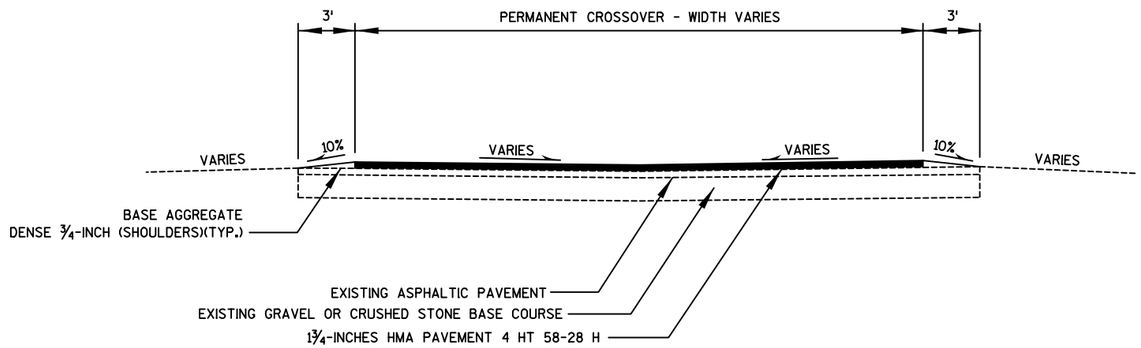
HMA OVERLAY AT MAINTENANCE CROSSOVERS

PROJECT NO: 1067-04-71	HWY: IH 94	COUNTY: JEFFERSON	CONSTRUCTION DETAILS	SHEET 13	E

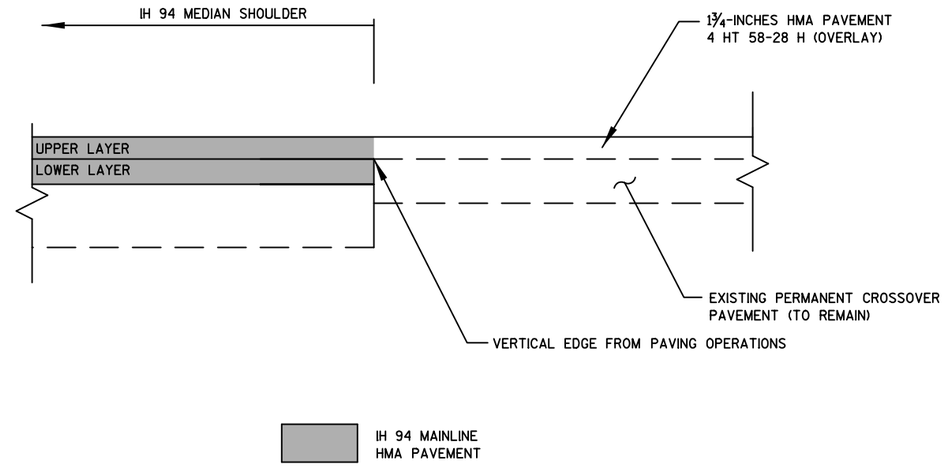
NOTE:
MAINTENANCE, REPAIRS, AND RESTORATION OF PERMANENT CROSSOVERS REQUIRED BECAUSE OF CONTRACTOR HAULING OPERATIONS ARE INCIDENTAL TO ITEM MAINTENANCE AND REPAIR OF HAUL ROADS.



PLAN VIEW



SECTION A-A



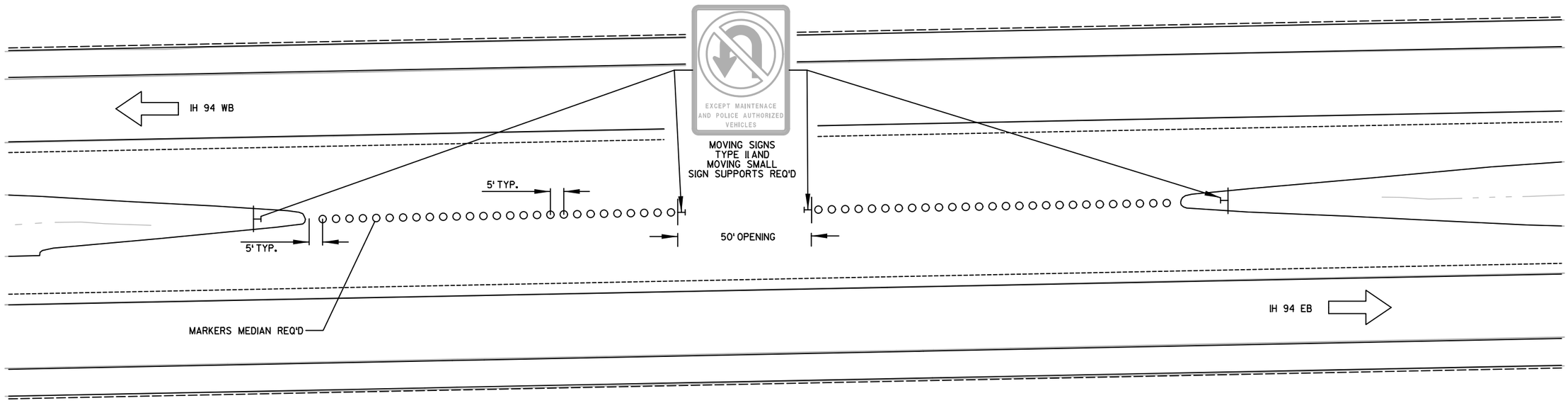
SECTION B-B

HMA OVERLAY AT PERMANENT CROSSOVERS

STA. 1346+67 WB AND STA. 1538+33 WB

PROJECT NO: 1067-04-71	HWY: IH 94	COUNTY: JEFFERSON	CONSTRUCTION DETAILS	SHEET 14	E

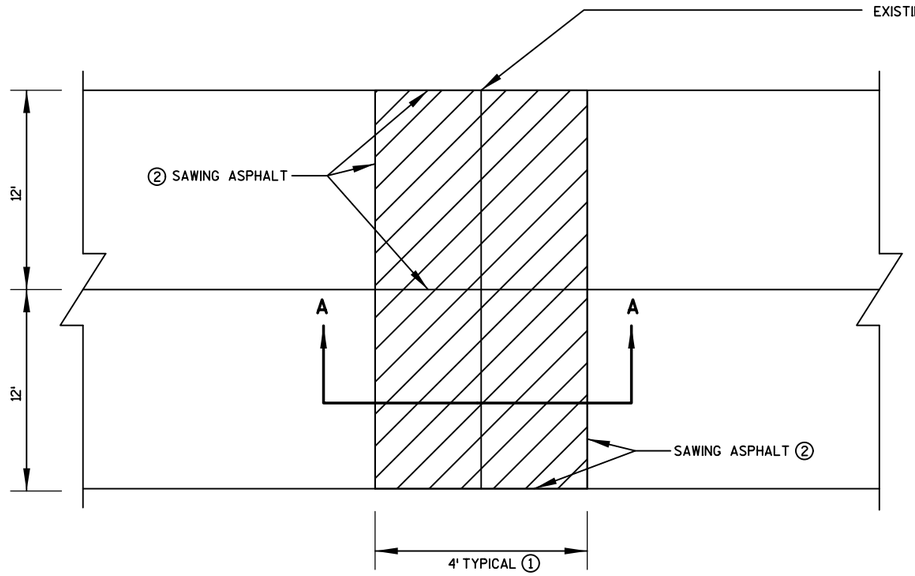
2



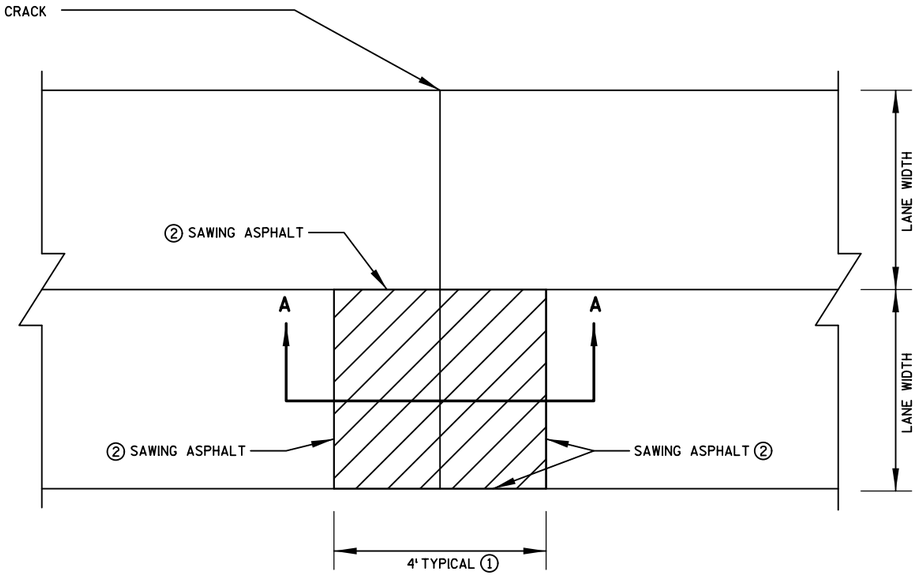
PERMANENT CROSSOVER SIGNING AND FLEXIBLE TUBULAR MARKER POSTS AND BASES

STA. 1345+05 - 1348+33
STA. 1446+71 - 1550+02

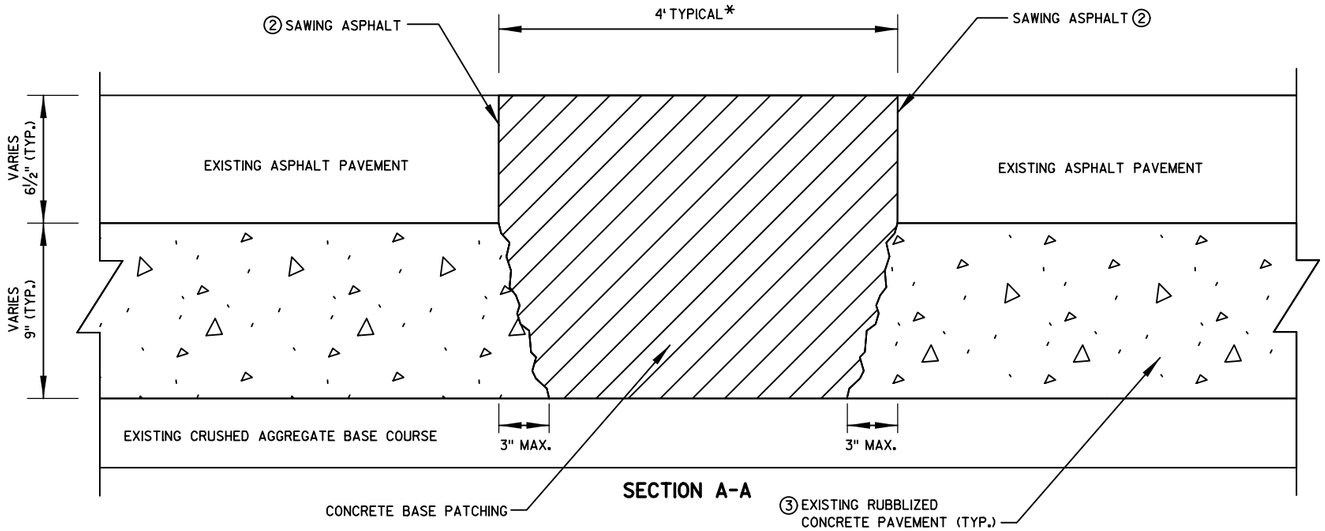
NOTES:
- REMOVING DELINEATORS AND MARKERS REQUIRED FOR REMOVNG EXISTING FLEX TUBE MARKERS PRIOR TO PERFORMING PAVING OPERATIONS WITHIN THE CROSSOVER.
- MOVE EXISTING SIGNS FROM CROSSOVER 24 HOURS PRIOR TO PERFORMING PAVING OPERATIONS. ONCE CROSSOVER PAVING OPERATIONS ARE COMPLETE, MOVE SIGNS BACK TO THEIR EXISTING LOCATION IN THE CROSSOVER.
- INSTALL NEW MARKERS AND MOVE SIGNS TO THEIR EXISTING LOCATION WITHIN 24 HOURS OF THE CROSSOVER PAVING OPERATIONS BEING COMPLETE.



PLAN VIEW
(DOUBLE LANE CONCRETE JOINT REPAIR)



PLAN VIEW
(SINGLE LANE CONCRETE JOINT REPAIR)



SECTION A-A

BOUNDARY OF CONCRETE BASE PATCHING

NOTES:

① OR AS DIRECTED BY THE ENGINEER IN THE FIELD

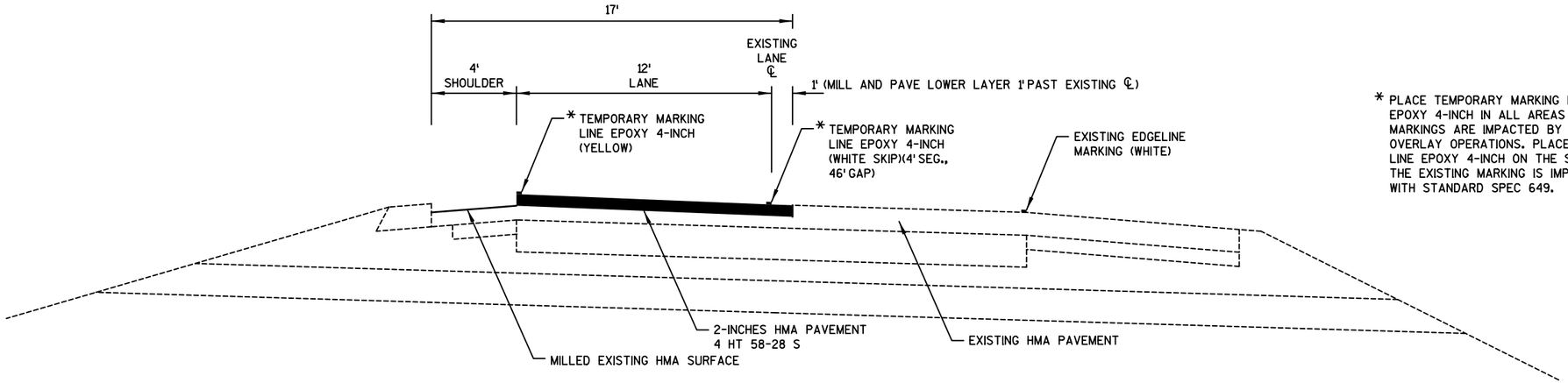
② SAWING ASPHALT REQ'D THROUGH THE EXISTING 6½-INCHES OF ASPHALT. SAWING CONCRETE IS NOT REQUIRED THROUGH RUBBLIZED CONCRETE, HOWEVER, THE ADJACENT ASPHALT PAVEMENT CAN NOT BE UNDERMINED WHEN THE CONCRETE IS REMOVED. USE OF A VERMEER-WHEEL AND/OR A ROCK STYLE SAW ARE NOT ALLOWED. SAWING ASPHALT AND SAWING CONCRETE ARE INCIDENTAL TO THE ITEM CONCRETE BASE PATCHING.

③ THE EXISTING CONCRETE PAVEMENT IS REINFORCED WITH DOWEL BARS AND WIRE MESH. ALL CUTTING, BENDING, AND ETC. OF WIRE MESH REQUIRED TO NOT INTERFERE WITH PLACEMENT OF THE CONCRETE BASE PATCHING AND HMA PLACEMENT IS INCIDENTAL TO THE ITEM CONCRETE BASE PATCHING.

CONCRETE BASE PATCHING

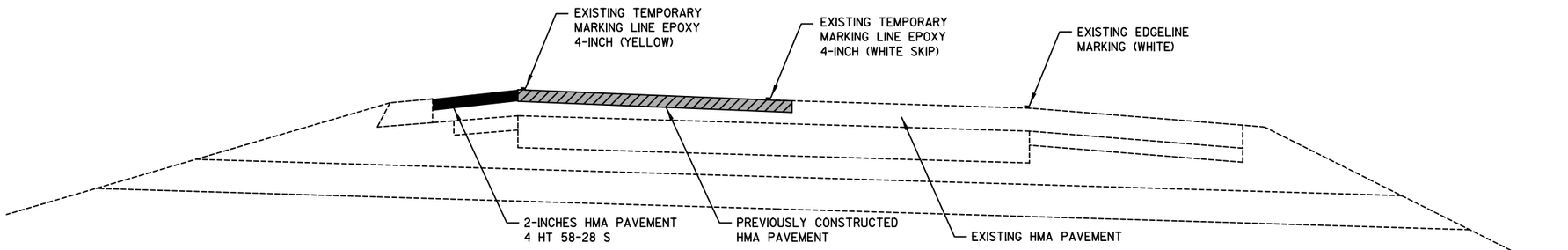
STAGE 1A & 1B

PROJECT NO: 1067-04-71	HWY: IH 94	COUNTY: JEFFERSON	CONSTRUCTION DETAILS	SHEET 16	E

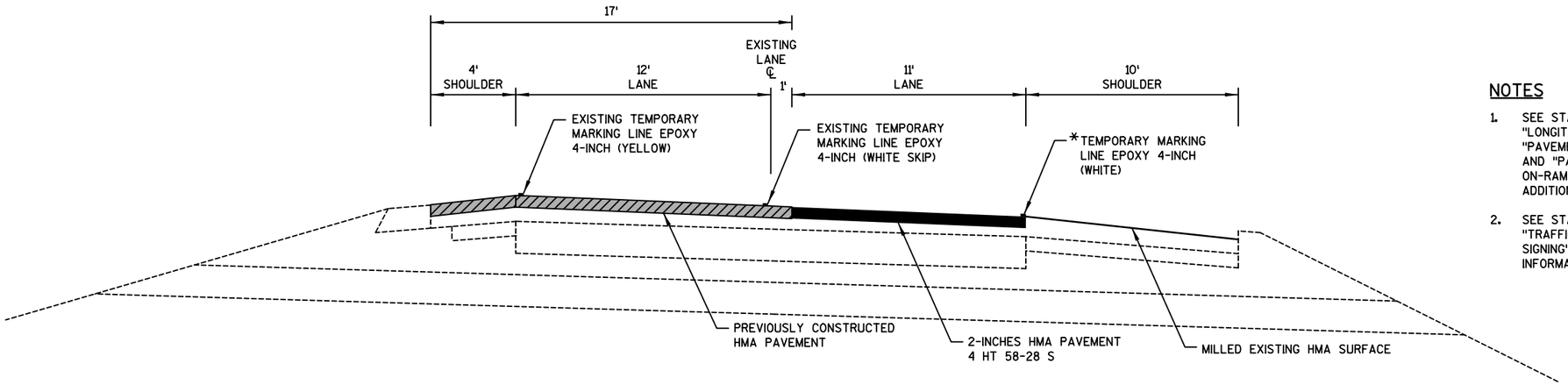


STAGE 2A

* PLACE TEMPORARY MARKING LINE EPOXY 4-INCH IN ALL AREAS THE EXISTING MARKINGS ARE IMPACTED BY MILLING AND/OR OVERLAY OPERATIONS. PLACE TEMPORARY MARKING LINE EPOXY 4-INCH ON THE SAME DAY THAT THE EXISTING MARKING IS IMPACTED IN ACCORDANCE WITH STANDARD SPEC 649.



STAGE 2A MEDIAN

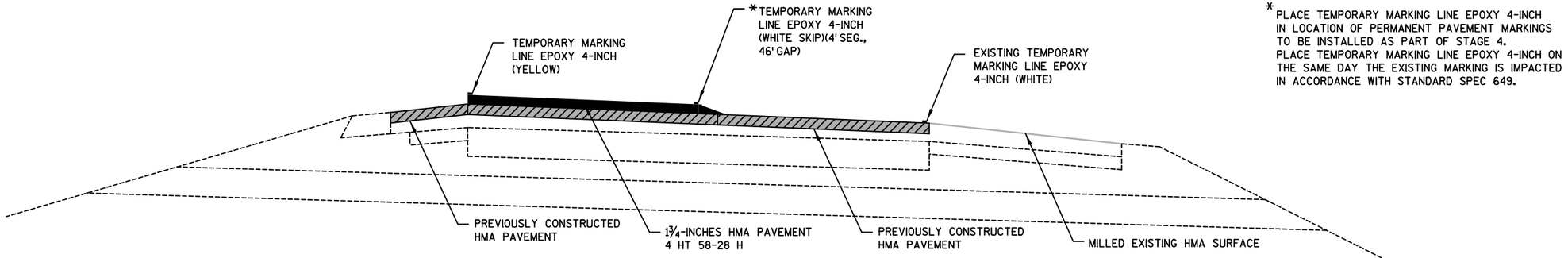


STAGE 2B

NOTES

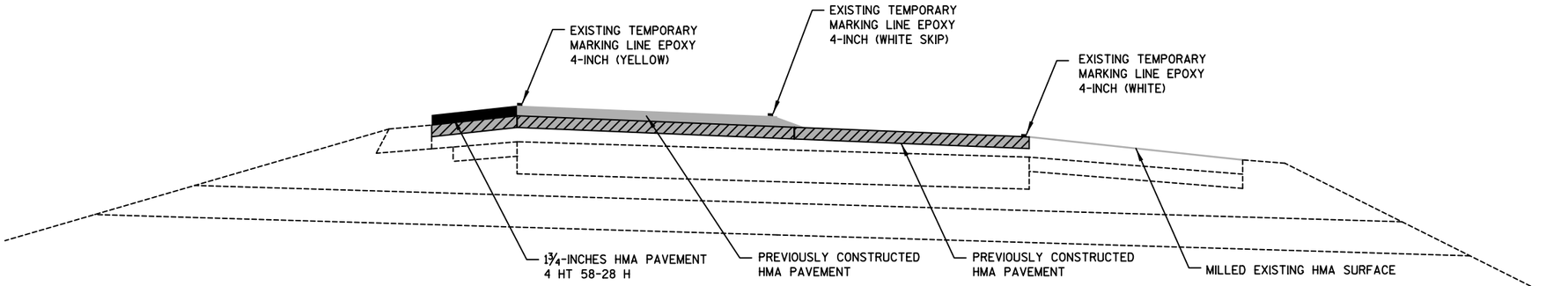
1. SEE STANDARD DETAIL DRAWINGS "LONGITUDINAL MARKING (MAINLINE)", "PAVEMENT MARKING (RAMPS AND GORES)", AND "PAVEMENT PARKING FOR PARALLEL ON-RAMP AND PARALLEL OFF-RAMP" FOR ADDITIONAL INFORMATION.
2. SEE STANDARD DETAIL DRAWINGS "TRAFFIC CONTROL FOR DROP-OFF SIGNING" FOR ADDITIONAL INFORMATION.

PAVEMENT MARKING SEQUENCING

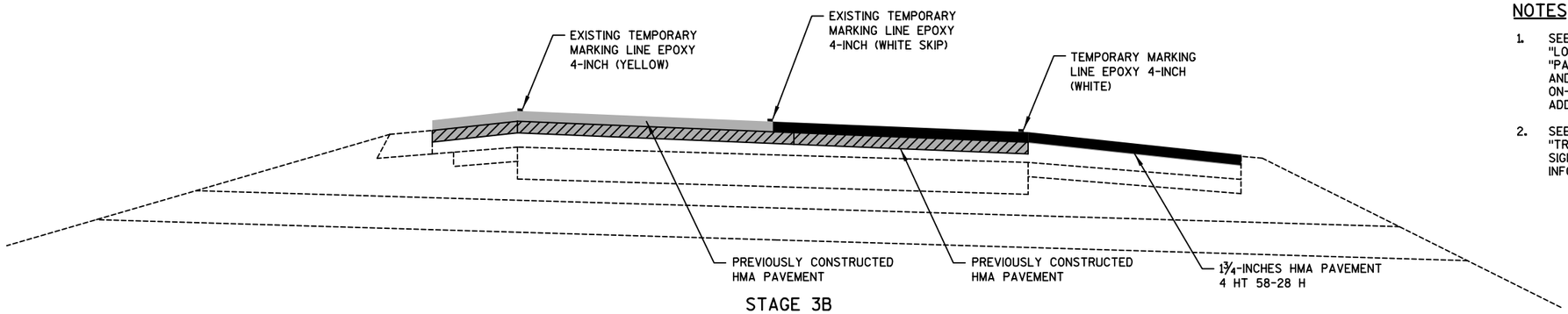


STAGE 3A

* PLACE TEMPORARY MARKING LINE EPOXY 4-INCH IN LOCATION OF PERMANENT PAVEMENT MARKINGS TO BE INSTALLED AS PART OF STAGE 4. PLACE TEMPORARY MARKING LINE EPOXY 4-INCH ON THE SAME DAY THE EXISTING MARKING IS IMPACTED IN ACCORDANCE WITH STANDARD SPEC 649.



STAGE 3A MEDIAN



STAGE 3B

PAVEMENT MARKING SEQUENCING

NOTES

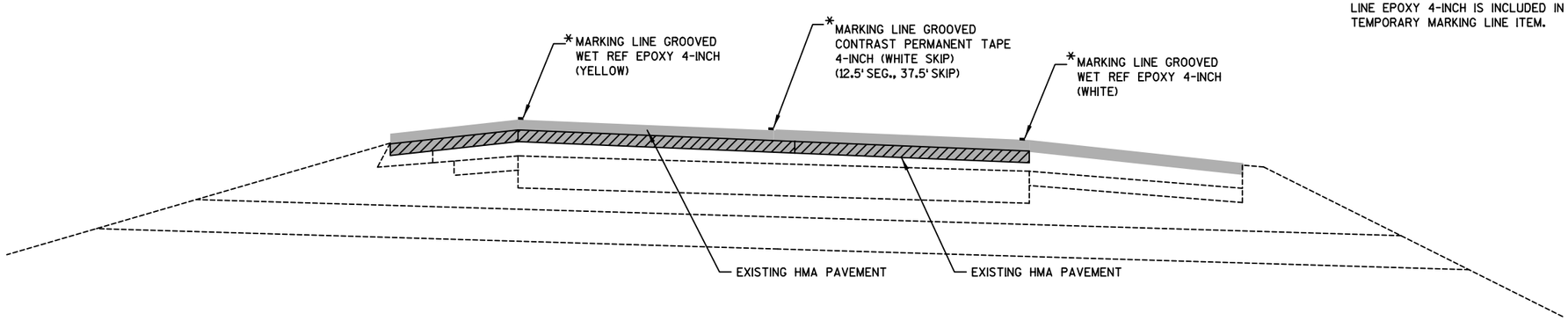
1. SEE STANDARD DETAIL DRAWINGS "LONGITUDINAL MARKING (MAINLINE)", "PAVEMENT MARKING (RAMPS AND GORES)", AND "PAVEMENT PARKING FOR PARALLEL ON-RAMP AND PARALLEL OFF-RAMP" FOR ADDITIONAL INFORMATION.
2. SEE STANDARD DETAIL DRAWINGS "TRAFFIC CONTROL FOR DROP-OFF SIGNING" FOR ADDITIONAL INFORMATION.

PROJECT NO: 1067-04-71	HWY: IH 94	COUNTY: JEFFERSON	CONSTRUCTION DETAILS - IH 94 OVERLAY PAVEMENT MARKINGS	SHEET 18	E

2

2

*REMOVAL OF TEMPORARY MARKING LINE EPOXY 4-INCH TO OCCUR DURING INSTALLATION OF GROOVED PAVEMENT MARKINGS. PAYMENT FOR THE REMOVAL OF THE TEMPORARY MARKING LINE EPOXY 4-INCH IS INCLUDED IN THE TEMPORARY MARKING LINE ITEM.



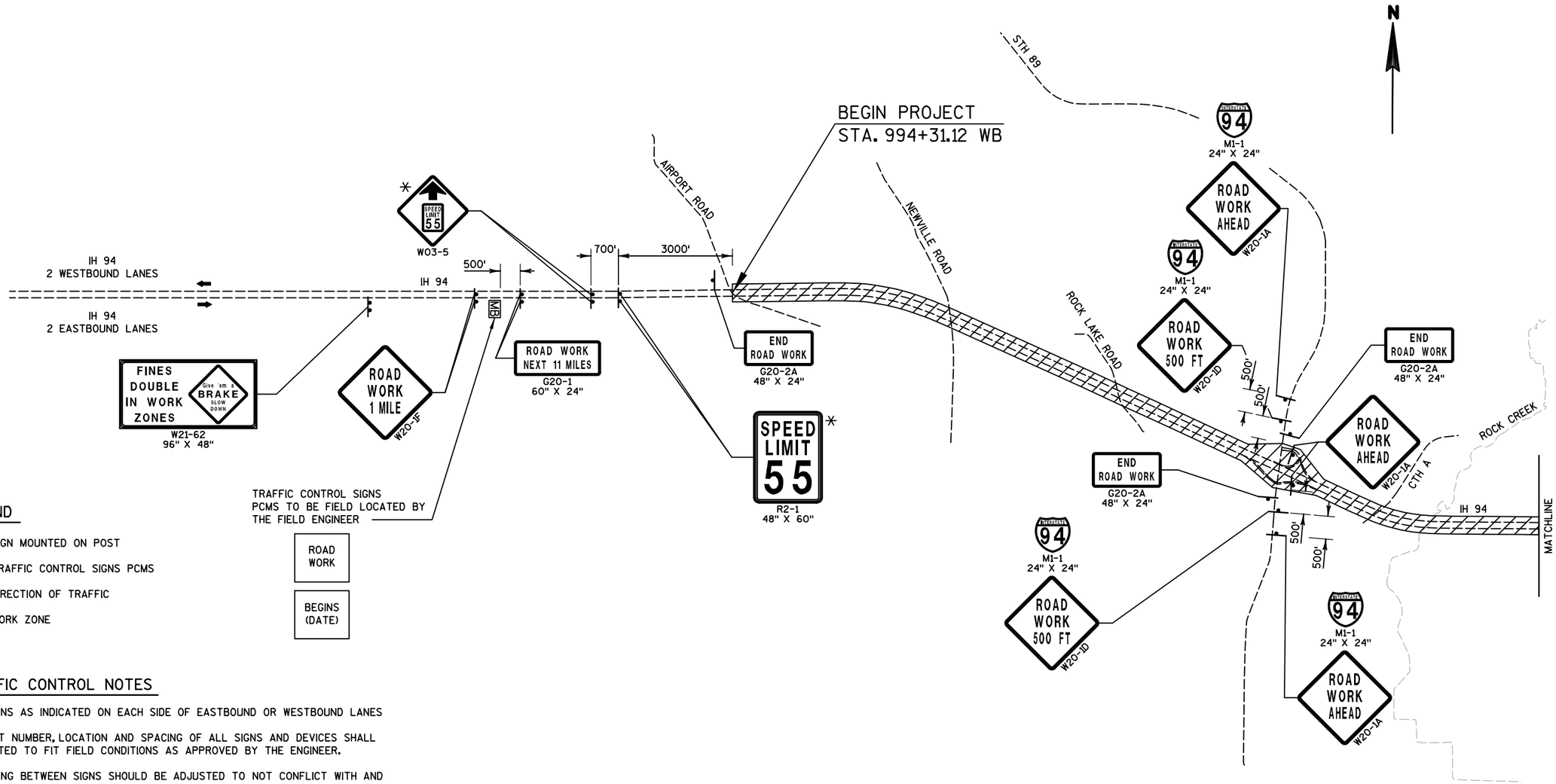
STAGE 4A & 4B

PAVEMENT MARKING SEQUENCING

NOTES

1. SEE STANDARD DETAIL DRAWINGS "LONGITUDINAL MARKING (MAINLINE)", "PAVEMENT MARKING (RAMPS AND GORES)", AND "PAVEMENT PARKING FOR PARALLEL ON-RAMP AND PARALLEL OFF-RAMP" FOR ADDITIONAL INFORMATION.
2. SEE STANDARD DETAIL DRAWINGS "TRAFFIC CONTROL FOR DROP-OFF SIGNING" FOR ADDITIONAL INFORMATION.
3. USE MARKING LINE EPOXY ON ALL STRUCTURES.

2



LEGEND

- SIGN MOUNTED ON POST
- MB TRAFFIC CONTROL SIGNS PCMS
- DIRECTION OF TRAFFIC
- WORK ZONE

TRAFFIC CONTROL NOTES

PLACE SIGNS AS INDICATED ON EACH SIDE OF EASTBOUND OR WESTBOUND LANES

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) DISTANCE TO EXISTING SIGNS.

ALL SIGNS SHALL BE 48" x 48" UNLESS OTHERWISE NOTED.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" SIGNS.

USE PCMS SIGNS 7 DAYS PRIOR TO BEGINNING WORK ON IH 94.

ADVANCED WARNING SIGNING

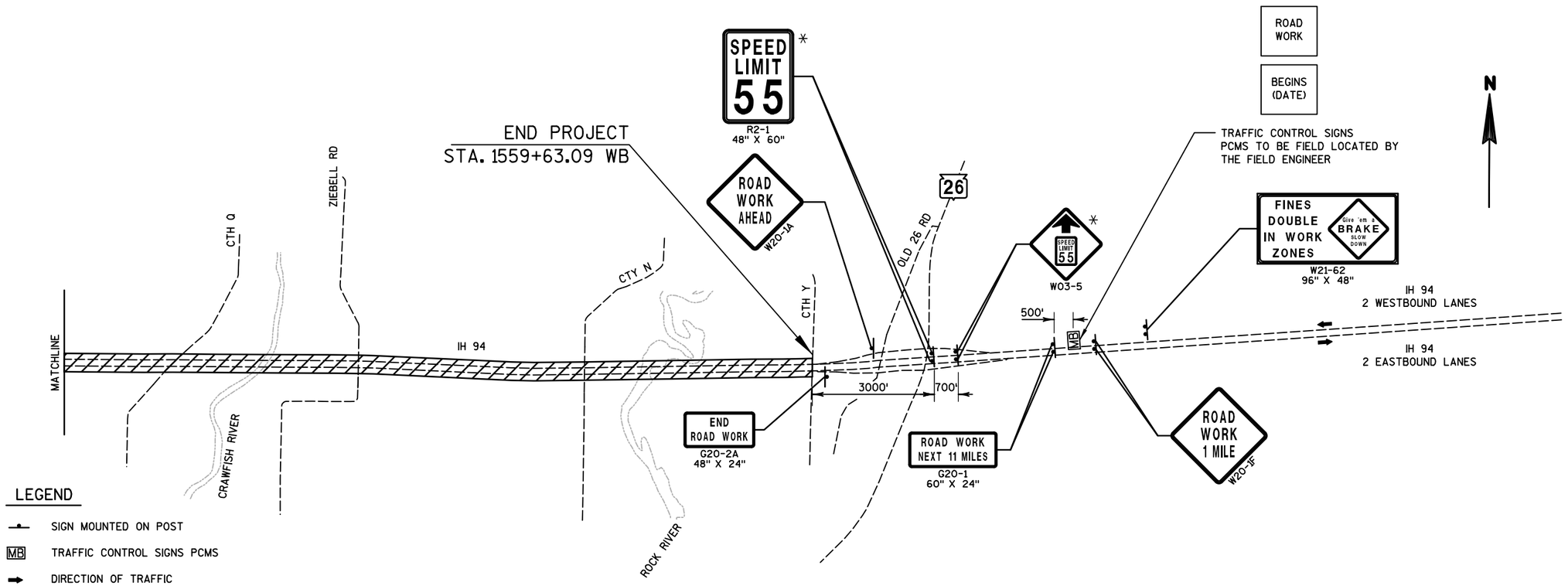
WEST, NORTH, AND SOUTH OF WORK ZONE

* INSTALL SPEED REDUCTION SIGNAGE IN ACCORDANCE WITH TRAFFIC CONTROL CONSTRUCTION DETAIL "QUEUE WARNING SYSTEM" WHILE UTILIZING LANE CLOSURES IN THE SAME DIRECTION OF TRAVEL.

* A SPEED LIMIT SIGN SHALL BE LOCATED WITHIN 1500 FEET OF THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP, INCLUDING REST AREAS. PLACE A SPEED LIMIT SIGN A MINIMUM OF EVERY 3 MILES. INCLUDE A RESUME SPEED LIMIT SIGN 200 FEET MINIMUM (500 FEET DESIRABLE) BEYOND THE "END OF ROADWORK" SIGN.

PROJECT NO: 1067-04-71	HWY: IH 94	COUNTY: JEFFERSON	TRAFFIC CONTROL - ADVANCED WARNING SIGNING	SHEET 20	E

2



LEGEND

- SIGN MOUNTED ON POST
- MB TRAFFIC CONTROL SIGNS PCMS
- DIRECTION OF TRAFFIC
- WORK ZONE

TRAFFIC CONTROL NOTES

PLACE SIGNS AS INDICATED ON EACH SIDE OF EASTBOUND OR WESTBOUND LANES

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) DISTANCE TO EXISTING SIGNS.

ALL SIGNS SHALL BE 48" x 48" UNLESS OTHERWISE NOTED.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" SIGNS.

USE PCMS SIGNS 7 DAYS PRIOR TO BEGINNING WORK ON IH 94.

ADVANCED WARNING SIGNING

EAST OF WORK ZONE

* INSTALL SPEED REDUCTION SIGNAGE IN ACCORDANCE WITH TRAFFIC CONTROL CONSTRUCTION DETAIL "QUEUE WARNING SYSTEM" WHILE UTILIZING LANE CLOSURES IN THE SAME DIRECTION OF TRAVEL.

* A SPEED LIMIT SIGN SHALL BE LOCATED WITHIN 1500 FEET OF THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP, INCLUDING REST AREAS. PLACE A SPEED LIMIT SIGN A MINIMUM OF EVERY 3 MILES. INCLUDE A RESUME SPEED LIMIT SIGN 200 FEET MINIMUM (500 FEET DESIRABLE) BEYOND THE "END OF ROADWORK" SIGN.

2

EAST
MB3-2
24" X 12"
94
M1-1
24" X 24"
MAX. 11' WIDTH W12-52
1 MILE AHEAD
W057-52
36" X 24"
73
1 MILE
200'
WIDE LOADS EXCEEDING 11 FT
R12-70B
114" X 42"
COUNTY TT
COUNTY BB
COUNTY O
COUNTY B
COUNTY S
COUNTY A
COUNTY G
COUNTY Q
COUNTY N
COUNTY Y
COUNTY X
89
WEST
MB3-4
24" X 12"
ROCK RIVER
26
CRAWFISH RIVER
18
12
N

* INCLUDE WHEN EB WORK ZONE IS EAST OF STH 89 INTERCHANGE, OMIT WIDTH RESTRICTION SIGNS LOCATED AT STH 73

** INCLUDE WHEN WB WORK ZONE IS WEST OF STH 89 INTERCHANGE, OMIT WIDTH RESTRICTION SIGNS LOCATED AT STH 26

*** INCLUDE EAST, WEST, OR EAST/WEST AS CONDITIONS APPLY FOR LOCATION OF WORK ZONE

LEGEND

- SIGN MOUNTED ON POST
- DIRECTION OF TRAFFIC
- WORK ZONE

WIDTH RESTRICTION SIGNING
EAST AND WEST OF WORK ZONE

NOTES:
1.) WIDTH RESTRICTION SIGNAGE TO BE INSTALLED ACCORDING TO S.D.D. "ADVANCED WIDTH RESTRICTION SIGNING" WHILE UTILIZING EASTBOUND AND/OR WESTBOUND OUTSIDE LANE CLOSURES

2.) INSTALL ON SIGNS ON BOTH SIDES OF DIVIDED HIGHWAY TO ENHANCE VISIBLITY

PROJECT NO: 1067-04-71	HWY: IH 94	COUNTY: JEFFERSON	TRAFFIC CONTROL - WIDTH RESTRICTION SIGNING	SHEET 22	E

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PORTABLE SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC
- WORK AREA
- FBS FLASHING BEACON SIGN

STOPPED OR SLOW TRAFFIC WHEN FLASHING
W8-76
60"X36"

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS, INCLUDING FBS, AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIREABLE) DISTANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED OR AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

* A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. PLACE A SPEED LIMIT SIGN A MINIMUM OF EVERY 3 MILES. INCLUDE A RESUME SPEED LIMIT SIGN 200 FEET MINIMUM (500 FEET DESIRABLE) BEYOND THE "END OF ROADWORK" SIGN.

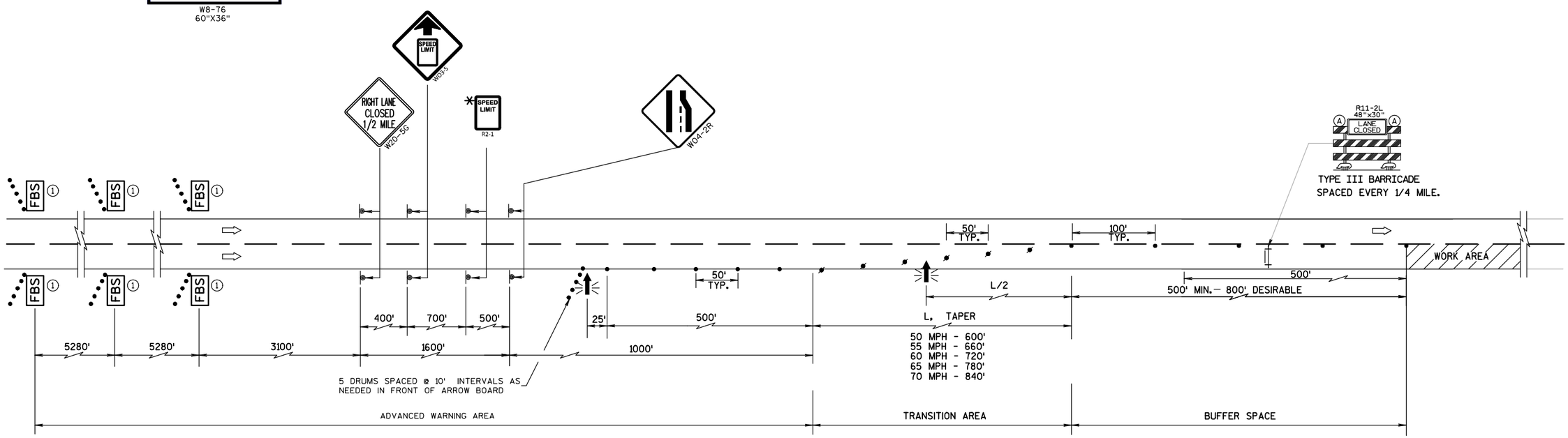
IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT, ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE ONE HALF THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

SEE ADVANCED WARNING SIGNING FOR LOCATION OF ROAD WORK AHEAD AND END ROAD WORK SIGNS.

① 5 DRUMS SPACED @ 10' INTERVALS AS NEEDED.

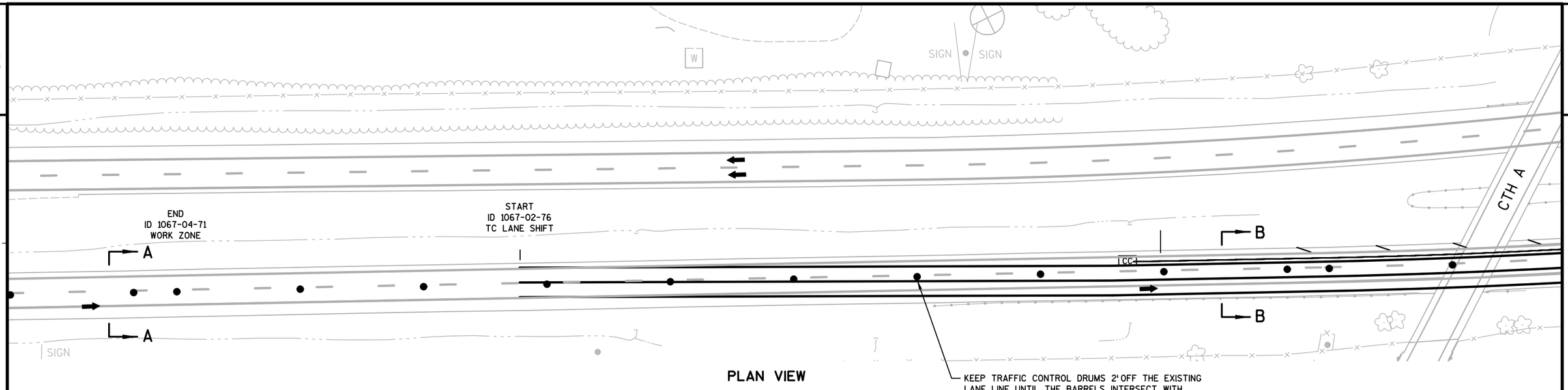


QUEUE WARNING SYSTEM

TO BE USED FOR ALL NIGHTLY LANE CLOSURES FOR ID 1067-04-71

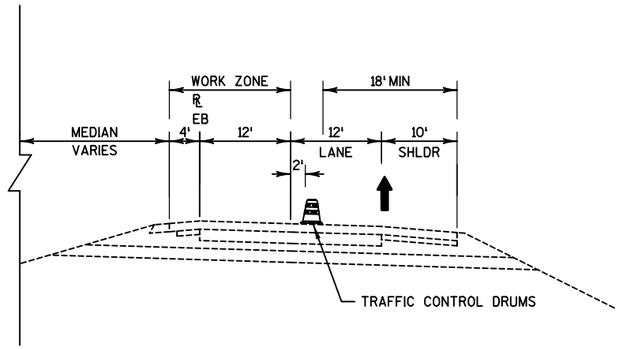
PROJECT NO: 1067-04-71	HWY: IH 94	COUNTY: JEFFERSON	TRAFFIC CONTROL - CONSTRUCTION DETAILS	SHEET	E

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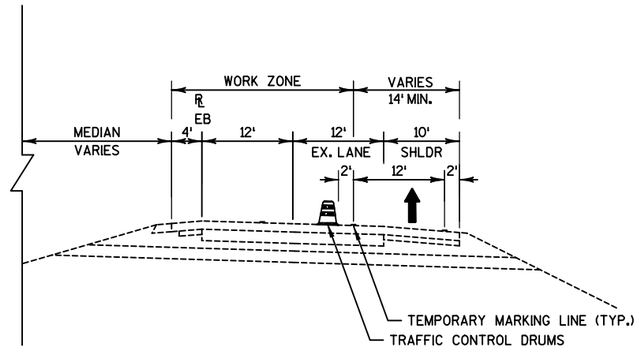
PLAN VIEW

KEEP TRAFFIC CONTROL DRUMS 2' OFF THE EXISTING LANE LINE UNTIL THE BARRELS INTERSECT WITH THE BARREL OFFSET SHOWN IN SECTION B-B.



SECTION A-A

INSIDE LANE CLOSURE SHOWN.
MIRROR FOR OUTSIDE LANE CLOSURE

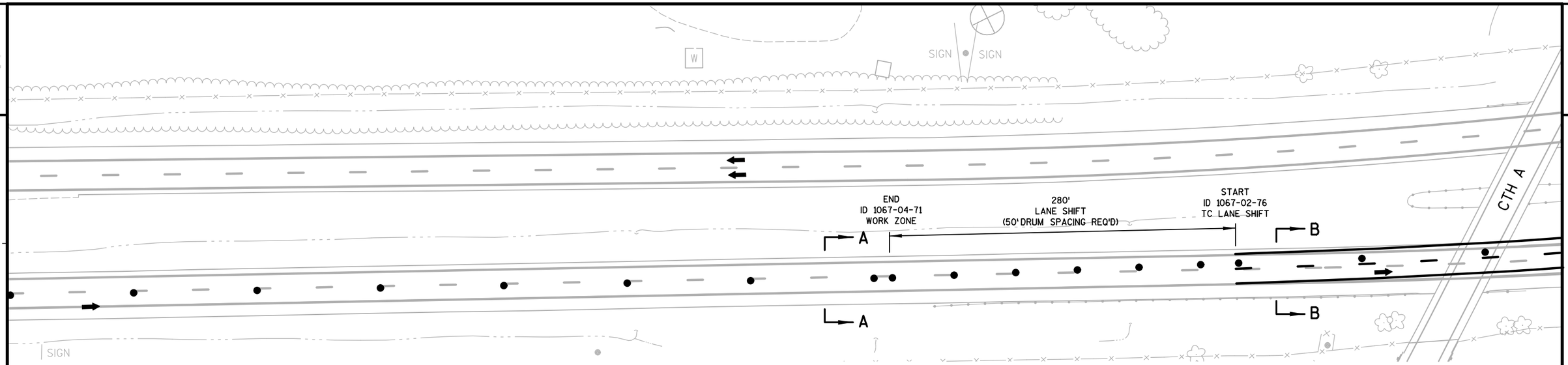


SECTION B-B

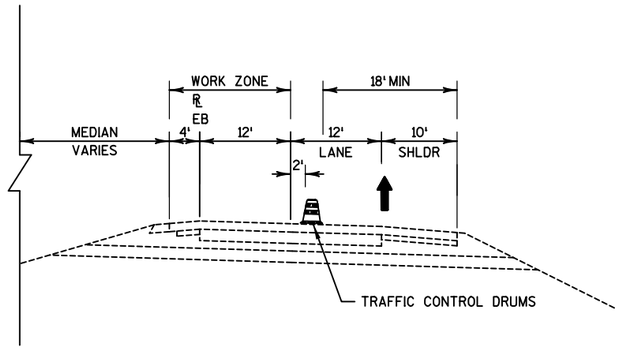
INSIDE LANE CLOSURE SHOWN.
MIRROR FOR OUTSIDE LANE CLOSURE.
PLACE THE TRAFFIC CONTROL DRUM 2'
INSIDE THE EDGE OF THE CLOSED
LANE WITHIN THE 1067-02-76 WORK ZONE.
TRANSITION THE BARREL OFFSET OVER 280'.

NIGHTTIME SINGLE LANE CLOSURE - TRAFFIC CONTROL DRUM TRANSITION BETWEEN 1067-02-76 STAGE 1 AND 1067-04-71 WORK ZONES

NOTES:
1. NO WORK ASSOCIATED WITH ID 1067-04-71 CAN TAKE PLACE WITHIN THE LANE SHIFT TAPERS FOR ID 1067-02-76 UNTIL STAGE 2 OF ID 1067-02-76 IS COMPLETED.
2. THE 280' BARREL TAPER IS REQUIRED ON THE EAST END OF THE 1067-02-76 WORK ZONE AT APPROXIMATELY STA. 1281+50 EB.

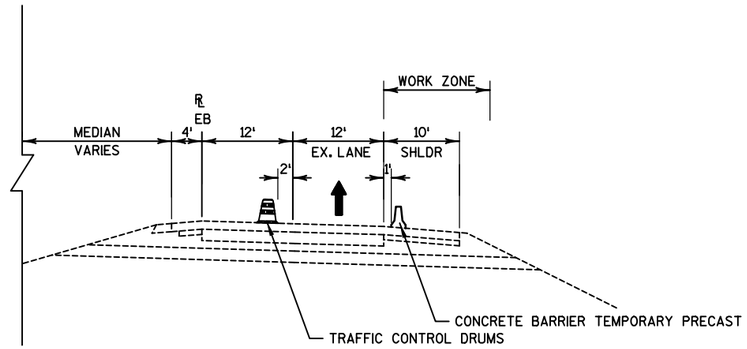


PLAN VIEW



SECTION A-A

INSIDE LANE CLOSURE SHOWN.
MIRROR FOR OUTSIDE LANE CLOSURE



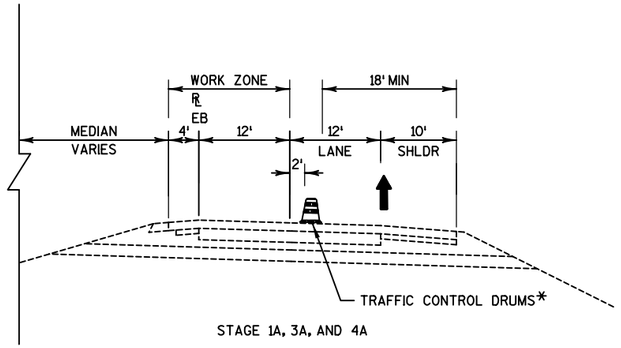
SECTION B-B

INSIDE LANE CLOSURE SHOWN.
MIRROR FOR OUTSIDE LANE CLOSURE.
PLACE THE TRAFFIC CONTROL DRUM 2'
INSIDE THE EDGE OF THE CLOSED
LANE WITHIN THE 1067-02-76 WORK ZONE.
TRANSITION THE BARREL OFFSET OVER 280'.

NIGHTTIME SINGLE LANE CLOSURE - TRAFFIC CONTROL DRUM TRANSITION BETWEEN 1067-02-76 STAGE 2 AND 1067-04-71 WORK ZONES

NOTES:
1. NO WORK ASSOCIATED WITH ID 1067-04-71 CAN TAKE PLACE WITHIN THE LANE SHIFT TAPERS FOR ID 1067-02-76 UNTIL STAGE 2 OF ID 1067-02-76 IS COMPLETED.
2. THE 280' BARREL TAPER IS REQUIRED ON THE EAST END OF THE 1067-02-76 WORK ZONE AT APPROXIMATELY STA. 1281+50 EB.

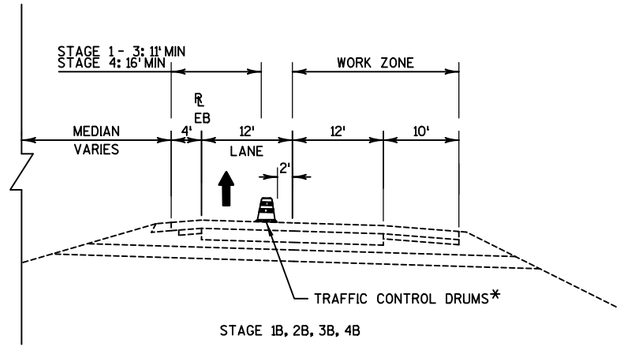
NOTES:
1. MIRROR SECTION FOR WB SIDE.
2. SEE CONSTRUCTION DETAILS "HMA PAVING SEQUENCE" AND "CONCRETE BASE PATCHING FOR ADDITIONAL WORK OPERATION DETAILS.



