WIS DECEMBER 2019

PROJECT ID: 9000-04-70

WITH: N/A

COUNTY: LINCOLN

ORDER OF SHEETS

TOTAL SHEETS = 146

DESIGN DESIGNATION

A.A.D.T.	(2020)	= 3,300
A.A.D.T.	(2040)	= 3,800
D.H.V.		= 20.6
D.D.		= 61/39
T.		= 11.8%
DESIGN SPEED		= 60
ESALS		= 920,000

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 (300'EB)
- 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)
- OVERHEAD UTILITY (OH)
- 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

MERRILL - ANTIGO