STAGE 1A, 3A, AND 4A

4 LANE TYPICAL

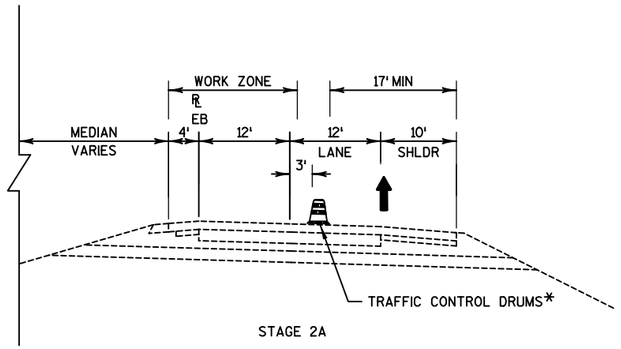
IH 94
INSIDE LANE, INSIDE SHOULDER, MAINTENANCE
AND PERMANENT CROSSOVER WORK



STAGE 1B, 2B, 3B, 4B

4 LANE TYPICAL

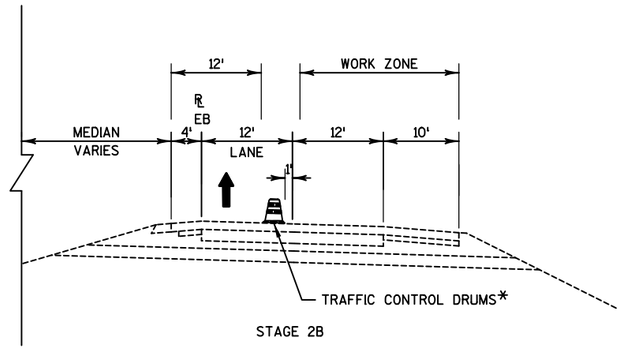
IH 94
OUTSIDE LANE, OUTSIDE SHOULDER, AND RAMP WORK
(WIDTH RESTRICTION SIGNING NECESSARY
DURING STAGE 1B, 2B, AND 3B LANE CLOSURES)



STAGE 2A

4 LANE TYPICAL

IH 94
INSIDE LANE AND INSIDE SHOULDER

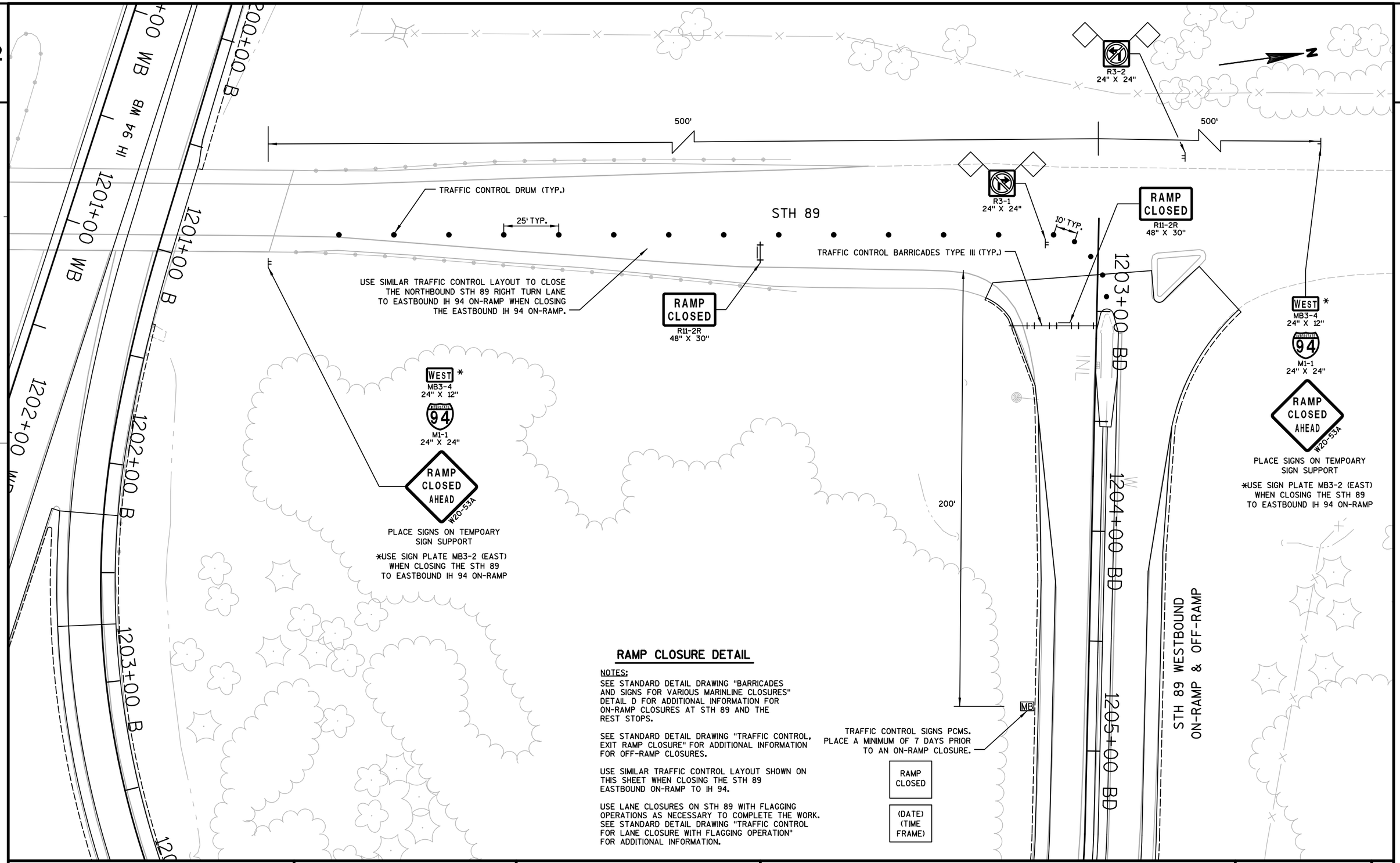


STAGE 2B

4 LANE TYPICAL

IH 94
OUTSIDE LANE, OUTSIDE SHOULDER, AND RAMP WORK
(WIDTH RESTRICTION SIGNING NECESSARY
DURING STAGE 2B LANE CLOSURES)

* WHEN TRAFFIC CONTROL DRUMS ARE OUTSIDE OF AN ACTIVE WORK ZONE, PLACE THE TRAFFIC CONTROL DRUM AT THE EDGE OF THE CLOSED LANE ALONG THE CENTERLINE.



RAMP CLOSURE DETAIL

NOTES:

SEE STANDARD DETAIL DRAWING "BARRICADES AND SIGNS FOR VARIOUS MARINLINE CLOSURES" DETAIL D FOR ADDITIONAL INFORMATION FOR ON-RAMP CLOSURES AT STH 89 AND THE REST STOPS.

SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, EXIT RAMP CLOSURE" FOR ADDITIONAL INFORMATION FOR OFF-RAMP CLOSURES.

USE SIMILAR TRAFFIC CONTROL LAYOUT SHOWN ON THIS SHEET WHEN CLOSING THE STH 89 EASTBOUND ON-RAMP TO IH 94.

USE LANE CLOSURES ON STH 89 WITH FLAGGING OPERATIONS AS NECESSARY TO COMPLETE THE WORK. SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION" FOR ADDITIONAL INFORMATION.

PROJECT NO: 1067-04-71	HWY: IH 94	COUNTY: JEFFERSON	TRAFFIC CONTROL - CONSTRUCTION DETAILS	SHEET 27	E

1067-04-71

Line	Item	Item Description	Unit	Total	Qty
0012	204.0109.S	Removing Concrete Surface Partial Depth	SF	38,185.000	38,185.000
0014	204.0115	Removing Asphaltic Surface Butt Joints	SY	7,244.000	7,244.000
0016	204.0120	Removing Asphaltic Surface Milling	SY	486,600.000	486,600.000
0022	204.0180	Removing Delineators and Markers	EACH	85.000	85.000
0040	211.0100	Prepare Foundation for Asphaltic Paving (project) 01. 1067-04-71	LS	1.000	1.000
0048	213.0100	Finishing Roadway (project) 03. 1067-04-71	EACH	1.000	1.000
0050	305.0110	Base Aggregate Dense 3/4-Inch	TON	8,324.000	8,324.000
0066	455.0605	Tack Coat	GAL	59,400.000	59,400.000
0068	460.0105.S	HMA Percent Within Limits (PWL) Test Strip Volumetrics	EACH	2.000	2.000
0070	460.0110.S	HMA Percent Within Limits (PWL) Test Strip Density	EACH	2.000	2.000
0074	460.2005	Incentive Density PWL HMA Pavement	DOL	65,640.000	65,640.000
0076	460.2007	Incentive Density HMA Pavement Longitudinal Joints	DOL	176,600.000	176,600.000
0078	460.2010	Incentive Air Voids HMA Pavement	DOL	90,280.000	90,280.000
0086	460.7224	HMA Pavement 4 HT 58-28 S	TON	40,220.000	40,220.000
0088	460.7424	HMA Pavement 4 HT 58-28 H	TON	50,655.000	50,655.000
0090	465.0105	Asphaltic Surface	TON	280.000	280.000
0092	465.0400	Asphaltic Shoulder Rumble Strips	LF	211,670.000	211,670.000
0184	614.0400	Adjusting Steel Plate Beam Guard	LF	16,090.000	16,090.000
0188	614.0950	Replacing Guardrail Posts and Blocks	EACH	126.000	126.000
0190	614.0951	Replacing Guardrail Rail and Hardware	LF	1,112.500	1,112.500
0210	616.0700.S	Fence Safety	LF	2,385.000	2,385.000
0216	618.0100	Maintenance And Repair of Haul Roads (project) 03. 1067-04-71	EACH	1.000	1.000
0218	619.1000	Mobilization	EACH	0.690	0.690
0262	633.5300	Markers Crossover	EACH	110.000	110.000
0264	638.2102	Moving Signs Type II	EACH	8.000	8.000
0270	638.4000	Moving Small Sign Supports	EACH	8.000	8.000
0272	642.5201	Field Office Type C	EACH	0.690	0.690
0274	643.0300	Traffic Control Drums	DAY	90,005.000	90,005.000
0276	643.0420	Traffic Control Barricades Type III	DAY	5,983.000	5,983.000
0278	643.0705	Traffic Control Warning Lights Type A	DAY	11,966.000	11,966.000
0280	643.0715	Traffic Control Warning Lights Type C	DAY	7,390.000	7,390.000
0282	643.0800	Traffic Control Arrow Boards	DAY	282.000	282.000
0284	643.0900	Traffic Control Signs	DAY	18,492.000	18,492.000
0286	643.0910	Traffic Control Covering Signs Type I	EACH	44.000	44.000
0288	643.0920	Traffic Control Covering Signs Type II	EACH	353.000	353.000
0290	643.1050	Traffic Control Signs PCMS	DAY	200.000	200.000
0294	643.5000	Traffic Control	EACH	0.690	0.690
0300	646.1020	Marking Line Epoxy 4-Inch	LF	3,655.000	3,655.000

1067-04-71

Line	Item	Item Description	Unit	Total	Qty
0302	646.1040	Marking Line Grooved Wet Ref Epoxy 4-Inch	LF	228,230.000	228,230.000
0304	646.1555	Marking Line Grooved Contrast Permanent Tape 4-Inch	LF	27,828.000	27,828.000
0306	646.3555	Marking Line Grooved Contrast Permanent Tape 8-Inch	LF	8,093.000	8,093.000
0308	646.6120	Marking Stop Line Epoxy 18-Inch	LF	88.000	88.000
0312	646.7220	Marking Chevron Epoxy 24-Inch	LF	830.000	830.000
0314	646.8120	Marking Curb Epoxy	LF	74.000	74.000
0318	649.0120	Temporary Marking Line Epoxy 4-Inch	LF	482,260.000	482,260.000
0342	650.8000	Construction Staking Resurfacing Reference	LF	117,785.000	117,785.000
0348	650.9910	Construction Staking Supplemental Control (project) 03. 1067-04-71	LS	1.000	1.000
0358	740.0440	Incentive IRI Ride	DOL	83,515.000	83,515.000
0364	SPV.0045	Special 01. Basic Traffic Queue Warning System	DAY	120.000	120.000
0366	SPV.0060	Special 01. Verify Landmark Reference Monuments	EACH	9.000	9.000
0368	SPV.0090	Special 01. Removing HMA Pavement Notched Wedge Longitudinal Joint Milling	LF	110,240.000	110,240.000
0376	SPV.0180	Special 01. Concrete Base Patching	SY	4,240.000	4,240.000
0378	SPV.0195	Special 01. Base Aggregate Dense 3/4-Inch Beam Guard	TON	1,143.000	1,143.000

REMOVING PAVEMENT MILLING SUMMARY

CATEGORY	PROJECT LOCATION	STATION - STATION	LOCATION	204.0109.S REMOVING CONCRETE SURFACE PARTIAL DEPTH SF	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	204.0120 REMOVING ASPHALTIC SURFACE MILLING SY	SPV.0090.01 REMOVING HMA PAVEMENT NOTCHED WEDGE LONGITUDINAL JOINT MILLING LF
0010	IH-94	995+00 EB - 1011+00 EB	EB	405	210	6,500	1,600
		994+31 WB - 1011+00 WB	WB	695	210	6,760	1,670
		1011+00 EB - 1063+52 EB	EB	2,450	---	21,900	5,250
		1011+00 WB - 1064+00 WB	WB	2,400	---	22,150	5,310
		1063+52 EB - 1116+53 EB	EB	1,360	470	21,250	5,180
		1064+00 WB - 1117+00 WB	WB	1,800	500	21,150	5,180
		1116+53 EB - 1169+49 EB	EB	1,690	515	21,050	5,150
		1117+00 WB - 1170+00 WB	WB	1,580	550	21,100	5,160
		1169+49 EB - 1221+50 EB	EB	1,910	---	26,400	5,200
		1170+00 WB - 1222+00 WB	WB	1,910	---	26,400	5,200
		1221+50 EB - 1275+00 EB	EB	1,360	580	21,250	4,880
		1222+00 WB - 1275+00 WB	WB	1,690	430	21,500	5,210
		1275+00 EB - 1328+02 EB	EB	2,290	300	25,150	5,300
		1275+00 WB - 1328+00 WB	WB	2,610	---	22,100	5,300
		1328+02 EB - 1381+02 EB	EB	1,960	495	20,350	4,960
		1328+00 WB - 1381+00 WB	WB	1,580	490	20,400	4,960
		1381+02 EB - 1434+00 EB	EB	870	---	22,250	5,300
		1381+00 WB - 1434+00 WB	WB	2,230	205	24,700	5,300
		1434+00 EB - 1485+03 EB	EB	575	---	21,500	5,100
		1434+00 WB - 1485+00 WB	WB	2,290	150	22,550	5,100
		1485+03 EB - 1539+03 EB	EB	815	445	21,050	5,100
		1485+00 WB - 1539+00 WB	WB	2,670	440	20,850	5,100
		1539+03 EB - 1559+65 EB	EB	575	210	7,650	1,710
		1539+00 WB - 1559+64 WB	WB	470	215	8,340	2,020
		SUBTOTALS		38,185	6,415	474,300	110,240
		UNDISTRIBUTED	EB	---	53	---	---
		UNDISTRIBUTED	WB	---	53	---	---
		SUBTOTALS		0	106	0	0
	STH 89 RAMPS	1189+86 A - 1201+85 A	RAMP A	---	170	2,990	---
		1198+79 B - 1207+75 B	RAMP B	---	150	1,680	---
		1201+89 C - 1205+40 C	RAMP C	---	195	2,480	---
		1207+73 D - 1205+58 D	RAMP D	---	185	2,050	---
		1202+83 BD - 1207+75 BD	RAMP BD	---	23	3,100	---
		SUBTOTALS		0	723	12,300	0
			TOTALS	38,185	7,244	486,600	110,240

REMOVING DELINEATORS AND MARKERS

CATEGORY	STATION	204.0180 EACH
0010	STA. 1345+05 WB - 1348+33 WB	45
	STA. 1546+71 WB - 1550+02 WB	40
	TOTAL	85

FILE NAME : S:\MAD\1000--1099\1089\907\Drawings\CAD\Micros\PLAN\030200_mq.dgn PLOT DATE : 10/14/2019 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 43

BASE AGGREGATE DENSE

CATEGORY	PROJECT LOCATION	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	SPV.0195.01 BASE AGGREGATE DENSE 3/4-INCH BEAM GUARD TON
0010	IH-94	995+00 EB - 1011+00 EB	EB	75	35
		994+31 WB - 1011+00 WB	WB	75	40
		1011+00 EB - 1063+52 EB	EB	250	75
		1011+00 WB - 1064+00 WB	WB	260	65
		1063+52 EB - 1116+53 EB	EB	240	70
		1064+00 WB - 1117+00 WB	WB	240	80
		1116+53 EB - 1169+49 EB	EB	240	50
		1117+00 WB - 1170+00 WB	WB	250	20
		1169+49 EB - 1221+50 EB	EB	260	7
		1170+00 WB - 1222+00 WB	WB	260	---
		1221+50 EB - 1275+00 EB	EB	250	30
		1222+00 WB - 1275+00 WB	WB	250	40
		1275+00 EB - 1328+02 EB	EB	280	---
		1275+00 WB - 1328+00 WB	WB	270	25
		1328+02 EB - 1381+02 EB	EB	240	25
		1328+00 WB - 1381+00 WB	WB	240	25
		1381+02 EB - 1434+00 EB	EB	270	9
		1381+00 WB - 1434+00 WB	WB	280	9
		1434+00 EB - 1485+03 EB	EB	260	15
		1434+00 WB - 1485+00 WB	WB	260	15
		1485+03 EB - 1539+03 EB	EB	240	65
		1485+00 WB - 1539+00 WB	WB	240	40
		1539+03 EB - 1559+65 EB	EB	100	9
		1539+00 WB - 1559+64 WB	WB	100	10
		SUBTOTALS		5,430	759
	STH 89	1189+86 A - 1201+85 A	RAMP A	30	---
	RAMPS	1198+79 B - 1207+75 B	RAMP B	20	3
		1201+89 C - 1205+40 C	RAMP C	40	---
		1207+73 D - 1205+58 D	RAMP D	20	---
		1202+83 BD - 1207+75 BD	RAMP BD	9	---
		SUBTOTALS		119	3
		UNDISTRIBUTED		2,775	381
			TOTALS	8,324	1,143

ASPHALTIC ITEMS SUMMARY

CATEGORY	PROJECT LOCATION	STATION - STATION	LOCATION	455.0605 TACK COAT GAL	460.7224 HMA PAVEMENT 4 HT 58-28 S TON	460.7424 HMA PAVEMENT 4 HT 58-28 H TON	465.0105 ASPHALTIC SURFACE TON
0010	IH-94	995+00 EB - 1011+00 EB	EB	800	560	660	---
		994+31 WB - 1011+00 WB	WB	850	580	690	---
		1011+00 EB - 1063+52 EB	EB	2,700	1,830	2,170	---
		1011+00 WB - 1064+00 WB	WB	2,700	1,850	2,200	---
		1063+52 EB - 1116+53 EB	EB	2,600	1,790	2,140	---
		1064+00 WB - 1117+00 WB	WB	2,600	1,800	2,140	---
		1116+53 EB - 1169+49 EB	EB	2,600	1,780	2,130	---
		1117+00 WB - 1170+00 WB	WB	2,600	1,800	2,140	---
		1169+49 EB - 1221+50 EB	EB	2,900	2,180	2,410	---
		1170+00 WB - 1222+00 WB	WB	3,000	2,230	2,410	---
		1221+50 EB - 1275+00 EB	EB	2,600	1,820	2,150	---
		1222+00 WB - 1275+00 WB	WB	2,600	1,820	2,170	---
		1275+00 EB - 1328+02 EB	EB	3,100	2,250	2,520	---
		1275+00 WB - 1328+00 WB	WB	2,700	1,850	2,190	---
		1328+02 EB - 1381+02 EB	EB	2,500	1,740	2,060	---
		1328+00 WB - 1381+00 WB	WB	2,500	1,740	2,060	---
		1381+02 EB - 1434+00 EB	EB	2,700	1,850	2,190	---
		1381+00 WB - 1434+00 WB	WB	3,000	2,160	2,460	---
		1434+00 EB - 1485+03 EB	EB	2,600	1,780	2,110	---
		1434+00 WB - 1485+00 WB	WB	2,800	1,950	2,250	---
		1485+03 EB - 1539+03 EB	EB	2,600	1,780	2,120	---
		1485+00 WB - 1539+00 WB	WB	2,600	1,780	2,110	---
		1539+03 EB - 1559+65 EB	EB	950	595	775	---
		1539+00 WB - 1559+64 WB	WB	1,000	705	845	---
		SUBTOTALS		57,600	40,220	47,100	---
	STH 89	1189+86 A - 1201+85 A	RAMP A	200	---	335	---
	RAMPS &	1198+79 B - 1207+75 B	RAMP B	100	---	190	---
	MEDIAN	1201+89 C - 1205+40 C	RAMP C	200	---	280	---
	CROSSOVERS	1207+73 D - 1205+58 D	RAMP D	150	---	230	---
		1202+83 BD - 1207+75 BD	RAMP BD	200	---	350	---
		MEDIAN CROSSOVERS	RT/LT	250	---	820	280
		SUBTOTALS		1,100	0	2,205	280
	SAFETY EDGE	MAINLINE	EB	350	---	670	
	ASPHALT	MAINLINE	WB	350	---	680	
		SUBTOTALS		700	0	1,350	
			TOTALS	59,400	40,220	50,655	280

HMA PAVEMENT PWL ITEMS

CATEGORY	STATION	-	STATION	460.0105.S HMA PERCENT WITHIN LIMITS (PWL) TEST STRIP VOLUMETRICS EACH	460.0110.S HMA PERCENT WITHIN LIMITS (PWL) TEST STRIP DENSITY EACH
0010	994+31 WB	-	1559+65 WB	2	2

NOTE: A UNIT WEIGHT OF 112 POUNDS PER SQUARE YARD PER INCH OF THICKNESS WAS USED TO ESTIMATE ASPHALT QUANTITIES

PWL MIXTURE USE TABLE

THE FOLLOWING ACCEPTANCE CRITERIA ARE APPLICABLE FOR THIS PROJECT:

LOCATION	STATION	-	STATION	LOCATION	MIXTURE USE	UNDERLYING SURFACE	BID ITEM	TONS	THICKNESS	QUALITY MANAGEMENT PROGRAM TO BE USED FOR: MIXTURE ACCEPTANCE	QUALITY MANAGEMENT PROGRAM TO BE USED FOR: DENSITY ACCEPTANCE
24 FOOT DRIVING LANE	995+00 EB	-	1559+65 EB	EB	LOWER LAYER	MILLED EXISTING HMA SURFACE	4 HT 58-28S	16,830	2"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
24 FOOT DRIVING LANE	995+00 EB	-	1559+65 EB	EB	UPPER LAYER	4 HT 58-28S	4 HT 58-28H	14,730	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
OUTSIDE SHOULDERS	995+00 EB	-	1559+65 EB	EB	UPPER LAYER	MILLED EXISTING HMA SURFACE	4 HT 58-28H	5,870	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
INSIDE SHOULDERS	995+00 EB	-	1559+65 EB	EB	LOWER LAYER	MILLED EXISTING HMA SURFACE	4 HT 58-28S	3,000	2"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
INSIDE SHOULDERS	995+00 EB	-	1559+65 EB	EB	UPPER LAYER	4 HT 58-28S	4 HT 58-28H	2,630	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
24 FOOT DRIVING LANE	994+31 WB	-	1559+64 WB	WB	LOWER LAYER	MILLED EXISTING HMA SURFACE	4 HT 58-28S	17,160	2"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
24 FOOT DRIVING LANE	994+31 WB	-	1559+64 WB	WB	UPPER LAYER	4 HT 58-28S	4 HT 58-28H	15,010	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
OUTSIDE SHOULDERS	994+31 WB	-	1559+64 WB	WB	UPPER LAYER	MILLED EXISTING HMA SURFACE	4 HT 58-28H	5,910	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
INSIDE SHOULDERS	994+31 WB	-	1559+64 WB	WB	LOWER LAYER	MILLED EXISTING HMA SURFACE	4 HT 58-28S	2,950	2"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
INSIDE SHOULDERS	994+31 WB	-	1559+64 WB	WB	UPPER LAYER	4 HT 58-28S	4 HT 58-28H	2,580	1.75"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
DRIVING LANE	STH 89 RAMPS			STH 89 RAMPS	UPPER LAYER	MILLED EXISTING HMA SURFACE	4 HT 58-28H	270	2"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
SHOULDERS	STH 89 RAMPS			STH 89 RAMPS	UPPER LAYER	MILLED EXISTING HMA SURFACE	4 HT 58-28H	180	2"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
CROSSOVER	MEDIAN CROSSOVERS			RT/LT	UPPER LAYER	EXISTING HMA SURFACE	ASPHALTIC SURFACE	1,000	1.5"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
MAINLINE	SAFETY EDGE			EB	UPPER LAYER	4 HT 58-28S	4 HT 58-28H	370	0.71"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
MAINLINE	SAFETY EDGE			WB	UPPER LAYER	4 HT 58-28S	4 HT 58-28H	370	0.71"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005

ASPHALTIC SHOULDER RUMBLE STRIPS

CATEGORY	PROJECT LOCATION	STATION - STATION	LOCATION	465.0400 LF
0010	IH-94	995+00 EB - 1011+00 EB	EB	3,200
		994+31 WB - 1011+00 WB	WB	3,340
		1011+00 EB - 1063+52 EB	EB	10,500
		1011+00 WB - 1064+00 WB	WB	10,600
		1063+52 EB - 1116+53 EB	EB	10,300
		1064+00 WB - 1117+00 WB	WB	10,350
		1116+53 EB - 1169+49 EB	EB	10,250
		1117+00 WB - 1170+00 WB	WB	10,300
		1169+49 EB - 1221+50 EB	EB	9,050
		1170+00 WB - 1222+00 WB	WB	8,800
		1221+50 EB - 1275+00 EB	EB	9,840
		1222+00 WB - 1275+00 WB	WB	10,500
		1275+00 EB - 1328+02 EB	EB	9,390
		1275+00 WB - 1328+00 WB	WB	10,600
		1328+02 EB - 1381+02 EB	EB	9,080
		1328+00 WB - 1381+00 WB	WB	9,170
		1381+02 EB - 1434+00 EB	EB	10,600
		1381+00 WB - 1434+00 WB	WB	9,820
		1434+00 EB - 1485+03 EB	EB	10,200
		1434+00 WB - 1485+00 WB	WB	9,500
		1485+03 EB - 1539+03 EB	EB	10,250
		1485+00 WB - 1539+00 WB	WB	10,200
		1539+03 EB - 1559+65 EB	EB	2,860
		1539+00 WB - 1559+64 WB	WB	2,970
			TOTAL	211,670

FENCE SAFETY

CATEGORY	LOCATION	STATION - STATION	LOCATION	616.0700.S LF	DESCRIPTION
0010	IH-94	1334+89 WB - 1336+90 WB	WB	205	SITE 47JE242
		1357+77 EB - 1359+40 EB	EB	165	SITE 47JE241
		1364+39 EB - 1365+99 EB	EB	165	SITE 47JE240
		1369+44 EB - 1370+85 EB	EB	140	SITE 47JE239
		1371+07 WB - 1371+84 WB	WB	75	SITE 47JE238
		1488+24 WB - 1494+53 WB	WB	630	SITE 47JE878
		1488+28 EB - 1494+53 EB	EB	625	SITE 47JE878
		1497+10 WB - 1498+88 WB	WB	185	SITE 47JE237
		1508+57 EB - 1510+25 EB	EB	195	SITE 47JE236
			TOTAL	2,385	

ADJUSTING BEAM GUARD ITEMS

CATEGORY	PROJECT LOCATION	STATION - STATION	LOCATION	614.0400 ADJUSTING STEEL PLATE BEAM GUARD LF	614.0950 REPLACING GUARDRAIL POSTS AND BLOCKS EACH	614.0951 REPLACING GUARDRAIL RAIL AND HARDWARE LF
0010	IH-94	991+20 WB - 996+90 WB	WB	180	1	12.5
		994+86 EB - 1008+39 EB	EB	1150	9	62.5
		999+11 WB - 1009+15 WB	WB	1000	8	62.5
		1012+33 EB - 1031+87 EB	EB	50	0	12.5
		1021+02 WB - 1034+02 WB	WB	1050	8	62.5
		1040+66 EB - 1049+23 EB	EB	250	2	25
		1042+41 WB - 1054+38 WB	WB	1200	10	62.5
		1064+52 EB - 1070+46 EB	EB	310	2	25
		1067+02 EB - 1070+21 EB	EB	320	3	25
		1071+88 EB - 1088+04 EB	EB	1350	11	75
		1098+48 WB - 1109+51 WB	WB	710	6	37.5
		1114+64 EB - 1123+68 EB	EB	720	6	37.5
		1131+84 EB - 1136+53 EB	EB	470	4	25
		1133+20 EB - 1136+88 EB	EB	50	0	12.5
		1155+36 EB - 1158+14 EB	EB	140	1	12.5
		1197+64 EB - 1200+31 EB	EB	270	2	25
		1234+38 EB - 1239+18 EB	EB	180	1	12.5
		1239+43 WB - 1244+31 WB	WB	180	1	12.5
		1259+09 WB - 1262+30 WB	WB	320	3	25
		1259+33 WB - 1263+01 WB	WB	370	3	25
		1270+04 WB - 1273+04 WB	WB	300	2	25
		1304+80 WB - 1313+83 WB	WB	900	7	50
		1363+24 EB - 1366+42 EB	EB	300	2	25
		1363+38 EB - 1366+11 EB	EB	110	1	12.5
		1369+74 WB - 1372+93 WB	WB	320	3	25
		1370+06 WB - 1372+49 WB	WB	140	1	12.5
		1398+36 EB - 1402+07 EB	EB	140	1	12.5
		1400+64 WB - 1404+49 WB	WB	210	2	12.5
		1462+97 EB - 1465+75 EB	EB	50	0	12.5
		1465+18 WB - 1467+71 WB	WB	250	2	25
		1477+35 EB - 1481+32 EB	EB	50	0	12.5
		1479+90 WB - 1483+52 WB	WB	320	3	25
		1485+61 EB - 1500+68 EB	EB	50	0	12.5
		1497+48 EB - 1500+67 EB	EB	300	2	25
		1499+70 WB - 1500+61 WB	WB	90	1	12.5
		1503+37 WB - 1515+06 WB	WB	1170	9	62.5
		1503+38 WB - 1506+55 WB	WB	320	3	25
		1503+38 EB - 1509+55 EB	EB	310	3	25
		1555+89 WB - 1559+83 WB	WB	390	3	25
		1557+37 EB - 1559+82 EB	EB	50	0	12.5
		1559+01 EB - 1559+84 EB	EB	50	0	12.5
			TOTALS	16,090	126	1,112.5

MARKERS CROSSOVER

CATEGORY	STATION - STATION	633.5300 EACH
0010	1345+05 WB - 1348+33 WB	55
	1546+71 WB - 1550+02 WB	55
	TOTAL	110

MOVING SIGNS

CATEGORY	STATION	638.2102 MOVING SIGNS TYPE II EACH	638.4000 MOVING SMALL SIGN SUPPORTS EACH
0010	1346+00 WB	4	4
	1549+00 WB	4	4
	TOTALS	8	8

MARKING

CATEGORY	PROJECT LOCATION	STATION - STATION	LOCATION	646.1020 LINE EPOXY 4-INCH (WHITE) LF	646.1020 LINE EPOXY 4-INCH (YELLOW) LF	646.1020 LINE EPOXY 4-INCH (WHITE SKIP) (12.5'SEG. 37.5'GAP) LF	646.1040 LINE GROOVED WET REF EPOXY 4-INCH (WHITE) LF	646.1040 LINE GROOVED WET REF EPOXY 4-INCH (YELLOW) LF	646.1555 CONTRAST PERMANENT TAPE 4-INCH (WHITE SKIP) (12.5'SEG. 37.5'GAP) LF	646.1555 CONTRAST PERMANENT TAPE 4-INCH (WHITE SKIP) (3'SEG. 9'GAP) LF	646.3555 CONTRAST PERMANENT TAPE 8-INCH (WHITE) LF	646.3555 CONTRAST PERMANENT TAPE 8-INCH (WHITE SKIP) (3'SEG. 9'GAP) LF	646.6120 STOP LINE EPOXY 18-INCH LF	646.7220 CHEVRON EPOXY 24-INCH LF	646.8120 CURB EPOXY LF
0010	IH-94	995+00 EB - 1011+00 EB	EB	---	---	---	1,600	1,600	400	---	---	---	---	---	---
		994+31 WB - 1011+00 WB	WB	---	---	---	1,670	1,670	415	---	---	---	---	---	---
		1011+00 EB - 1063+52 EB	EB	---	---	---	5,240	5,250	1,310	---	---	---	---	---	---
		1011+00 WB - 1064+00 WB	WB	---	---	---	5,310	5,300	1,330	---	---	---	---	---	---
		1063+52 EB - 1116+53 EB	EB	125	125	31	5,180	5,180	1,290	---	---	---	---	---	---
		1064+00 WB - 1117+00 WB	WB	---	---	---	5,180	5,180	1,290	---	---	---	---	---	---
		1116+53 EB - 1169+49 EB	EB	145	145	36	5,150	5,150	1,290	---	---	---	---	---	---
		1117+00 WB - 1170+00 WB	WB	---	---	---	5,060	5,160	1,290	---	---	---	---	---	---
		1169+49 EB - 1221+50 EB	EB	---	---	---	5,190	5,200	1,300	170	1,750	34	---	110	---
		1170+00 WB - 1222+00 WB	WB	---	---	---	5,190	5,200	1,300	---	1,400	250	---	135	---
		1221+50 EB - 1275+00 EB	EB	---	---	---	4,980	4,970	1,240	---	---	---	---	---	---
		1222+00 WB - 1275+00 WB	WB	86	86	21	5,200	5,210	1,300	---	---	---	---	---	---
		1275+00 EB - 1328+02 EB	EB	---	---	---	5,320	5,320	1,330	45	2,200	---	---	225	---
		1275+00 WB - 1328+00 WB	WB	---	---	---	5,300	5,300	1,320	---	---	---	---	---	---
		1328+02 EB - 1381+02 EB	EB	340	340	85	4,960	4,960	1,240	---	---	---	---	---	---
		1328+00 WB - 1381+00 WB	WB	340	340	85	4,960	4,960	1,240	---	---	---	---	---	---
		1381+02 EB - 1434+00 EB	EB	---	---	---	5,300	5,300	1,320	---	---	---	---	---	---
		1381+00 WB - 1434+00 WB	WB	---	---	---	5,420	5,430	1,330	---	1,470	---	---	---	---
		1434+00 EB - 1485+03 EB	EB	---	---	---	5,100	5,100	1,280	---	---	---	---	---	---
		1434+00 WB - 1485+00 WB	WB	---	---	---	5,070	5,100	1,270	48	880	---	---	360	---
		1485+03 EB - 1539+03 EB	EB	300	300	50	5,100	5,100	1,280	---	---	---	---	---	---
		1485+00 WB - 1539+00 WB	WB	300	300	75	5,100	5,100	1,270	---	---	---	---	---	---
		1539+03 EB - 1559+65 EB	EB	---	---	---	1,710	1,710	425	---	---	---	---	---	---
		1539+00 WB - 1559+64 WB	WB	---	---	---	2,020	2,020	505	---	---	---	---	---	---
		SUBTOTALS		1,636	1,636	383	110,310	110,470	27,565	263	7,700	284	0	830	0
STH 89 RAMPS		1189+86 A - 1201+85 A	RAMP A	---	---	---	930	925	---	---	62	---	45	---	22
		1198+79 B - 1207+75 B	RAMP B	---	---	---	500	535	---	---	---	---	---	---	---
		1201+89 C - 1205+40 C	RAMP C	---	---	---	700	650	---	---	---	---	---	---	---
		1207+73 D - 1205+58 D	RAMP D	---	---	---	630	635	---	---	---	---	---	---	---
		1202+83 BD - 1207+75 BD	RAMP BD	---	---	---	990	955	---	---	47	---	43	---	52
		SUBTOTALS		0	0	0	3,750	3,700	0	0	109	0	88	0	74
		TOTALS		3,655			228,230		27,828		8,093		88	830	74

TRAFFIC CONTROL SUMMARY

CATEGORY	STAGE	LOCATION	DURATION (DAYS)	643.0300 TRAFFIC CONTROL DRUMS QTY	643.0300 DRUMS DAY	643.0420 TRAFFIC CONTROL BARRICADES TYPE III QTY	643.0420 BARRICADES DAY	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A QTY	643.0705 TYPE A DAY	643.0715 TYPE C QTY	643.0715 TYPE C DAY	643.0800 TRAFFIC CONTROL ARROW BOARDS QTY	643.0800 ARROW BOARDS DAY	643.0900 TRAFFIC CONTROL SIGNS QTY	643.0900 SIGNS DAY	643.1050 TRAFFIC CONTROL SIGNS PCMS QTY	643.1050 SIGNS PCMS DAY
0010	ADVANCE WARNING	EB IH 94	198	---	---	---	---	---	---	---	---	---	---	13	2,574	1	7
		WB IH 94	198	---	---	---	---	---	---	---	---	---	---	14	2,772	1	7
		RAMP/REST AREA CLOSURES	7	---	---	---	---	---	---	---	---	---	---	---	---	24	168
	WIDTH RESTRICTION	STAGE 1	34	---	---	---	---	---	---	---	---	---	---	31	1,054	---	---
		STAGE 2	15	---	---	---	---	---	---	---	---	---	---	31	465	---	---
		STAGE 3	18	---	---	---	---	---	---	---	---	---	---	31	558	---	---
		SUBTOTALS (ADVANCE/WIDTH SIGNING)			0		0		0		0		0		7,423		182
	STAGE 1A	EB IH 94	8	534	4,272	40	320	80	640	14	112	2	16	60	480	---	---
		WB IH 94	9	551	4,961	42	378	84	756	14	126	2	18	62	558	---	---
	STAGE 1B	EB IH 94	8	708	5,666	43	344	86	688	80	640	2	16	82	656	---	---
		WB IH 94	9	768	6,915	45	405	90	810	104	936	2	18	90	810	---	---
		SUBTOTALS (STAGE 1)			21,814		1,447		2,894		1,814		68		2,504		0
	STAGE 2A	EB IH 94	9	534	4,806	40	360	80	720	14	126	2	18	60	540	---	---
		WB IH 94	9	551	4,961	42	378	84	756	14	126	2	18	62	558	---	---
	STAGE 2B	EB IH 94	6	708	4,250	43	258	86	516	80	480	2	12	82	492	---	---
		WB IH 94	6	768	4,610	45	270	90	540	104	624	2	12	90	540	---	---
		SUBTOTALS (STAGE 2)			18,627		1,266		2,532		1,356		60		2,130		0
	STAGE 3A	EB IH 94	8	534	4,272	40	320	80	640	14	112	2	16	60	480	---	---
		WB IH 94	8	551	4,409	42	336	84	672	14	112	2	16	62	496	---	---
	STAGE 3B	EB IH 94	10	708	7,083	43	430	86	860	80	800	2	20	82	820	---	---
		WB IH 94	10	768	7,684	45	450	90	900	104	1,040	2	20	90	900	---	---
		SUBTOTALS (STAGE 3)			23,448		1,536		3,072		2,064		72		2,696		0
	STAGE 4A	EB IH 94	7	534	3,738	40	280	80	560	14	98	2	14	60	420	---	---
		WB IH 94	7	551	3,858	42	294	84	588	14	98	2	14	62	434	---	---
	STAGE 4B	EB IH 94	7	708	4,958	43	301	86	602	80	560	2	14	82	574	---	---
		WB IH 94	7	768	5,379	45	315	90	630	104	728	2	14	90	630	---	---
		SUBTOTALS (STAGE 4)			17,933		1,190		2,380		1,484		56		2,058		0
		SUBTOTALS (STAGE 1-4)			81,822		5,439		10,878		6,718		256		9,388		0
		UNDISTRIBUTED			8,182		544		1,088		672		26		1,681		18
		TOTALS			90,005		5,983		11,966		7,390		282		18,492		200

TRAFFIC CONTROL COVERING SIGNS

CATEGORY	STAGE	LOCATION	643.0910 TYPE I NUMBER OF CYCLES	643.0910 TYPE I NUMBER OF SIGNS	643.0910 TYPE I EACH	643.0920 TYPE II NUMBER OF CYCLES	643.0920 TYPE II NUMBER OF SIGNS	643.0920 TYPE II EACH
0010	STAGE 1	EB IH 94	1	5	5	16	2	32
		WB IH 94	1	5	5	18	3	54
	STAGE 2	EB IH 94	1	5	5	15	2	30
		WB IH 94	1	5	5	15	3	45
	STAGE 3	EB IH 94	1	5	5	18	2	36
		WB IH 94	1	5	5	18	3	54
	STAGE 4	EB IH 94	1	5	5	14	2	28
		WB IH 94	1	5	5	14	3	42
	SUBTOTALS				40			321
	UNDISTRIBUTED				4			32
	TOTALS				44			353

CONSTRUCTION STAKING

CATEGORY	PROJECT LOCATION	STATION - STATION	LOCATION	650.8000 RESURFACING REFERENCE LF
0010	IH-94	995+00 EB - 1011+00 EB	EB	1,600
		994+31 WB - 1011+00 WB	WB	1,670
		1011+00 EB - 1063+52 EB	EB	5,250
		1011+00 WB - 1064+00 WB	WB	5,310
		1063+52 EB - 1116+53 EB	EB	5,180
		1064+00 WB - 1117+00 WB	WB	5,180
		1116+53 EB - 1169+49 EB	EB	5,150
		1117+00 WB - 1170+00 WB	WB	5,160
		1169+49 EB - 1221+50 EB	EB	5,200
		1170+00 WB - 1222+00 WB	WB	5,200
		1221+50 EB - 1275+00 EB	EB	4,980
		1222+00 WB - 1275+00 WB	WB	5,210
		1275+00 EB - 1328+02 EB	EB	6,410
		1275+00 WB - 1328+00 WB	WB	5,300
		1328+02 EB - 1381+02 EB	EB	4,960
		1328+00 WB - 1381+00 WB	WB	4,960
		1381+02 EB - 1434+00 EB	EB	5,300
		1381+00 WB - 1434+00 WB	WB	6,150
		1434+00 EB - 1485+03 EB	EB	5,100
		1434+00 WB - 1485+00 WB	WB	5,530
		1485+03 EB - 1539+03 EB	EB	5,100
		1485+00 WB - 1539+00 WB	WB	5,100
		1539+03 EB - 1559+65 EB	EB	1,710
		1539+00 WB - 1559+64 WB	WB	2,020
		SUBTOTAL		112,730
		1189+86 A - 1201+85 A	RAMP A	1,200
		1198+79 B - 1207+75 B	RAMP B	910
		1201+89 C - 1205+40 C	RAMP C	1,120
		1207+73 D - 1205+58 D	RAMP D	825
		1202+83 BD - 1207+75 BD	RAMP BD	1,000
		SUBTOTAL		5,055
			TOTAL	117,785

TEMPOARARY MARKING LINE

CATEGORY	PROJECT LOCATION	STATION - STATION	LOCATION	649.0120 EPOXY 4-INCH (YELLOW) LF	649.0120 EPOXY 4-INCH (WHITE) LF	649.0120 EPOXY 4-INCH (WHITE SKIP) (4' SEG. 46' GAP) LF
0010	IH-94	995+00 EB - 1011+00 EB	EB	3,200	3,200	255
		994+31 WB - 1011+00 WB	WB	3,340	3,340	265
		1011+00 EB - 1063+52 EB	EB	10,500	10,500	840
		1011+00 WB - 1064+00 WB	WB	10,600	10,600	850
		1063+52 EB - 1116+53 EB	EB	10,350	10,350	830
		1064+00 WB - 1117+00 WB	WB	10,350	10,350	830
		1116+53 EB - 1169+49 EB	EB	10,300	10,300	825
		1117+00 WB - 1170+00 WB	WB	10,300	10,350	825
		1169+49 EB - 1221+50 EB	EB	10,400	13,900	830
		1170+00 WB - 1222+00 WB	WB	10,400	13,200	830
		1221+50 EB - 1275+00 EB	EB	9,950	9,960	795
		1222+00 WB - 1275+00 WB	WB	10,450	10,400	835
		1275+00 EB - 1328+02 EB	EB	10,600	15,050	850
		1275+00 WB - 1328+00 WB	WB	10,600	10,600	850
		1328+02 EB - 1381+02 EB	EB	9,920	9,920	795
		1328+00 WB - 1381+00 WB	WB	9,920	9,920	795
		1381+02 EB - 1434+00 EB	EB	10,600	10,600	850
		1381+00 WB - 1434+00 WB	WB	10,600	14,050	850
		1434+00 EB - 1485+03 EB	EB	10,200	10,200	815
		1434+00 WB - 1485+00 WB	WB	10,200	11,900	815
		1485+03 EB - 1539+03 EB	EB	10,200	10,200	815
		1485+00 WB - 1539+00 WB	WB	10,200	10,200	815
		1539+03 EB - 1559+65 EB	EB	3,410	3,410	275
		1539+00 WB - 1559+64 WB	WB	4,030	4,030	325
		SUBTOTALS		220,620	236,530	17,660
STH 89 RAMPS		1189+86 A - 1201+85 A	RAMP A	925	930	---
		1198+79 B - 1207+75 B	RAMP B	535	500	---
		1201+89 C - 1205+40 C	RAMP C	650	700	---
		1207+73 D - 1205+58 D	RAMP D	635	630	---
		1202+83 BD - 1207+75 BD	RAMP BD	955	990	---
		SUBTOTALS		3,700	3,750	0
			TOTAL		482,260	

VERIFY LANDMARK REFERENCE MONUMENTS

CATEGORY	PROJECT LOCATION	STATION	LOCATION	SPV.0060.01 EACH
0010	IH-94	989+64 WB	RT	1
		989+84 WB	RT	1
		1016+58 WB	LT	1
		1043+19 WB	LT	1
		1043+36 WB	LT	1
		1245+64 EB	RT	1
		1294+67 WB	LT	1
		1348+28 WB	LT	1
		1401+37 WB	RT	1
			TOTAL	9

CONCRETE BASE PATCHING

CATEGORY	PROJECT LOCATION	STATION - STATION	LOCATION	SPV.0180.01 SY
0010	IH-94	995+00 EB - 1011+00 EB	EB	37
		994+31 WB - 1011+00 WB	WB	64
		1011+00 EB - 1063+52 EB	EB	225
		1011+00 WB - 1064+00 WB	WB	220
		1063+52 EB - 1116+53 EB	EB	125
		1064+00 WB - 1117+00 WB	WB	165
		1116+53 EB - 1169+49 EB	EB	155
		1117+00 WB - 1170+00 WB	WB	145
		1169+49 EB - 1221+50 EB	EB	175
		1170+00 WB - 1222+00 WB	WB	175
		1221+50 EB - 1275+00 EB	EB	125
		1222+00 WB - 1275+00 WB	WB	155
		1275+00 EB - 1328+02 EB	EB	210
		1275+00 WB - 1328+00 WB	WB	240
		1328+02 EB - 1381+02 EB	EB	180
		1328+00 WB - 1381+00 WB	WB	145
		1381+02 EB - 1434+00 EB	EB	80
		1381+00 WB - 1434+00 WB	WB	205
		1434+00 EB - 1485+03 EB	EB	53
		1434+00 WB - 1485+00 WB	WB	210
		1485+03 EB - 1539+03 EB	EB	75
		1485+00 WB - 1539+00 WB	WB	245
		1539+03 EB - 1559+65 EB	EB	53
		1539+00 WB - 1559+64 WB	WB	43
		SUBTOTAL		3,505
		UNDISTRBUTED		735
			TOTAL	4,240

HMOD

PROJECT HEIGHT MODERNIZATION SURVEY STATION
DG4983
X = 597,502.81
Y = 808,631.28

1/4 CORNER (MONUMENT LOCATED IN OUTSIDE DITCH)
X = 597,323.14
Y = 808,536.29

STEEL PLATE BEAM GUARD CLASS A (TO REMAIN)
WB OUTSIDE SHOULDER
STA. 991+20 WB TO STA. 996+90 WB
ADJUSTING STEEL PLATE BEAM GUARD REQ'D
SEE MQ'S FOR ADDITIONAL INFORMATION

STEEL PLATE BEAM GUARD CLASS A (TO REMAIN)
WB OUTSIDE SHOULDER
STA. 999+11 WB TO STA. 1009+15 WB
ADJUSTING STEEL PLATE BEAM GUARD REQ'D
SEE MQ'S FOR ADDITIONAL INFORMATION

N

BEGIN PROJECT
STA. 994+31.12 WB

REMOVING ASPHALTIC SURFACE BUTT JOINTS REQ'D. SEE CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.

990+00 WB

POT 990+00.00 WB
Y = 597,326.57
X = 808,571.93

1.5% +81
2.0% +06

IH 94 WB

1000+00 WB

N 89° 44' 54" E

990+00 EB

PC 991+98.27 EB

PI 994+79.42 EB

995+00 EB

PT 997+60.57 EB

1000+00 EB

N 89° 44' 18" E

S 89° 47' 35" E

1.5% +50
2.0% +75

IH 94 EB

MATCH LINE STA. 1004+00 WB

POT 990+00.00 EB
Y = 597,266.26
X = 808,572.25

1/4 CORNER (MONUMENT LOCATED IN OUTSIDE DITCH)
X = 597,323.45
Y = 808,556.09

BEGIN CONSTRUCTION
STA. 995+00.00 EB

AIRPORT ROAD

WE ENERGIES (ELECTRIC)
FRONTIER COMMUNICATIONS
(COMMUNICATIONS)(OVERHEAD)

REMOVING ASPHALTIC SURFACE BUTT JOINTS REQ'D. SEE CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.

P.I. = 994+79.42 EB
Y = 597,268.45
X = 809,051.66
DELTA = 0° 28' 07" (RT)
D = 0° 05' 00"
T = 281.15'
L = 562.30'
R = 68,755.00'
P.C. = 991+98.27 EB
Y = 597,267.17
X = 808,770.51
P.T. = 997+60.57 EB
Y = 597,267.43
X = 809,332.81

STEEL PLATE BEAM GUARD CLASS A (TO REMAIN)
EB OUTSIDE SHOULDER
STA. 994+86 EB TO STA. 1008+39 EB
ADJUSTING STEEL PLATE BEAM GUARD REQ'D
SEE MQ'S FOR ADDITIONAL INFORMATION

STEEL PLATE BEAM GUARD CLASS A (TO REMAIN)
WB OUTSIDE SHOULDER
STA. 999+11 WB TO STA. 1009+15 WB
ADJUSTING STEEL PLATE BEAM GUARD REQ'D
SEE MQ'S FOR ADDITIONAL INFORMATION

N

COMMON CORNER (MONUMENTS LOCATED IN OUTSIDE DITCH)
X = 597,366.33
Y = 811,229.55

MATCH LINE STA. 1004+00 WB

1005+00 WB

1010+00 WB

IH 94 WB

1015+00 WB

N 89° 44' 54" E

INL

POST

1005+00 EB

1010+00 EB

1015+00 EB

S 89° 47' 35" E

IH 94 EB

MATCH LINE STA. 1019+00 WB

SEE CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION FOR MAINTENANCE CROSSOVERS.

POST

SIGN

STEEL PLATE BEAM GUARD CLASS A (TO REMAIN)
EB OUTSIDE SHOULDER
STA. 994+86 EB TO STA. 1008+39 EB
ADJUSTING STEEL PLATE BEAM GUARD REQ'D
SEE MQ'S FOR ADDITIONAL INFORMATION

STEEL PLATE BEAM GUARD CLASS A (TO REMAIN)
EB OUTSIDE SHOULDER
STA. 1012+33 EB TO STA. 1031+87 EB
ADJUSTING STEEL PLATE BEAM GUARD REQ'D
SEE MQ'S FOR ADDITIONAL INFORMATION

PROJECT NO: 1067-04-71	HWY: IH 94	COUNTY: JEFFERSON	PLAN	SHEET	E

FILE NAME : S:\MAD\1000--1099\1089\907\Drawings\CAD\Micros\PLAN\050101_pn.dgn PLOT DATE : 10/14/2019 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 44

STEEL PLATE BEAM GUARD CLASS A (TO REMAIN)
WB OUTSIDE SHOULDER
STA. 1021+02 WB TO STA. 1034+02 WB
ADJUSTING STEEL PLATE BEAM GUARD REQ'D
SEE MQ'S FOR ADDITIONAL INFORMATION

N

MATCH LINE STA. 1019+00 WB

1020+00 WB

1025+00 WB

IH 94 WB

1030+00 WB

N 89° 44' 54" E

PC 1030+68.02 WB

1020+00 EB

1025+00 EB

PC 1027+02.95 EB

1030+00 EB

S 89° 47' 35" E

IH 94 EB

MATCH LINE STA. 1034+00 WB

STEEL PLATE BEAM GUARD CLASS A (TO REMAIN)
EB OUTSIDE SHOULDER
STA. 1012+33 EB TO STA. 1031+87 EB
ADJUSTING STEEL PLATE BEAM GUARD REQ'D
SEE MQ'S FOR ADDITIONAL INFORMATION

5

5

SIGN

1/4 CORNER (IRON PIPE)
X = 597,363.51
Y = 813,904.04

R13E T8N 33 33 4 4 T7N R13E

1/4 CORNER (IRON PIPE)
X = 597,363.34
Y = 813,921.61

STEEL PLATE BEAM GUARD CLASS A (TO REMAIN)
WB OUTSIDE SHOULDER
STA. 1042+41 WB TO STA. 1054+38 WB
ADJUSTING STEEL PLATE BEAM GUARD REQ'D
SEE MQ'S FOR ADDITIONAL INFORMATION

P.I. = 1047+35.30 WB
Y = 597,351.77
X = 814,307.17
DELTA = 24° 37' 17" (RT)
D = 0° 45' 00"
T = 1,667.28'
L = 3,283.09'
R = 7,640.00'
P.C. = 1030+68.02 WB
Y = 597,344.45
X = 812,639.91
P.T. = 1063+51.10 WB
Y = 596,663.82
X = 815,825.90

PI 1047+35.30 WB

P.I. = 1048+73.93 EB
Y = 597,248.97
X = 814,446.14
DELTA = 25° 01' 53" (RT)
D = 0° 35' 09"
T = 2,170.98'
L = 4,272.67'
R = 9,780.00'
P.C. = 1027+02.95 EB
Y = 597,256.81
X = 812,275.18
P.T. = 1069+75.63 EB
Y = 596,323.31
X = 816,409.89

PI 1048+73.93 EB

N

1035+00 WB

1040+00 WB

IH 94 WB

1045+00 WB

MATCH LINE STA. 1034+00 WB

1035+00 EB

1040+00 EB

1045+00 EB

IH 94 EB

MATCH LINE STA. 1049+00 WB

STEEL PLATE BEAM GUARD CLASS A (TO REMAIN)
EB OUTSIDE SHOULDER
STA. 1040+66 EB TO STA. 1049+23 EB
ADJUSTING STEEL PLATE BEAM GUARD REQ'D
SEE MQ'S FOR ADDITIONAL INFORMATION

PROJECT NO: 1067-04-71	HWY: IH 94	COUNTY: JEFFERSON	PLAN	SHEET	E

FILE NAME : S:\MAD\1000--1099\1089\907\Drawings\CAD\Micros\PLAN\050102_pn.dgn PLOT DATE : 10/14/2019 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 44

STEEL PLATE BEAM GUARD CLASS A (TO REMAIN)
WB OUTSIDE SHOULDER
STA. 1042+41 WB TO STA. 1054+38 WB
ADJUSTING STEEL PLATE BEAM GUARD REQ'D
SEE MQ'S FOR ADDITIONAL INFORMATION

N

S 65° 37' 50" E

PT 1063+51.10 WB

1050+00 WB

1055+00 WB

IH 94 WB

1060+00 WB

MATCH LINE STA. 1064+00 WB

SEE CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION FOR MAINTENANCE CROSSOVERS.

MATCH LINE STA. 1049+00 WB

1050+00 EB

1055+00 EB

IH 94 EB

1060+00 EB

STEEL PLATE BEAM GUARD CLASS A (TO REMAIN)
EB OUTSIDE SHOULDER
STA. 1040+66 EB TO STA. 1049+23 EB
ADJUSTING STEEL PLATE BEAM GUARD REQ'D
SEE MQ'S FOR ADDITIONAL INFORMATION

5

5

WE ENERGIES (ELECTRIC)

STEEL PLATE BEAM GUARD CLASS A (REPLACED BY OTHERS)
WB OUTSIDE SHOULDER
STA. 1071+51 WB TO STA. 1087+19 WB

CEMETERY ROAD

REMOVING ASPHALTIC SURFACE BUTT JOINTS REQ'D. SEE CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.

REMOVING ASPHALTIC SURFACE BUTT JOINTS REQ'D. SEE CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.

ATC (ELECTRIC)

CAUTION

1065+00 WB

2.0% +42

1.5% +67

1075+00 WB

1.5% +21

2.0% +46

IH 94 WB

S 65° 37' 50" E

MATCH LINE STA. 1064+00 WB

STEEL PLATE BEAM GUARD CLASS A (TO REMAIN)
EB MEDIAN SHOULDER
STA. 1067+02 EB TO STA. 1070+21 EB
ADJUSTING STEEL PLATE BEAM GUARD REQ'D
SEE MQ'S FOR ADDITIONAL INFORMATION

PT 1069+75.63 EB

1065+00 EB

1070+00 EB

STEEL PLATE BEAM GUARD CLASS A (REPLACED BY OTHERS)
WB MEDIAN SHOULDER
STA. 1071+75 WB TO STA. 1074+68 WB

1075+00 EB

2.0% +49

1.5% +74

1.5% +52

2.0% +77

IH 94 EB

S 64° 45' 43" E

MATCH LINE STA. 1079+00 WB

P.I. = 1048+73.93 EB
Y = 597,248.97
X = 814,446.14
DELTA = 25° 01' 53" (RT)
D = 0° 35' 09"
T = 2,170.98'
L = 4,272.67'
R = 9,780.00'
P.C. = 1027+02.95 EB
Y = 597,256.81
X = 812,275.18
P.T. = 1069+75.63 EB
Y = 596,323.31
X = 816,409.89

REMOVING ASPHALTIC SURFACE BUTT JOINTS REQ'D. SEE CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.

NEWVILLE ROAD

REMOVING ASPHALTIC SURFACE BUTT JOINTS REQ'D. SEE CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.

REMOVING ASPHALTIC SURFACE MILLING (2-INCH DEPTH) REQ'D. 2-INCHES HMA PAVEMENT 4 HT 58-28 H.

EXISTING CONCRETE SHOULDER (TO REMAIN)

ANCHOR

SEPV

STEEL PLATE BEAM GUARD CLASS A (TO REMAIN)
EB OUTSIDE SHOULDER
STA. 1064+52 EB TO STA. 1070+46 EB
ADJUSTING STEEL PLATE BEAM GUARD REQ'D
SEE MQ'S FOR ADDITIONAL INFORMATION

STEEL PLATE BEAM GUARD CLASS A (TO REMAIN)
EB OUTSIDE SHOULDER
STA. 1071+88 EB TO STA. 1088+04 EB
ADJUSTING STEEL PLATE BEAM GUARD REQ'D
SEE MQ'S FOR ADDITIONAL INFORMATION

PROJECT NO: 1067-04-71	HWY: IH 94	COUNTY: JEFFERSON	PLAN	SHEET 40	E

STEEL PLATE BEAM GUARD CLASS A (REPLACED BY OTHERS)
WB OUTSIDE SHOULDER
STA. 1071+51 WB TO STA. 1087+19 WB

CEMETERY ROAD

1080+00 WB

1085+00 WB

IH 94 WB

1090+00 WB

S 65° 37' 50" E

MATCH LINE STA. 1079+00 WB

CAUTION

1080+00 EB

1085+00 EB

1090+00 EB

IH 94 EB

S 64° 45' 43" E

MATCH LINE STA. 1094+00 WB

ATC (ELECTRIC)

RIPRAP

STEEL PLATE BEAM GUARD CLASS A (TO REMAIN)
EB OUTSIDE SHOULDER
STA. 1071+88 EB TO STA. 1088+04 EB
ADJUSTING STEEL PLATE BEAM GUARD REQ'D
SEE MQ'S FOR ADDITIONAL INFORMATION

5

5

STEEL PLATE BEAM GUARD CLASS A (TO REMAIN)
WB OUTSIDE SHOULDER
STA. 1098+48 WB TO STA. 1109+51 WB
ADJUSTING STEEL PLATE BEAM GUARD REQ'D
SEE MQ'S FOR ADDITIONAL INFORMATION

1095+00 WB

1100+00 WB

IH 94 WB

1105+00 WB

S 65° 37' 50" E

MATCH LINE STA. 1094+00 WB

1095+00 EB

1100+00 EB

1105+00 EB

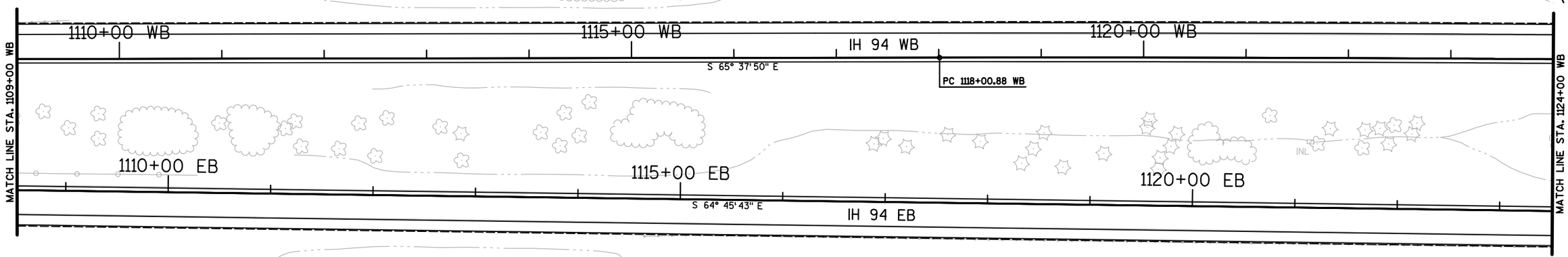
S 64° 45' 43" E

IH 94 EB

MATCH LINE STA. 1109+00 WB

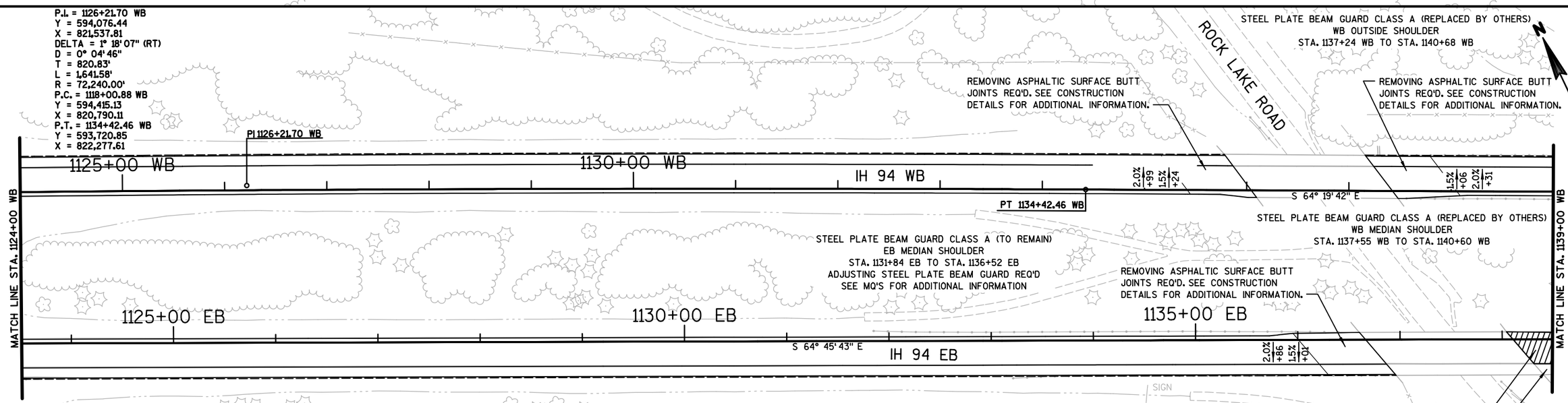
PROJECT NO: 1067-04-71	HWY: IH 94	COUNTY: JEFFERSON	PLAN	SHEET 41	E

STEEL PLATE BEAM GUARD CLASS A (TO REMAIN)
WB OUTSIDE SHOULDER
STA. 1098+48 WB TO STA. 1109+51 WB
ADJUSTING STEEL PLATE BEAM GUARD REQ'D
SEE MQ'S FOR ADDITIONAL INFORMATION



STEEL PLATE BEAM GUARD CLASS A (TO REMAIN)
EB OUTSIDE SHOULDER
STA. 1114+64 EB TO STA. 1123+68 EB
ADJUSTING STEEL PLATE BEAM GUARD REQ'D
SEE MQ'S FOR ADDITIONAL INFORMATION

P.I. = 1126+21.70 WB
Y = 594,076.44
X = 821,537.81
DELTA = 1° 18' 07" (RT)
D = 0° 04' 46"
T = 820.83'
L = 1,641.58'
R = 72,240.00'
P.C. = 1118+00.88 WB
Y = 594,415.13
X = 820,790.11
P.T. = 1134+42.46 WB
Y = 593,720.85
X = 822,277.61



REMOVING ASPHALTIC SURFACE BUTT JOINTS REQ'D. SEE CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.

REMOVING ASPHALTIC SURFACE BUTT JOINTS REQ'D. SEE CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.

STEEL PLATE BEAM GUARD CLASS A (REPLACED BY OTHERS)
WB OUTSIDE SHOULDER
STA. 1137+24 WB TO STA. 1140+68 WB

STEEL PLATE BEAM GUARD CLASS A (REPLACED BY OTHERS)
WB MEDIAN SHOULDER
STA. 1137+55 WB TO STA. 1140+60 WB

STEEL PLATE BEAM GUARD CLASS A (TO REMAIN)
EB MEDIAN SHOULDER
STA. 1131+84 EB TO STA. 1136+52 EB
ADJUSTING STEEL PLATE BEAM GUARD REQ'D
SEE MQ'S FOR ADDITIONAL INFORMATION

REMOVING ASPHALTIC SURFACE BUTT JOINTS REQ'D. SEE CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.

REMOVING ASPHALTIC SURFACE MILLING (2-INCH DEPTH) REQ'D. 2-INCHES HMA PAVEMENT 4 HT 58-28 H.

EXISTING CONCRETE SHOULDER (TO REMAIN)

STEEL PLATE BEAM GUARD CLASS A (TO REMAIN)
EB OUTSIDE SHOULDER
STA. 1133+20 EB TO STA. 1136+88 EB
ADJUSTING STEEL PLATE BEAM GUARD REQ'D
SEE MQ'S FOR ADDITIONAL INFORMATION

PROJECT NO: 1067-04-71	HWY: IH 94	COUNTY: JEFFERSON	PLAN	SHEET 42	E

STEEL PLATE BEAM GUARD CLASS A (REPLACED BY OTHERS)
WB OUTSIDE SHOULDER
STA. 1137+24 WB TO STA. 1140+68 WB

NORTH SHORE ROAD

1140+00 WB

1145+00 WB

IH 94 WB

1150+00 WB

S 64° 19' 42" E

MATCH LINE STA. 1139+00 WB

STEEL PLATE BEAM GUARD CLASS A (REPLACED BY OTHERS)
WB MEDIAN SHOULDER
STA. 1137+55 WB TO STA. 1140+60 WB

REMOVING ASPHALTIC SURFACE BUTT JOINTS REQ'D. SEE CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.

1140+00 EB

1145+00 EB

1150+00 EB

S 64° 45' 43" E

IH 94 EB

MATCH LINE STA. 1154+00 WB

1.5% +11

2.0% +26

SIGN

LAKE MILLS LIGHT AND WATER (ELECTRIC)
FRONTIER COMMUNICATIONS (COMMUNICATION)(OVERHEAD)

REMOVING ASPHALTIC SURFACE MILLING (2-INCH DEPTH) REQ'D. 2-INCHES HMA PAVEMENT 4 HT 58-28 H.

EXISTING CONCRETE SHOULDER (TO REMAIN)

5

5

SIGN

1155+00 WB

1160+00 WB

IH 94 WB

1165+00 WB

S 64° 19' 42" E

MATCH LINE STA. 1154+00 WB

POST

INL

POST

1155+00 EB

1160+00 EB

1165+00 EB

S 64° 45' 43" E

IH 94 EB

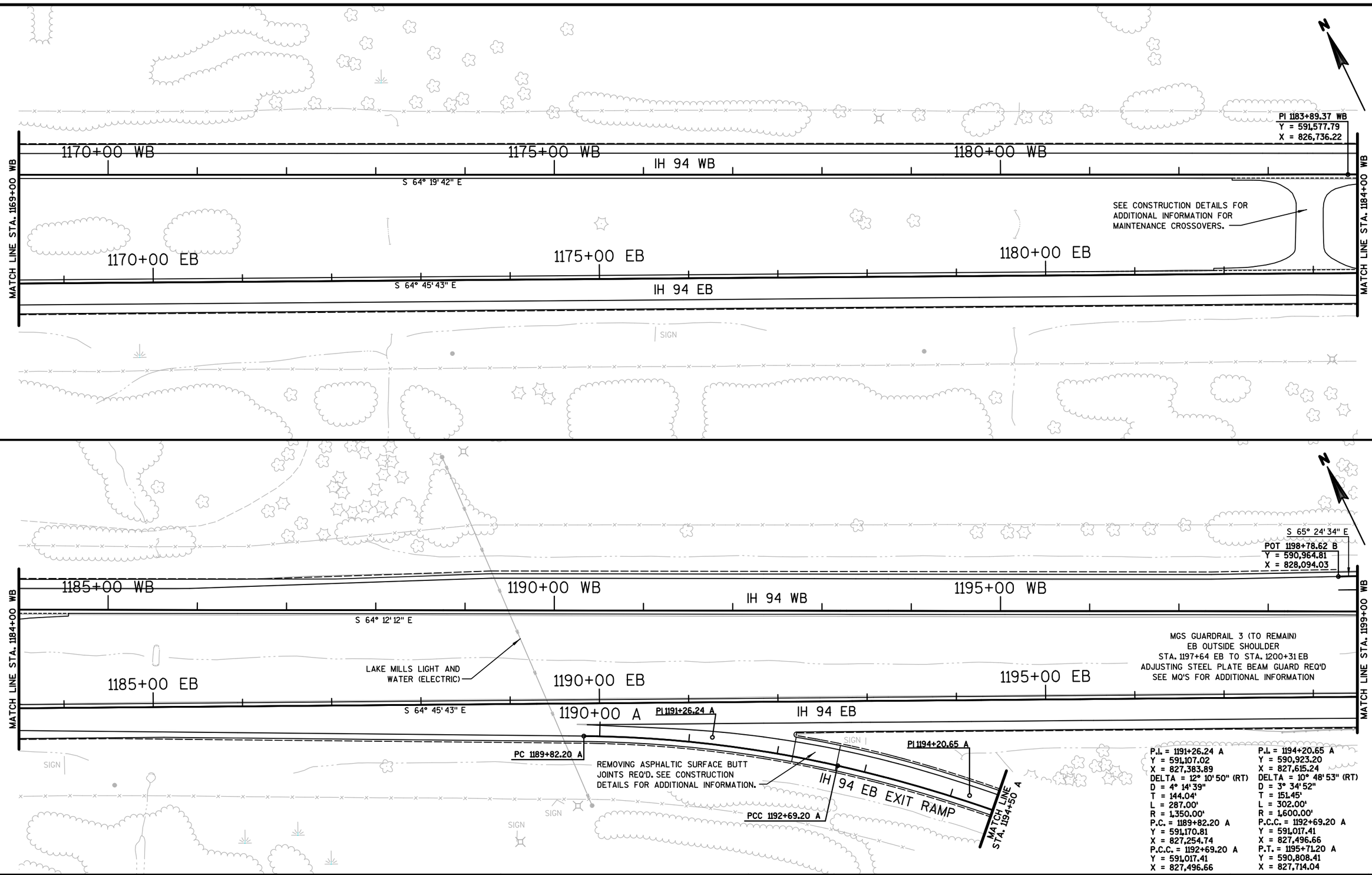
MATCH LINE STA. 1169+00 WB

SIGN

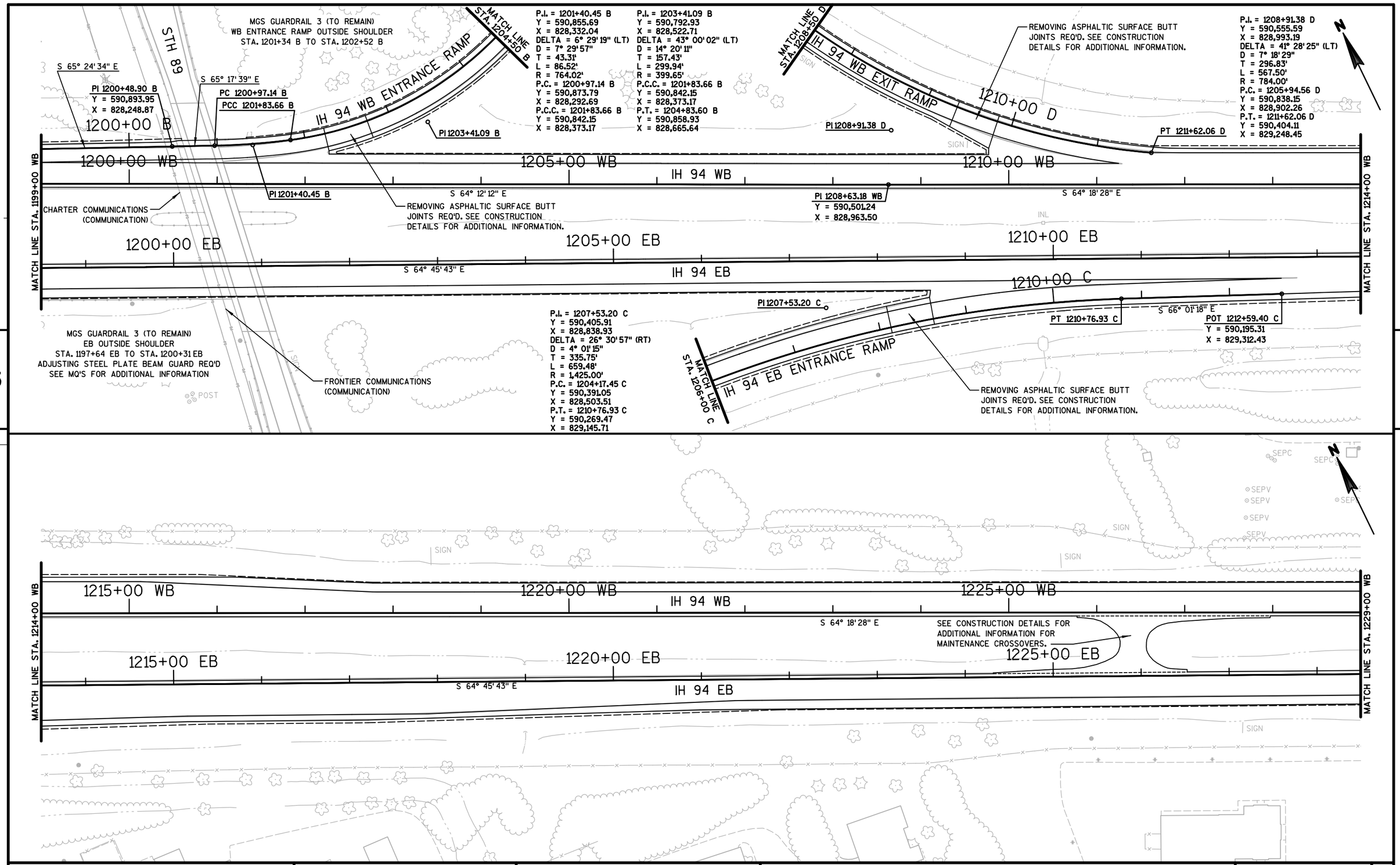
SIGN

STEEL PLATE BEAM GUARD CLASS A (TO REMAIN)
EB OUTSIDE SHOULDER
STA. 1155+36 EB TO STA. 1158+14 EB
ADJUSTING STEEL PLATE BEAM GUARD REQ'D
SEE MQ'S FOR ADDITIONAL INFORMATION

PROJECT NO: 1067-04-71	HWY: IH 94	COUNTY: JEFFERSON	PLAN	SHEET 43	E

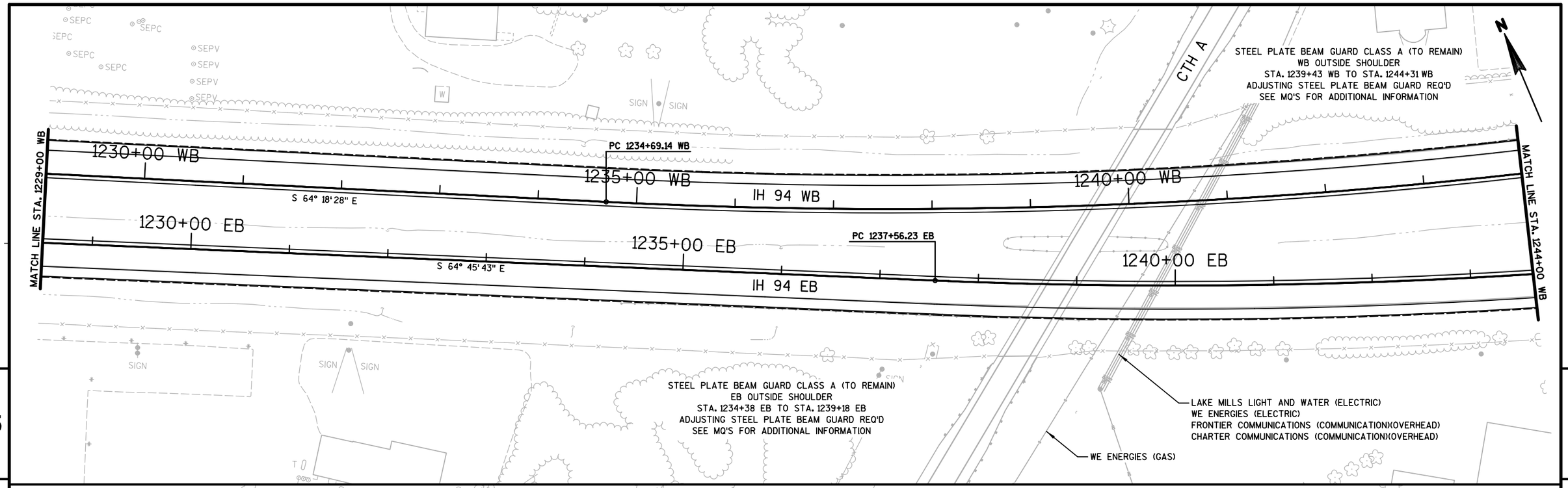


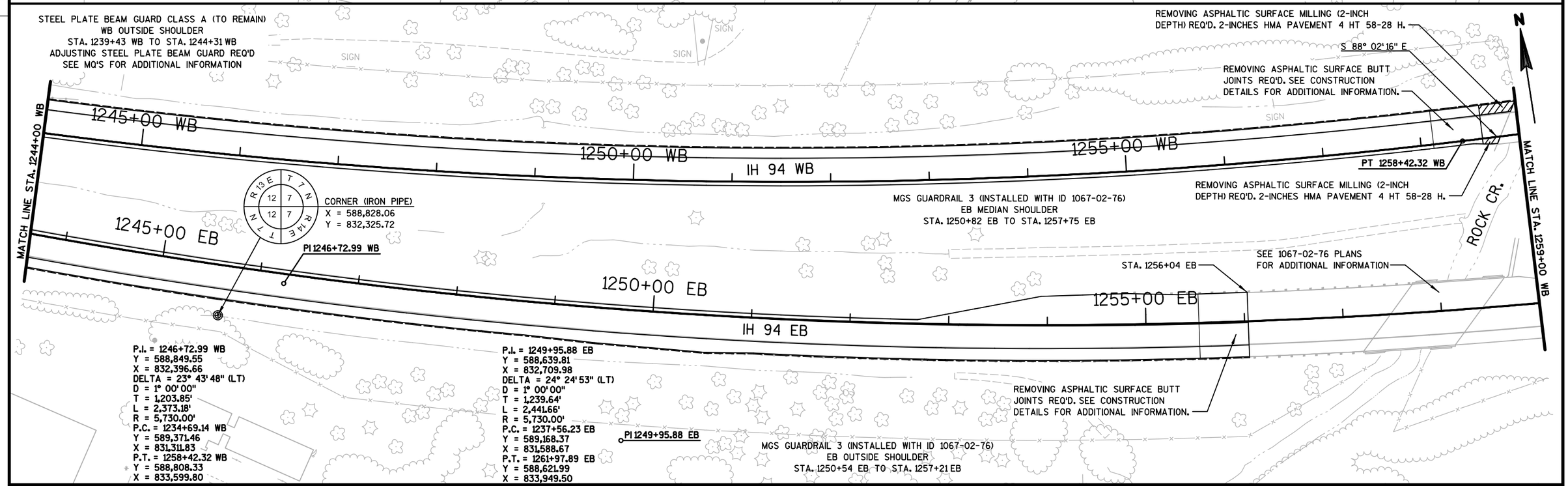
PROJECT NO: 1067-04-71	HWY: IH 94	COUNTY: JEFFERSON	PLAN	SHEET 44	E



PROJECT NO: 1067-04-71	HWY: IH 94	COUNTY: JEFFERSON	PLAN	SHEET 45	E

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PROJECT NO: 1067-04-71	HWY: IH 94	COUNTY: JEFFERSON	PLAN	SHEET	E

FILE NAME : S:\MAD\1000--1099\1089\907\Drawings\CAD\Micros\PLAN\050109_pn.dgn PLOT DATE : 10/14/2019 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 44

STEEL PLATE BEAM GUARD CLASS A (TO REMAIN)
WB OUTSIDE SHOULDER
STA. 1259+33 WB TO STA. 1263+01 WB
ADJUSTING STEEL PLATE BEAM GUARD REQ'D
SEE MQ'S FOR ADDITIONAL INFORMATION

REMOVING ASPHALTIC SURFACE MILLING (2-INCH DEPTH) REQ'D. 2-INCHES HMA PAVEMENT 4 HT 58-28 H.

STEEL PLATE BEAM GUARD CLASS A (TO REMAIN)
WB OUTSIDE SHOULDER
STA. 1270+04 WB TO STA. 1273+04 WB
ADJUSTING STEEL PLATE BEAM GUARD REQ'D
SEE MQ'S FOR ADDITIONAL INFORMATION

N

SIGN

1260+

1.5%
+99
2.0%
+21

1265+00 WB

IH 94 WB

1270+00 WB

S 88° 02' 16" E

MATCH LINE STA. 1259+00 WB

REMOVING ASPHALTIC SURFACE BUTT JOINTS REQ'D. SEE CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.

STEEL PLATE BEAM GUARD CLASS A (TO REMAIN)
WB MEDIAN SHOULDER
STA. 1259+09 WB TO STA. 1262+30 WB
ADJUSTING STEEL PLATE BEAM GUARD REQ'D
SEE MQ'S FOR ADDITIONAL INFORMATION

SEE CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION FOR MAINTENANCE CROSSOVERS.

REMOVING ASPHALTIC SURFACE BUTT JOINTS REQ'D. SEE CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.

1260+00 EB

PT 1261+97.89 EB

1265+00 EB

1270+00 EB

S 89° 10' 36" E

IH 94 EB

MATCH LINES STA. 1274+00 WB

STA. 1259+81 EB

5

5

SIGN

N

1275+00 WB

1280+00 WB

IH 94 WB

1285+00 WB

S 88° 02' 16" E

MATCH LINE STA. 1274+00 WB

MATCH LINE STA. 1289+00 WB

1275+00 EB

1280+00 EB

STA. 1280+24 EB

1285+00 EB

S 89° 10' 36" E

IH 94 EB

IH 94 EB EXIT RAMP TO REST AREA

SIGN

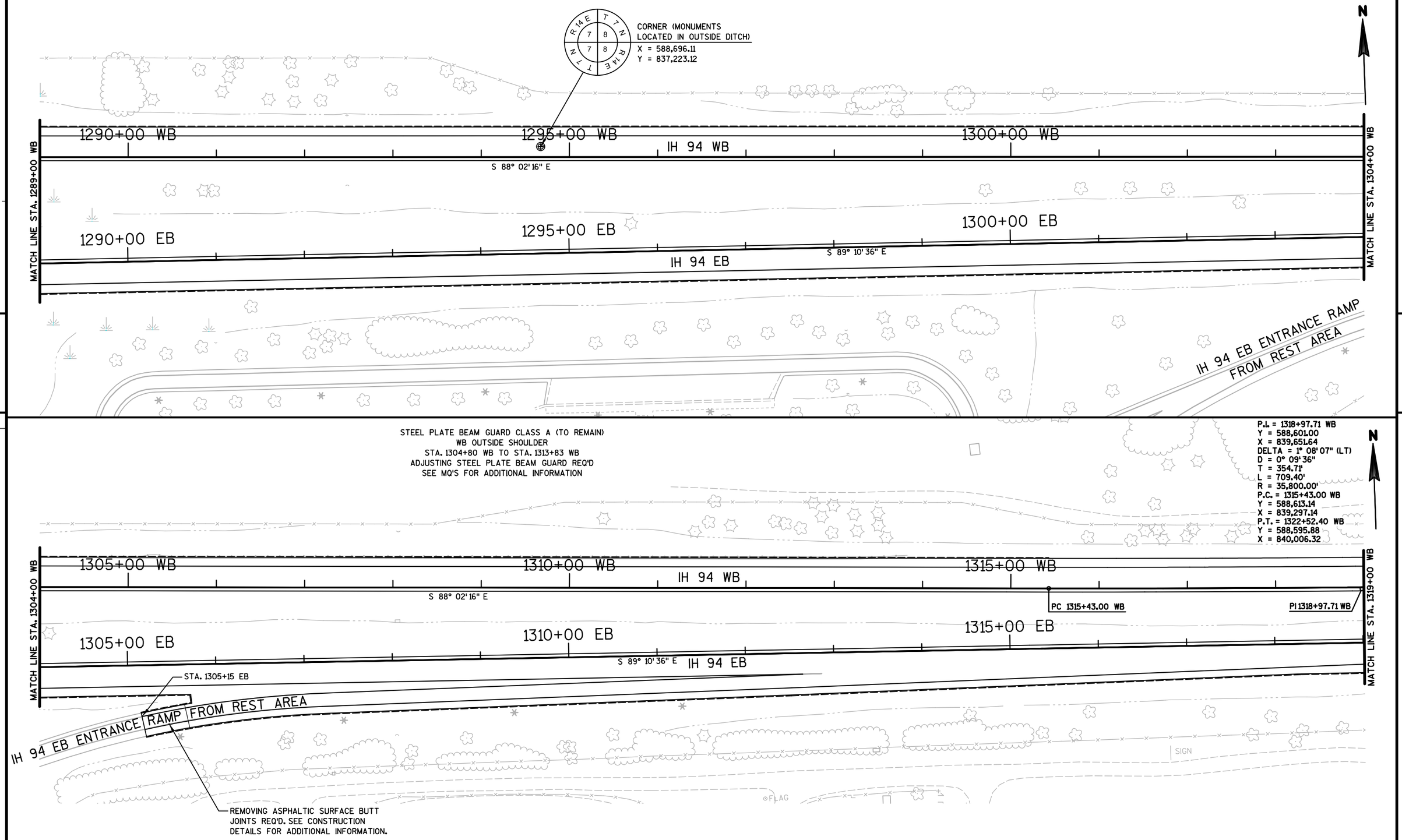
SIGN

SIGN

REMOVING ASPHALTIC SURFACE BUTT JOINTS REQ'D. SEE CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.

PROJECT NO: 1067-04-71	HWY: IH 94	COUNTY: JEFFERSON	PLAN	SHEET	E

FILE NAME : S:\MAD\1000--1099\1089\907\Drawings\CAD\Micros\PLAN\050110_pn.dgn PLOT DATE : 10/14/2019 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$
WISDOT/CADDS SHEET 44



PROJECT NO: 1067-04-71	HWY: IH 94	COUNTY: JEFFERSON	PLAN	SHEET 48	E

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WISDOT/CADDS SHEET 44

PROJECT HEIGHT MODERNIZATION
DG4903
X = 588,661.13
Y = 840,726.75

KARBERG LANE

HMOD

N

PT 1322+52.40 WB

MATCH LINE STA. 1319+00 WB

1320+00 WB

1325+00 WB

IH 94 WB

1330+00 WB

S 89° 10' 23" E

1320+00 EB

1325+00 EB

1330+00 EB

IH 94 EB

S 89° 10' 36" E

MATCH LINE STA. 1334+00 WB

SEPTIC

SIGN

MGS GUARDRAIL 3 (INSTALLED WITH ID 1066-06-72)
EB OUTSIDE SHOULDER
STA. 1331+63 EB TO STA. 1334+55 EB

5

5

APPROXIMATE LIMITS FOR
ARCHAEOLOGICAL SITE 47JE242

WE ENERGIES (ELECTRIC)

MGS GUARDRAIL 3 (INSTALLED WITH ID 1066-06-72)
WB OUTSIDE SHOULDER
STA. 1338+08 WB TO STA. 1340+98 WB

CORNER (SQUARE CUT LIMESTONE)
X = 588,666.51
Y = 842,583.15

T 7 N R 14 E
8 9
8 9

SEE CONSTRUCTION DETAILS FOR
ADDITIONAL INFORMATION FOR
PERMANENT CROSSOVERS.

N

MATCH LINE STA. 1334+00 WB

1335+00 WB

1340+00 WB

IH 94 WB

1345+00 WB

S 89° 10' 23" E

INL

1335+00 EB

1340+00 EB

1345+00 EB

S 89° 10' 36" E

IH 94 EB

MATCH LINE STA. 1349+00 WB

SEE 1066-06-72 PLANS
FOR ADDITIONAL INFORMATION

CTH Q

SIGN

MGS GUARDRAIL 3 (INSTALLED WITH ID 1066-06-72)
EB OUTSIDE SHOULDER
STA. 1331+63 EB TO STA. 1334+55 EB

PROJECT NO: 1067-04-71	HWY: IH 94	COUNTY: JEFFERSON	PLAN	SHEET 49	E

SEE CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION FOR PERMANENT CROSSOVERS.

N

STEEL PLATE BEAM GUARD CLASS A (TO REMAIN)
EB MEDIAN SHOULDER
STA. 1363+24 EB TO STA. 1366+42 EB
ADJUSTING STEEL PLATE BEAM GUARD REQ'D
SEE MQ'S FOR ADDITIONAL INFORMATION

MATCH LINE STA. 1349+00 WB

1350+00 WB

1355+00 WB

IH 94 WB

1360+00 WB

S 89° 10' 23" E

1350+00 EB

1355+00 EB

1360+00 EB

S 89° 10' 36" E

IH 94 EB

MATCH LINE STA. 1364+00 WB

APPROXIMATE LIMITS FOR
ARCHAEOLOGICAL SITE 47JE241

STEEL PLATE BEAM GUARD CLASS A (TO REMAIN)
EB OUTSIDE SHOULDER
STA. 1363+38 EB TO STA. 1366+11 EB
ADJUSTING STEEL PLATE BEAM GUARD REQ'D
SEE MQ'S FOR ADDITIONAL INFORMATION

5

5

APPROXIMATE LIMITS FOR
ARCHAEOLOGICAL SITE 47JE238

REMOVING ASPHALTIC SURFACE MILLING (2-INCH DEPTH) REQ'D. 2-INCHES HMA PAVEMENT 4 HT 58-28 H.

REMOVING ASPHALTIC SURFACE BUTT JOINTS REQ'D. SEE CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.

STEEL PLATE BEAM GUARD CLASS A (TO REMAIN)
WB OUTSIDE SHOULDER
STA. 1370+06 WB TO STA. 1372+49 WB
ADJUSTING STEEL PLATE BEAM GUARD REQ'D
SEE MQ'S FOR ADDITIONAL INFORMATION

CRAWFISH RIVER

SIGN

REMOVING ASPHALTIC SURFACE BUTT JOINTS REQ'D. SEE CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.

N

MATCH LINE STA. 1364+00 WB

1365+00 WB

1.5% +87

2.0% +12

1370+00 WB

1.5% +65

2.0% +90

IH 94 WB

1375+00 WB

S 89° 10' 23" E

1365+00 EB

2.0% +28

1.5% +53

1370+00 EB

1.5% +07

2.0% +32

IH 94 EB

1375+00 EB

S 89° 10' 36" E

MATCH LINE STA. 1379+00 WB

REMOVING ASPHALTIC SURFACE MILLING (2-INCH DEPTH) REQ'D. 2-INCHES HMA PAVEMENT 4 HT 58-28 H.

STEEL PLATE BEAM GUARD CLASS A (TO REMAIN)
WB MEDIAN SHOULDER
STA. 1369+74 WB TO STA. 1372+93 WB
ADJUSTING STEEL PLATE BEAM GUARD REQ'D
SEE MQ'S FOR ADDITIONAL INFORMATION

STEEL PLATE BEAM GUARD CLASS A (TO REMAIN)
EB MEDIAN SHOULDER
STA. 1363+24 EB TO STA. 1366+42 EB
ADJUSTING STEEL PLATE BEAM GUARD REQ'D
SEE MQ'S FOR ADDITIONAL INFORMATION

REMOVING ASPHALTIC SURFACE BUTT JOINTS REQ'D. SEE CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.

STEEL PLATE BEAM GUARD CLASS A (TO REMAIN)
EB OUTSIDE SHOULDER
STA. 1363+38 EB TO STA. 1366+11 EB
ADJUSTING STEEL PLATE BEAM GUARD REQ'D
SEE MQ'S FOR ADDITIONAL INFORMATION

APPROXIMATE LIMITS FOR
ARCHAEOLOGICAL SITE 47JE240

APPROXIMATE LIMITS FOR
ARCHAEOLOGICAL SITE 47JE239

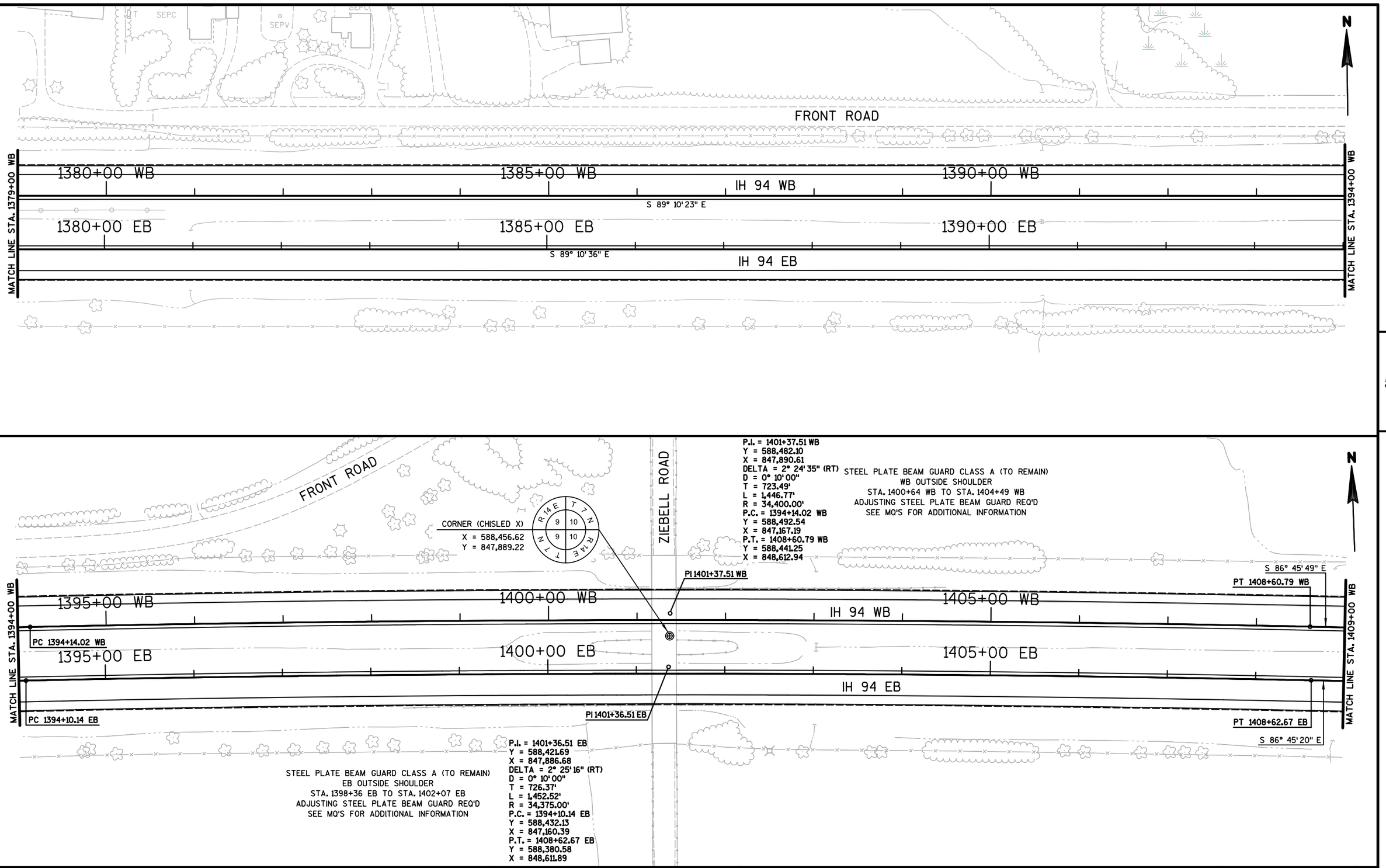
REMOVING ASPHALTIC SURFACE BUTT JOINTS REQ'D. SEE CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.

SIGN

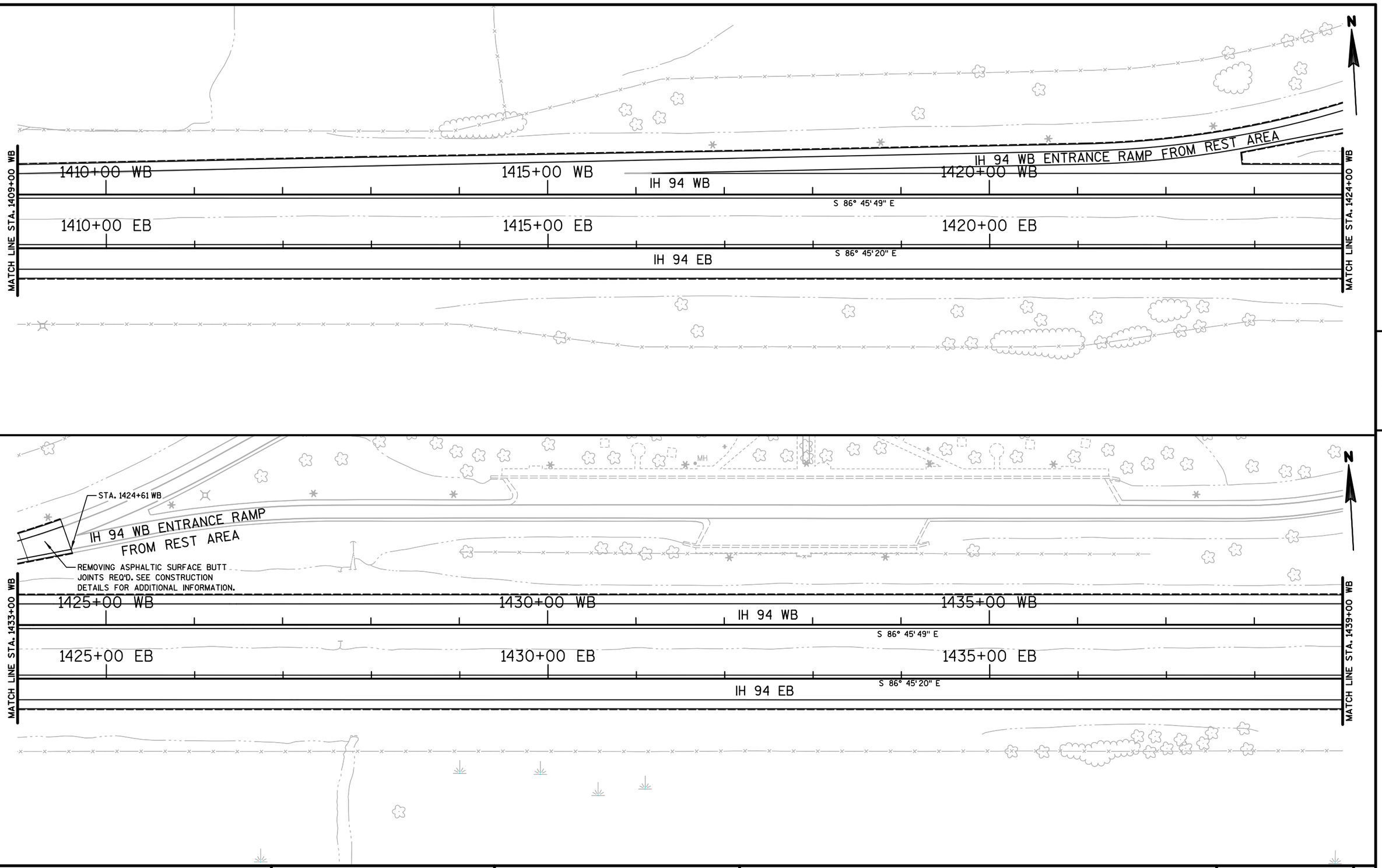
SIGN

PROJECT NO: 1067-04-71	HWY: IH 94	COUNTY: JEFFERSON	PLAN	SHEET	E

FILE NAME : S:\MAD\1000--1099\1089\907\Drawings\CAD\Micros\PLAN\050113_pn.dgn PLOT DATE : 10/14/2019 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 44

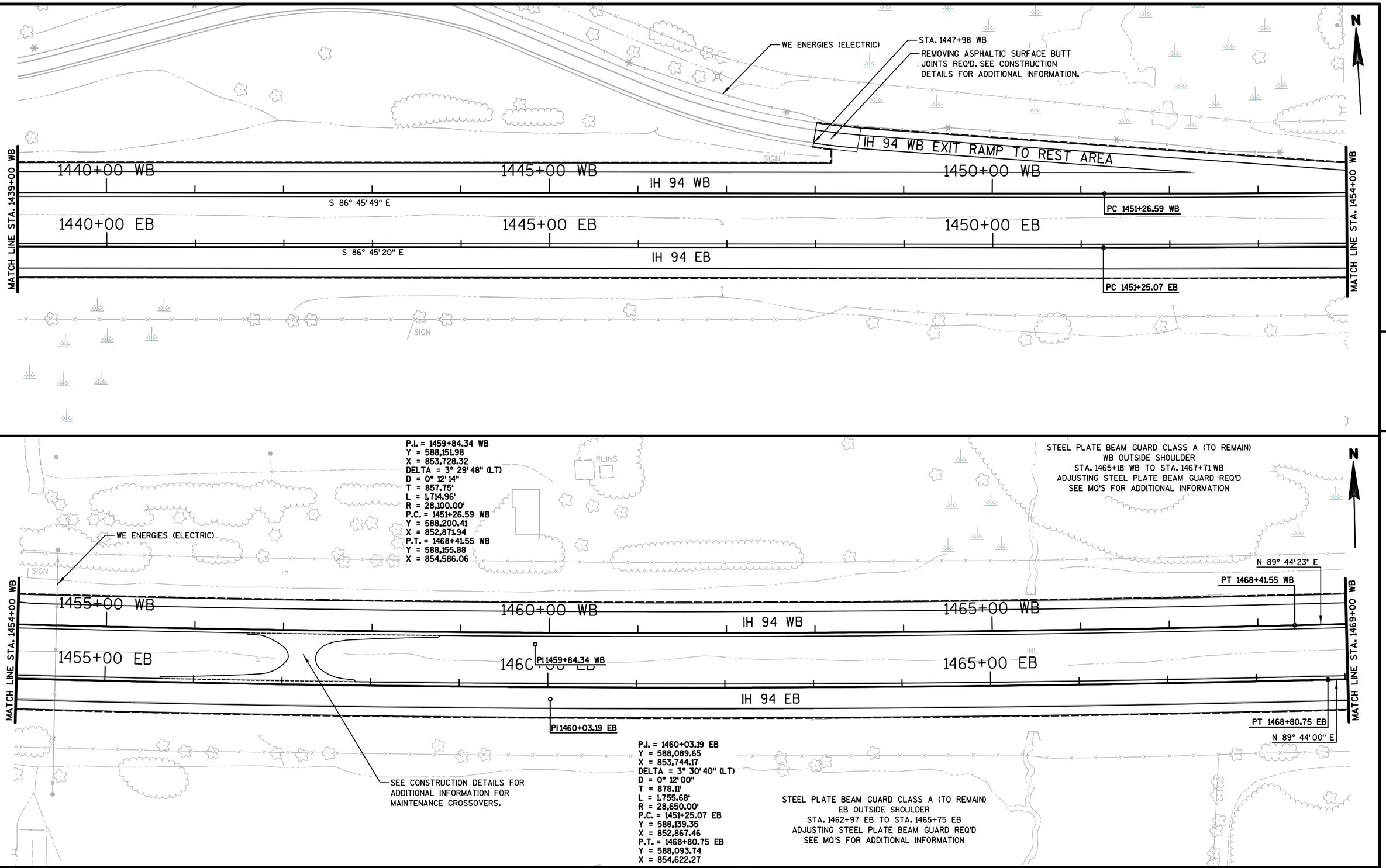


PROJECT NO: 1067-04-71	HWY: IH 94	COUNTY: JEFFERSON	PLAN	SHEET 51	E



PROJECT NO: 1067-04-71	HWY: IH 94	COUNTY: JEFFERSON	PLAN	SHEET	E

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PROJECT NO: 1067-04-71	HWY: IH 94	COUNTY: JEFFERSON	PLAN	SHEET 53	E

MATCH LINE STA. 1469+00 WB

1470+00 WB

1475+00 WB

IH 94 WB

N 89° 44' 23" E

1480+00 WB

MATCH LINE STA. 1484+00 WB

1470+00 EB

1475+00 EB

1480+00 EB

N 89° 44' 00" E

IH 94 EB

CTH N

MH

SIGN

STEEL PLATE BEAM GUARD CLASS A (TO REMAIN)
WB OUTSIDE SHOULDER
STA. 1479+90 WB TO STA. 1483+52 WB
ADJUSTING STEEL PLATE BEAM GUARD REQ'D
SEE MQ'S FOR ADDITIONAL INFORMATION

WE ENERGIES (ELECTRIC)

STEEL PLATE BEAM GUARD CLASS A (TO REMAIN)
EB OUTSIDE SHOULDER
STA. 1477+35 EB TO STA. 1481+32 EB
ADJUSTING STEEL PLATE BEAM GUARD REQ'D
SEE MQ'S FOR ADDITIONAL INFORMATION

5A/C

5

5

N

APPROXIMATE LIMITS FOR
ARCHAEOLOGICAL SITE 47JE237

SOLAR PANEL

SIGN

MATCH LINE STA. 1484+00 WB

1485+00 WB

1490+00 WB

IH 94 WB

N 89° 44' 23" E

1495+00 WB

MATCH LINE STA. 1499+00 WB

1485+00 EB

1490+00 EB

1495+00 EB

N 89° 44' 00" E

IH 94 EB

STEEL PLATE BEAM GUARD CLASS A (TO REMAIN)
EB OUTSIDE SHOULDER
STA. 1485+61 EB TO STA. 1500+68 EB
ADJUSTING STEEL PLATE BEAM GUARD REQ'D
SEE MQ'S FOR ADDITIONAL INFORMATION

STEEL PLATE BEAM GUARD CLASS A (TO REMAIN)
EB MEDIAN SHOULDER
STA. 1497+48 EB TO STA. 1500+67 EB
ADJUSTING STEEL PLATE BEAM GUARD REQ'D
SEE MQ'S FOR ADDITIONAL INFORMATION

APPROXIMATE LIMITS FOR
ARCHAEOLOGICAL SITE 47JE878

APPROXIMATE LIMITS FOR
ARCHAEOLOGICAL SITE 47JE878

PROJECT NO: 1067-04-71	HWY: IH 94	COUNTY: JEFFERSON	PLAN	SHEET	E

FILE NAME : S:\MAD\1000--1099\1089\907\Drawings\CAD\Micros\PLAN\050117_pn.dgn PLOT DATE : 10/14/2019 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 44

STEEL PLATE BEAM GUARD CLASS A (TO REMAIN)
WB OUTSIDE SHOULDER
STA. 1499+70 WB TO STA. 1500+61 WB

APPROXIMATE LIMITS FOR
ARCHAEOLOGICAL SITE 47JE237

ROCK RIVER

STEEL PLATE BEAM GUARD CLASS A (TO REMAIN)
WB MEDIAN SHOULDER
STA. 1503+38 WB TO STA. 1506+55 WB
ADJUSTING STEEL PLATE BEAM GUARD REQ'D
SEE MQ'S FOR ADDITIONAL INFORMATION

STEEL PLATE BEAM GUARD CLASS A (TO REMAIN)
WB OUTSIDE SHOULDER
STA. 1503+37 WB TO STA. 1515+06 WB
ADJUSTING STEEL PLATE BEAM GUARD REQ'D
SEE MQ'S FOR ADDITIONAL INFORMATION

N

REMOVING ASPHALTIC SURFACE BUTT
JOINTS REQ'D. SEE CONSTRUCTION
DETAILS FOR ADDITIONAL INFORMATION.

REMOVING ASPHALTIC SURFACE MILLING
(2-INCH DEPTH) REQ'D. 2-INCHES HMA
PAVEMENT 4 HT 58-28 H.

REMOVING ASPHALTIC SURFACE BUTT
JOINTS REQ'D. SEE CONSTRUCTION
DETAILS FOR ADDITIONAL INFORMATION.

MH

SIGN

WB

2.0% +72 1.5% +97

1505+00 WB

IH 94 WB

1510+00 WB

1.5% +99 2.0% +24

N 89° 44' 23" E

MATCH LINE STA. 1499+00 WB

1500+00 EB

1505+00 EB

1510+00 EB

MATCH LINE STA. 1514+00 WB

2.0% +75 1.5% +00

INL

INL

INL

INL

1.5% +00 2.0% +25

IH 94 EB

N 89° 44' 00" E

SIGN

REMOVING ASPHALTIC SURFACE MILLING
(2-INCH DEPTH) REQ'D. 2-INCHES HMA
PAVEMENT 4 HT 58-28 H.

REMOVING ASPHALTIC SURFACE BUTT
JOINTS REQ'D. SEE CONSTRUCTION
DETAILS FOR ADDITIONAL INFORMATION.

REMOVING ASPHALTIC SURFACE BUTT
JOINTS REQ'D. SEE CONSTRUCTION
DETAILS FOR ADDITIONAL INFORMATION.

STEEL PLATE BEAM GUARD CLASS A (TO REMAIN)
EB MEDIAN SHOULDER
STA. 1497+48 EB TO STA. 1500+67 EB
ADJUSTING STEEL PLATE BEAM GUARD REQ'D
SEE MQ'S FOR ADDITIONAL INFORMATION

STEEL PLATE BEAM GUARD CLASS A (TO REMAIN)
EB OUTSIDE SHOULDER
STA. 1485+61 EB TO STA. 1500+68 EB
ADJUSTING STEEL PLATE BEAM GUARD REQ'D
SEE MQ'S FOR ADDITIONAL INFORMATION

STEEL PLATE BEAM GUARD CLASS A (TO REMAIN)
EB OUTSIDE SHOULDER
STA. 1503+38 EB TO STA. 1509+55 EB
ADJUSTING STEEL PLATE BEAM GUARD REQ'D
SEE MQ'S FOR ADDITIONAL INFORMATION

APPROXIMATE LIMITS FOR
ARCHAEOLOGICAL SITE 47JE236

5

5

STEEL PLATE BEAM GUARD CLASS A (TO REMAIN)
WB OUTSIDE SHOULDER
STA. 1503+37 WB TO STA. 1515+06 WB
ADJUSTING STEEL PLATE BEAM GUARD REQ'D
SEE MQ'S FOR ADDITIONAL INFORMATION

N

CAUTION

MATCH LINE STA. 1514+00 WB

1515+00 WB

1520+00 WB

IH 94 WB

1525+00 WB

MATCH LINE STA. 1529+00 WB

N 89° 44' 23" E

1515+00 EB

1520+00 EB

1525+00 EB

IH 94 EB

N 89° 44' 00" E

SIGN

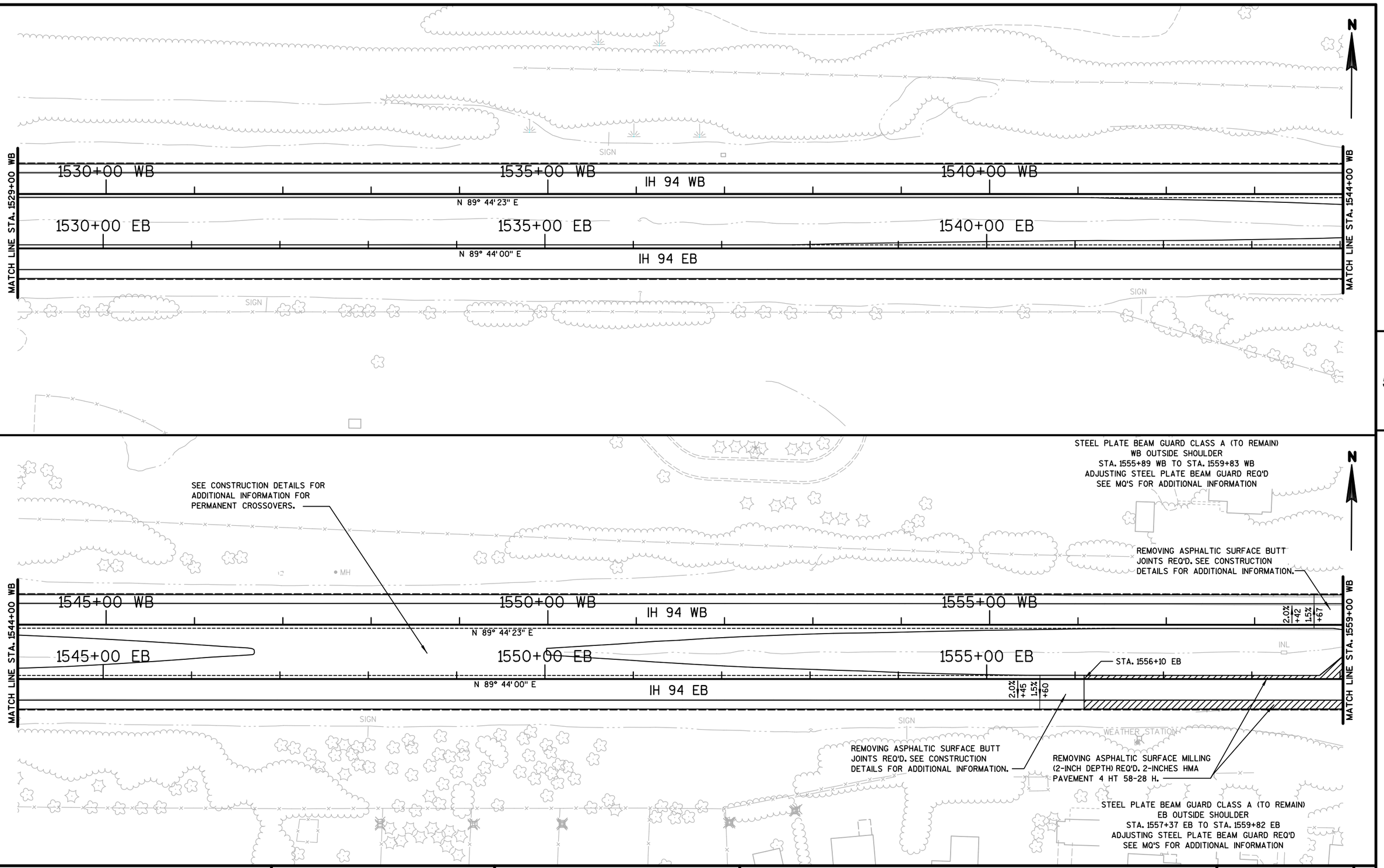
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BERM

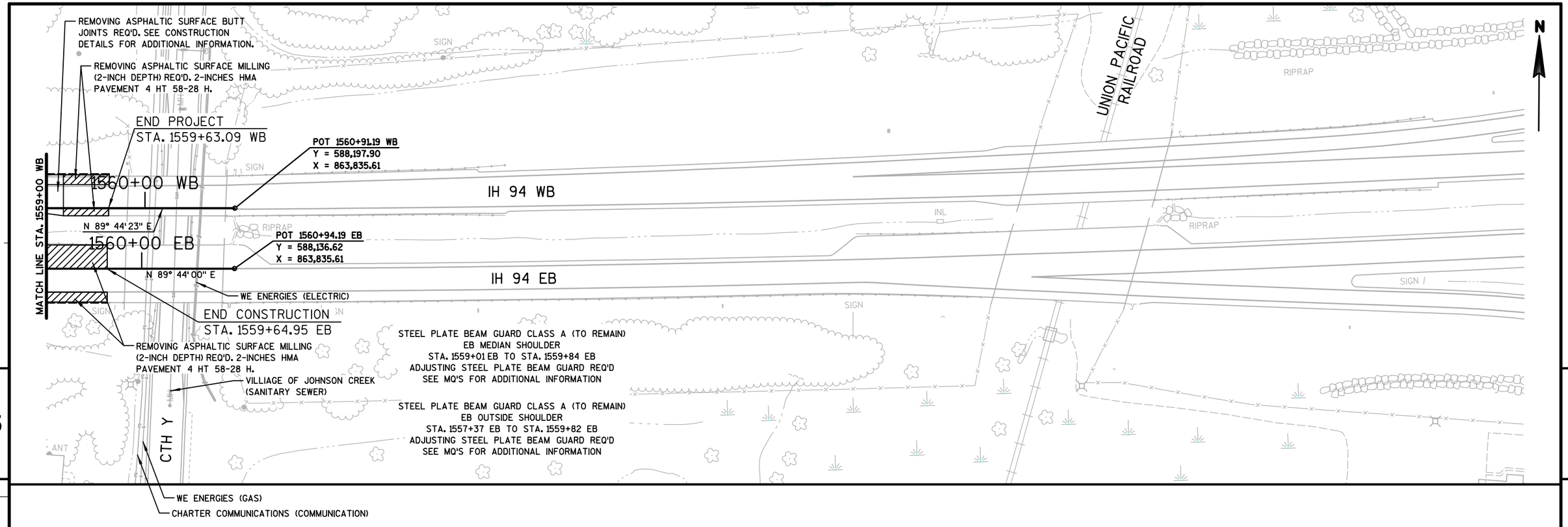
APPROXIMATE LIMITS FOR
ARCHAEOLOGICAL SITE 47JE236

ATC (ELECTRIC)

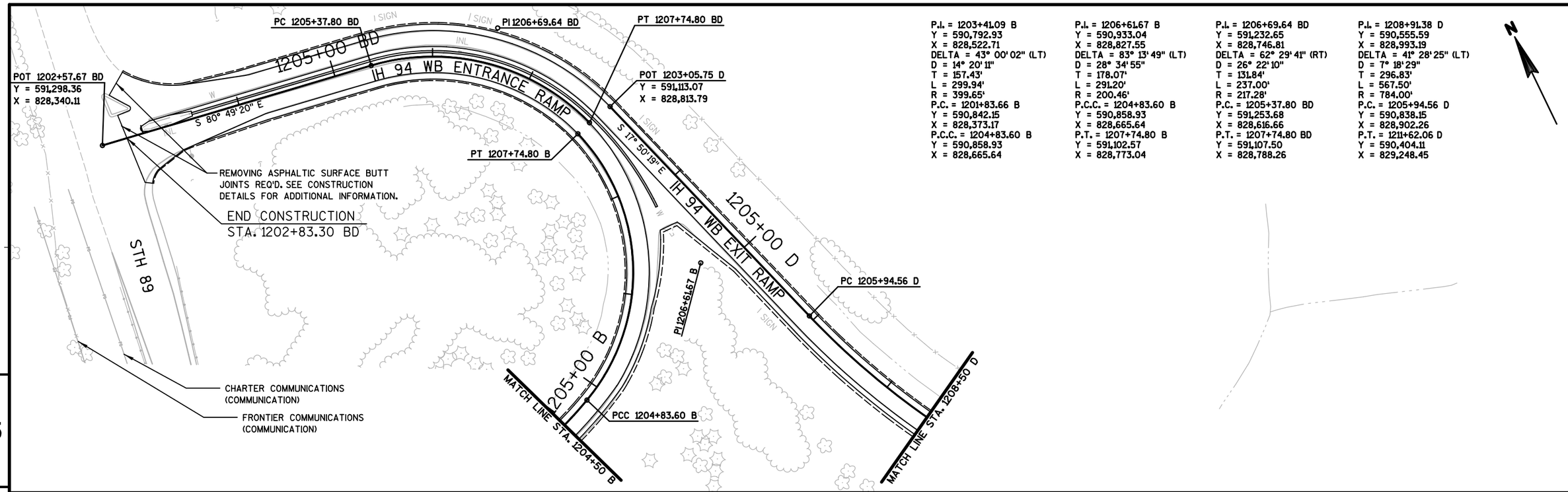
PROJECT NO: 1067-04-71	HWY: IH 94	COUNTY: JEFFERSON	PLAN	SHEET 55	E



PROJECT NO: 1067-04-71	HWY: IH 94	COUNTY: JEFFERSON	PLAN	SHEET 56	E



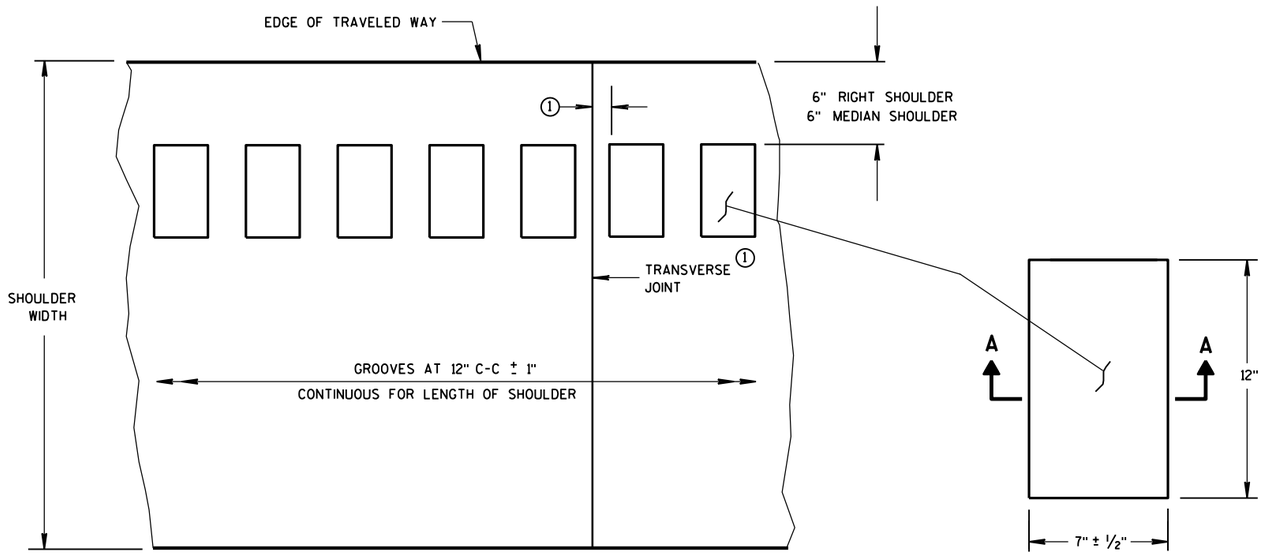
PROJECT NO: 1067-04-71	HWY: IH 94	COUNTY: JEFFERSON	PLAN	SHEET 57	E



PROJECT NO: 1067-04-71	HWY: IH 94	COUNTY: JEFFERSON	PLAN - STH 89 RAMPS	SHEET 58	E

Standard Detail Drawing List

13A05-05A	SHOULDER RUMBLE STRIP, MILLING
13A05-05B	SHOULDER RUMBLE STRIP, MILLING
13C19-01	HMA LONGITUDINAL JOINTS
14B15-11A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
14B29-01	SAFETY EDGE
14B42-06A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
15C02-07A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-07B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-07F	ADVANCED WIDTH RESTRICTION SIGNING
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C08-19A	LONGITUDINAL MARKING (MAINLINE)
15C11-07A	CHANNELIZING DEVICES FLEXIBLE TUBULAR MARKER POST
15C11-07B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-07	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C27-03A	DOUBLE ARROW WARNING SIGN PLACEMENT
15C27-03B	PAVEMENT MARKING (ISLANDS)
15C31-03A	PAVEMENT MARKING (RAMPS AND GORES)
15C31-03C	PAVEMENT MARKING FOR PARALLEL ON-RAMP AND PARALLEL OFF-RAMP
15C33-03	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D15-05A	TRAFFIC CONTROL, PARALLEL ENTRANCE RAMP WITHIN LANE CLOSURE
15D16-04	TRAFFIC CONTROL, EXIT RAMP CLOSURE
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS
15D39-02	TRAFFIC CONTROL, DROP-OFF SIGNING
16A01-07	LANDMARK REFERENCE MONUMENTS AND COVERS



PLAN VIEW
SHOULDER WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

PLACEMENT DETAIL FOR MILLED RUMBLE STRIP

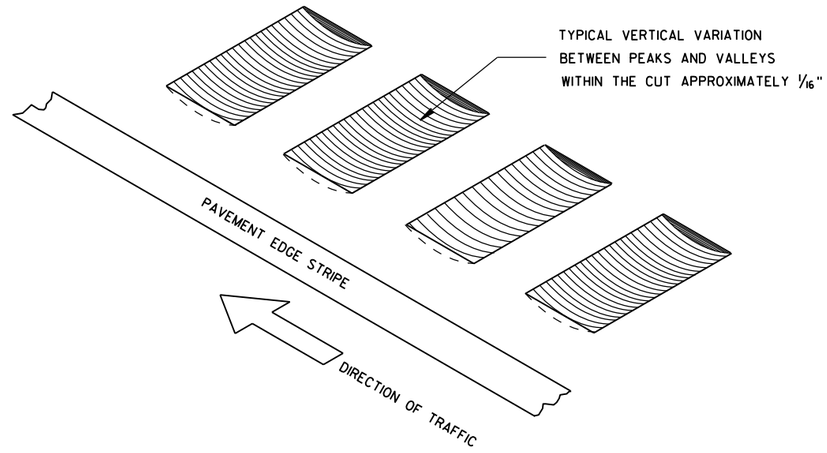
GENERAL NOTES

DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

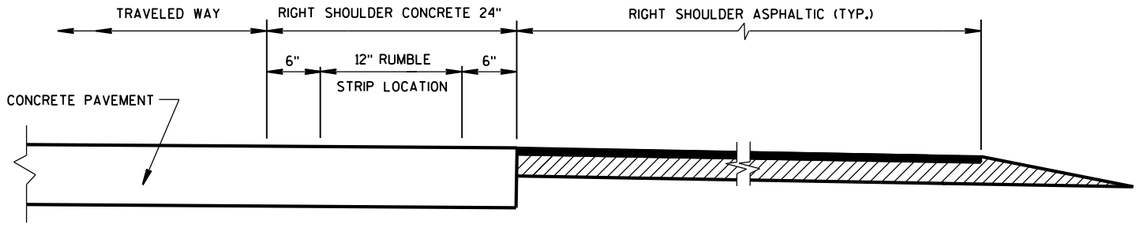
RUMBLE STRIPS ON EXPRESSWAYS

DO NOT INSTALL RUMBLE STRIPS ACROSS SIDE ROAD INTERSECTIONS, COMMERCIAL DRIVEWAYS, PRIVATE DRIVEWAYS OR ADJACENT TO RIGHT TURN LANES, LEFT TURN LANES, TURN LANE TAPERS, BRIDGE DECKS, BRIDGE APPROACHES, OR 100 FEET IN ADVANCE OF RAILROAD CROSSING. THE ATTACHED STANDARD DETAIL DRAWING SHOWS THE LOCATION OF THE RUMBLE STRIPS AT INTERCHANGE AREAS.

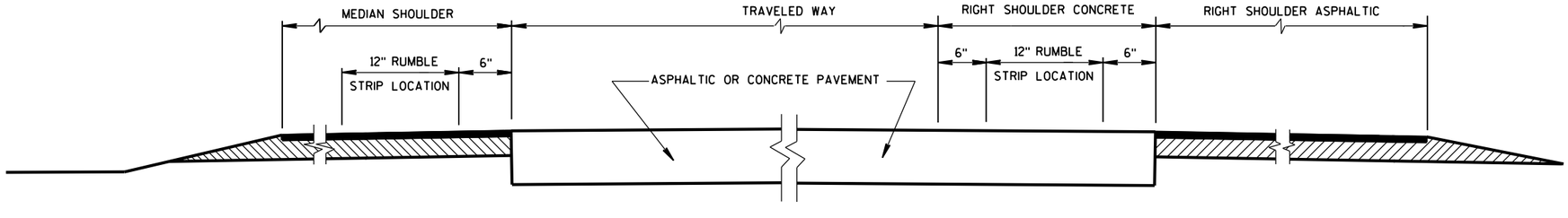
(1) CONCRETE PAVEMENT - RUMBLE STRIPS SHALL BE A MINIMUM OF 6" AWAY FROM TRANSVERSE JOINTS.



ISOMETRIC



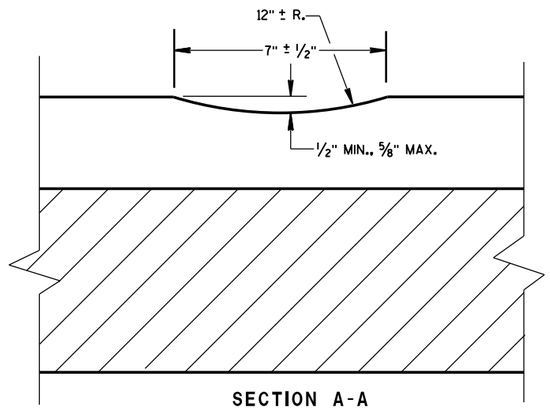
SECTION VIEW
CONCRETE PAVEMENT EXTENDS INTO RIGHT SHOULDER)



SECTION VIEW

TYPICAL LOCATIONS OF SHOULDER RUMBLE STRIPS IN RURAL DIVIDED HIGHWAYS

(ONE ROADWAY IS SHOWN)



SECTION A-A

SHOULDER RUMBLE STRIP, MILLING

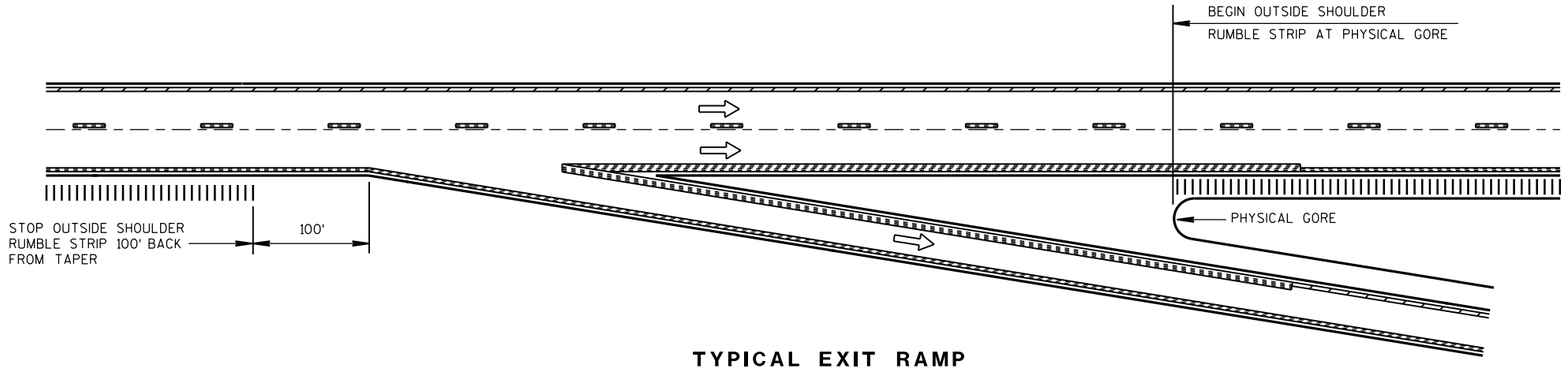
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 13 A 5-5a

6

S.D.D. 13 A 5-5a



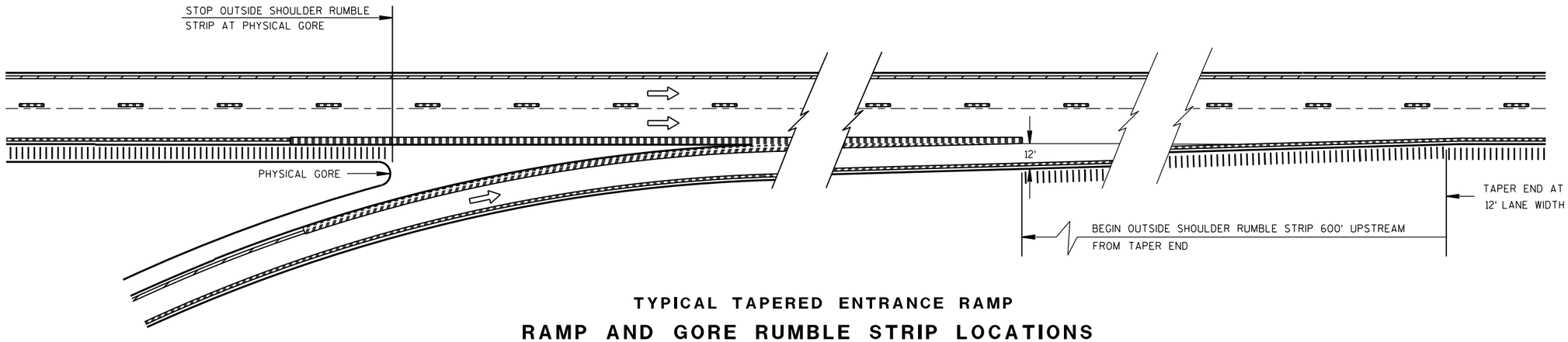
TYPICAL EXIT RAMP

NOTES:

NO RUMBLE STRIP ON EXIT, DIRECTIONAL, OR ENTRANCE RAMPS, EXCEPT NEAR THE ENTRANCE TAPER END AND ALONG THE PARALLEL RAMP AREA AS SHOWN.

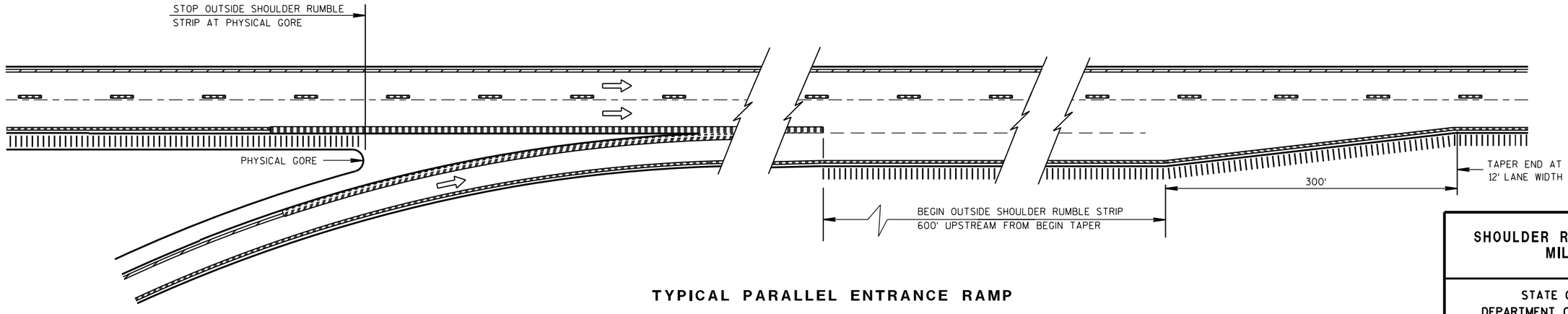
PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL



TYPICAL TAPERED ENTRANCE RAMP

RAMP AND GORE RUMBLE STRIP LOCATIONS



TYPICAL PARALLEL ENTRANCE RAMP

RAMP AND GORE RUMBLE STRIP LOCATIONS

SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

12/17/2012
DATE

/S/ Jerry H. Zoga
ROADWAY STANDARDS ENGINEER

FHWA

6

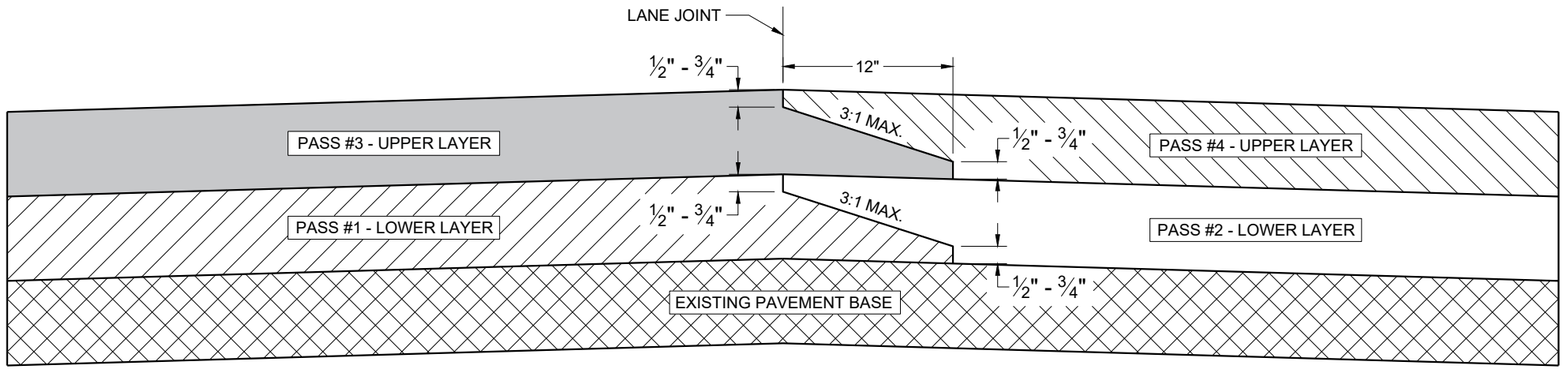
S.D.D. 13 A 5-5b

6

S.D.D. 13 A 5-5b

GENERAL NOTES

CONFORM TO STANDARD SPECIFICATION 450.3.2.8



TYPICAL PAVEMENT CROSS SECTION
OF NOTCHED WEDGE LONGITUDINAL JOINTS

6

6

SDD 13C19 - 01

SDD 13C19 - 01

HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019
DATE

/S/ Steven Hefel
HMA PAVEMENT ENGIN

FHWA

GENERAL NOTES

(1) W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS. APPROVED PLASTIC BLOCKOUT DESIGNS MAY VARY FROM THIS TYPICAL DETAIL WHEN USED IN CONJUNCTION WITH STEEL POSTS.

DO NOT MIX STEEL POSTS AND WOOD POSTS IN A SINGLE INSTALLATION.

(2) USE STRUCTURAL STEEL POSTS CONFORMING TO ASTM A 36. GALVANIZED POSTS ACCORDING TO AASHTO M 111. EITHER SET THE POSTS IN DRILLED HOLES OR DRIVE TO GRADE. REMOVE MUSHROOMING CAUSED BY DRIVING AND REPAIR DAMAGED SPELTER COATING ON GALVANIZED POSTS.

(3) INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

(4) USE EITHER WOOD OR APPROVED PLASTIC BLOCKOUTS ON WOOD POSTS.

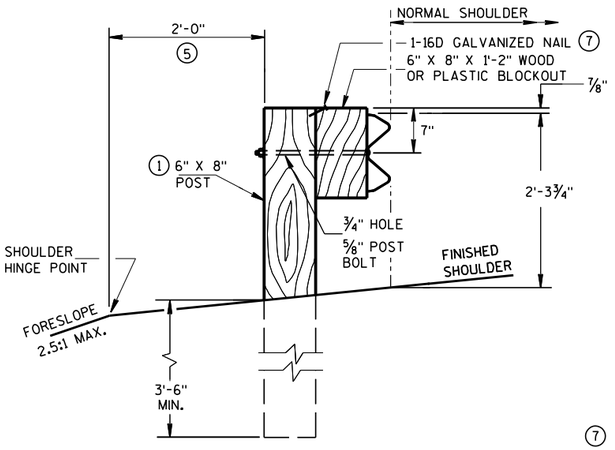
(5) IF THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).

(6) IF ROCK IS ENCOUNTERED DURING EXCAVATION, THE ENGINEER MAY APPROVE USING A 12 INCH DIAMETER POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE APPROXIMATELY 2½ INCHES DEEP. CUT THE POSTS TO LENGTH AND PLACE IN YHE HOLE. BACKFILL WITH MATERIAL EXCAVATED FROM THE HOLE AND COMPACT ADEQUATEY.

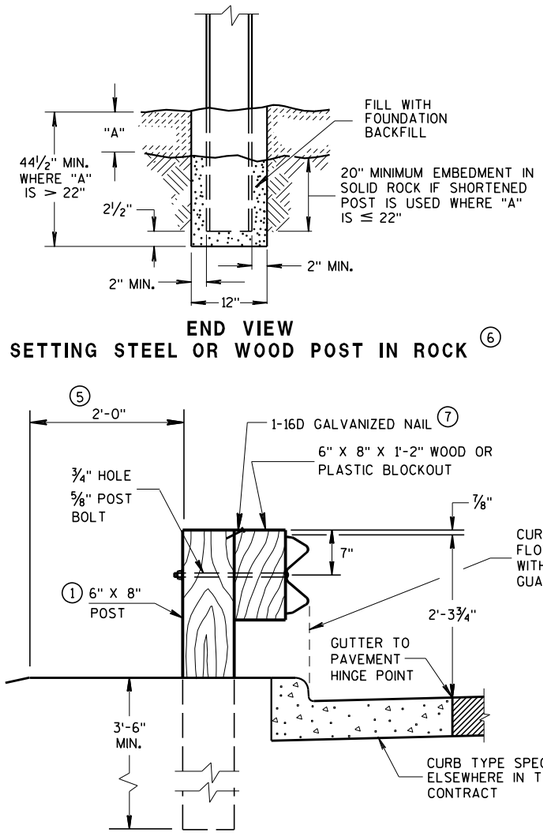
(7) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

INSTALL BEAM GUARD SECTIONS AND ALL NECESSARY HARDWARE ACCORDING TO THE APPLICABLE PLAN AND CURRENT STANDARD AND SUPPLEMENTAL SPECIFICATIONS.

ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.

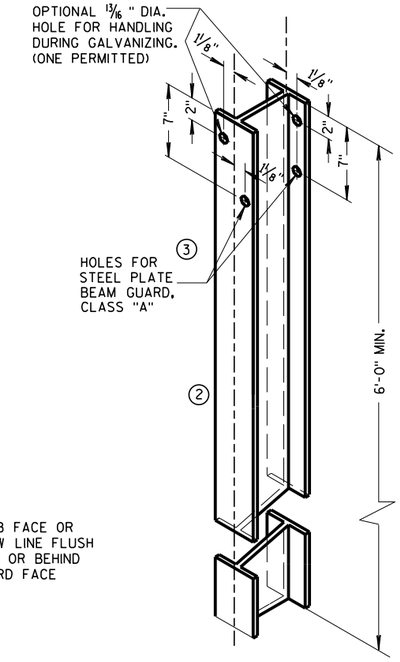


END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



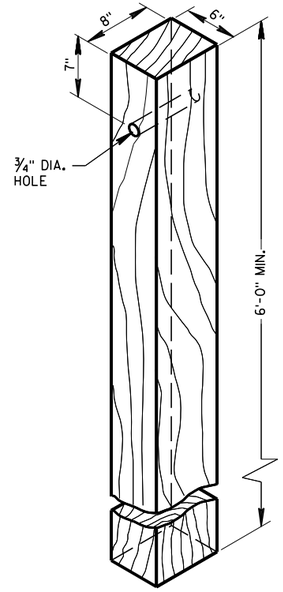
END VIEW
SETTING STEEL OR WOOD POST IN ROCK ⑥

END VIEW
LOCATED ALONG A CURBED ROADWAY

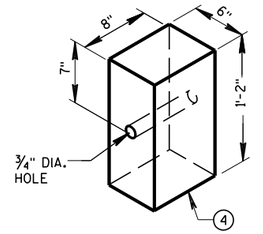


STEEL POST &
HOLE PUNCHING DETAIL
(W6 X 9) ①

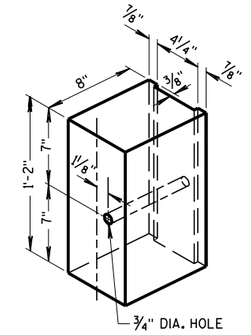
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED



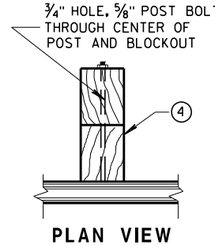
WOOD POST
(6"X8") NOMINAL



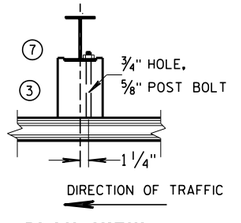
WOOD OR PLASTIC
BLOCKOUT FOR
WOOD POSTS



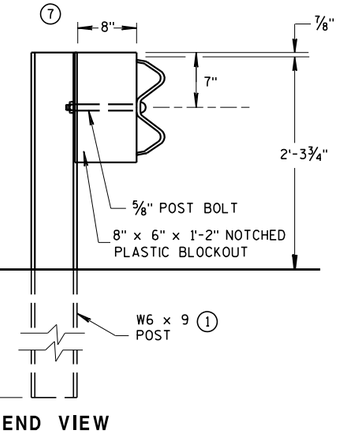
TYPICAL NOTCHED
PLASTIC BLOCKOUT
FOR STEEL POSTS ①



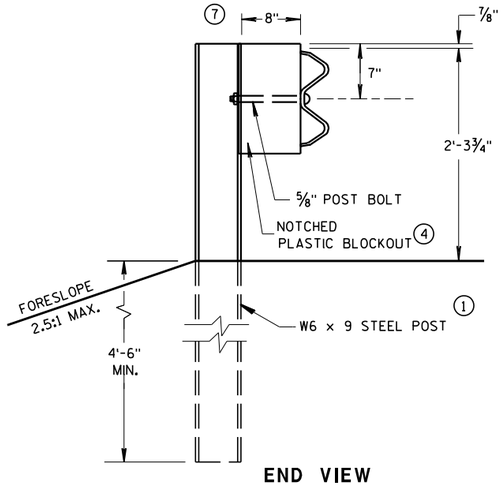
PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



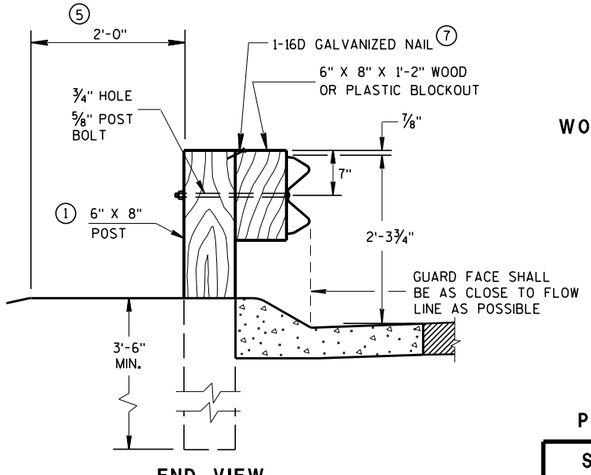
PLAN VIEW
STEEL POST, NOTCHED
PLASTIC BLOCKOUT & BEAM



END VIEW
STEEL POST & NOTCHED
PLASTIC BLOCKOUT ALTERNATIVE
STANDARD INSTALLATION



END VIEW
LONGER POST AT HALF
POST SPACING W BEAM
(LHW)



END VIEW
LOCATED ALONG A
MOUNTABLE CURBED ROADWAY

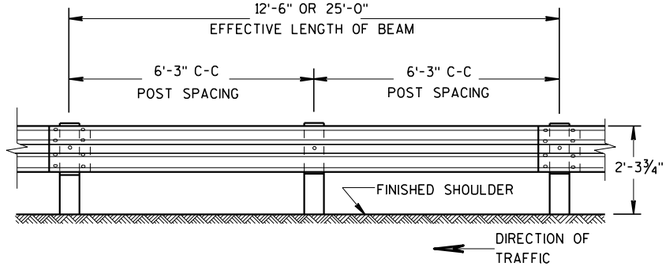
TYPICAL INSTALLATION OF STEEL PLATE BEAM GUARD

STEEL PLATE BEAM GUARD,
CLASS "A"
INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

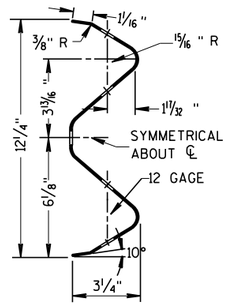
S.D.D. 14 B 15-11a

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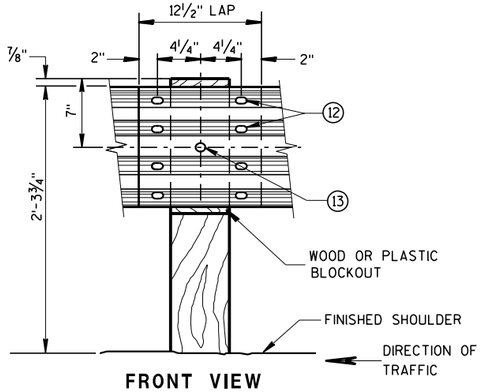


FRONT VIEW

POST SPACING STANDARD INSTALLATION



SECTION THRU W BEAM



FRONT VIEW

BEAM SPLICE AT WOOD POST AND POST MOUNTING DETAIL

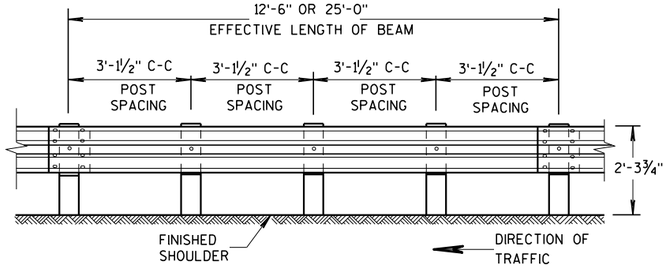
GENERAL NOTES

FURNISH GUARDRAIL DEFLECTORS FROM APPROVED PRODUCTS LIST.

(9) DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINA. START REFLECTORS AT POST #9 AND SPACE EVENLY EVERY 100 FEET (MAX.) TO THE END OF GUARDRAIL RUN, USING A MINIMUM OF 3 REFLECTORS.

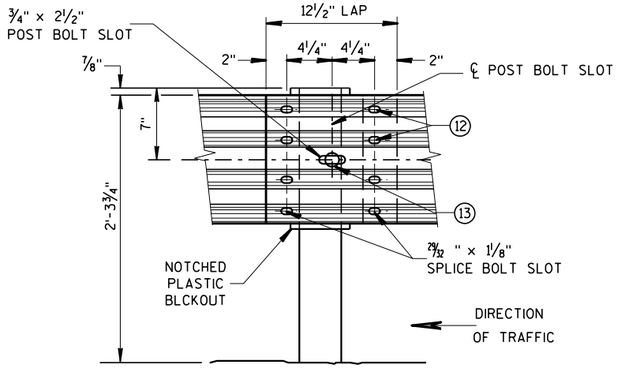
(12) 8 -⅝" ϕ X 2" BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.

(13) ⅝" DIA. BUTTON HEAD BOLT AND RECESS NUT WITH ⅝" DIA. F844 FLAT WASHER UNDER NUT.



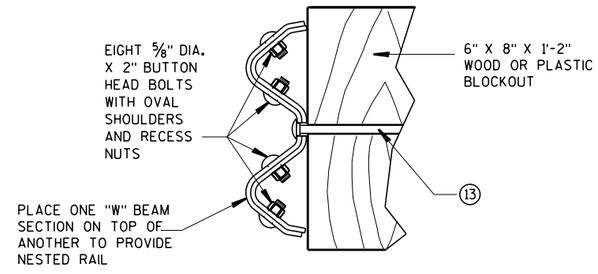
FRONT VIEW

POST SPACING FOR LONGER POST AT HALF POST SPACING W BEAM (LHW)



FRONT VIEW

BEAM SPLICE AT STEEL POST

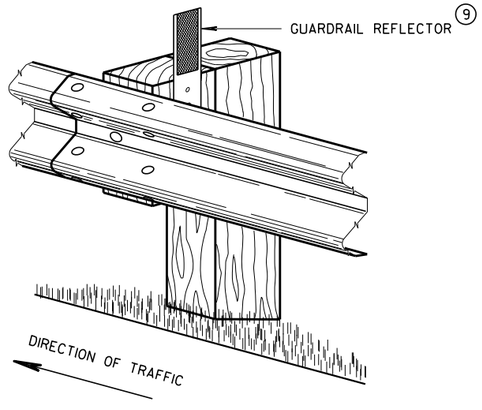


NESTED W BEAM (NW)

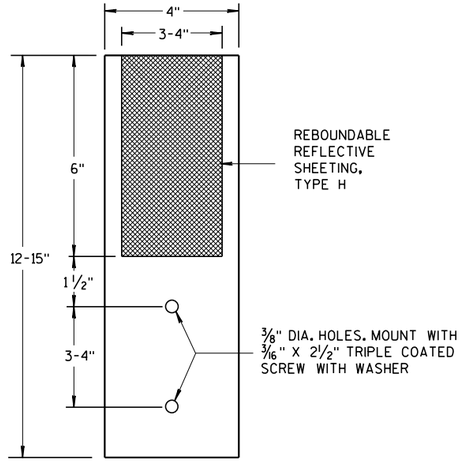
USE ALL OTHER STANDARD BEAM GUARD DETAILS FOR CONSTRUCTING NESTED W BEAM (NW)

TYPICAL SPLICING DETAILS OF STEEL PLATE BEAM GUARD

* USE DOUBLE SIDED WHITE GUADRAIL REFLECTORS ON ROADWAYS WITH BI-DIRECTIONAL TRAFFIC (NO MEDIAN). USE SINGLE SIDED WHITE (RIGHT SIDE) AND SINGLE SIDED YELLOW (LEFT SIDE) ON ROADWAYS WITH MEDIAN SEPARATION.



4" X 12" GUARDRAIL REFLECTOR DETAIL AND TYPICAL INSTALLATION *



4"x 12" GUARDRAIL REFLECTOR

STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS

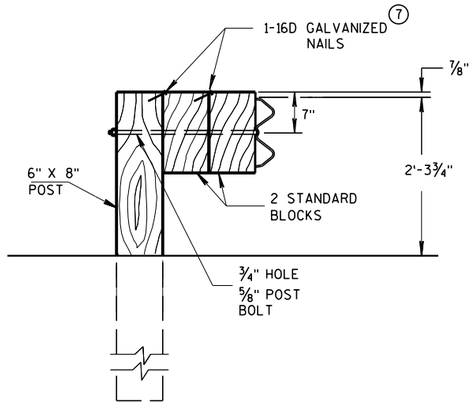
STATE OF WISCO 64
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 15-11b

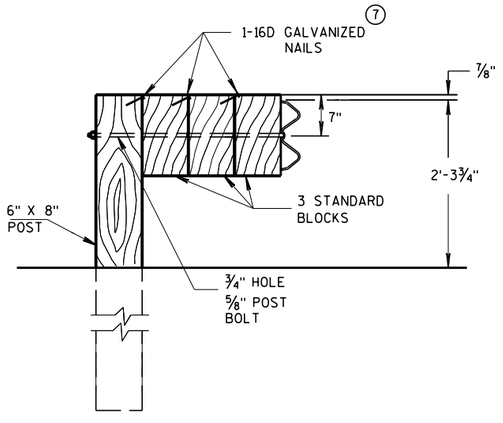
6

S.D.D. 14 B 15-11b



DETAIL FOR DOUBLE BLOCKS

THE NUMBER OF DOUBLE BLOCK POSTS WITHIN A BARRIER RUN IS UNLIMITED

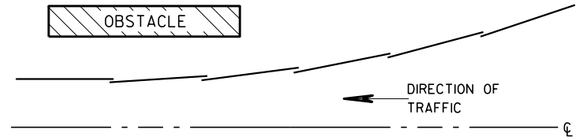


DETAIL FOR TRIPLE BLOCKS

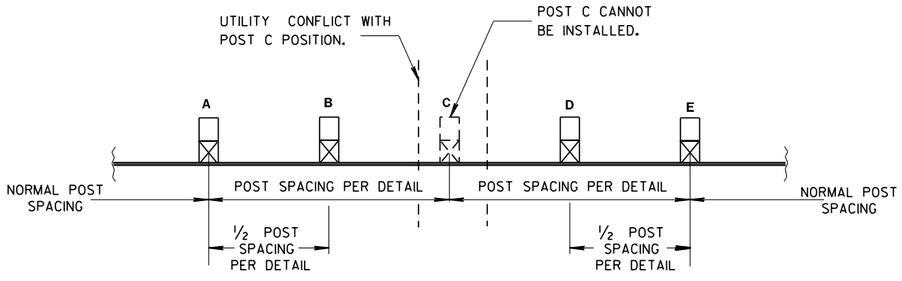
TRIPLE BLOCK DETAIL IS LIMITED TO ONE LOCATION WITHIN A BEAM GUARD RUN.

NOTES: USE DOUBLE OR TRIPLE BLOCKS WHEN UNDERGROUND OBSTACLES PREVENT THE POST FROM BEING INSTALLED.

DO NOT USE EXTRA BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.



PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION

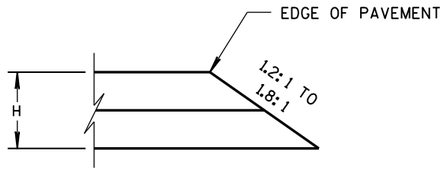
STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS UNIT SUPERVISOR
FHWA

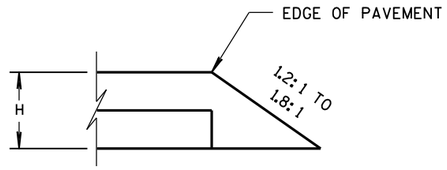
6

S.D.D. 14 B 15-11c



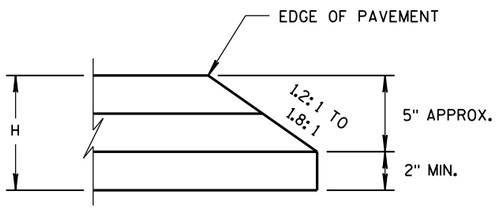
CONSTRUCTED WITH FINAL TWO LAYERS

FOR H 5" OR LESS



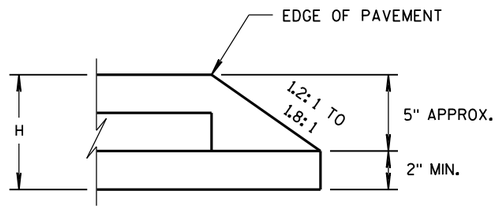
CONSTRUCTED WITH FINAL LAYER

FOR H 5" OR LESS



CONSTRUCTED WITH FINAL TWO LAYERS

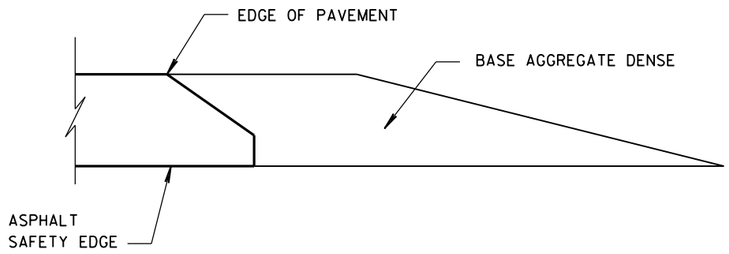
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER

FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS



FINISHED SHOULDER AGGREGATE PLACEMENT

6

6

S.D.D. 14 B 29-1

S.D.D. 14 B 29-1

SAFETY EDGE SM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/30/2012
DATE

/S/ Jerry H. Zoda
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

(1) WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

(2) USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

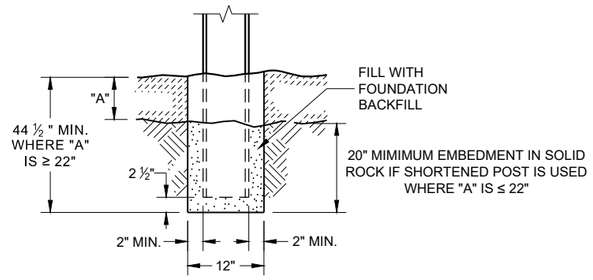
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

(4) WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

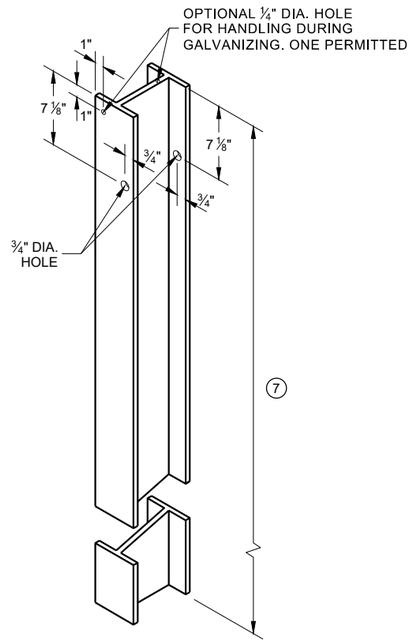
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS +1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

(6) WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

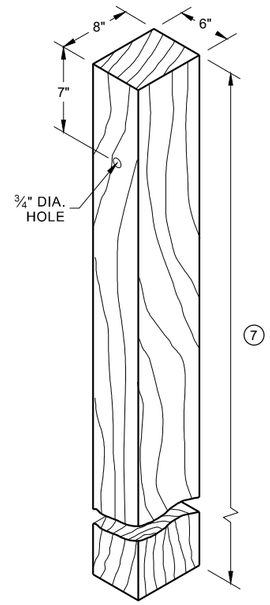
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



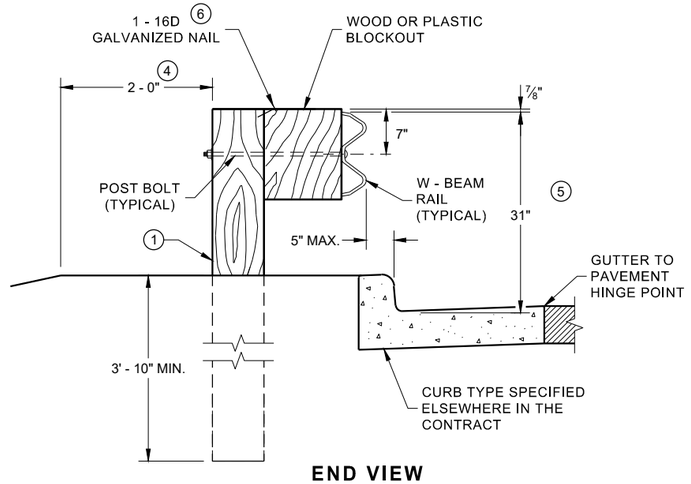
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



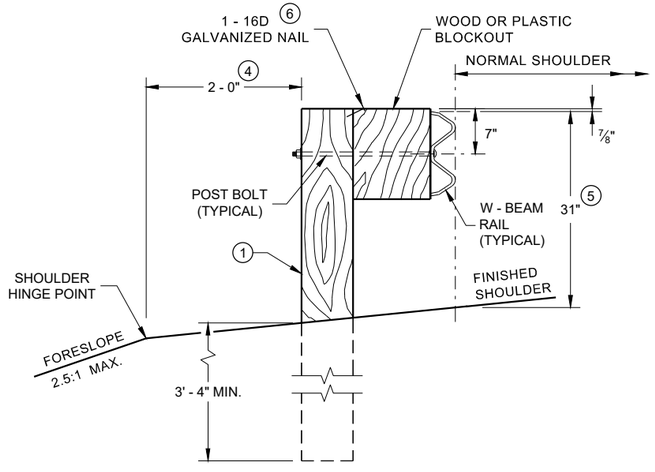
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



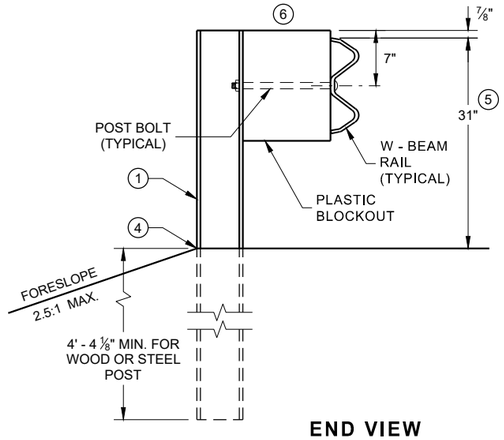
WOOD POST (6" X 8") NOMINAL (1)



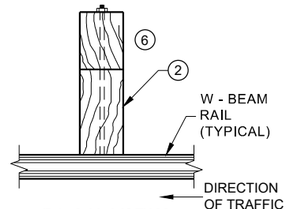
END VIEW
LOCATED ALONG A CURBED ROADWAY



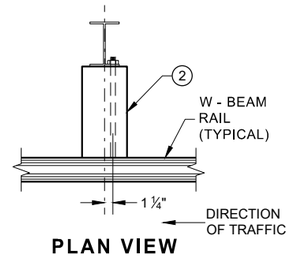
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



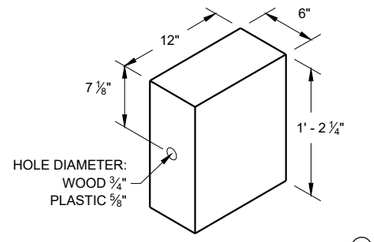
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM

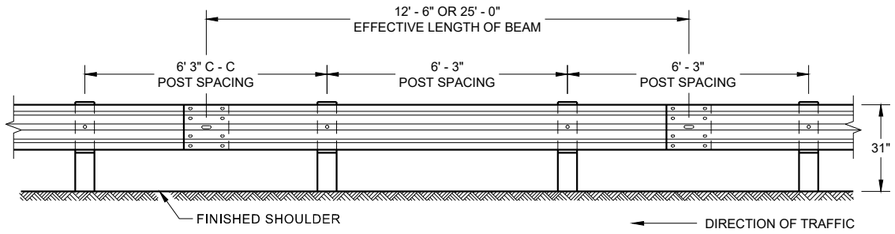


WOOD OR PLASTIC BLOCKOUT (2)

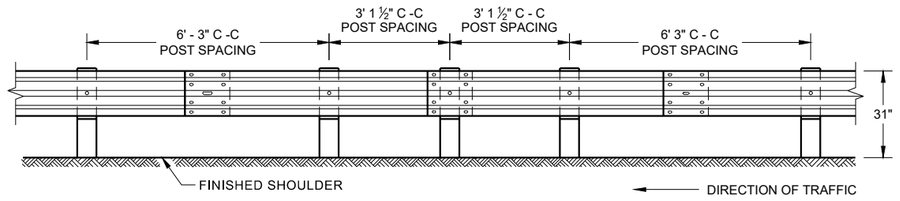
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

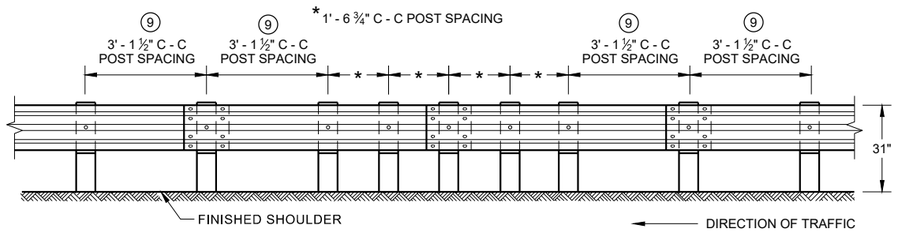
6
SDD 14B42 - 06a



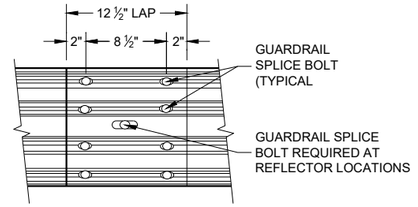
FRONT VIEW
POST SPACING STANDARD INSTALLATION



FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)



FRONT VIEW
QUARTER POST SPACING (QS)



FRONT VIEW
MID-SPAN BEAM SPLICE

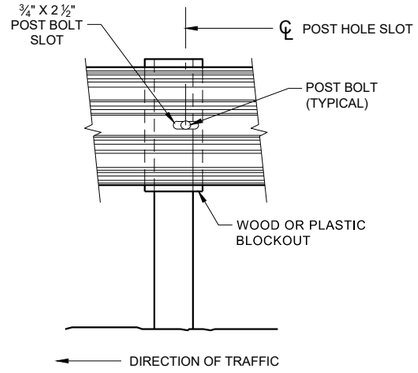
GENERAL NOTES

⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.

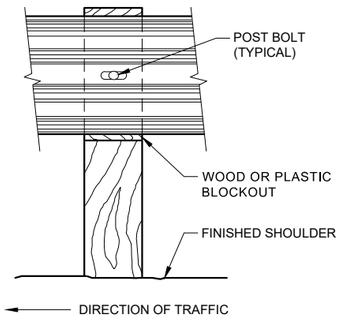
⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A ¾" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

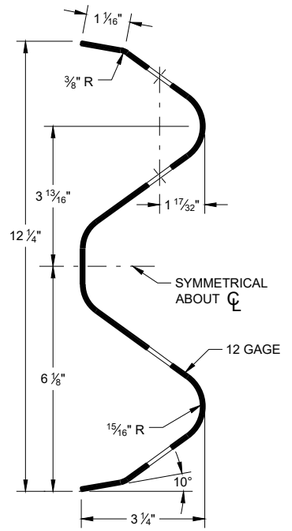
GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



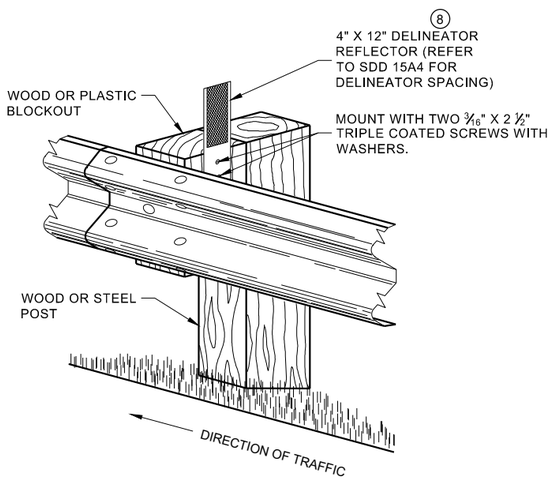
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



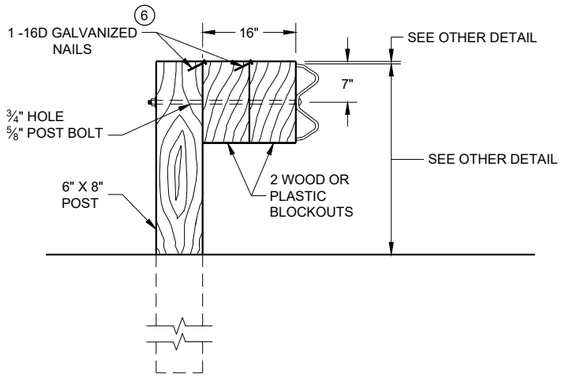
ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B42 - 06b

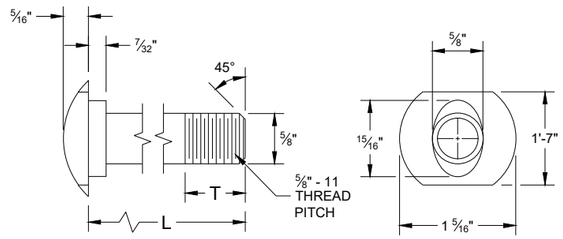


DETAIL FOR 16" BLOCKOUT DEPTH

IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.

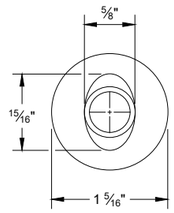
NOTE:

1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3/16".
2. IF THE BOLT EXTENDS MORE THAN ¼" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

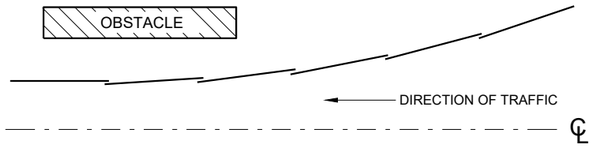


POST BOLT TABLE

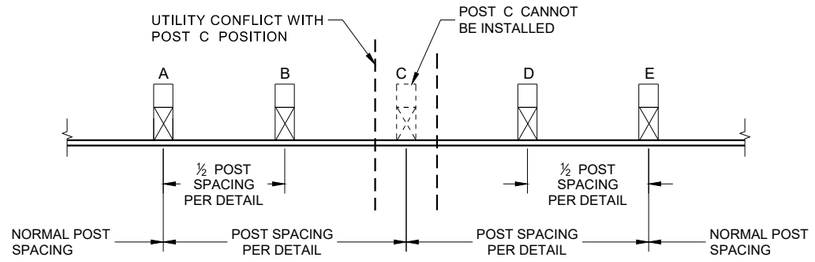
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



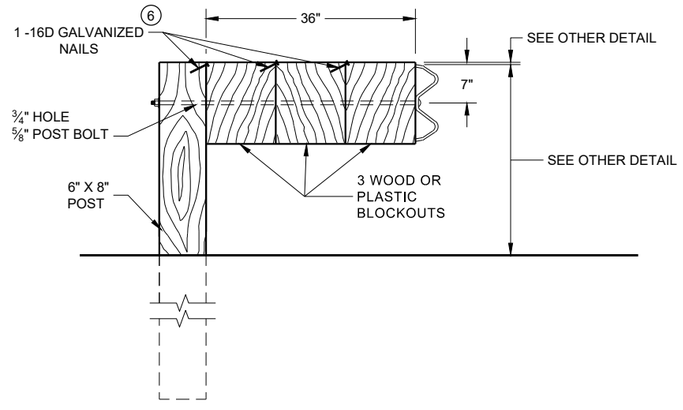
ALTERNATE BOLT HEAD



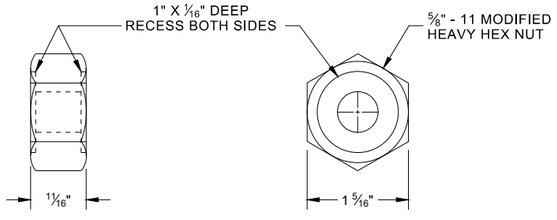
PLAN VIEW
BEAM LAPPING DETAIL



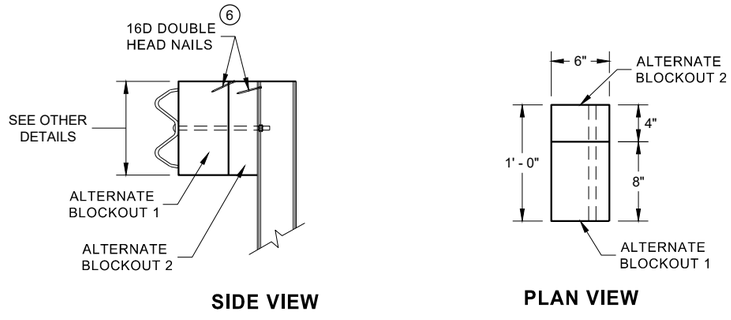
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



DETAIL FOR 36" BLOCKOUT DEPTH



POST BOLT, SPLICE BOLT AND RECESS NUT



SIDE VIEW

PLAN VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

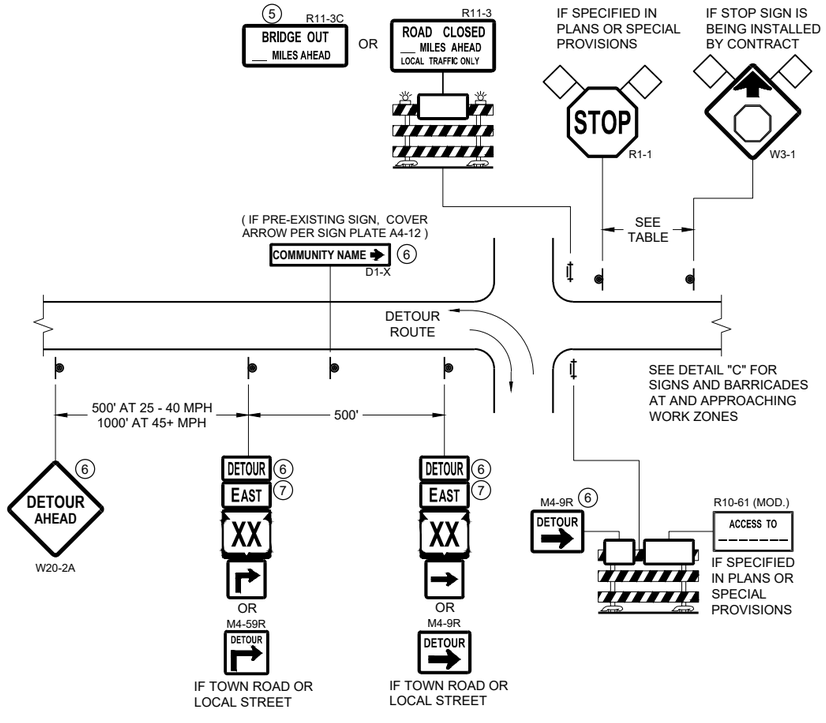
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

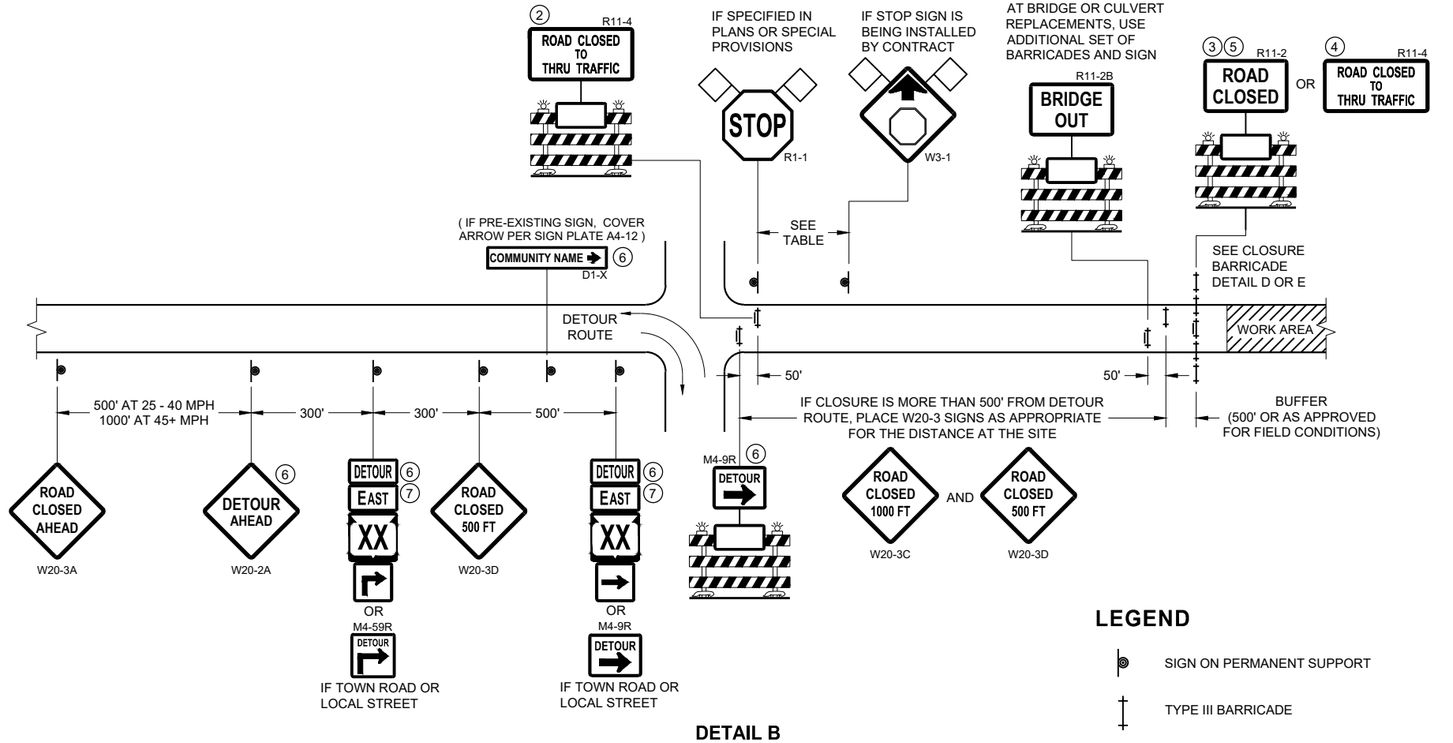
(6) WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

6

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

SDD 14B42 - 06c



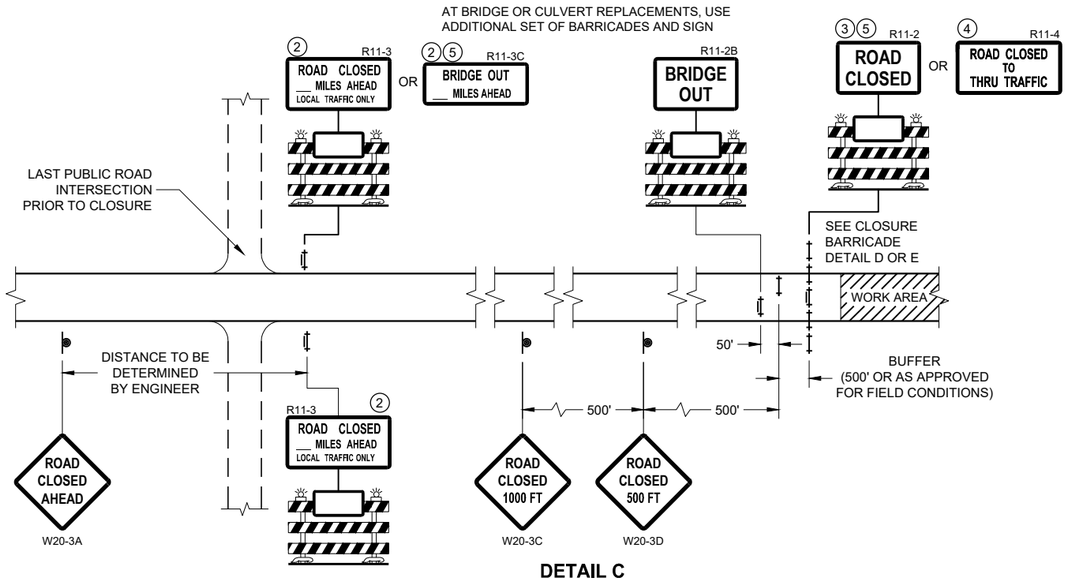


DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

SEE SDD 15C2-SHEET "b"
FOR GENERAL NOTES
AND FOOTNOTES ① THROUGH ⑦

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)

DETOUR M4 - 8
EAST M3 - X
XX M1 - 4 OR XX M1 - 6 OR COUNTY X M1 - 5A
M05 - 1 OR M06 - 1

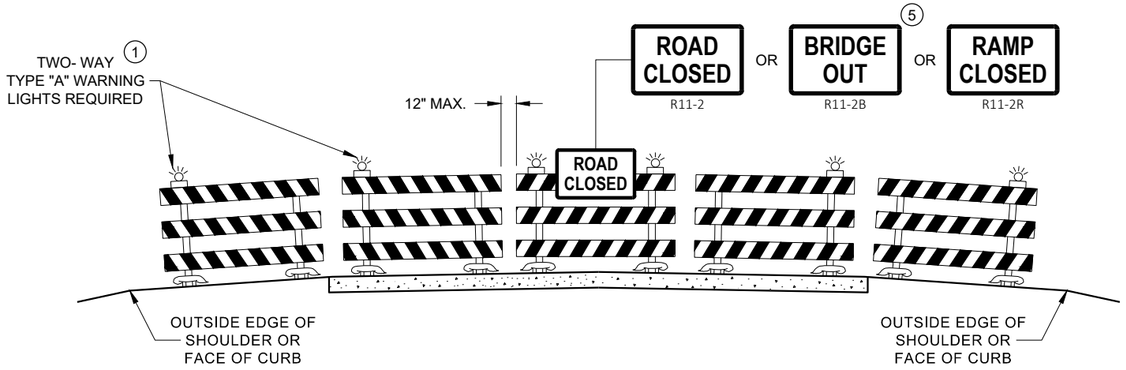
BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

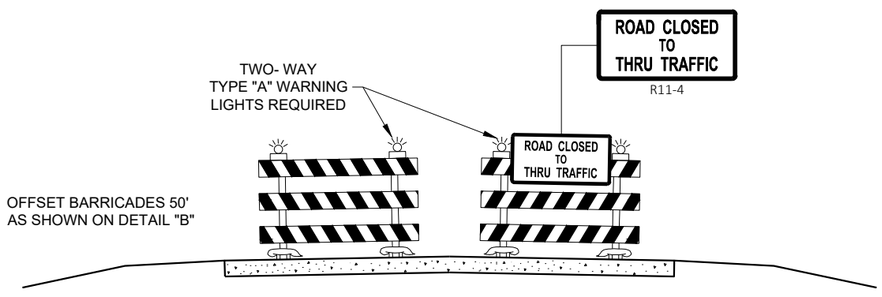
APPROVED
November 2018
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

SDD 15C02 - 07a



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND BARRICADES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE", SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.

TYPE "A" LOW - INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11 - 2, R11 - 3, M4 - 9, R11 - 4, AND R10 - 61 SIGNS PLACED ON THE BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE RAIL OR BOTTOM RAILS.

"WO" AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60 " X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

(1) TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING.

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

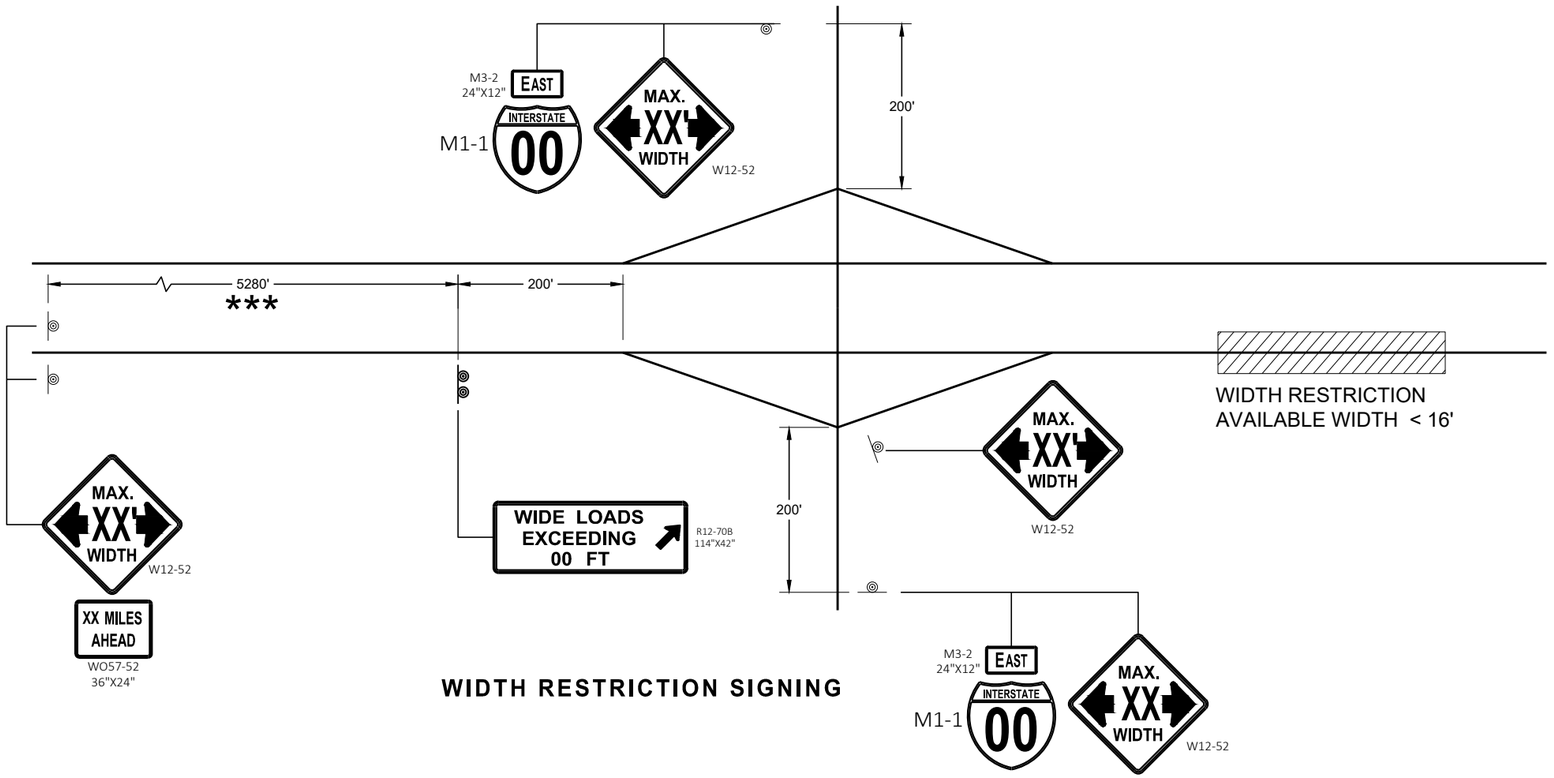
APPROVED
November 2018
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER
FHWA

6

SDD 15C02 - 07b

6

SDD 15C02 - 07b



WIDTH RESTRICTION SIGNING

LEGEND

SIGN ON PERMANENT SUPPORT

GENERAL NOTES

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL " IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

WIDTH ON SIGN TO BE APPROXIMATELY ONE FOOT LESS THAN AVAILABLE WIDTH.

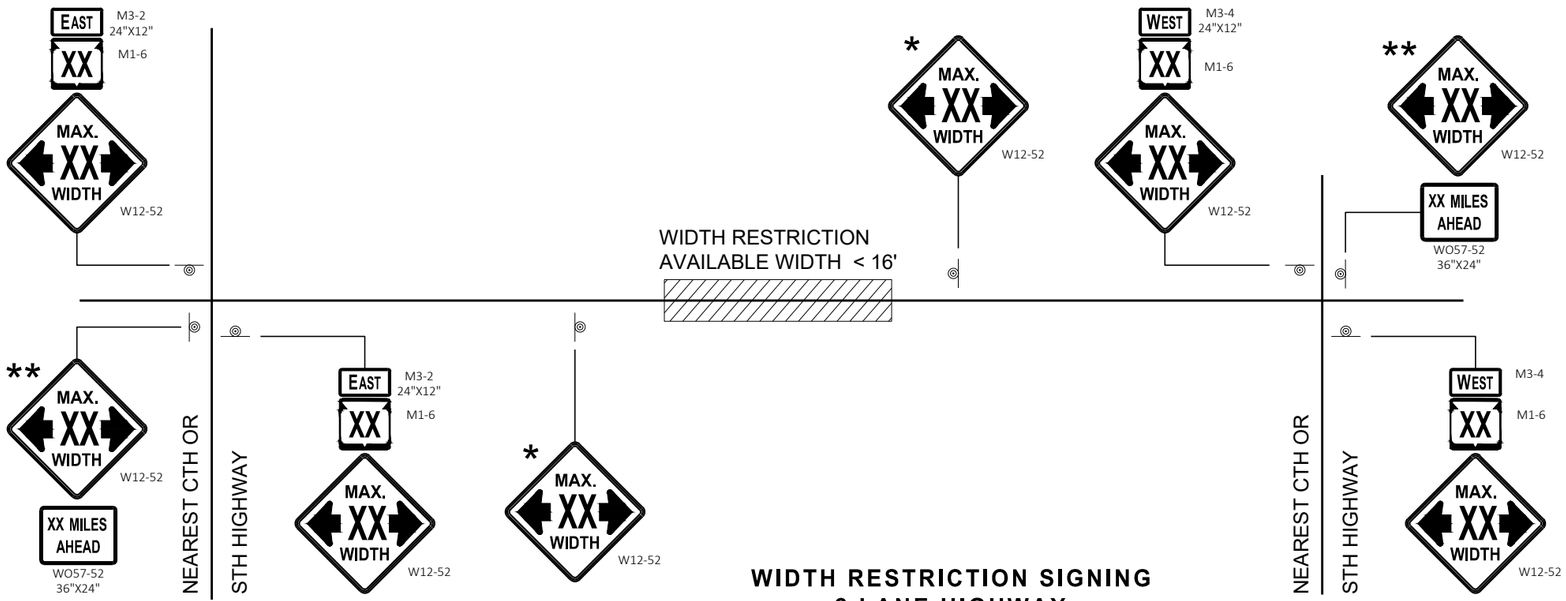
* PLACE 500 FEET BEFORE THE W20 - 1A AND 500 FEET BEFORE ADDITIONAL SIGNS FOR ROADWAYS WITH A PRE - CONSTRUCTION SPEED LIMIT OF 45 MPH OR MORE. FOR 35-40 MPH, USE 350 FOOT TYPICAL SPACING. FOR 25-30 MPH, USE 200 FOOT TYPICAL SPACING.

** SIGN SHALL BE VISIBLE FROM ROADWAY.

*** ADDITIONAL SIGNS NEEDED IF THERE IS AN ON RAMP BETWEEN SIGNS.



WIDTH ON SIGN TO BE APPROX. 1 - FOOT LESS THAN AVAILABLE WIDTH



WIDTH RESTRICTION SIGNING
2 LANE HIGHWAY

ADVANCED WIDTH RESTRICTION SIGNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C02 - 07f

SDD 15C02 - 07f

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

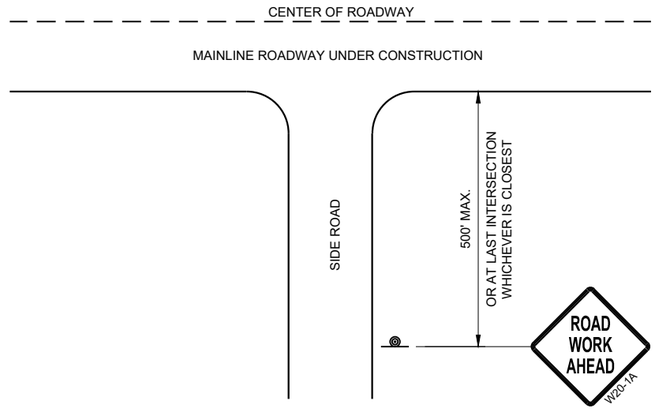
ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS REESTABLISHED.

* OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS

** PLACE AN ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



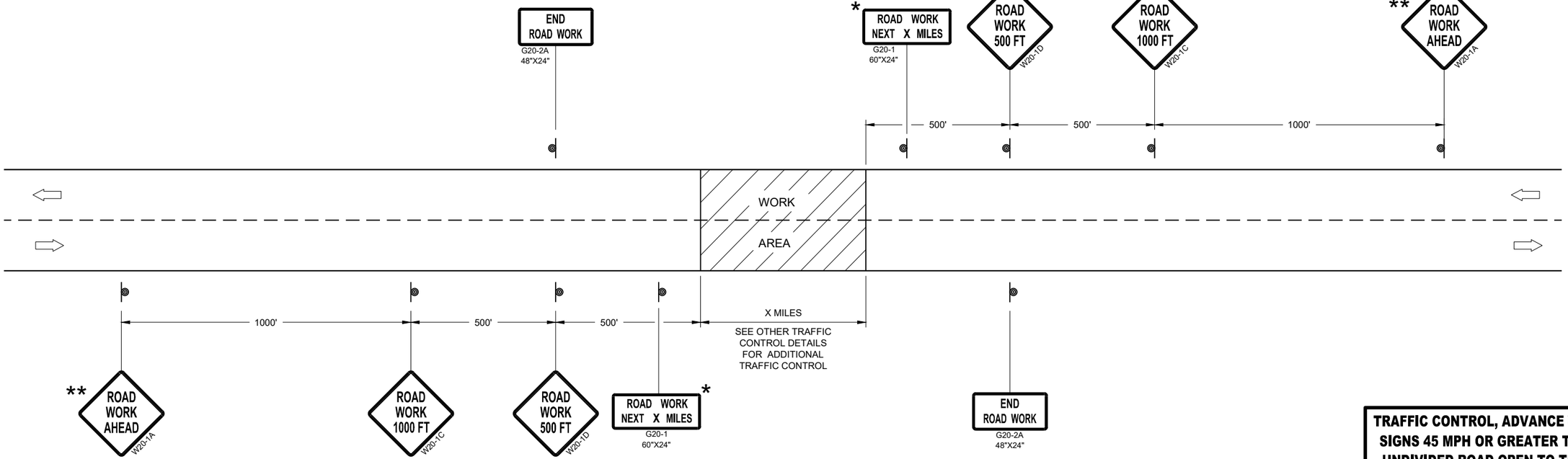
TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 MPH OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFICE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

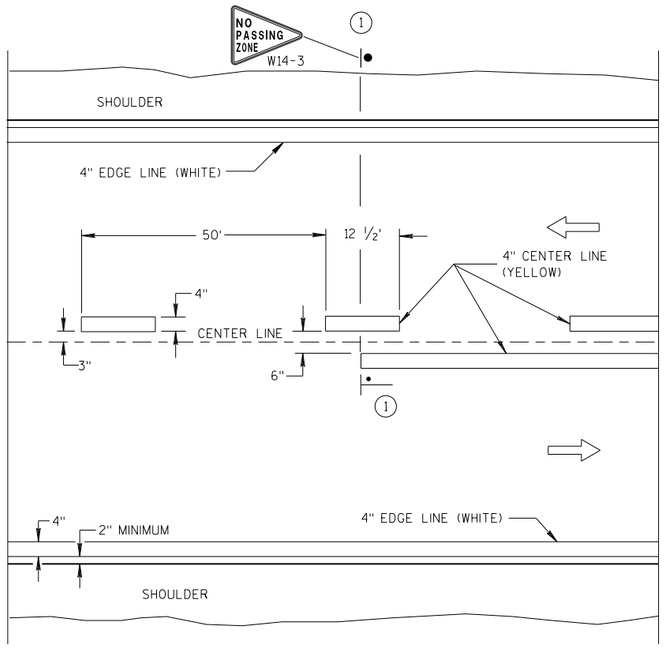
APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

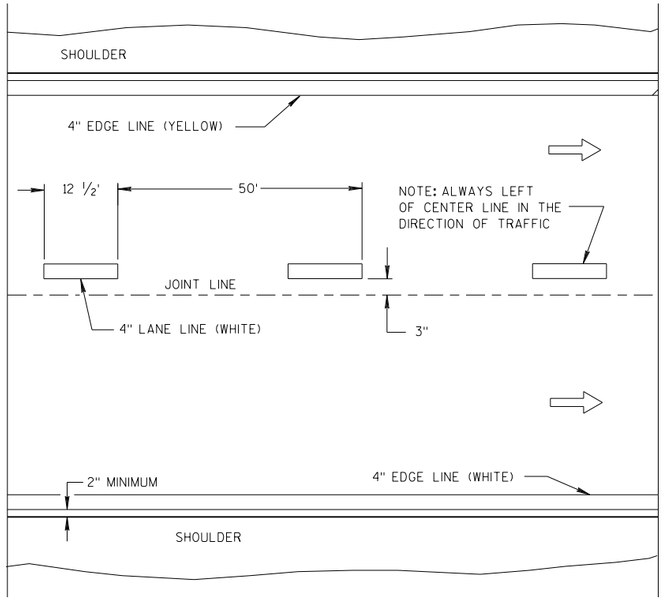
FHWA

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SDD 15C04 - 05

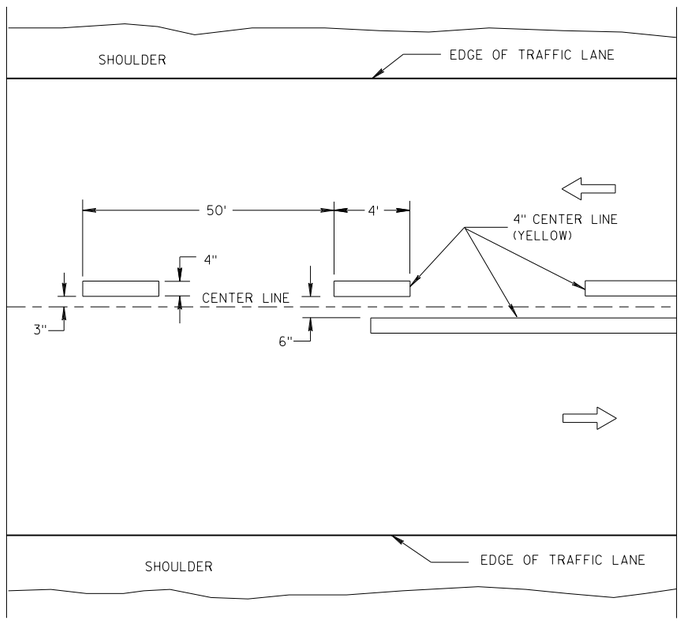


TWO WAY TRAFFIC

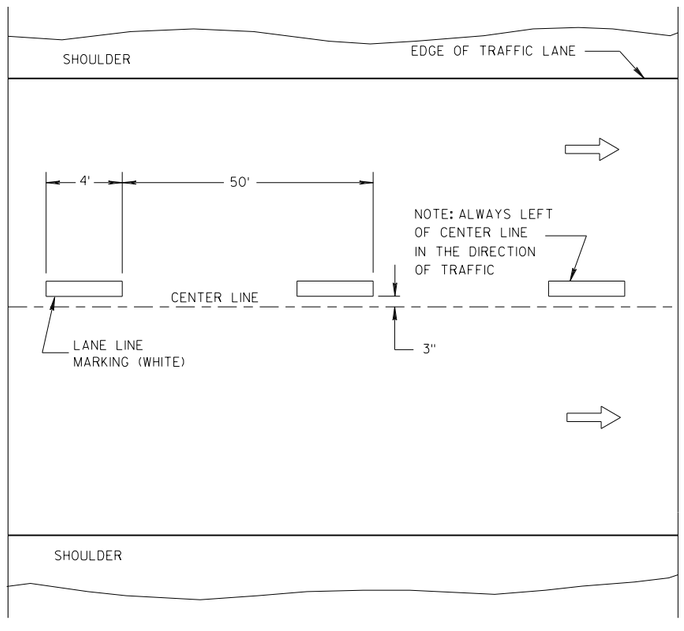


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

(1) LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING.

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

LEGEND

"T" MARKING

POST MOUNTED SIGN

LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/2018 — DATE

/S/ Matthew R. Rauch — STATE SIGNING AND MARKING ENGINEER

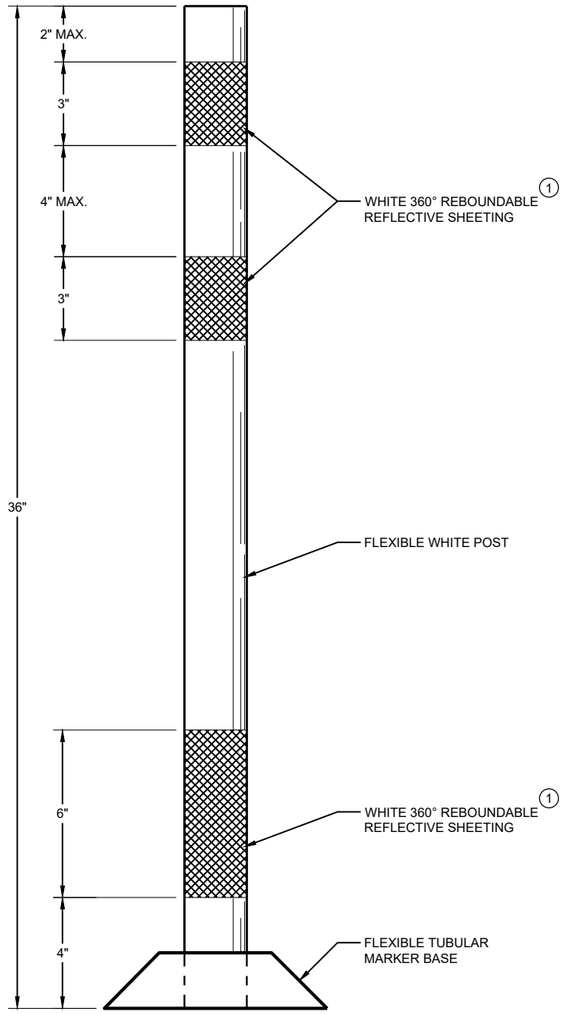
FHWA

6

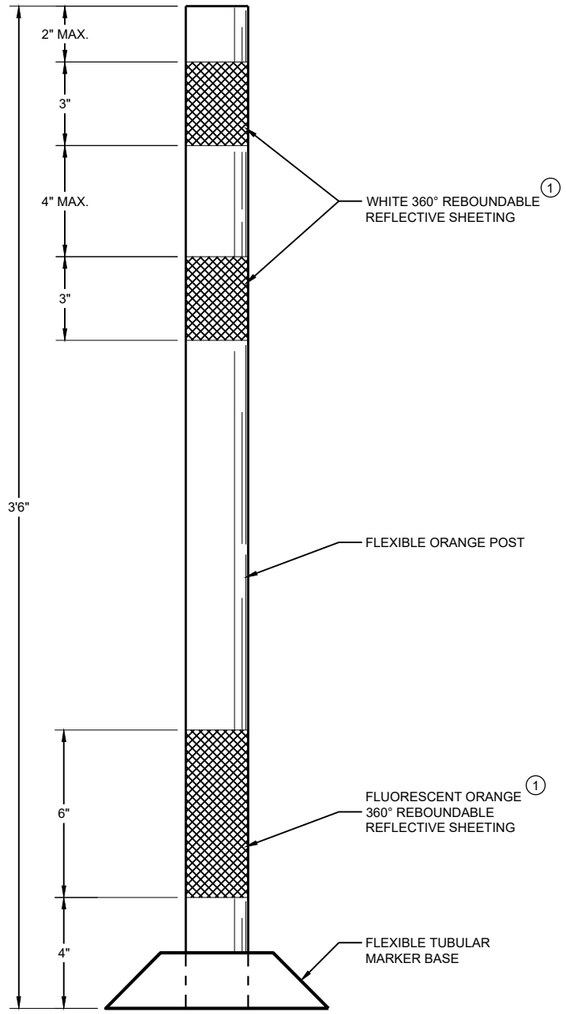
S.D.D. 15 C 8-19a

6

S.D.D. 15 C 8-19a



FLEXIBLE TUBULAR MARKER POST PERMANENT CROSSOVER



FLEXIBLE TUBULAR MARKER POST WORK ZONE

GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST FOUNDATION WHEN SECURED TO THE PAVEMENT.

THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS, UNLESS DIRECTED BY THE ENGINEER TO USE BOLTS.

(1) REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

6

SDD 15C11 - 07a

CHANNELIZING DEVICES FLEXIBLE TUBULAR MARKER POST

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

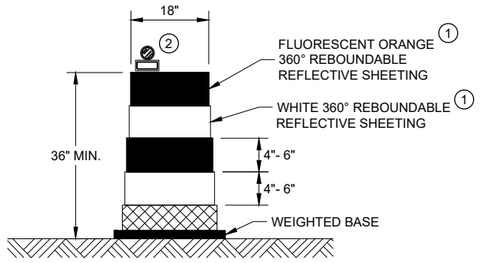
FHWA

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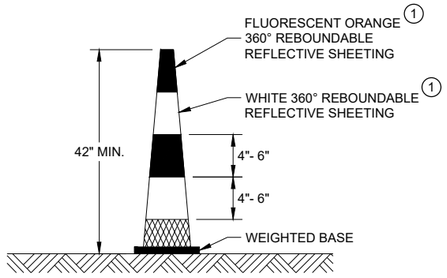
SDD 15C11 - 07a

GENERAL NOTES

1. REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
2. LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.

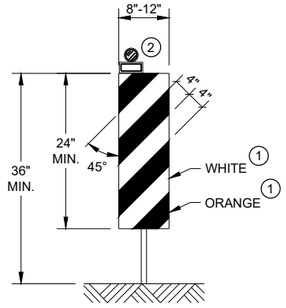


DRUM



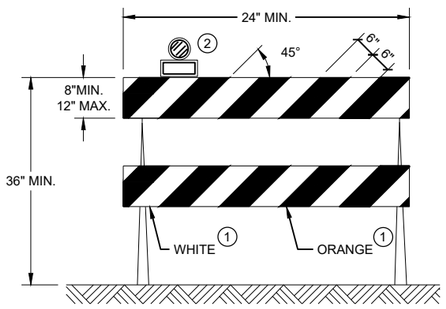
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



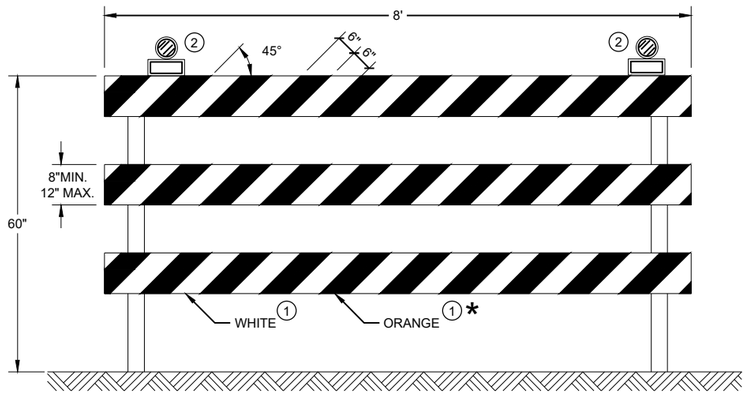
VERTICAL PANEL

THE STRIPES SHALL SLOPE DOWNWARD TO
THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE II BARRICADE

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES
MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD
TO THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE III BARRICADE

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP
TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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SDD 15C11 - 07b
SDD 15C11 - 07b

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

TEMPORARY PORTABLE RUMBLE STRIP ARRAY

DIRECTION OF TRAFFIC

WORK AREA

FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS, DEVICES, AND LOCATION OF ALL FLAGGERS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

FLAGGING

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

(1) FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

(2) SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

TEMPORARY PORTABLE RUMBLE STRIPS

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

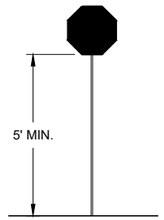
(3) EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED ACCORDING TO MANUFACTURER'S RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.

ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FOR THE APPROVED PRODUCTS LIST.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.



STOP/SLOW PADDLE ON SUPPORT STAFF

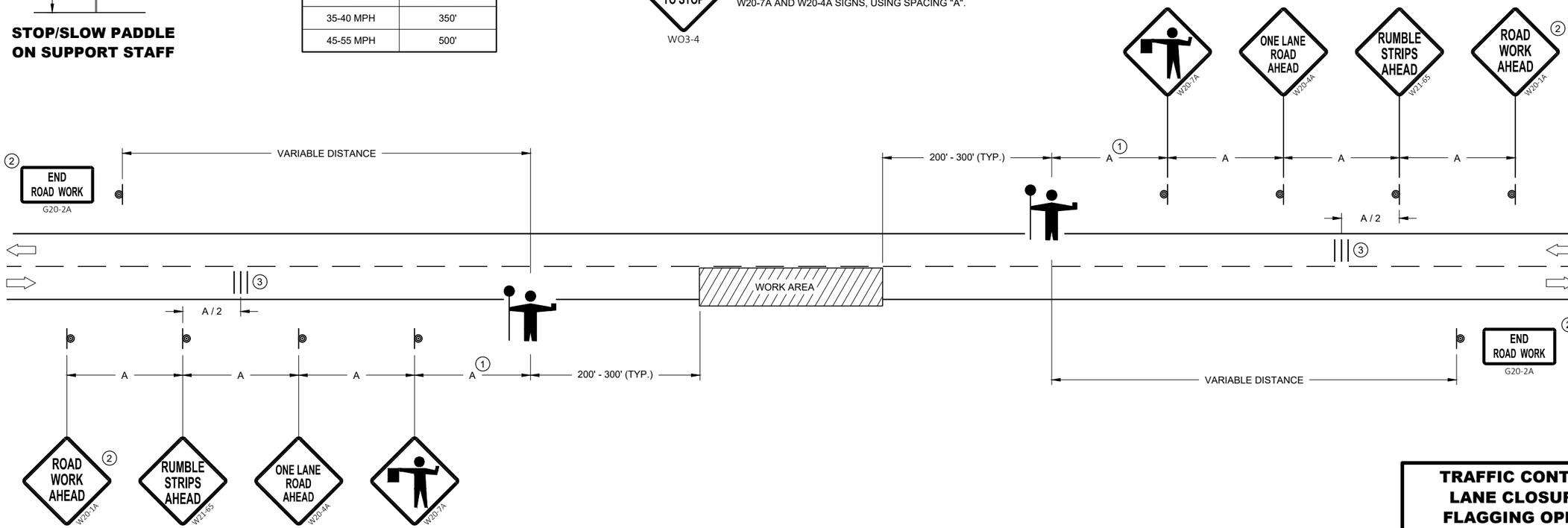
SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'



WO3-4

USE OF WO3-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

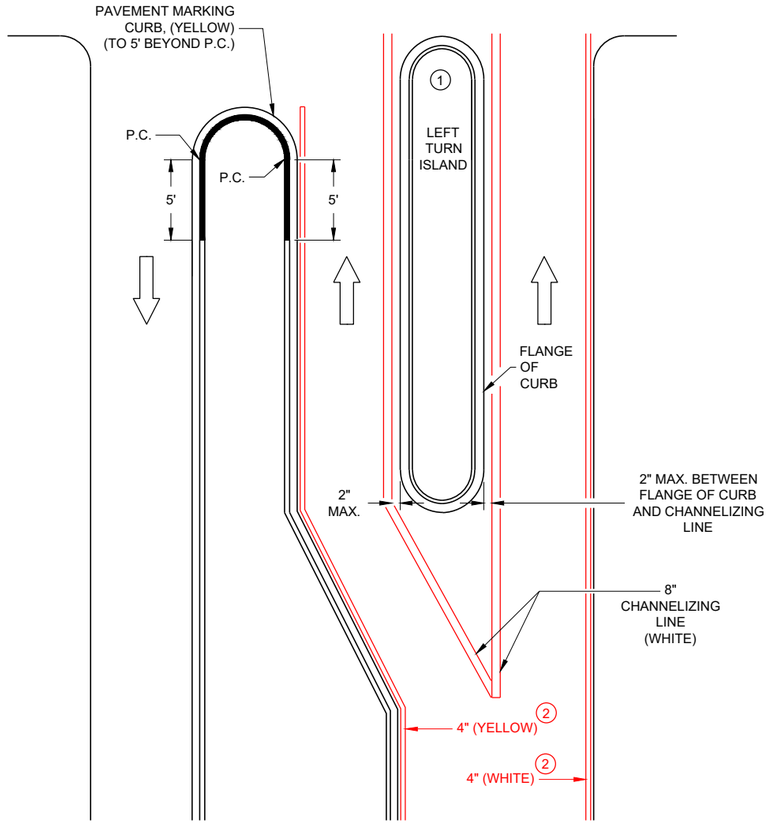
APPROVED
May 2019
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

6
SDD 15C12 - 07

REQUIREMENTS FOR EDGE LINES		
POSTED SPEED	IS THERE CONTINUOUS LIGHTING?	
	YES	NO
≤ 30 MPH	NO	OPTIONAL
35 OR 40 MPH	OPTIONAL	RECOMMENDED
≥ 45 MPH	RECOMMENDED	REQUIRED



LEFT TURN & MEDIAN ISLAND

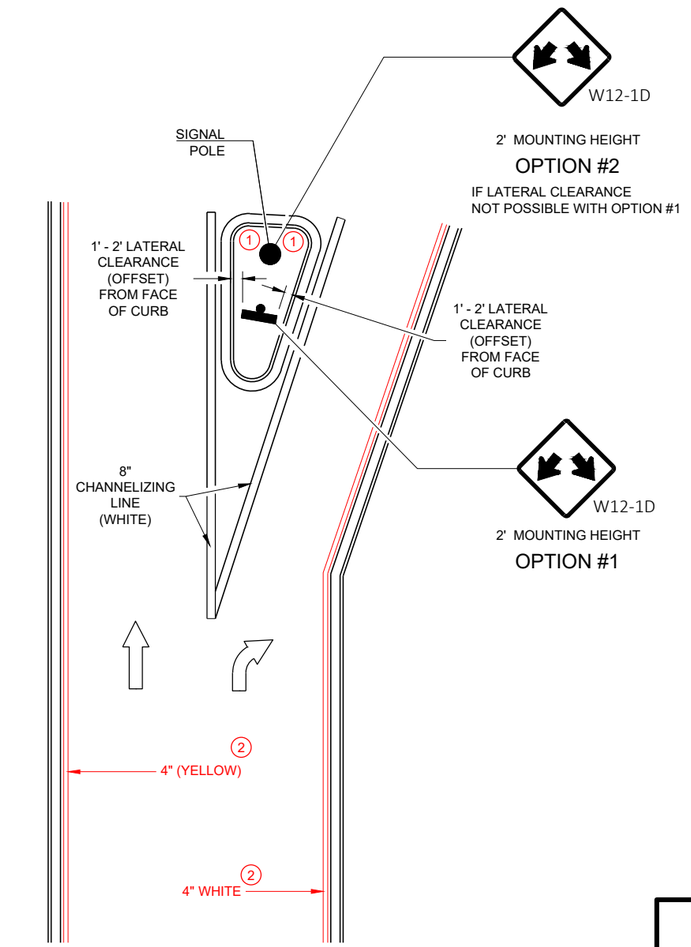
GENERAL NOTES

APPLIES TO ISLANDS AT LEFT TURNS AT ONE WAY ROADWAYS AS WELL.

SEE MISCELLANEOUS QUANTITIES FOR SIGN SIZE.

1. MARK CURB NOSES YELLOW.
2. MARK ACCORDING TO TABLE.

DIRECTION OF TRAVEL



RIGHT TURN ISLAND

DOUBLE ARROW
WARNING SIGN PLACEMENT

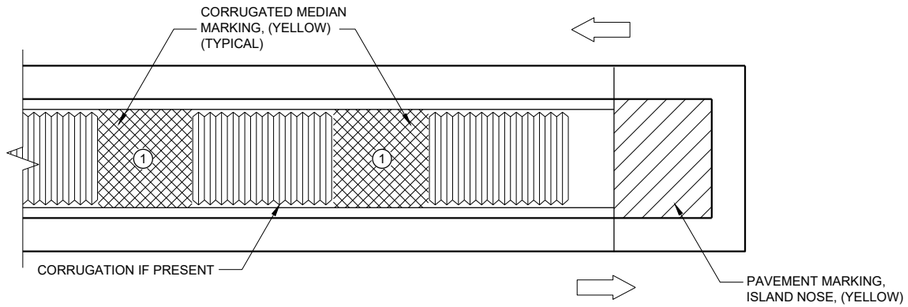
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
/S/ Matthew R. Rauch
STATE SIGNING AND MAF ENGINEER

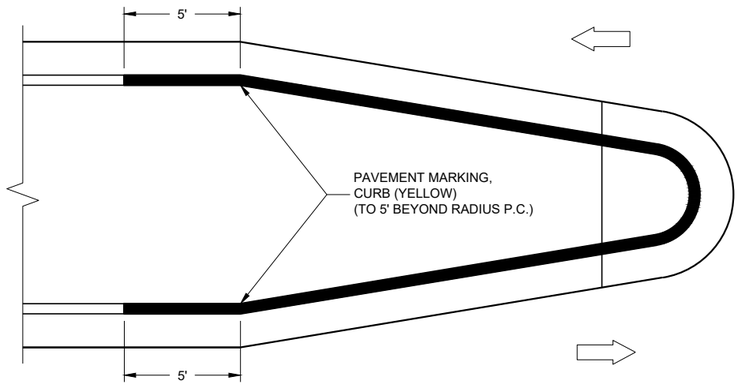
FHWA

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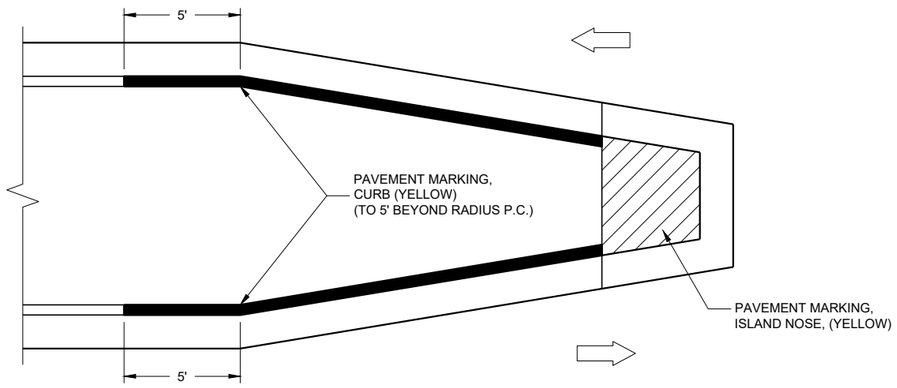
SDD 15C27 - 03a



MEDIAN ISLAND WITH SQUARE BLUNT NOSE



MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

TYPICAL PLACEMENT OF
PAVEMENT MARKING ON MEDIAN ISLANDS

GENERAL NOTES

WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION, YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.

ISLAND NOSE MARKING

CURB MARKING

CORRUGATED MEDIAN MARKING

DIRECTION OF TRAVEL

PAVEMENT MARKINGS
(ISLANDS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/2018
DATE

/S/ Matthew R. Rauch
STATE SIGNING AND MAF ENGINEER

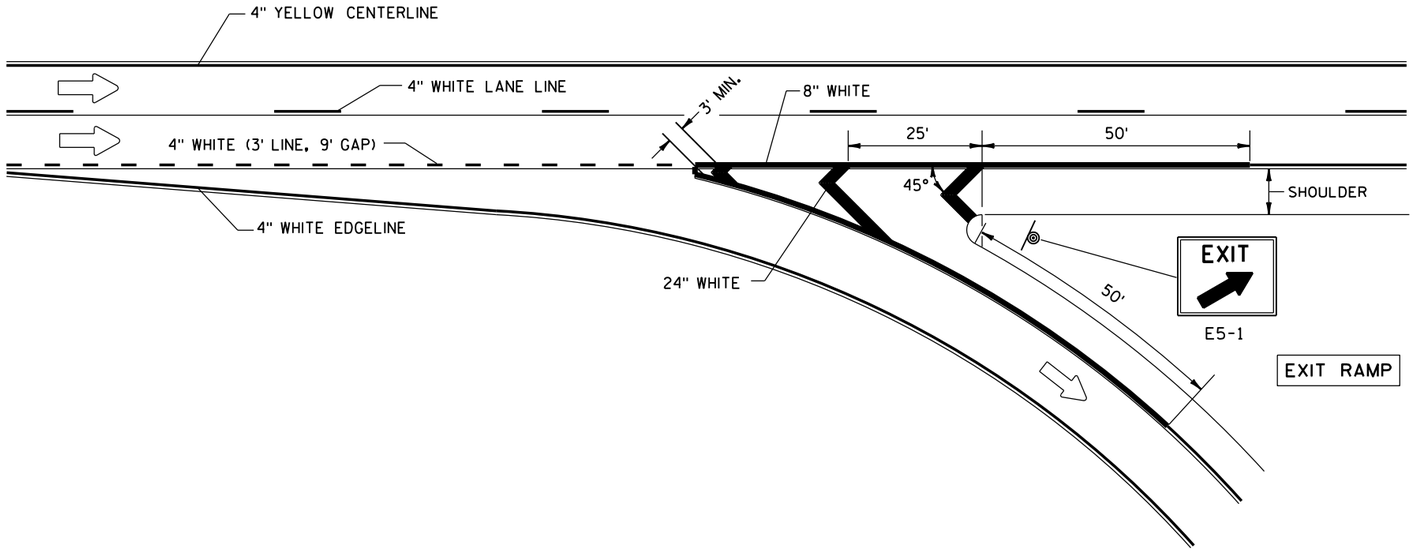
FHWA

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SDD 15C27 - 03b

SDD15C27 - 03b



PAVEMENT MARKING FOR EXIT RAMP

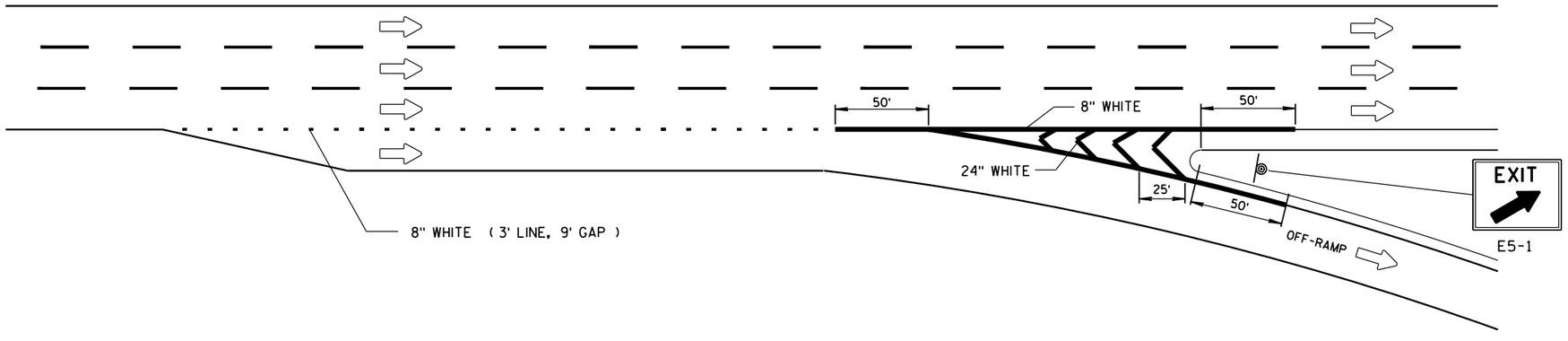
GENERAL NOTES

PLACE GROOVE 3 INCHES LEFT OF JOINT.

LEGEND

DIRECTION OF TRAVEL

SIGN ON PERMANENT SUPPORT



SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL EXIT-RAMP

6

S.D.D. 15 C 31-3a

PAVEMENT MARKING
(RAMPS AND GORES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

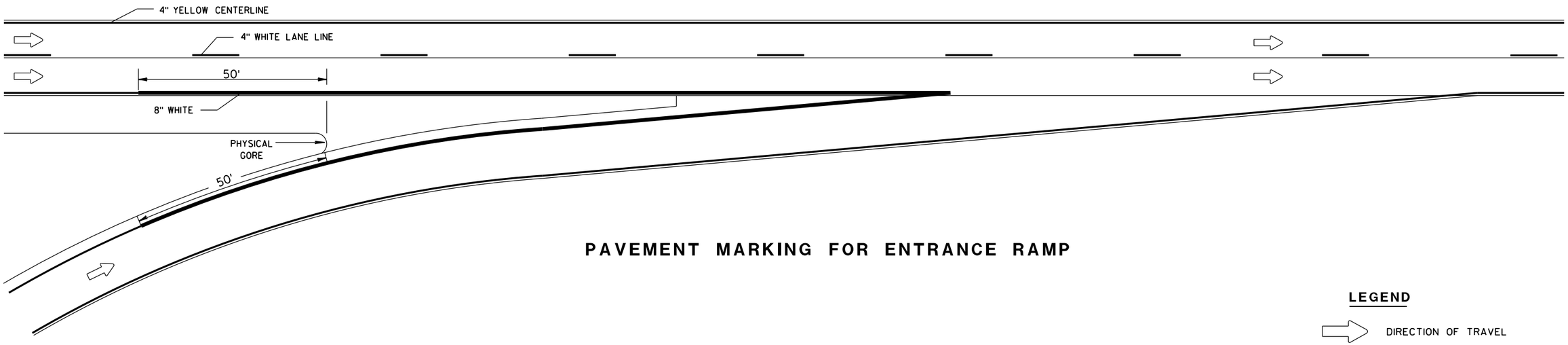
6

S.D.D. 15 C 31-3a

GENERAL NOTES

PLACE GROOVE 3 INCHES LEFT OF JOINT.

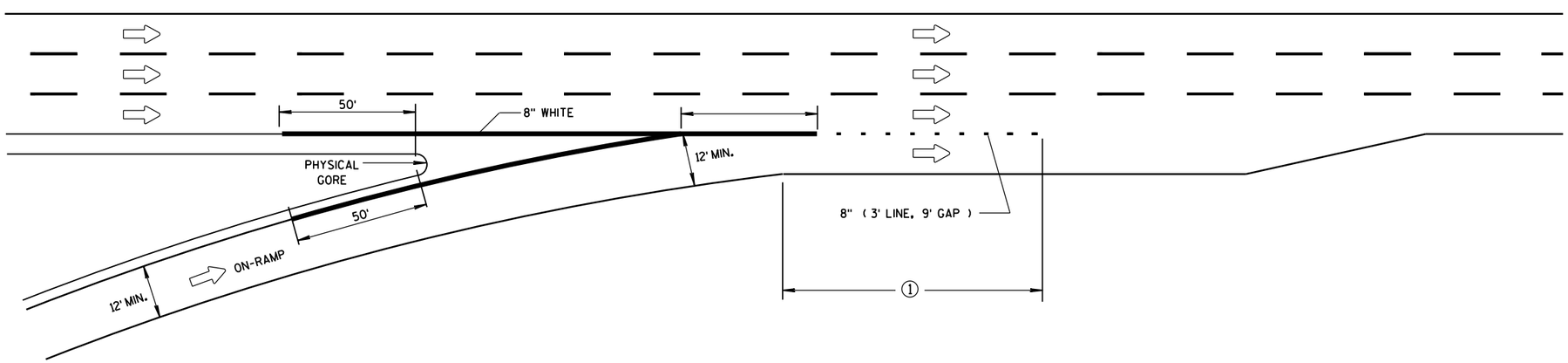
① ½ LENGTH OF FULL WIDTH ACCELERATION LANE.



PAVEMENT MARKING FOR ENTRANCE RAMP

LEGEND

DIRECTION OF TRAVEL



SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL ENTRANCE-RAMP

PAVEMENT MARKING FOR PARALLEL ON-RAMP AND PARALLEL OFF-RAMP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept., 2017
DATE

/S/ Matthew R. Rauch
STATE SIGNING AND MARKING ENGINEER

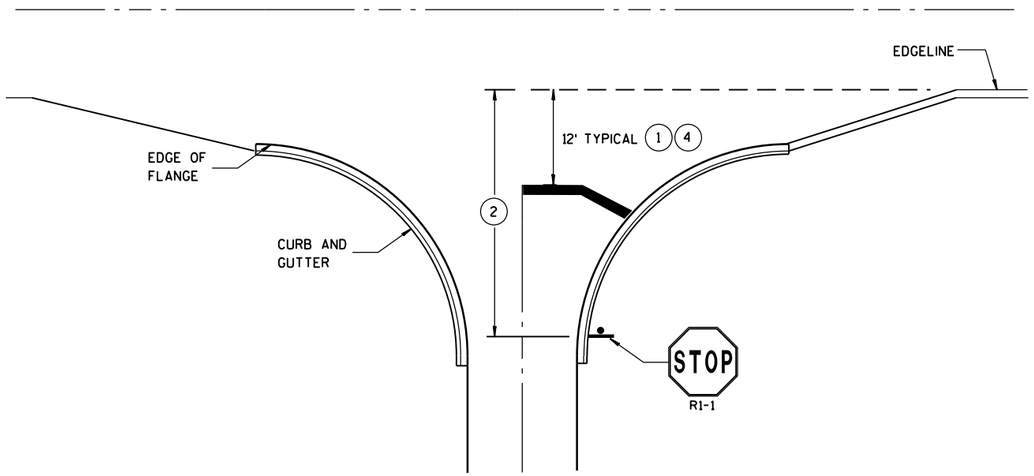
FHWA

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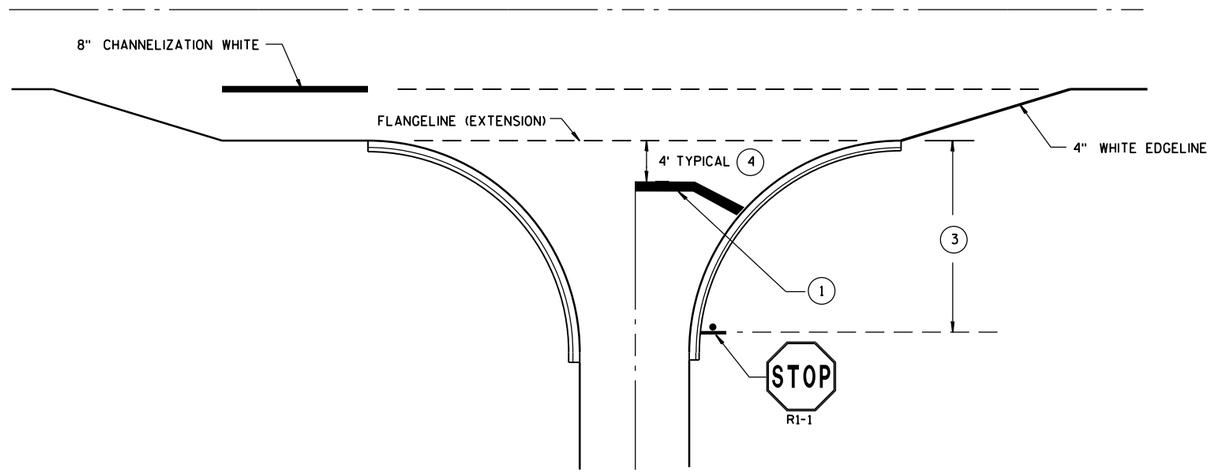
S.D.D. 15 C 31-3c

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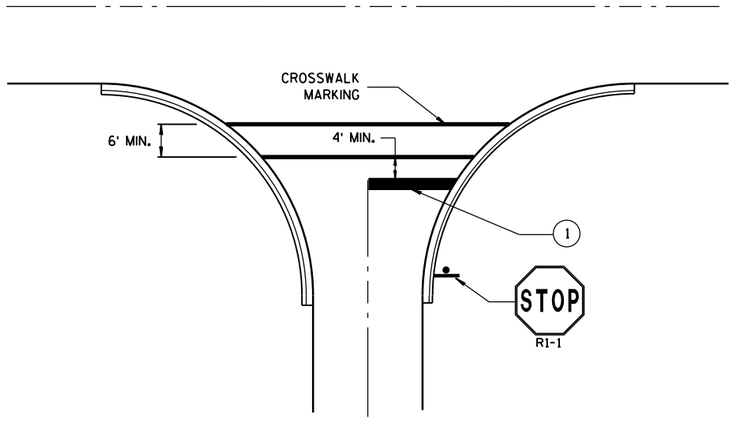
S.D.D. 15 C 31-3c



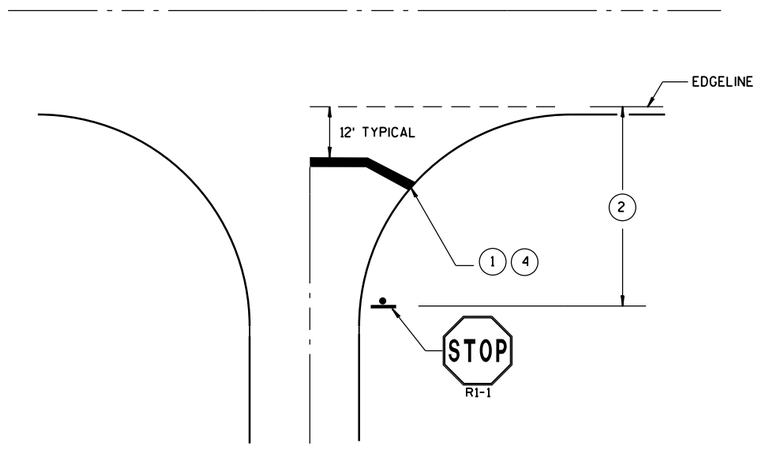
TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

GENERAL NOTES

STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGELINE LOCATION.

1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE PROJECT ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE THAN NO STOP LINE IS REQUIRED.
3. IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION THAN NO STOP LINE IS REQUIRED.
4. MOVE CLOSER TO EDGE OF TRAVEL LANE AS NEEDED FOR VISIBILITY AND SIGHT LINES. (NO CLOSER THAN 4 FEET).

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept., 2017 — DATE

/S/ Matthew R. Rauch — STATE SIGNING AND MAR[illegible]NEER

FHWA

6

S.D.D. 15 C 33-3

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS. USE SUPPORTS THAT PROVIDE A MINIMUM OF 5 FEET FROM THE BOTTOM OF THE SIGN TO THE PAVEMENT.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

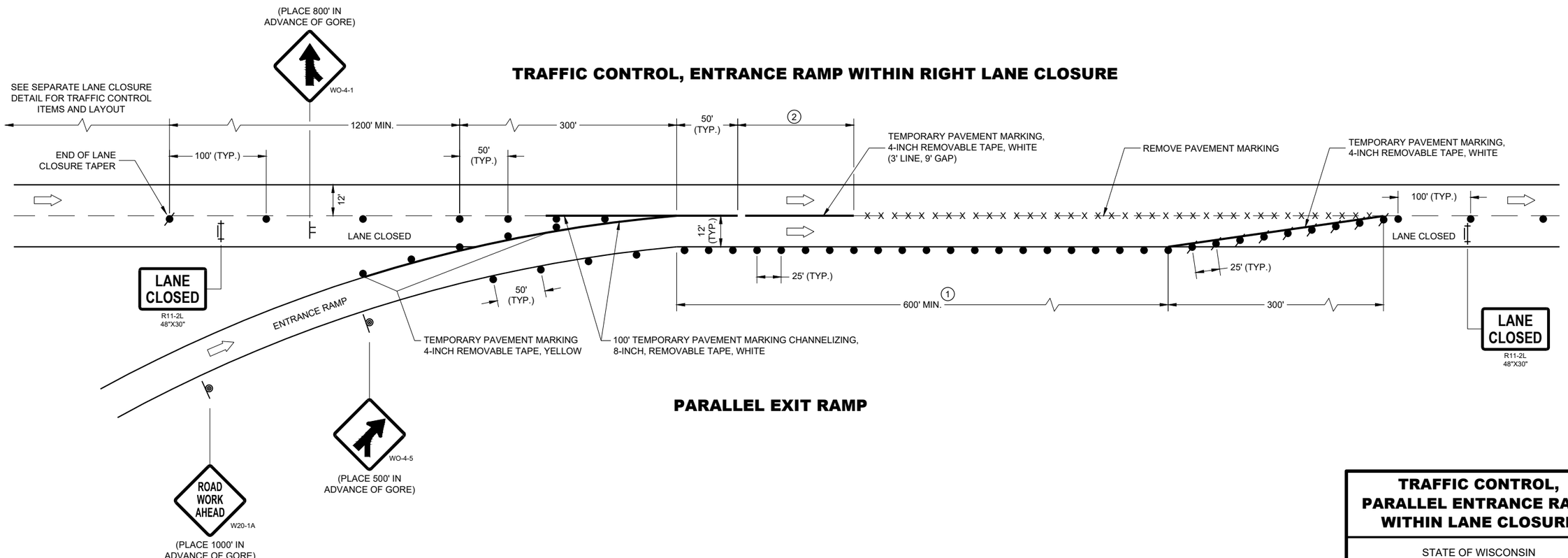
REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

(1) EXTEND THE LENGTH OF THE MERGE ARE IF THE ENTERING (DESIGN) SPEED IS LESS THAN 50MPH OR IF THE MAINLINE GRADE EXCEEDS ±2.2%.

(2) END TEMPORARY MARKING AT ½ THE LENGTH OF FULL WIDTH OF THE ACCELERATION LANE.

TRAFFIC CONTROL, ENTRANCE RAMP WITHIN RIGHT LANE CLOSURE



PARALLEL EXIT RAMP

TRAFFIC CONTROL, PARALLEL ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

SDD 15D15 - 05a

SDD 15D15 - 05a

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC

GENERAL NOTES

THIS RAMP CLOSURE DETAIL IS TYPICAL FOR CLOSING A RIGHT SIDE EXIT RAMP. FOR A LEFT SIDE EXIT RAMP, REVERSE THE TRAFFIC CONTROL.

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ANY SIGNS, TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF RAMP CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WORK AREAS WITH A DROP OFF ALONG THE EDGE OF AN OPEN TRAVEL LANE SHALL BE LEVELED WITH TEMPORARY FILL WHEN THE CONTRACTOR IS NOT WORKING ADJACENT TO THE TRAVEL LANE. DRUMS SHALL BE PLACED ENTIRELY OUTSIDE THE TRAVEL LANE, ALLOWING THE FULL UNOBSTRUCTED LANE WIDTH, WHEN WORK IS NOT IN PROGRESS.

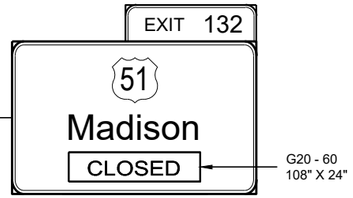
WHERE MEDIAN BARRIER IS IN PLACE, SIGNS SHOWN ON LEFT SIDE OF ROADWAY MAY BE OMITTED FOR RIGHT SIDE RAMP CLOSURES OF LESS THAN 12 - HOUR DURATION.

* W20 - 1A AND G20 - 2A SIGNS ARE NOT REQUIRED IF THE RAMP CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

** PLACE "RAMP CLOSED BEGINNING" SIGN OR PCMS 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR SIGN LAYOUT.



OR

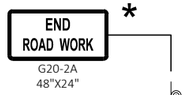


PLACE SIGN G20 - 60 OVER MILEAGE ON EXISTING E1 - 1A SIGN



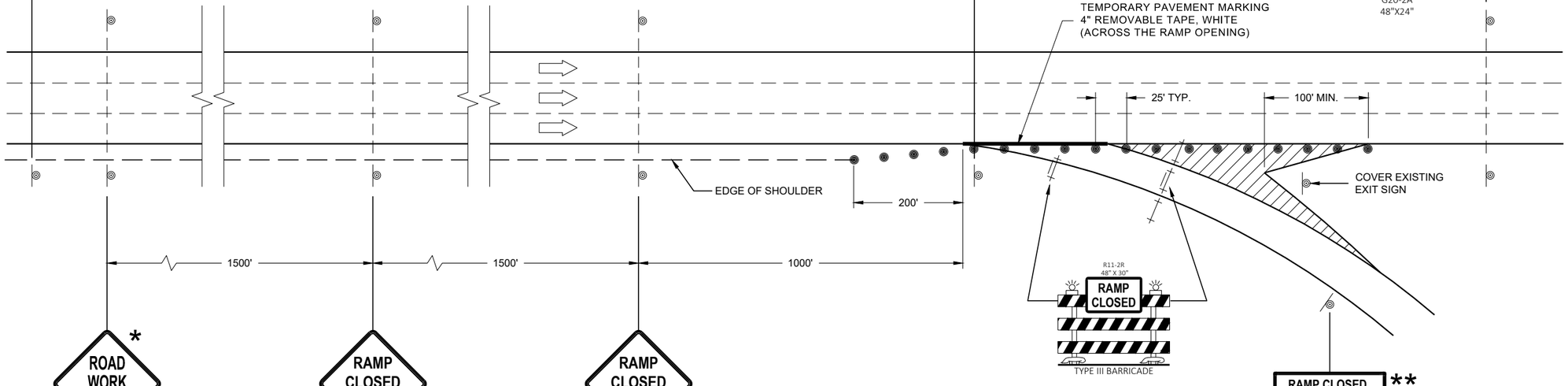
G20 - 61
120 ' X 30"

COVER ARROW ON EXISTING E4 - 1 SIGN (COVERING SIGNS TYPE I)



*

TEMPORARY PAVEMENT MARKING
4" REMOVABLE TAPE, WHITE
(ACROSS THE RAMP OPENING)

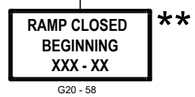




*







G20 - 58

**

OR

PCMS MESSAGING

FRAME 1	FRAME 2
RAMP TO CLOSE	XXXDAY XX XX XX

TRAFFIC CONTROL EXIT RAMP CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

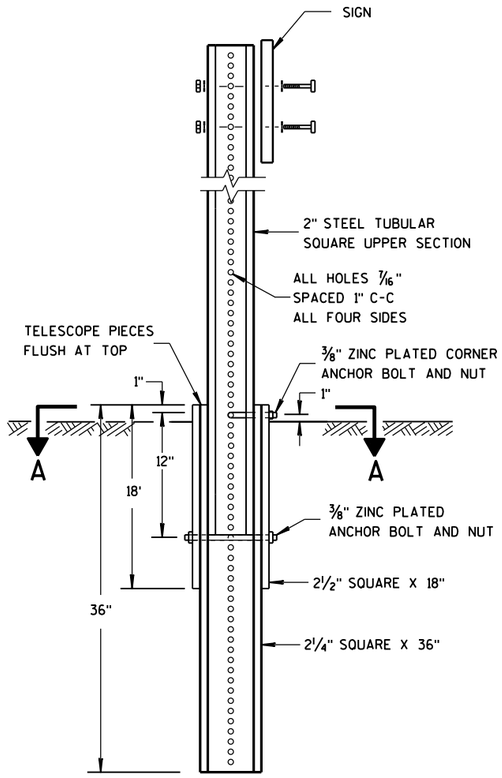
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

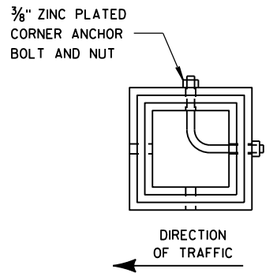
SDD 15D16 - 04

6

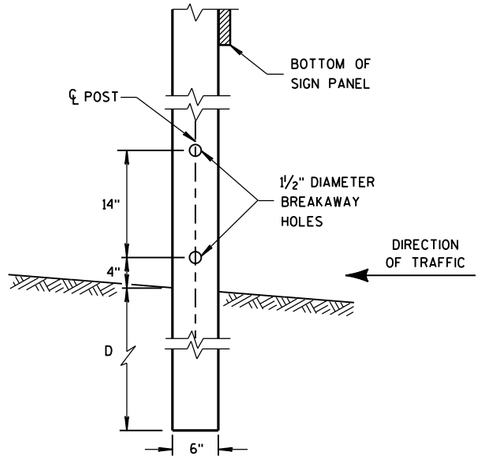
SDD 15D16 - 04



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



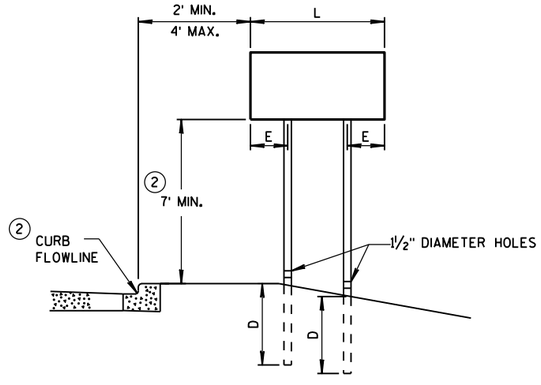
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

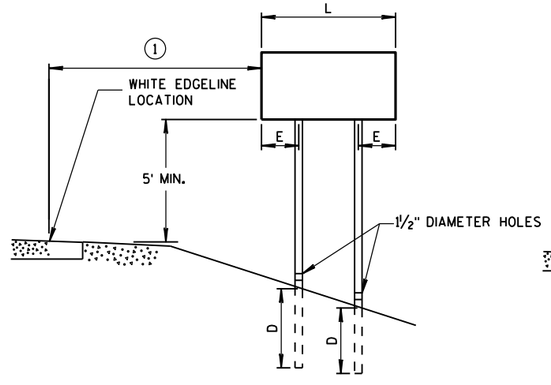
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

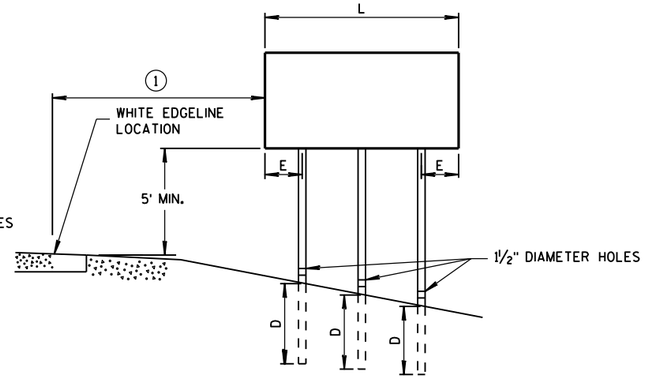
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.

(3) FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL POSTS
9 OR LESS	1
GREATER THAN 9 LESS THAN OR EQUAL TO 18	2
GREATER THAN 18 LESS THAN OR EQUAL TO 27	3

SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).

SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.

WOOD POST EMBEDMENT DEPTH

AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'

4" X 6" WOOD POST

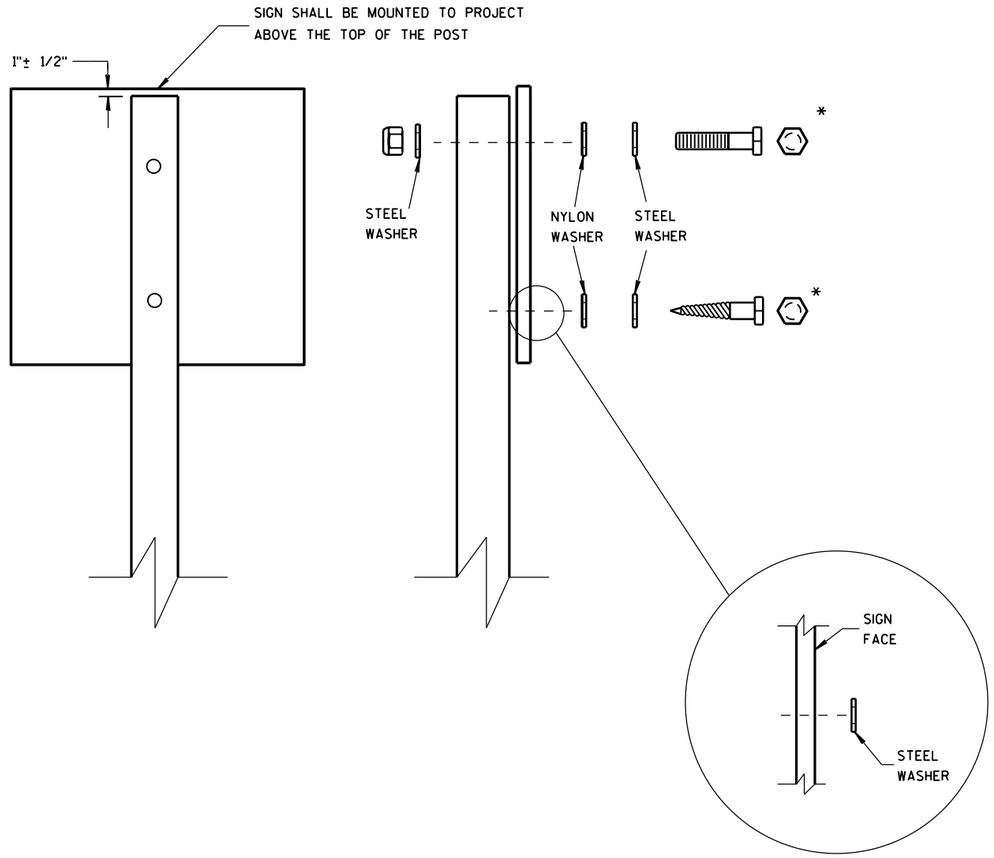
POST SPACING REQUIREMENTS		NUMBER OF WOOD POSTS REQUIRED
L	E	
48" OR LESS AND LESS THAN 20 SQ. FT.	-	1
LESS THAN 60"	12"	2
60" TO 120"	L/5	2
GREATER THAN 120" LESS THAN 168"	12"	3
168" AND GREATER	12"	4

SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6
S.D.D. 15 D 38-2a



WASHER PLACEMENT WHEN SIGN HAS OTHER THAN TYPE H OR TYPE F FACE

NUTS, BOLTS AND LAGS USED FOR MOUNTING SIGNS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3

B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

WOOD POSTS (4" x 4" or 4" x 6")

LAG SCREWS - 3/8" X 3"

MACHINE BOLTS - 5/16" X 6-1/2" OR 7" LENGTH W/ NUTS

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" LENGTH W/ NUTS

RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL

1-1/4" O.D. X 3/8" I.D. X .080 NYLON FOR ALL TYPE H SIGNS

* TWO DIFFERENT FASTENING SYSTEMS ARE SHOWN FOR ILLUSTRATION PURPOSES. ON ANY INDIVIDUAL SIGN, EITHER ONE OR THE OTHER SYSTEM SHALL BE USED. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

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S.D.D. 15 D 38-2b

S.D.D. 15 D 38-2b

ATTACHMENT OF SIGNS TO POSTS

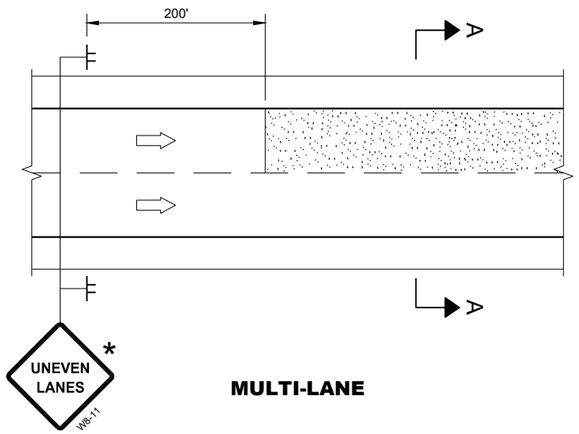
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

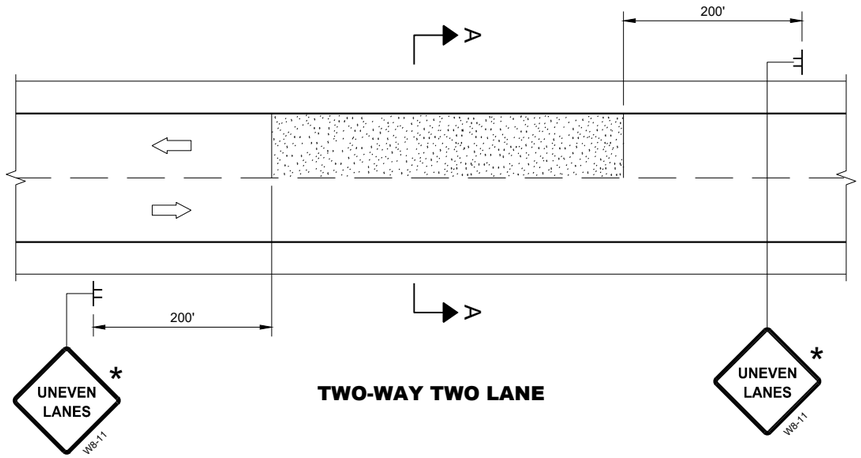
June 2017
DATE

/S/ Andrew Heldtke
WORK ZONE ENG

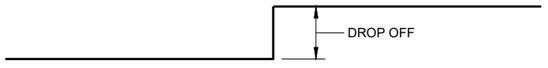
FHWA



MULTI-LANE

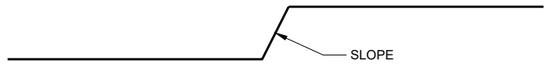


TWO-WAY TWO LANE

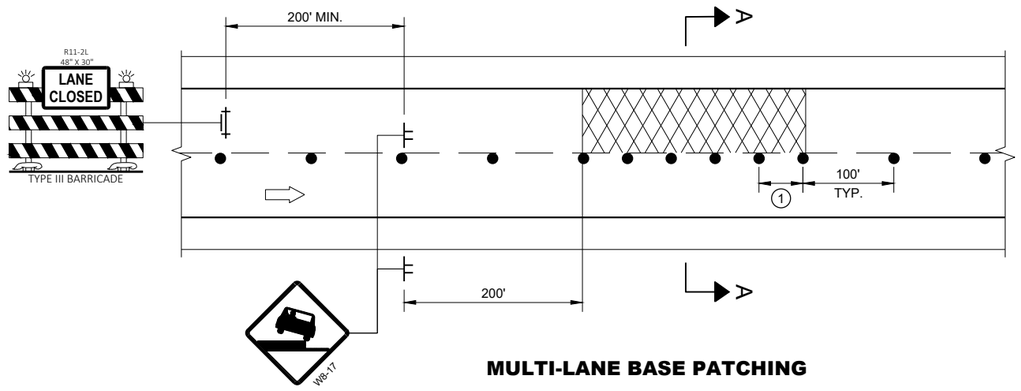


SECTION A - A

OR



SECTION A - A



MULTI-LANE BASE PATCHING

ADJACENT LANE DROP-OFFS

GENERAL NOTES

FOR SPOT LOCATIONS USE ENGINEERING JUDGEMENT WHEN PLACING ADDITIONAL SIGNS.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

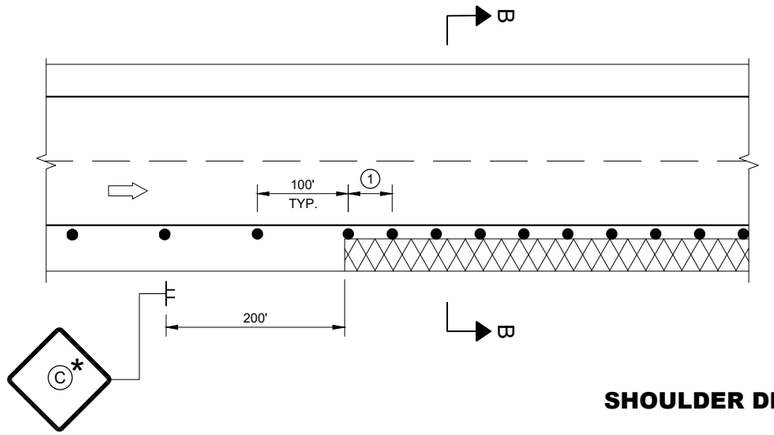
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

* IF THE DROP-OFF IS CONTINUOUS ALONG THE PROJECT, PLACE ADDITIONAL SIGNS EVERY 1 MILE AND AFTER EVERY ENTRANCE RAMP.

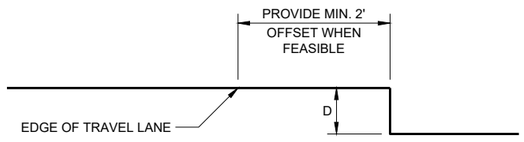
(1) USE CLOSER SPACING WHEN DELINEATING DROP-OFF.

LEGEND

- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA WITH DROP-OFF
- MILLED SURFACE



SHOULDER DROP-OFFS



SECTION B - B

D	SIGN (C)
< 2" WITH A SLOPE STEEPER THAN 3:1	LOW SHOULDER WO8-9
2" < 6" WITH A SLOPE STEEPER THAN 3:1	SHOULDER DROP - OFF W8-9A PROVIDE A 3:1 OR FLATTER SLOPE OF MATERIAL ADJACENT TO THE PAVEMENT

TRAFFIC CONTROL, DROP-OFF SIGNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

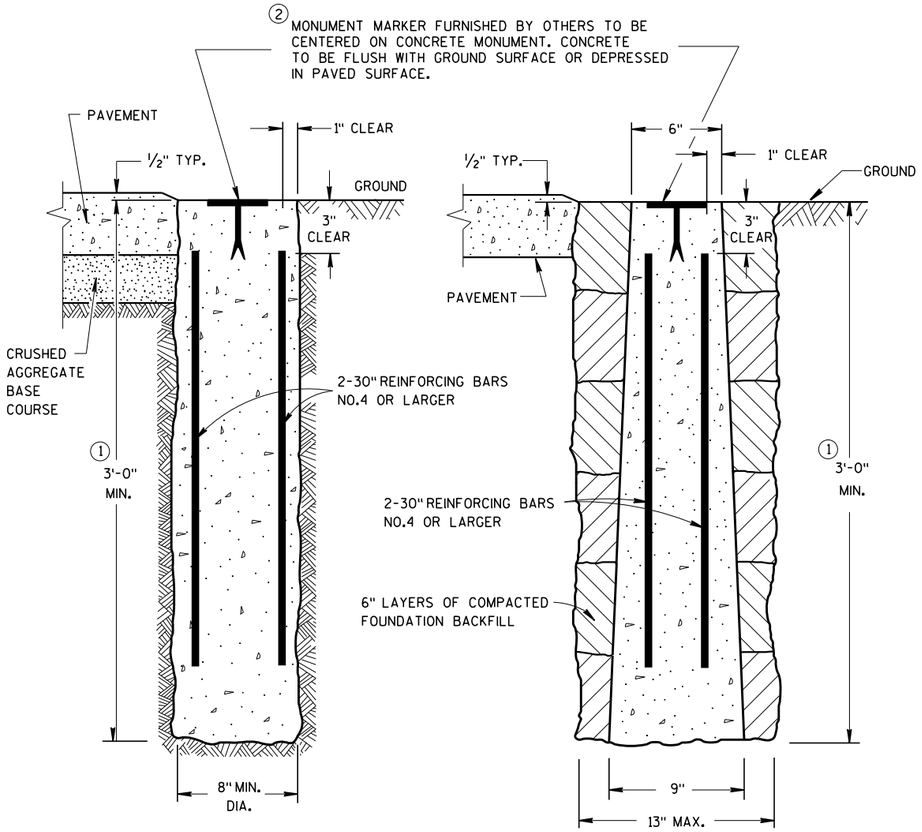
APPROVED
March 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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SDD 15D39 - 02

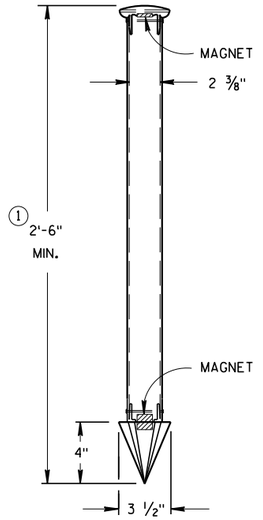


CAST-IN-PLACE

PRECAST

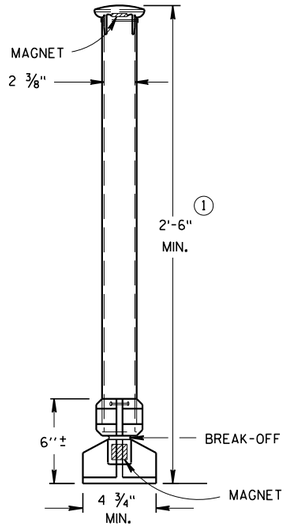
CONCRETE MONUMENTS

TYPE A



TYPE C

DRIVE-IN MONUMENT



TYPE D
NON-DRIVEN
BREAK-OFF MONUMENT

ALUMINUM MONUMENTS

(INCLUDES MARKER)

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

DETAILED DRAWINGS OF PROPOSED ALTERNATE DESIGNS FOR METAL MONUMENTS OR MONUMENT COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

PERMANENT MAGNETS SHALL BE INSERTED NEAR THE TOP AND BOTTOM OF ALL ALUMINUM MONUMENTS SO THE MONUMENT CAN EASILY BE DETECTED BY A METAL DETECTOR.

THE CAST IRON MONUMENT COVER SHALL BE A "NON-ROCKING" TYPE. ADJUSTMENT OF THE COVER TO GRADE MAY BE ACCOMPLISHED BY THE USE OF MORTAR AND BRICK, OR BY EITHER PRECAST OR CAST-IN-PLACE REINFORCED CONCRETE GRADE RINGS.

MONUMENTS SHALL BE LOCATED AND PLACED AT THE DIRECTION OF THE ENGINEER.

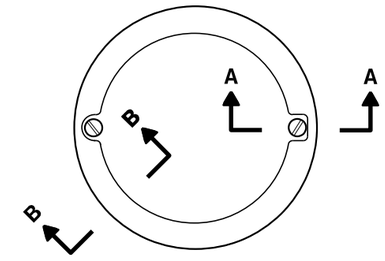
ALUMINUM MONUMENTS AND MONUMENT COVERS SHALL BE MADE FROM AN ALUMINUM AND MAGNESIUM ALLOY AS DETERMINED BY THE MANUFACTURER.

THE MONUMENT COVERS DETAILED ON THIS DRAWING ARE NOT EQUAL ALTERNATES. MONUMENT COVERS SHALL BE CAST IRON UNLESS ALUMINUM IS SPECIFIED ELSEWHERE IN THE CONTRACT.

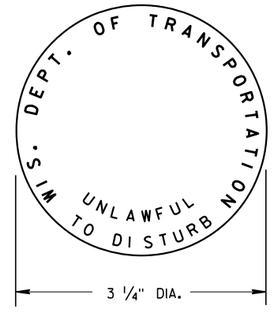
MONUMENT SHALL BE CAST-IN-PLACE CONCRETE UNLESS PRECAST CONCRETE OR ALUMINUM MONUMENTS ARE SPECIFIED IN THE CONTRACT OR PERMITTED BY THE ENGINEER

① MINIMUM LENGTH SHALL BE 4'-0" FOR MONUMENTS INSTALLED IN PAVED AREAS.

② AN OFFICIAL COUNTY MONUMENT MARKER SUPPLIED BY A COUNTY MAY BE REQUIRED FOR SOME SECTION CORNERS AND WITNESS MONUMENTS INSTEAD OF THIS WIS DOT MARKER.

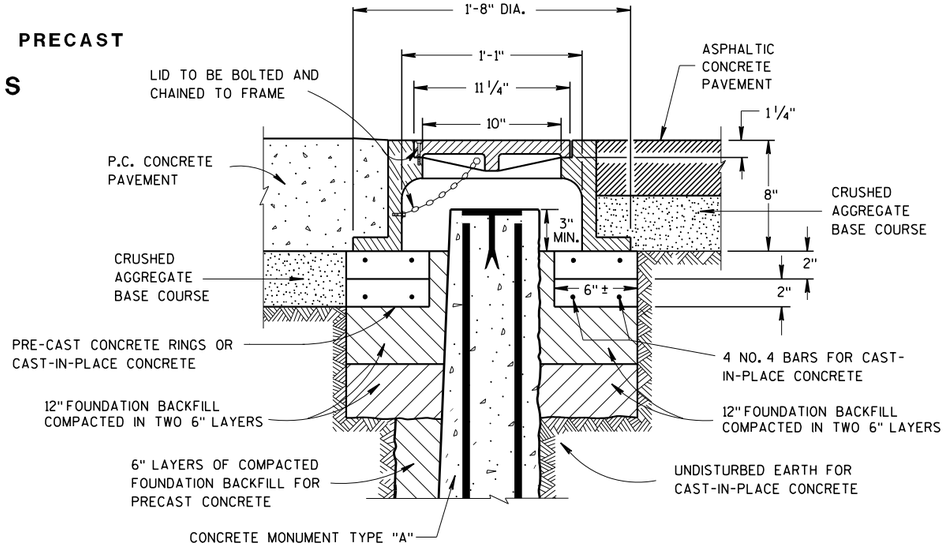


TOP VIEW



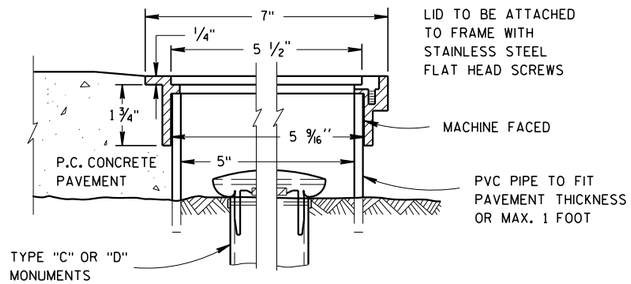
② WIS DOT MONUMENT MARKER LOGO

FOR TYPES "A", "C", & "D"



CAST IRON MONUMENT COVER

(APPROXIMATE WEIGHT 95 LBS)



SECTION B-B SECTION A-A

ALUMINUM MONUMENT COVER

(APPROXIMATE WEIGHT 2 LBS)
(FOR CONCRETE PAVEMENT ONLY)

LANDMARK REFERENCE MONUMENTS AND COVERS

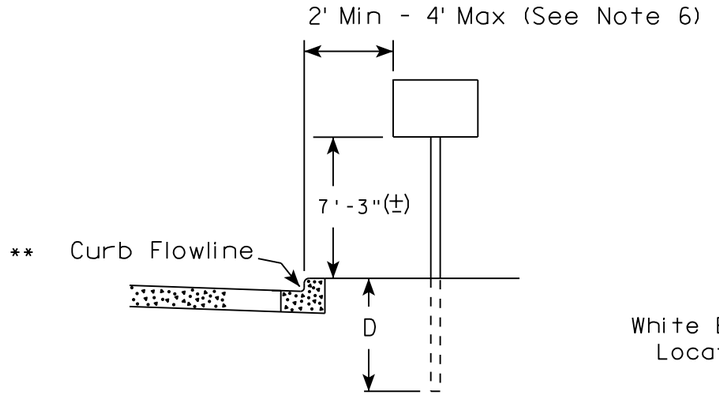
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 — DATE
/S/ Raymond A. Kumagai — CHIEF SURVEYING AND MAPPING ENGINEER
FHWA

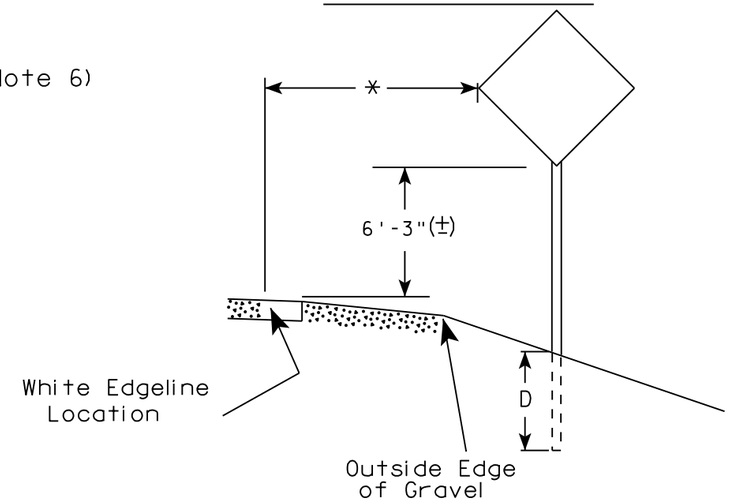
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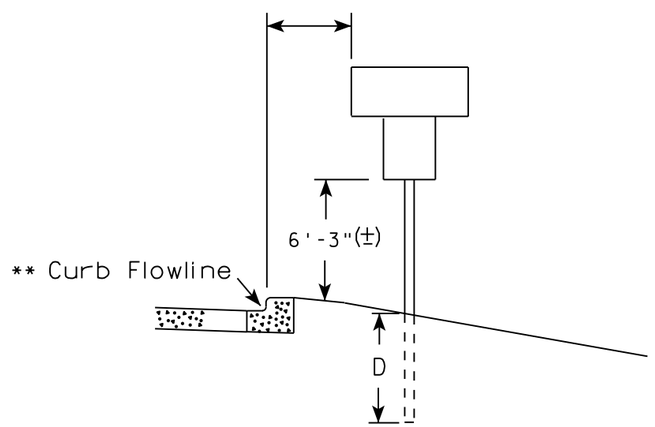
S.D.D. 16 A 1-7

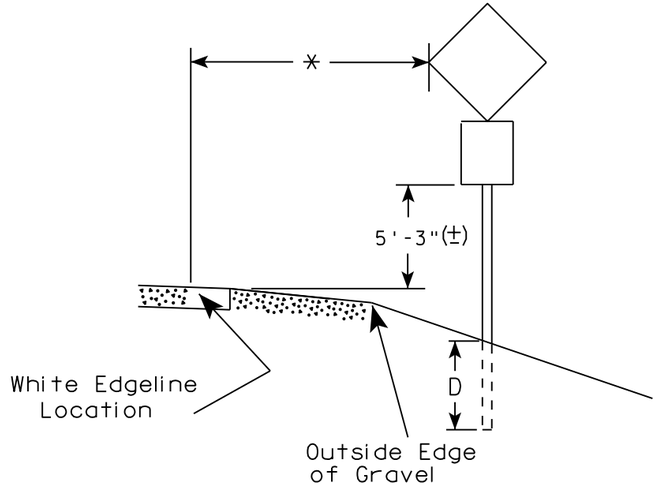
URBAN AREA



RURAL AREA (See Note 2)







** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

POST EMBEDMENT DEPTH

Area of Sign Installation (Sq.Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. J-Assemblies are considered to be one sign for mounting height.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

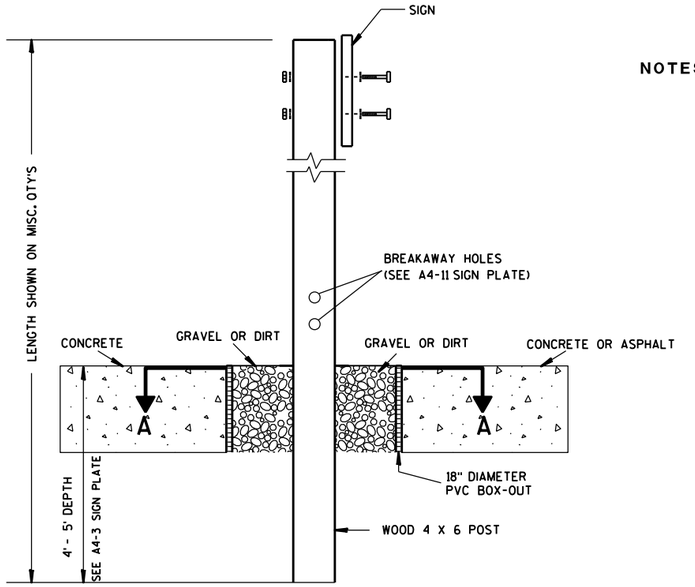
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-3.21

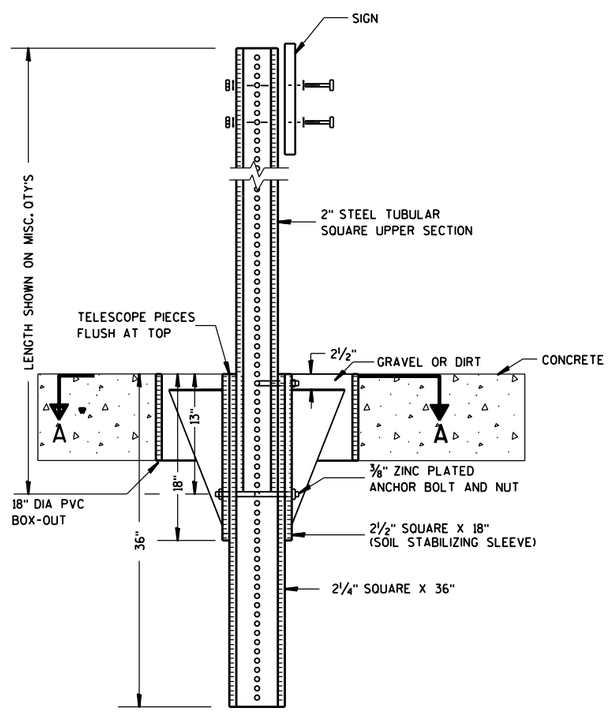
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 89	E



ELEVATION VIEW

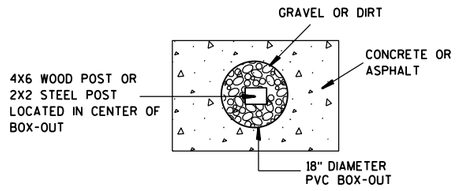
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

NOTES:
1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

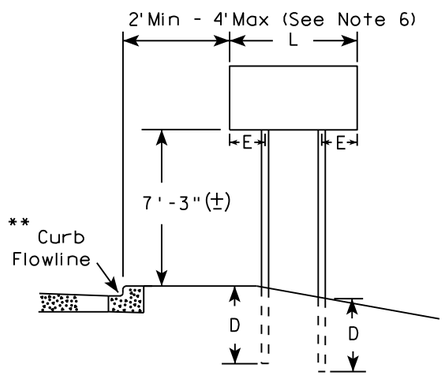
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

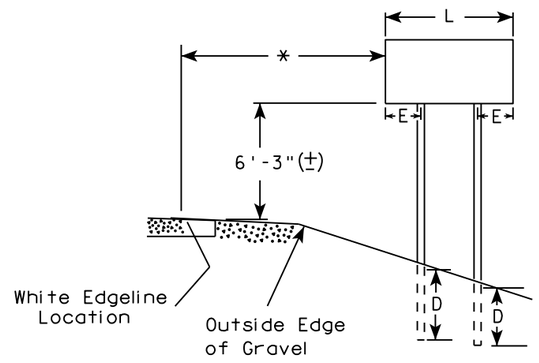
DATE 1/27/14 PLATE NO. A4-3B.1

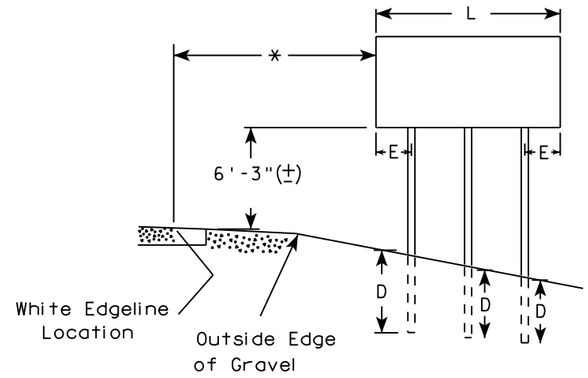
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

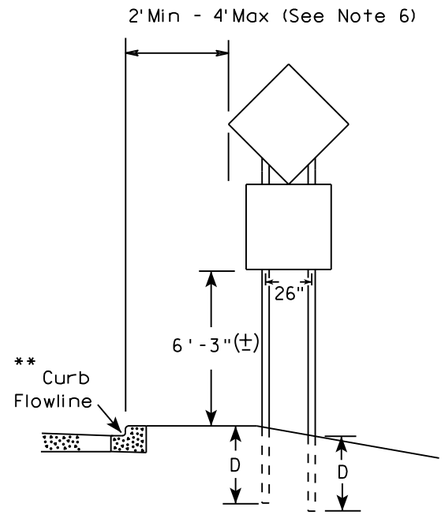
URBAN AREA



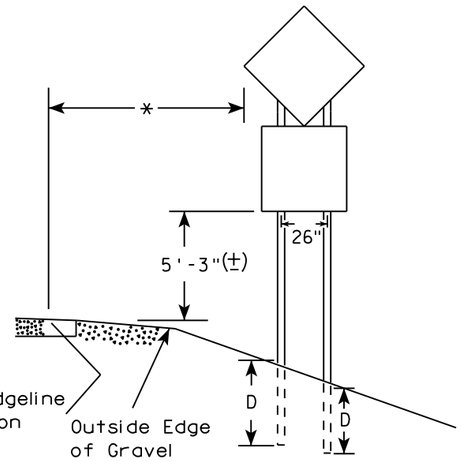
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

***	SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
	L	E
	Greater than 48" Less than 60"	12"
	60" to 108"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. J-Assemblies are considered to be one sign for mounting height.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4"-3" (±).

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

*** See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.

POST EMBEDMENT DEPTH

Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

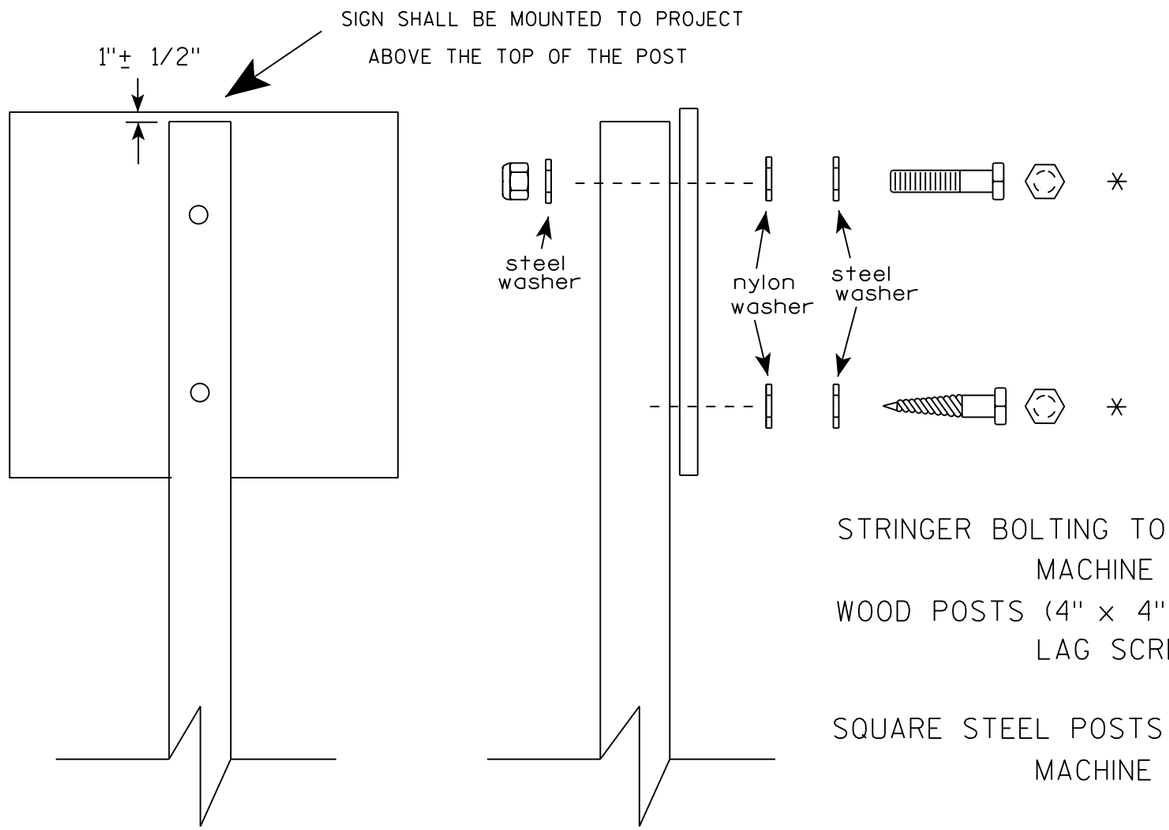
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-4.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 91	E



Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts
WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
3/8" X 4" (STRINGERS ON BACK OF SIGN)
SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON

* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

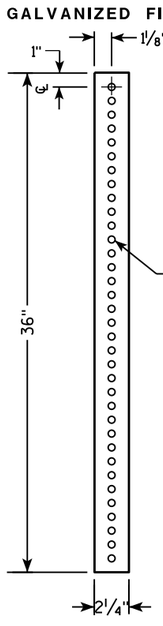
DATE 8/11/16 PLATE NO. A4-8.8

PROJECT NO: SHEET NO: E

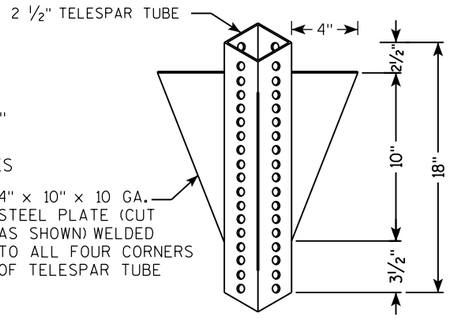
FILE NAME : C:\CADfiles\Projects\tr_stdplate\A48.DGN PLOT DATE : 11-AUG-2016 11:35 PLOT BY : $$ plotuser $$

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

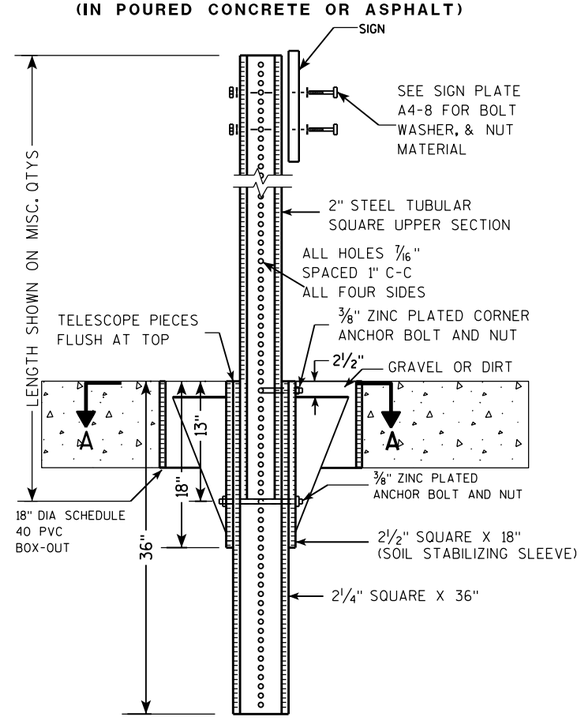
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



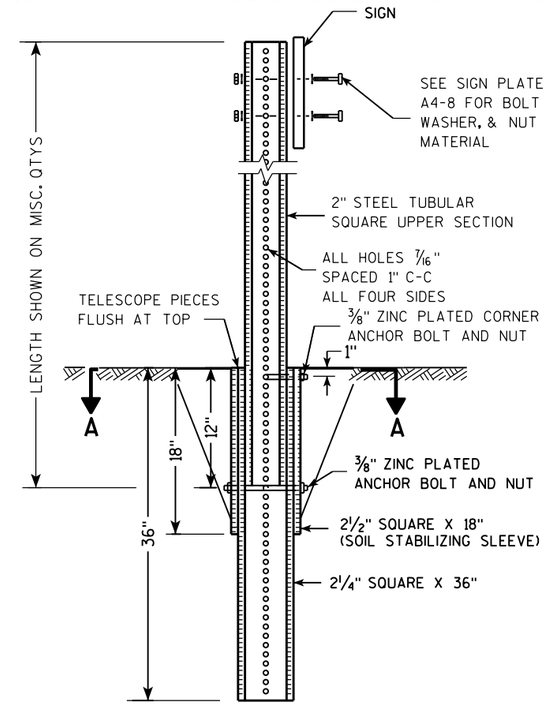
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

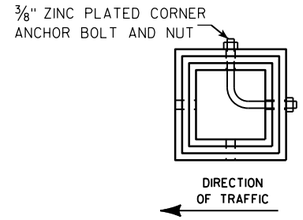


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



DETAIL OF TUBULAR STEEL SIGN POST
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)





SECTION A-A

Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

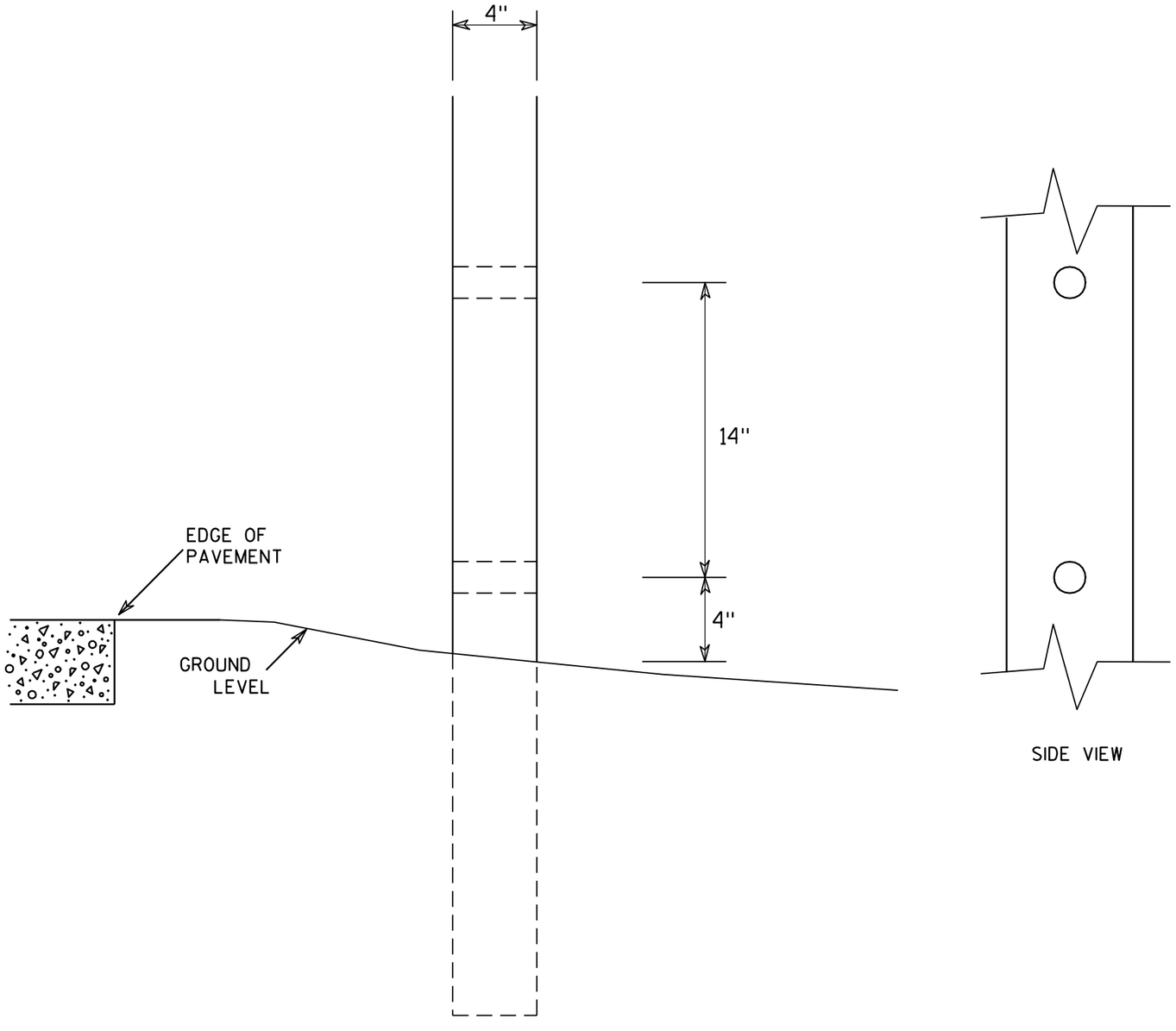
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 93 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



SIDE VIEW

GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

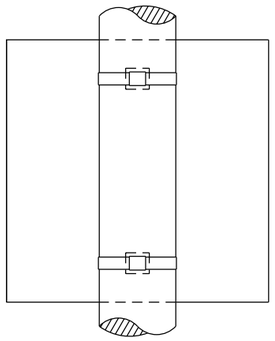
APPROVED Chester J Spang for State Traffic Engineer

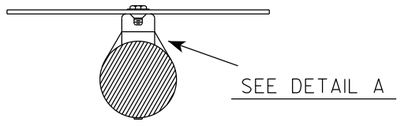
DATE 3/27/97 PLATE NO. A4-11.2

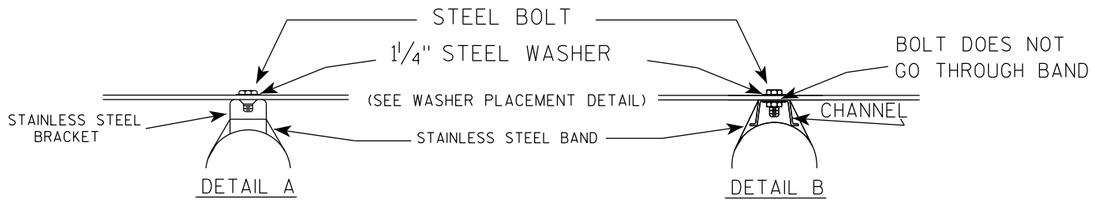
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 94	E

BANDING

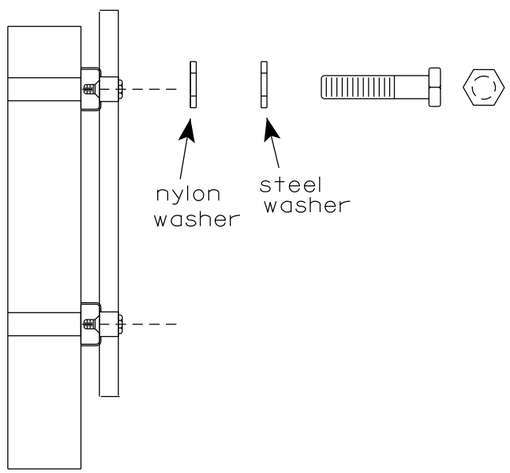
SINGLE SIGN







WASHER PLACEMENT

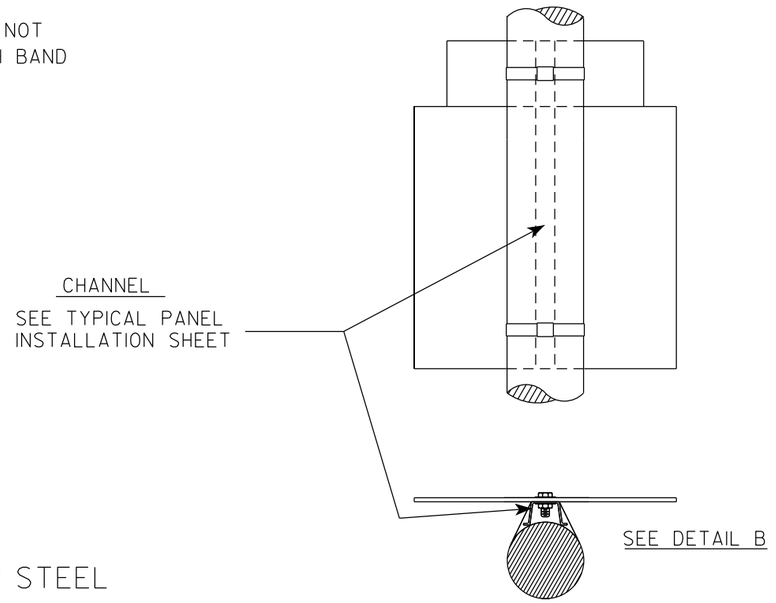


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be ¾" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

"J" ASSEMBLY



STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

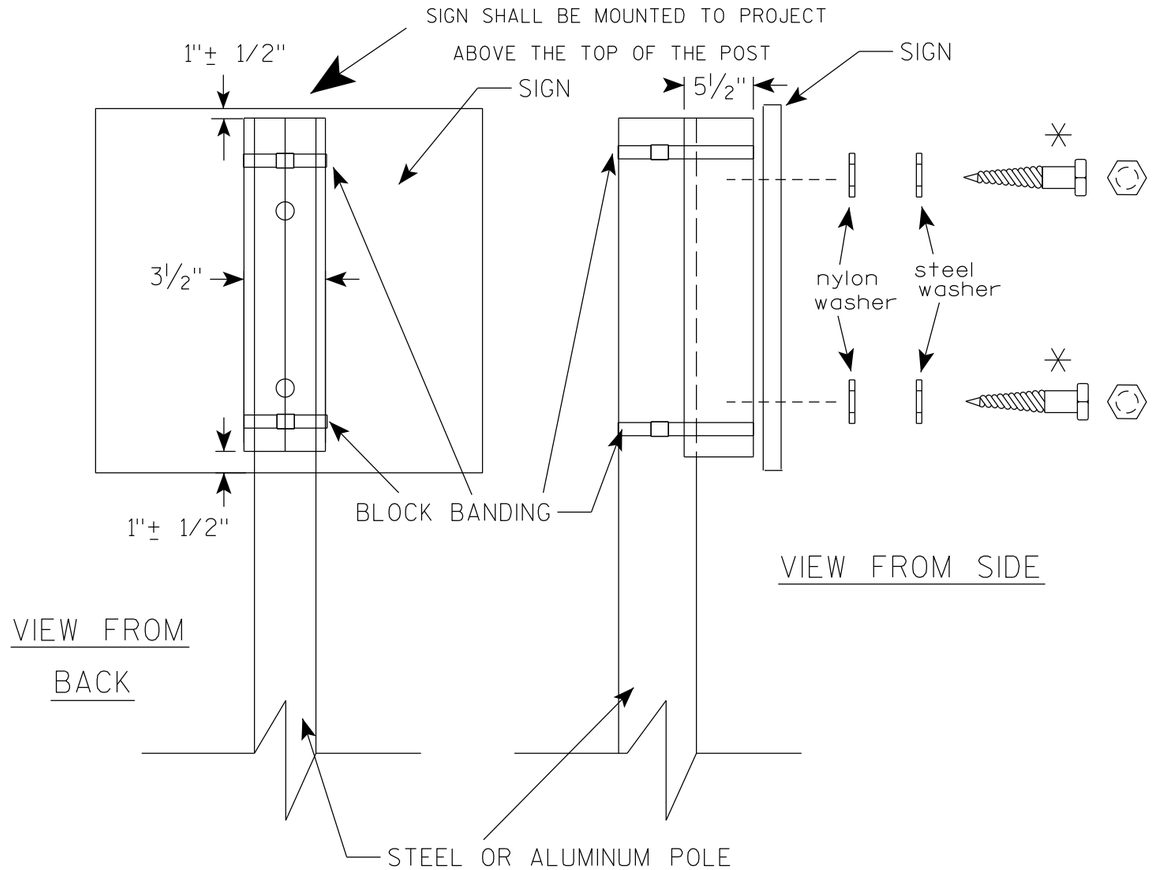
DATE 6/10/19 PLATE NO. A5-9.4

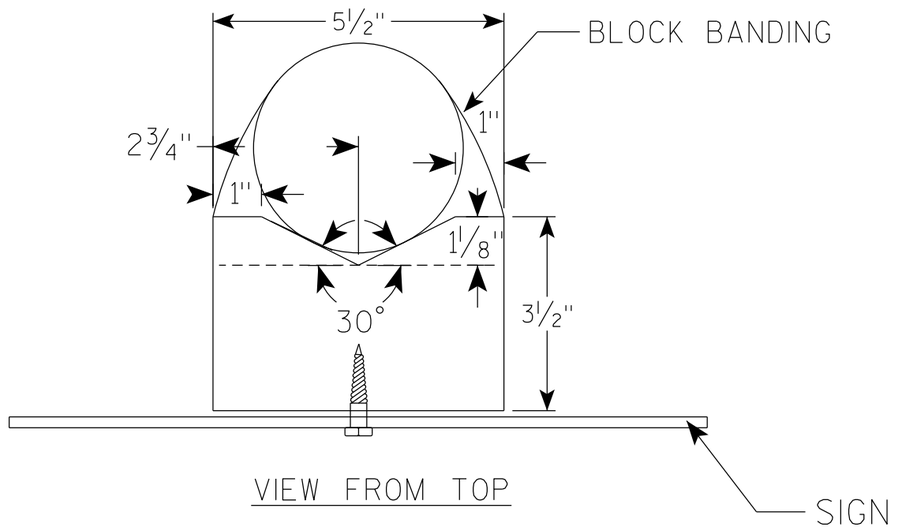
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 95	E

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7

7





GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

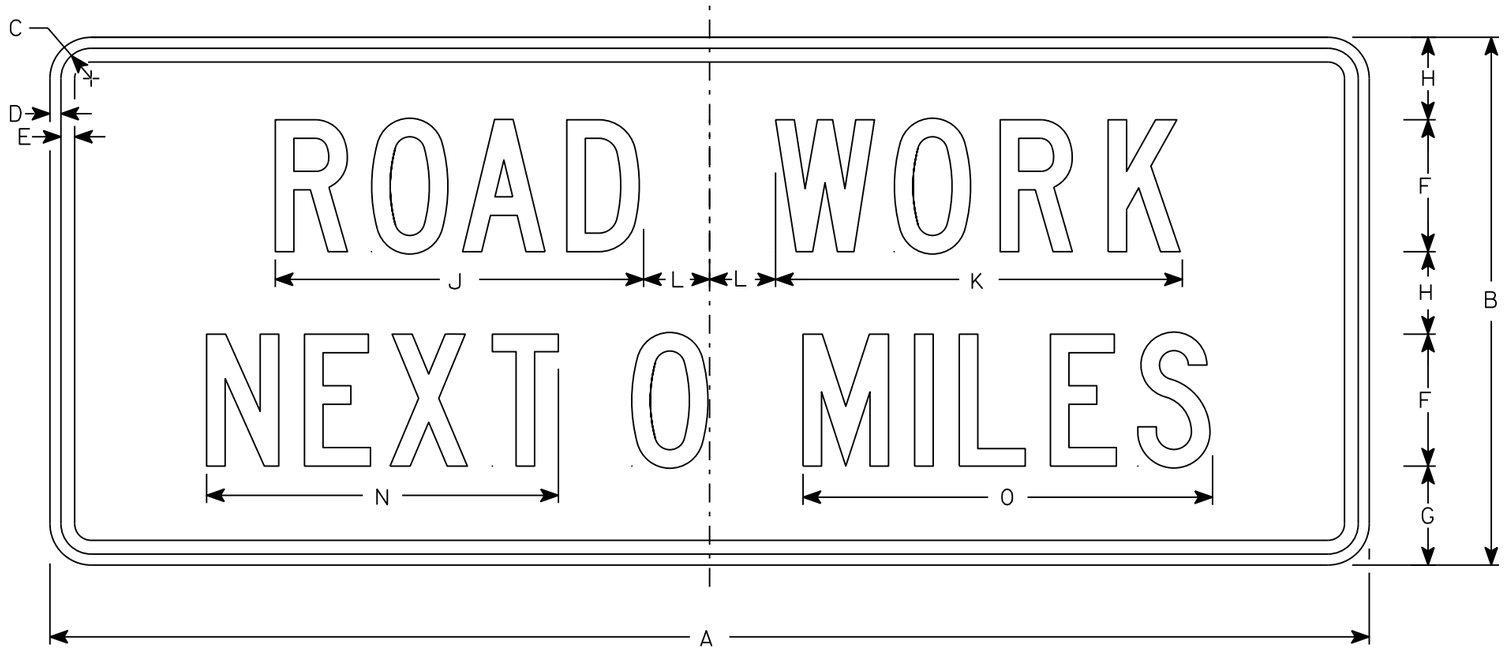
✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 6/10/19 PLATE NO. A5-10.2



G20-1

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Round distance to nearest whole Mile and substitute appropriate numerals and optically adjust spacing to achieve proper balance

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	60	24	1 3/8	1/2	5/8	6	4 1/2	3 3/4		16 3/4	18 1/2	3		16	18 5/8												10
3																											
4	60	24	1 3/8	1/2	5/8	6	4 1/2	3 3/4		16 3/4	18 1/2	3		16	18 5/8												10
5																											

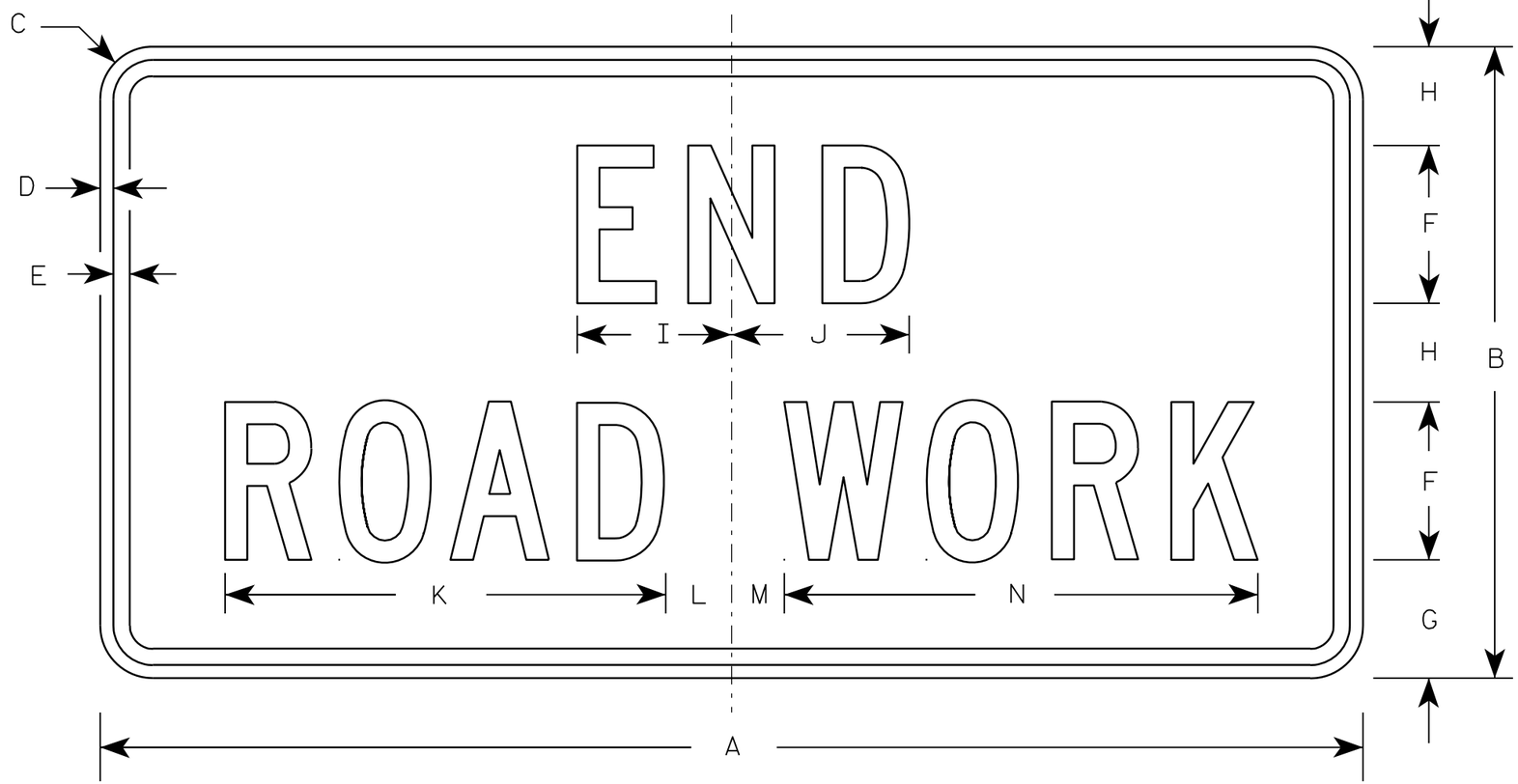
STANDARD SIGN
G20-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/14/17 PLATE NO. G20-1.8

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 97 | E



G20-2A

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

Metric equivalent for this sign is:

SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

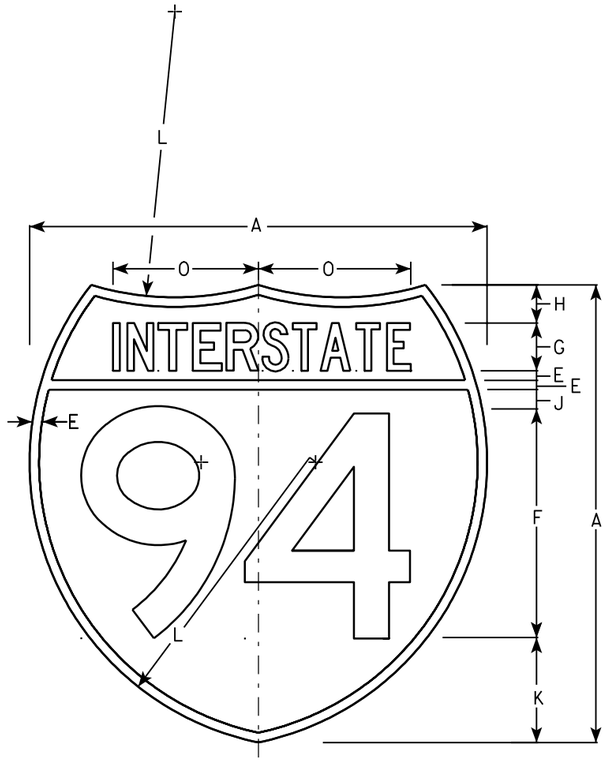
STANDARD SIGN
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

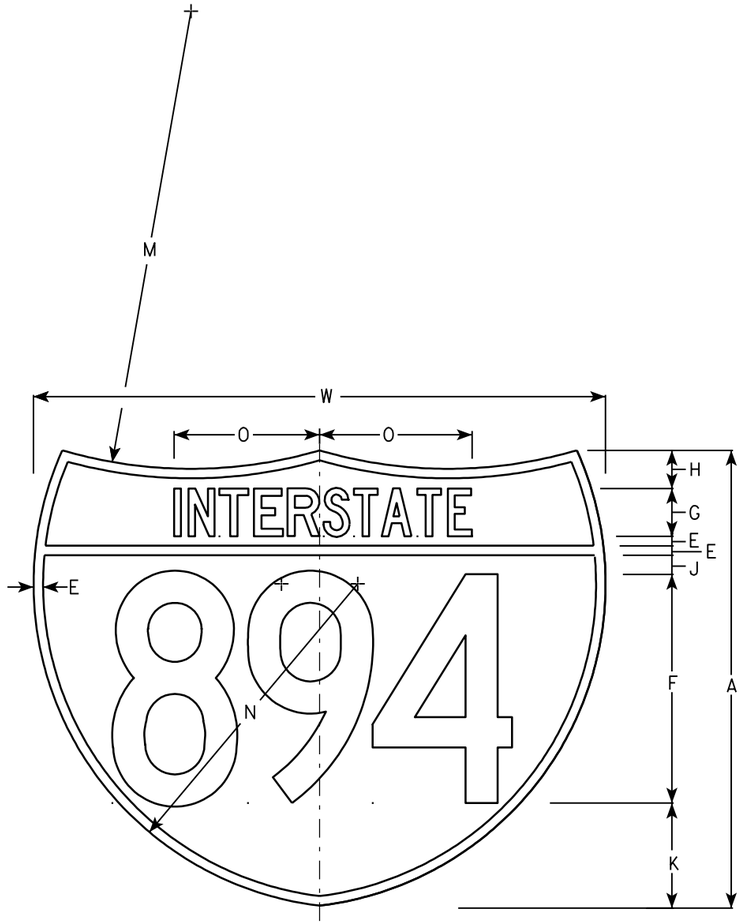
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/09 PLATE NO. G20-2A.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 98	E



M1-1



M1-1A

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Top Red - Bottom Blue (See Note 6)
   Message - White - See Note 6
3. Message Series - See note 5
4. Substitute appropriate numerals & ajust spacing as per plate A10-1.
5. M1-1 - Numerals - D
   Interstate - C
   M1-1A - All copy - C
6. Permanent Signs
   Message - Type H Reflective
   Detour or other temporary signs
   Background - Reflective
   Message - Reflective

Metric equivalent for these signs are:

SIZE	M1-1	SIZE	M1-1A
1			
2	600 mm X 600 mm	2	600 mm X 750 mm
3	900 mm X 900 mm	3	900 mm X 1125 mm
4	900 mm X 900 mm	4	900 mm X 1125 mm
5	900 mm X 900 mm	5	900 mm X 1125 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	M1-1 Area sq. ft.	M1-1A Area sq. ft.	M1-1 Area m2	M1-1A Area m2
1																													
2	24				1/2	12	2 1/2	2		1	5 1/2	15	24	17	7 7/8								30			3.13	3.91	.36	.46
3	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
4	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
5	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05

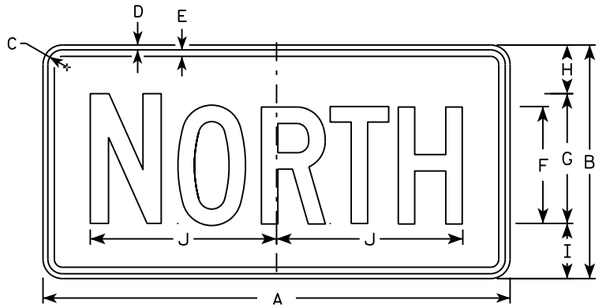
INTERSTATE ROUTE MARKER
M1-1 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

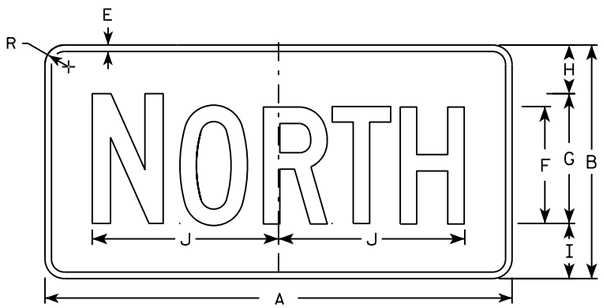
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 08/23/05 PLATE NO. M1-1.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 99	E



M3-1
MM3-1
MP3-1



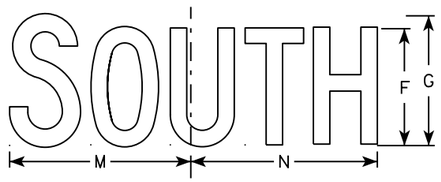
MB3-1
MK3-1
MN3-1



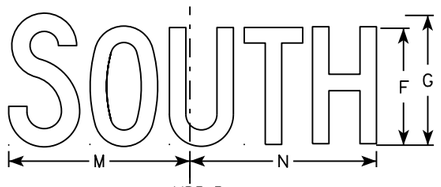
M3-2
MM3-2
MP3-2



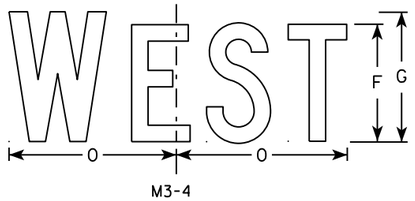
MB3-2
MK3-2
MN3-2



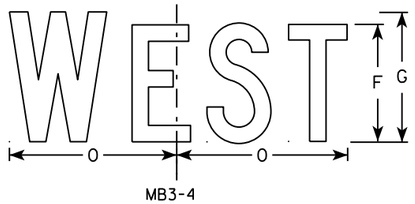
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

NOTES

1. All Signs Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M3-1 thru M3-4 Background - White
   Message - Black
   MB3-1 thru MB3-4 Background - Blue
   Message - White
   MK3-1 thru MK3-4 Background - Green
   Message - White
   MM3-1 thru MM3-4 Background - White
   Message - Green
   MN3-1 thru MN3-4 Background - Brown
   Message - White
   MP3-1 thru MP3-4 Background - White
   Message - Blue
6. Note the first letter of each direction is larger than the remainder of the message.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

STANDARD SIGNS
M3-1 thur M3-4
SERIES

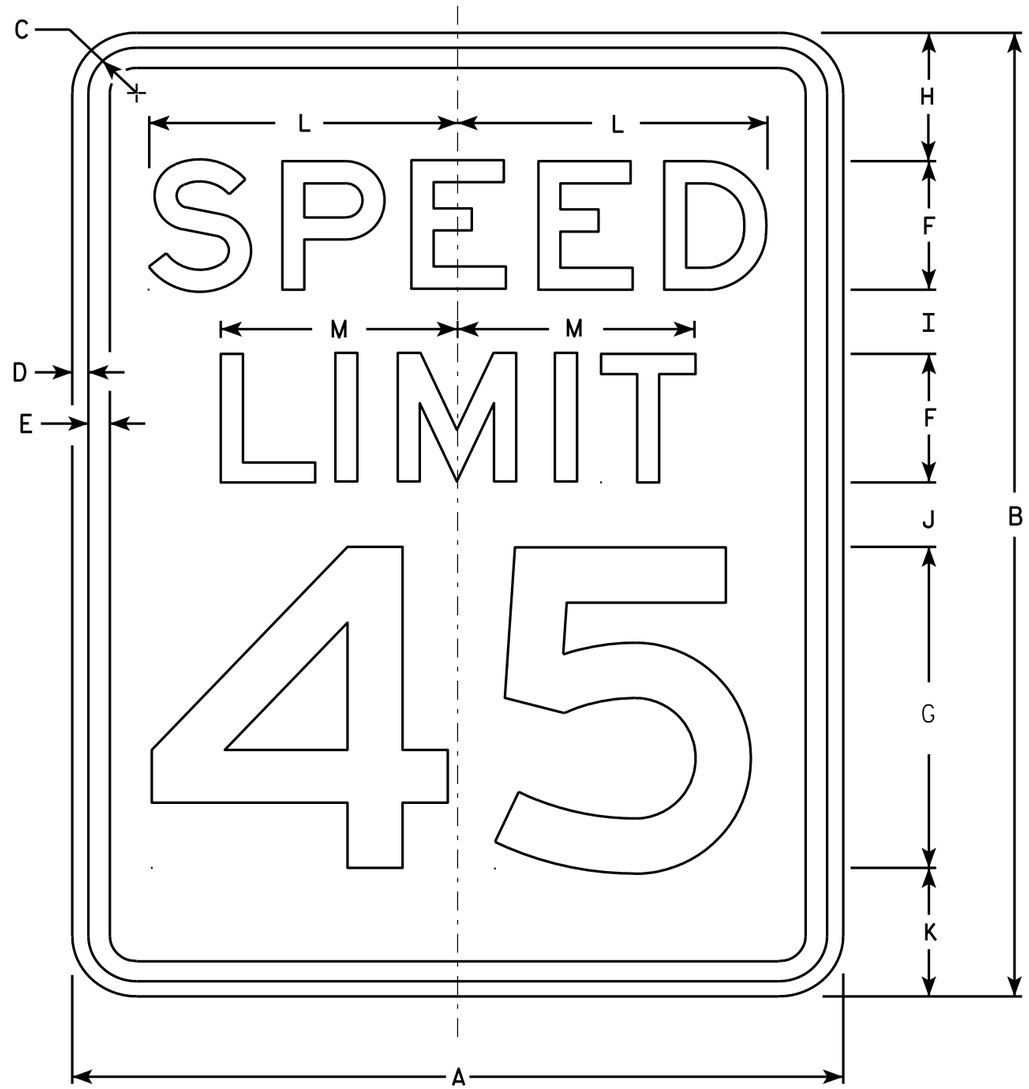
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew P Rauch for State Traffic Engineer

DATE 10/15/15 PLATE NO M3-1.14

PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M31.DGN PLOT DATE : 01-DEC-2015 17:54 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



R2-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/8	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 3/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	2 1/4	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

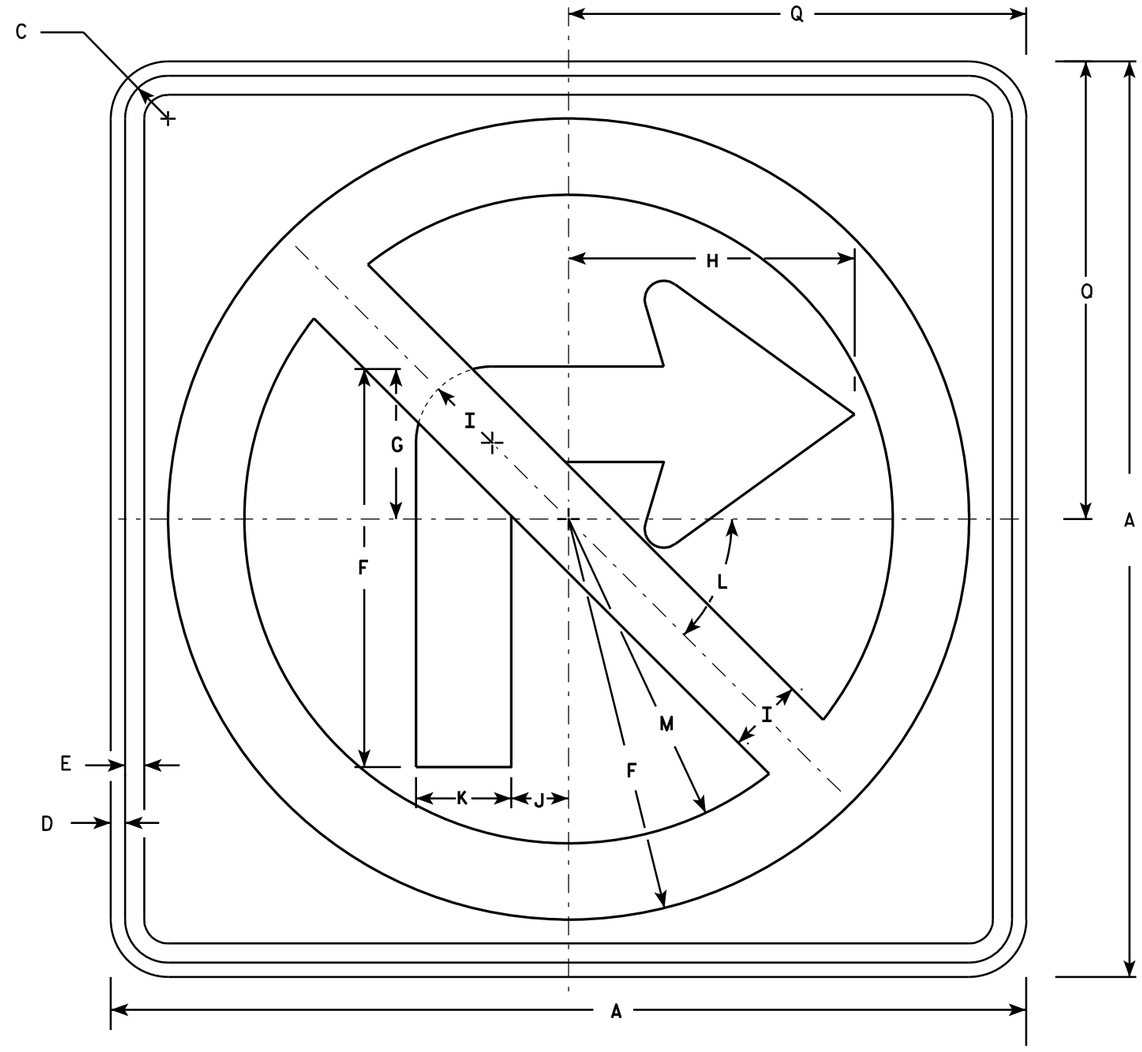
STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/26/10 PLATE NO. R2-1.13

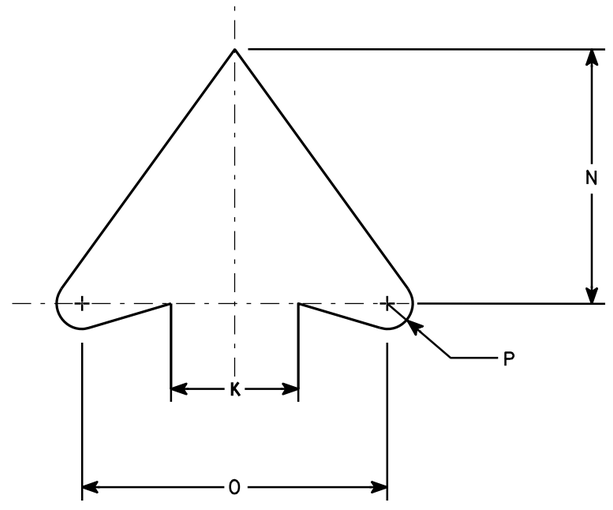
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 101	E



R3-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45	8 1/2	5	6	1/2	12										4.0
2S	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2	12										4.0
2M	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45	12 3/4	7 1/2	9	3/4	18										9.0
3	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45	12 3/4	7 1/2	9	3/4	18										9.0
4	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4	18										9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1	24										16.0

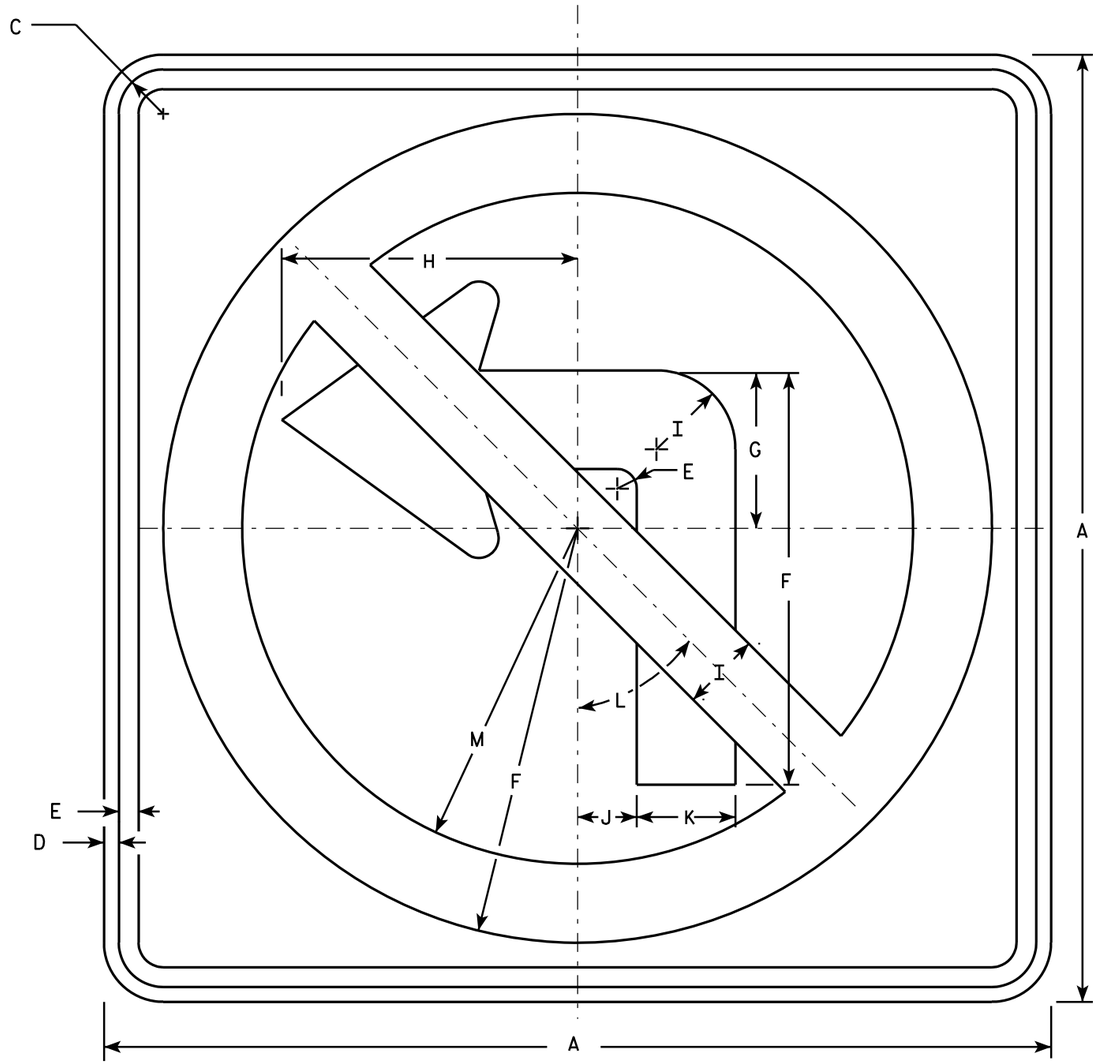
STANDARD SIGN
R3-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-1.5

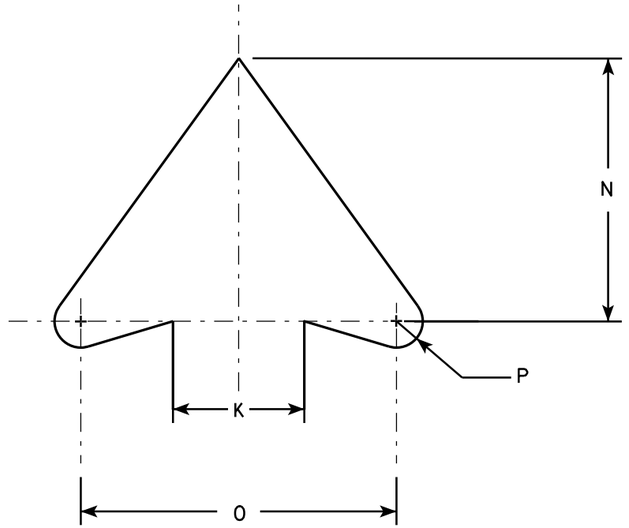
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 102	E



R3-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2S	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2M	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
3	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
4	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1											16.0

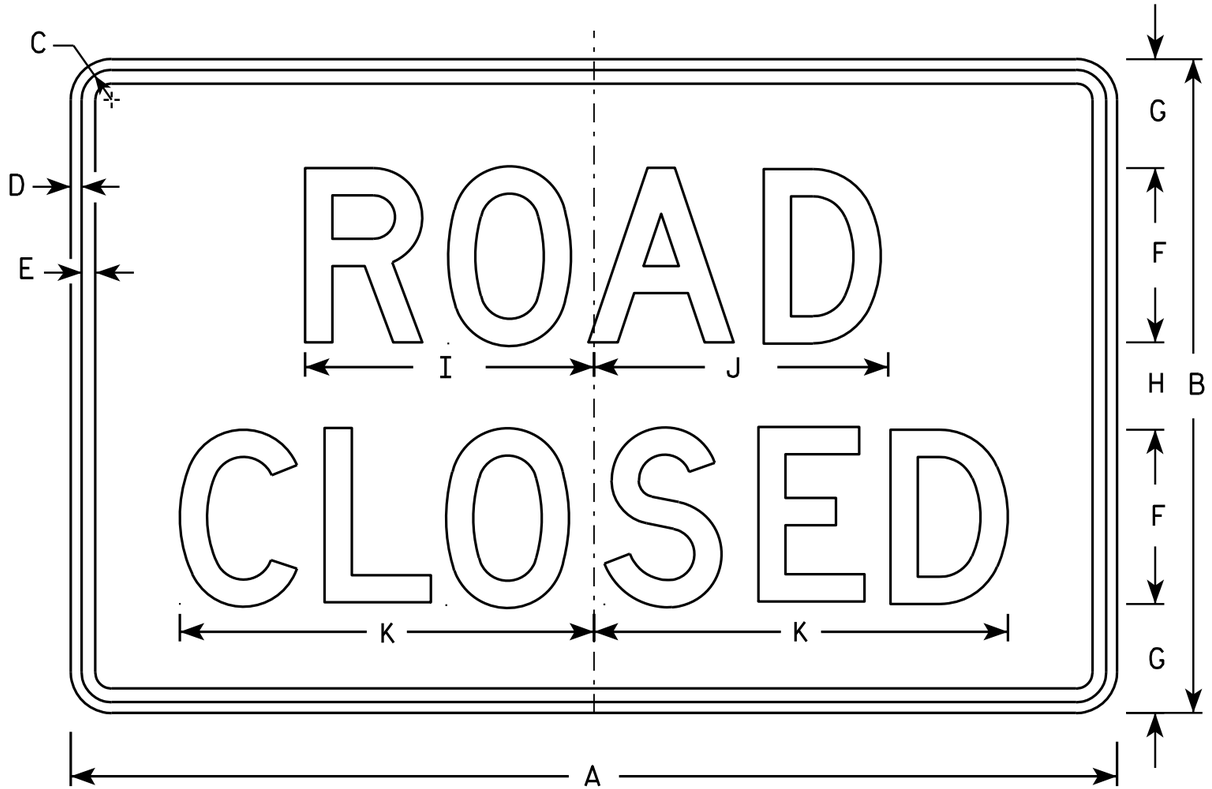
STANDARD SIGN
R3-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-2.10

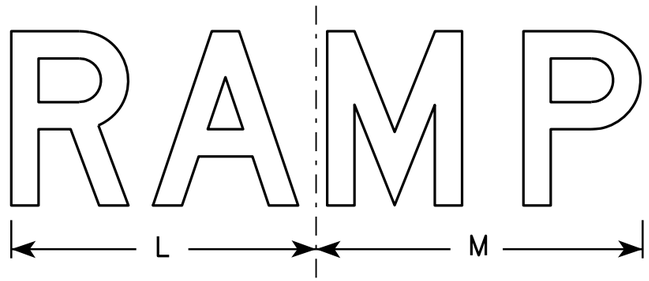
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 103	E



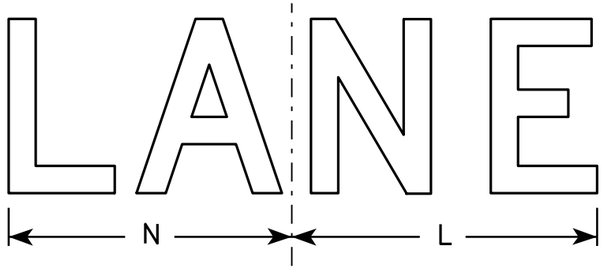
R11-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Modify the message as required.



R11-2R



R11-2L

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0

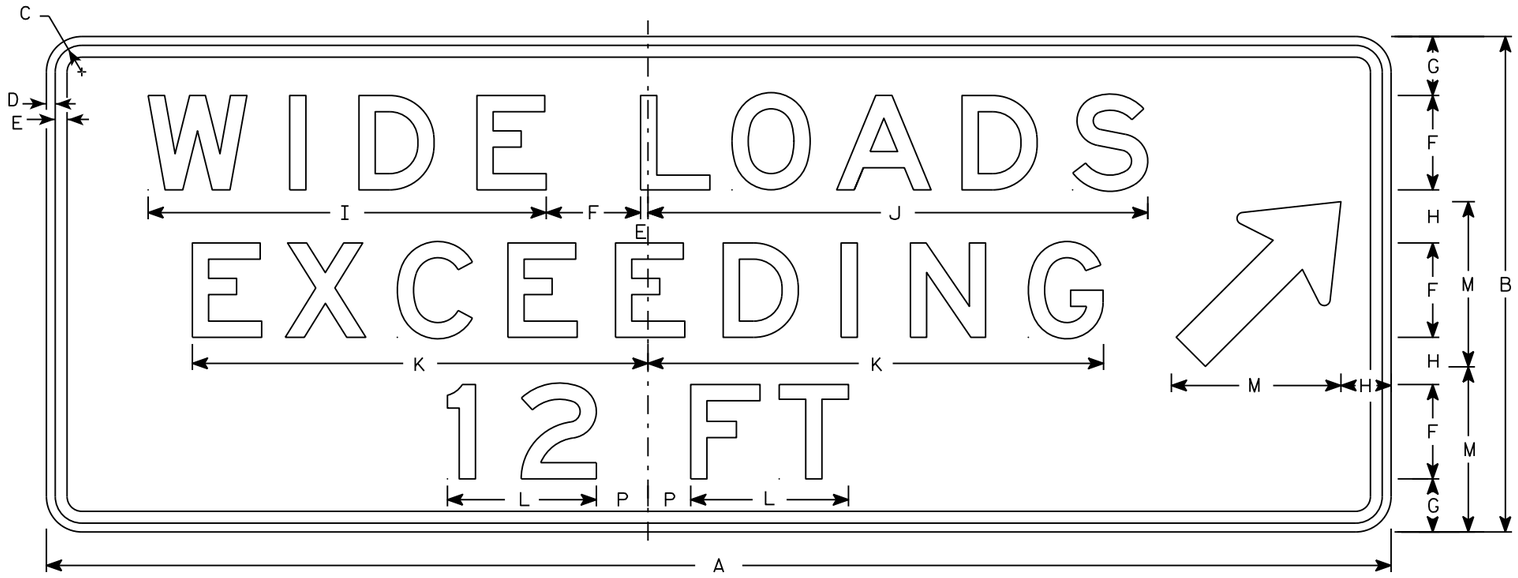
STANDARD SIGN
R11-2

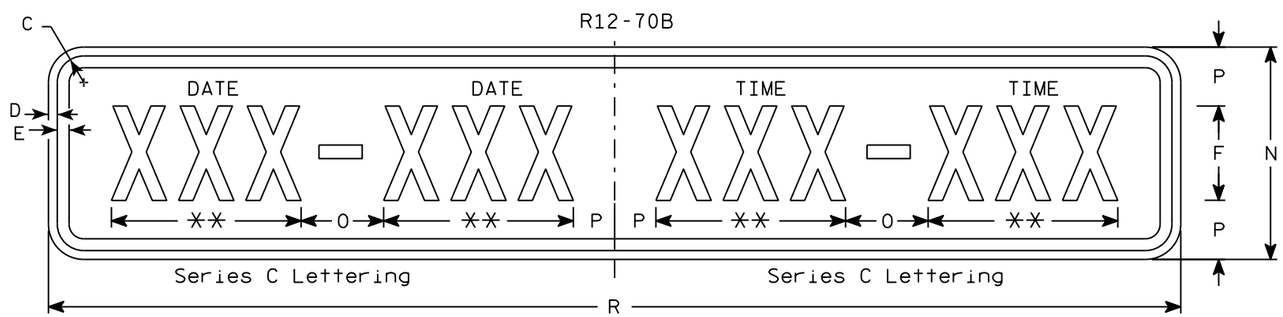
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2.10

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 104	E





R12-70C

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	R12-70 Area sq. ft.	R12-70C Area sq. ft.
1																												
2S	90	36	2 1/4	1/2	5/8	6	4	5	20 7/8	28 3/8	24 5/8	8 1/8	12	12	6	3		66									22.5	5.5
2M	90	36	2 1/4	1/2	5/8	6	4	5	20 7/8	28 3/8	24 5/8	8 1/8	12	12	6	3		66									22.5	5.5
3																												
4	114	42	2 1/4	3/4	1	8	5	4	34	42	39	13	14	18	7	3 1/2		96									36.75	12.0
5	114	42	2 1/4	3/4	1	8	5	4	34	42	39	13	14	18	7	3 1/2		96									36.75	12.0

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - E except as noted
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

** Substitute appropriate message, optically center message

TYPICAL SIGN
R12-70B

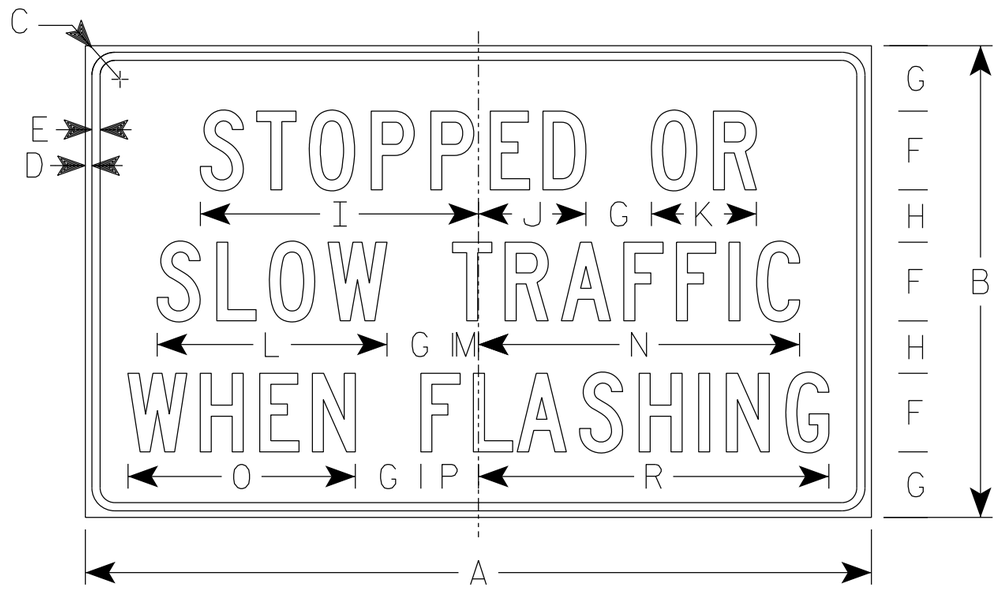
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/10/15 PLATE NO R12-70B.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\R1270B.DGN PLOT DATE : 01-DEC-2015 18:10 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 12.842555:1.000000



W8-76

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square if base material is plywood but corners shall be rounded if base material is metal

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2																											
3																											
4	60	36	2 1/4	1/2	5/8	6	5	4	21 1/4	8 1/4	8	17 1/2	2	24 1/2	17 3/8	4 3/8		26 3/4									15.0
5																											

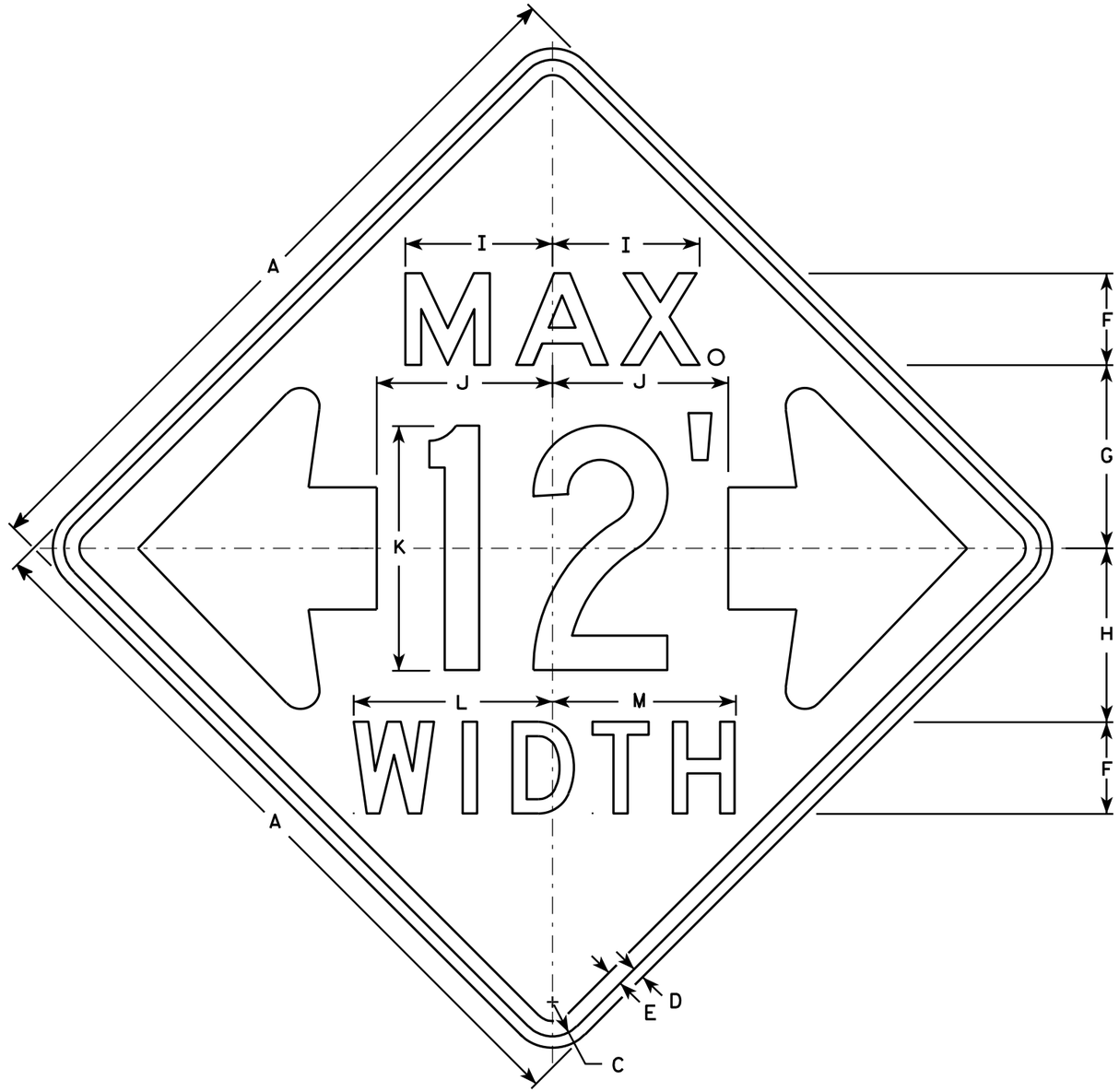
STANDARD SIGN
W8-76

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/6/18 PLATE NO. W8-76.1

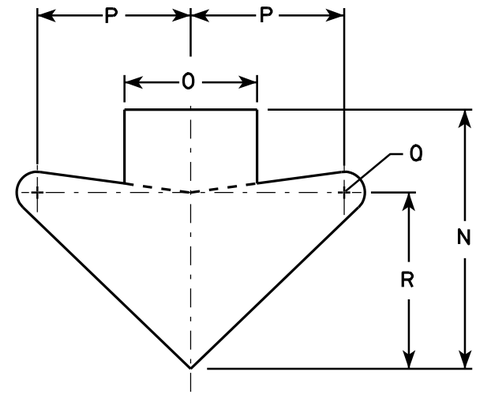
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 106 | E



W12-52

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. The top line is series E, the numerals are series C, and the bottom line is series D.
6. Substitute appropriate numerals and adjust spacing as required.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48		2 1/4	3/4	1	6	12	11 3/8	9 5/8	11 1/2	16	13	12	15 5/8	8	9 1/4	1 1/4	10 5/8									16.0
2M	48		2 1/4	3/4	1	6	12	11 3/8	9 5/8	11 1/2	16	13	12	15 5/8	8	9 1/4	1 1/4	10 5/8									16.0
3																											
4																											
5																											

STANDARD SIGN
W12-52

WISCONSIN DEPT OF TRANSPORTATION

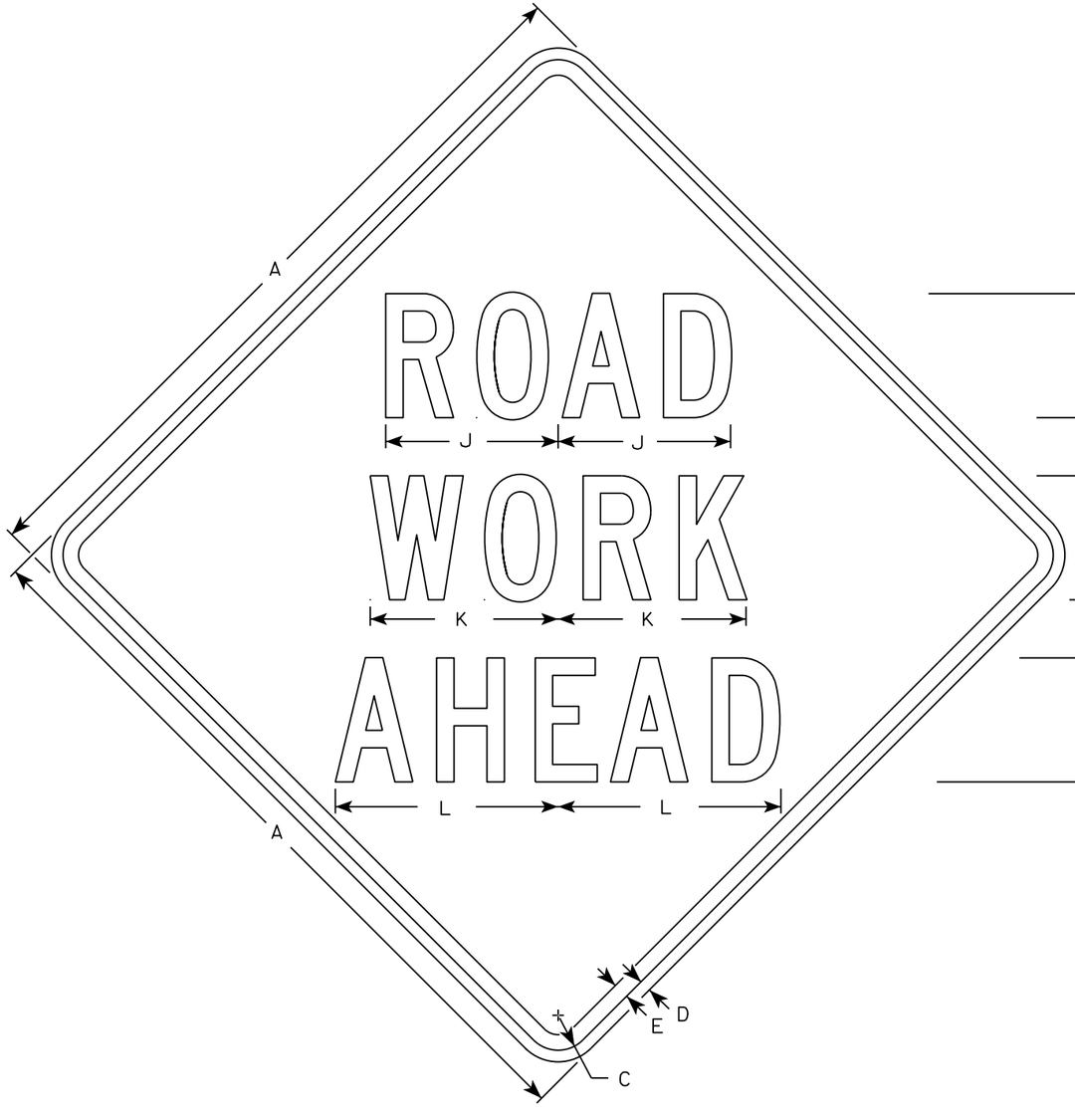
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/16/11 PLATE NO. W12-52.7

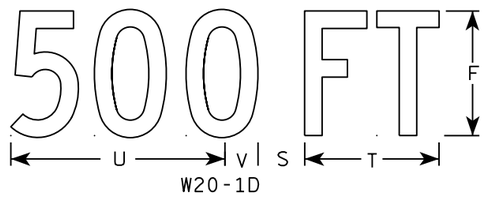
7

7

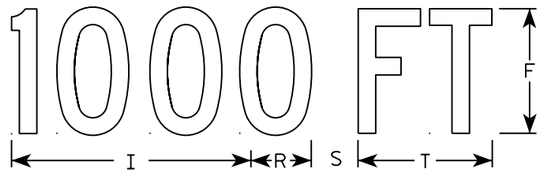
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 107 | E



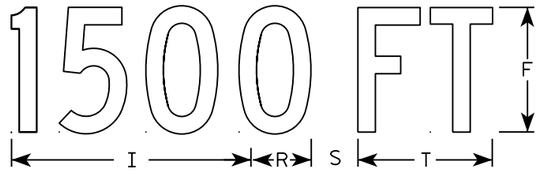
W20-1A



W20-1D



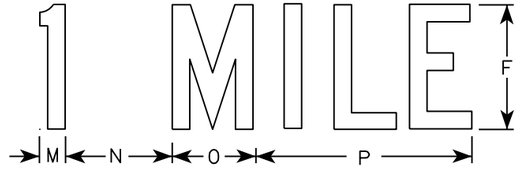
W20-1C



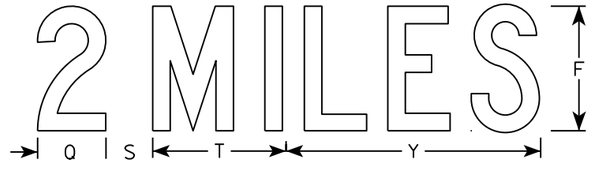
W20-1B



W20-1G



W20-1F



W20-1E

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	1/2	5/8	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9		2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

STANDARD SIGN
W20-1A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/07/15 PLATE NO. W20-1.10

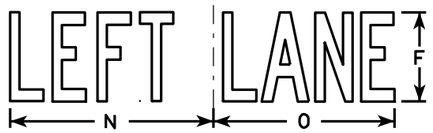
PROJECT NO:

SHEET NO: E

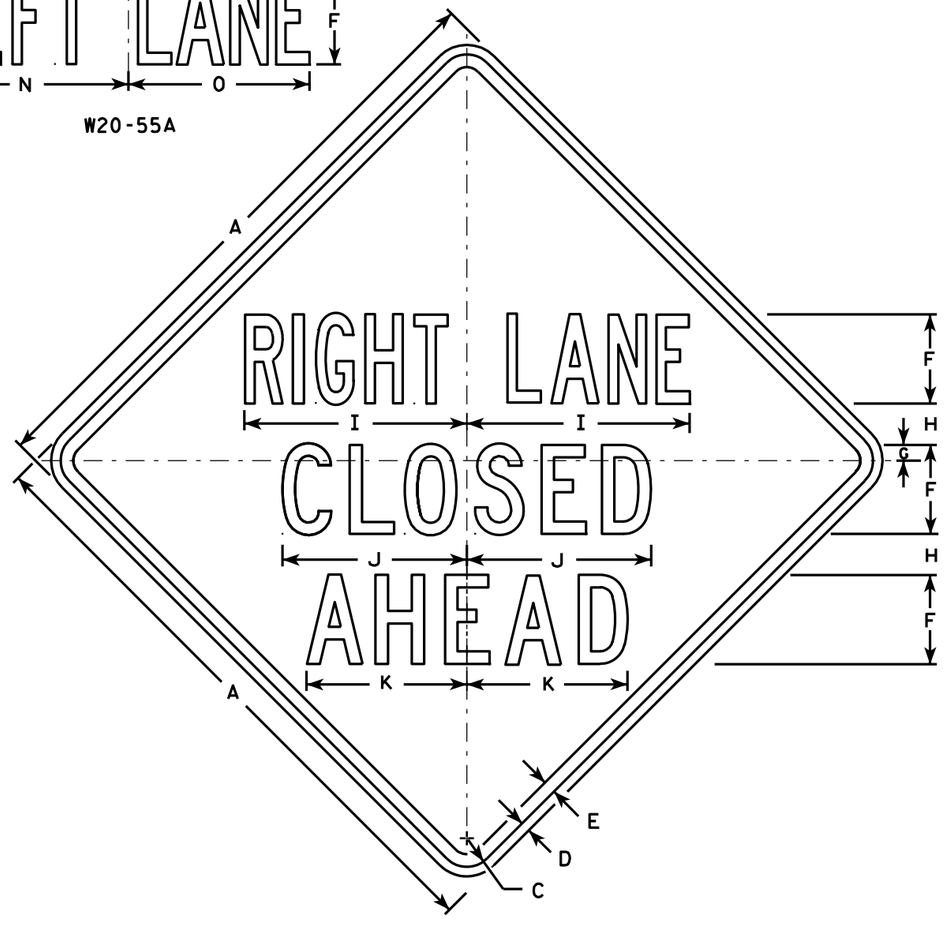
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W201.DGN PLOT DATE : 01-DEC-2015 18:24 PLOT BY : $$ plotuser $$



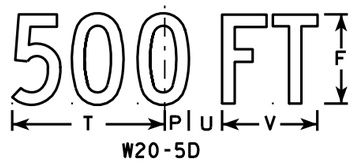
W20-56A



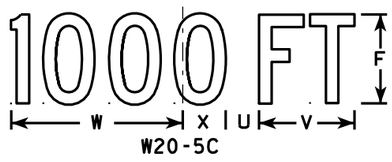
W20-55A



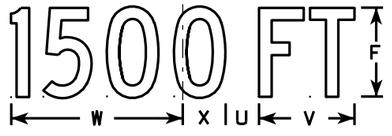
W20-5A



W20-5D



W20-5C



W20-5B



W20-5G



W20-5F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. " _____ LANE" is Series B.
   All other copy is Series C.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	6	1 5/8	5/8	3/4	5	1/8	2 1/2	13 1/8	10 3/4	9 1/2	14 1/4	13 5/8	12	12	1 3/8	1 1/8	4 1/2	3 1/2	9	1 1/8	5 5/8	10 1/8	2 1/2	1 3/4	8	9.0
2S	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
2M	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
3	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
4	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
5	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0

STANDARD SIGN
W20-5A, B, C, D, F & G

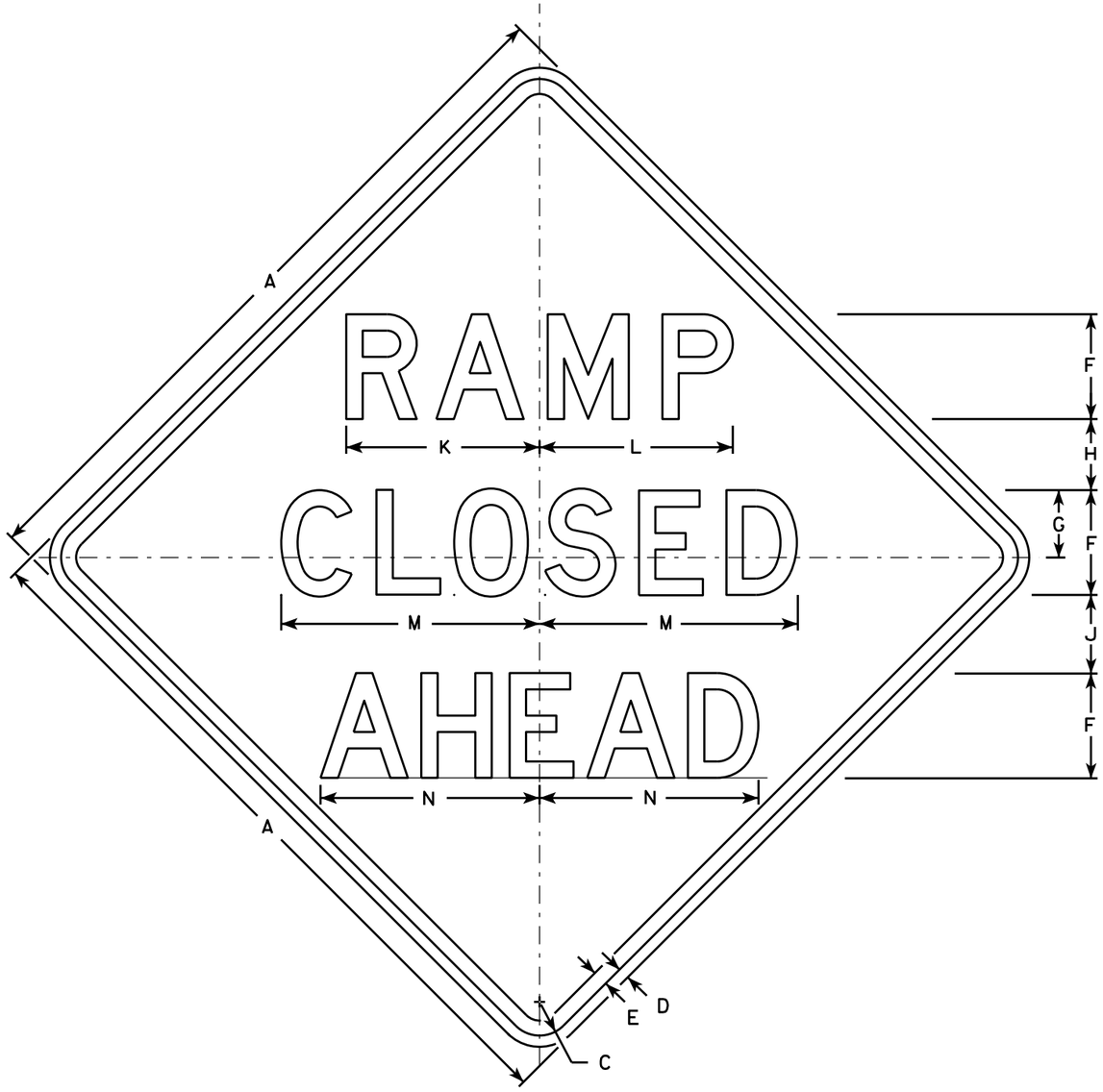
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

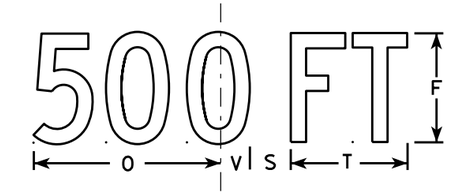
DATE 3/18/11 PLATE NO. W20-5.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 109 | E

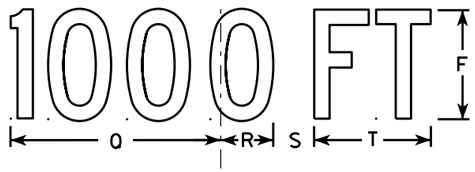
FILE NAME : C:\Users\PROJECTS\tr_stdplate\W205.DGN PLOT DATE : 18-MAR-2011 12:15 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 11.918087:1.000000
WISDOT/CADDS SHEET 42



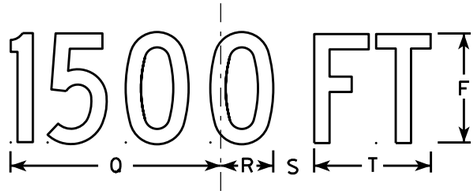
W20-53A



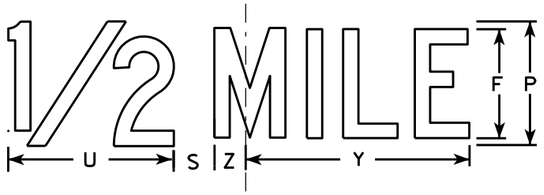
W20-53D



W20-53C



W20-53B



W20-53G



W20-53F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1 and 2 are Series D.
   Line 3 is Series D for AHEAD and Series C for all other distances.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	9 1/4	9 1/4	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
3	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
4	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
5	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0

STANDARD SIGN
W20-53A,B,C,D,F,G

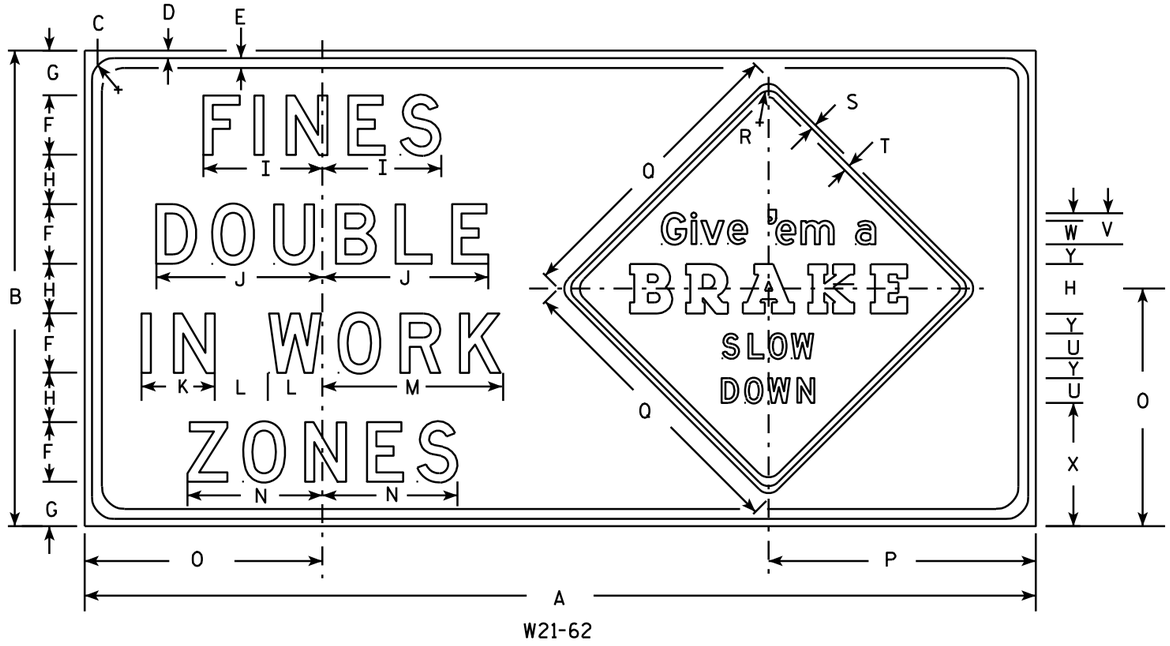
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/27/15 PLATE NO. W20-53.1

PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

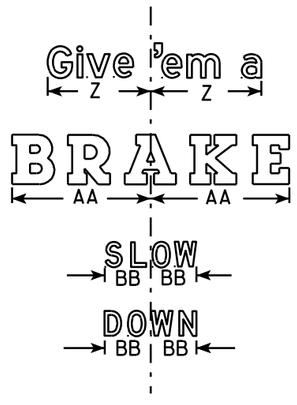
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W2053.DGN PLOT DATE : 27-MAY-2015 19:40 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.729210:1.000000
WISDOT/CADDS SHEET 42

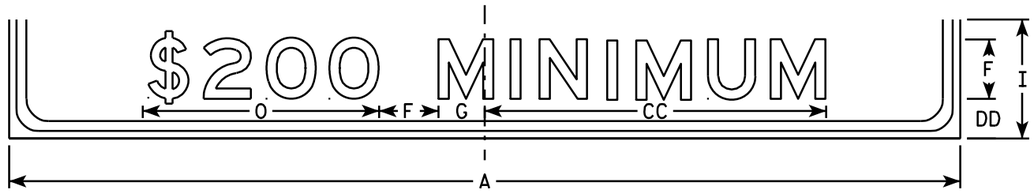


W21-62

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White - (See Note 5)
   Message - Black
3. Message Series -
   Fines Double Message - All lines are Series D
   Give 'em a Brake -
   Line one is Series E, line two is a Special Graphic Series and lines three and four are Series D.
4. The base material shall be plywood. Corners may be square or rounded, but borders shall be rounded as shown. The base material for Give 'em a Brake sign can be a seperate sheet of aluminum with the corners and borders rounded as shown. This seperate panel shall then be attached to the plywood with aluminum or stainless steel sheet metal screws.
5. Background for the Give 'em a Brake sign shall be Type F reflective orange.





W21-62P

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	BB	CC	DD	Area sq. ft.
1																															
2S																															
2M																															
3	96	48	2 1/4	3/4	1	6	4 1/2	5	12	16 3/4	7 3/8	5 1/2	18 1/4	13 5/8	24	27	30	1 3/8	1/2	5/8	2 1/2	3 1/8	2 3/8	12 1/2	2	10 3/4	14	4 5/8	34 1/2	4	32.0
4																															
5																															

STANDARD SIGN
W21-62

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/11 PLATE NO. W21-62.5

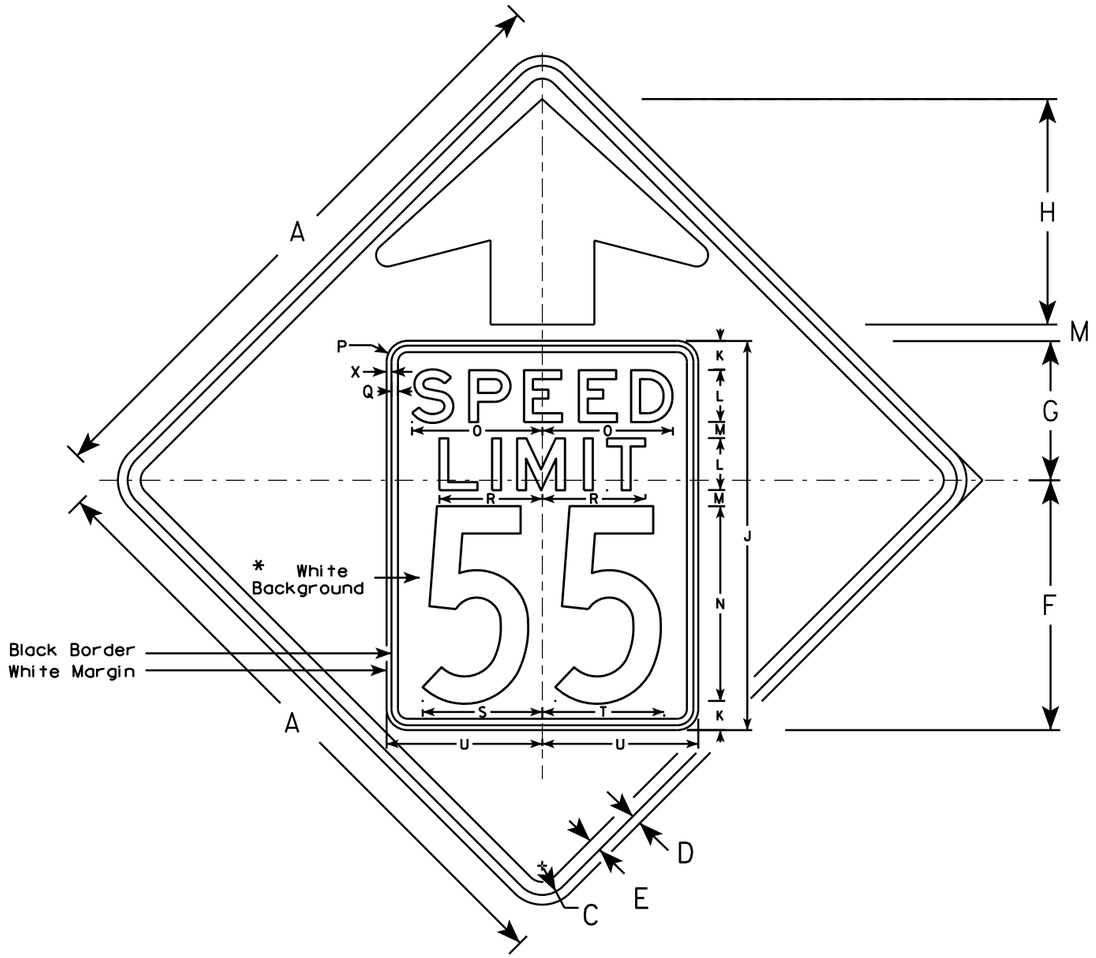
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 111	E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W2162.DGN PLOT DATE : 21-MAR-2011 10:25 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 15.294877:1.000000

WISDOT/CADDS SHEET 42

7

7

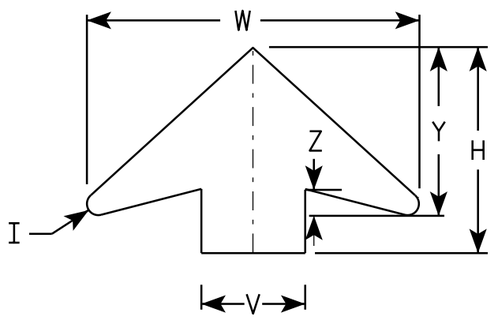


W03-5

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color: *
   Background - ORANGE*
   Message - BLACK
3. Message Series - C for numbers Series E for wording
4. Substitute appropriate numerals and optically adjust spacing to achieve proper balance

*Speed Limit Sign shall have a White Background



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
2S	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
2M	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
3	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
4	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
5	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0

STANDARD SIGN
W03-5

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

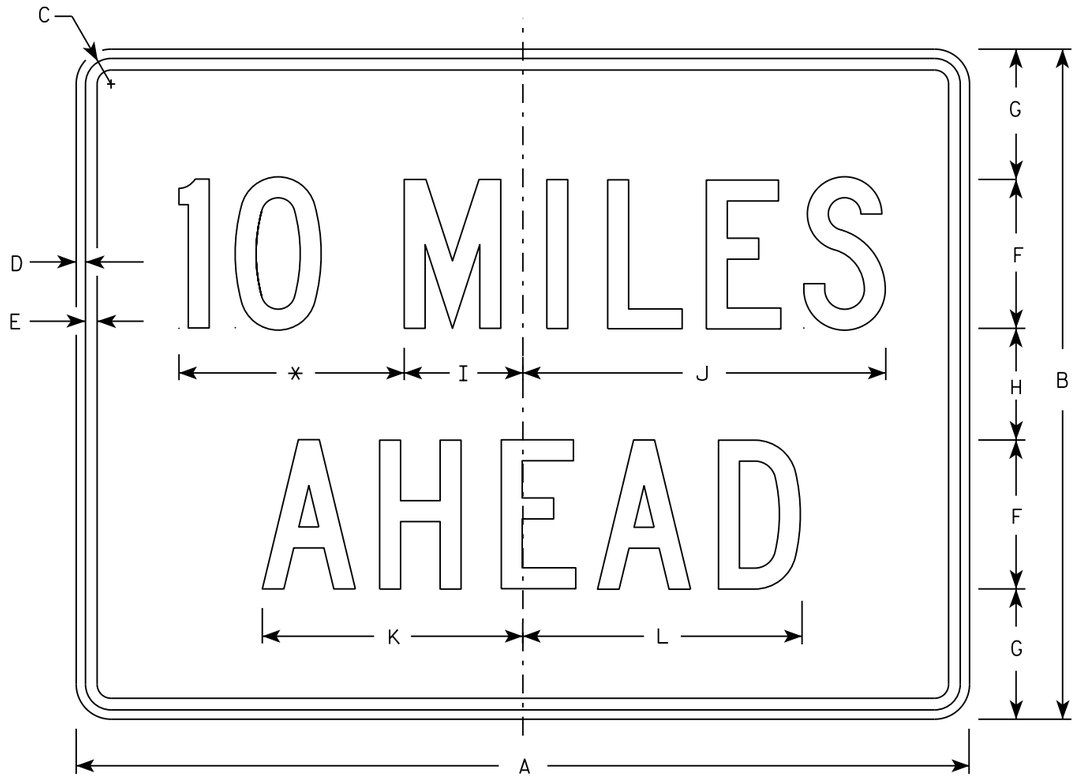
DATE 11/20/13 PLATE W03-5.1

PROJECT NO: SHEET NO: E

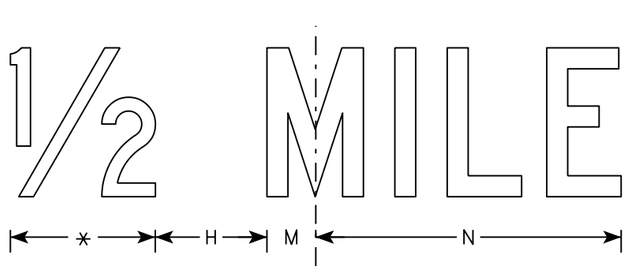
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W035.DGN PLOT DATE : 20-NOV-2013 11:32 PLOT BY : mscsja

WISDOT/CADDS SHEET 42

7 7



W057-52



NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals to the nearest quarter mile and optically adjust spacing to achieve proper balance.

* See note 5

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	24	1 1/8	3/8	1/2	6	4 1/2	3	4 3/4	14 5/8	10 5/8	11 3/8	2	12													6.0
2S	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0
2M	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0
3	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0
4	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0
5	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0

STANDARD SIGN
W057-52

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/17 PLATE NO. W057-52.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 113	E

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

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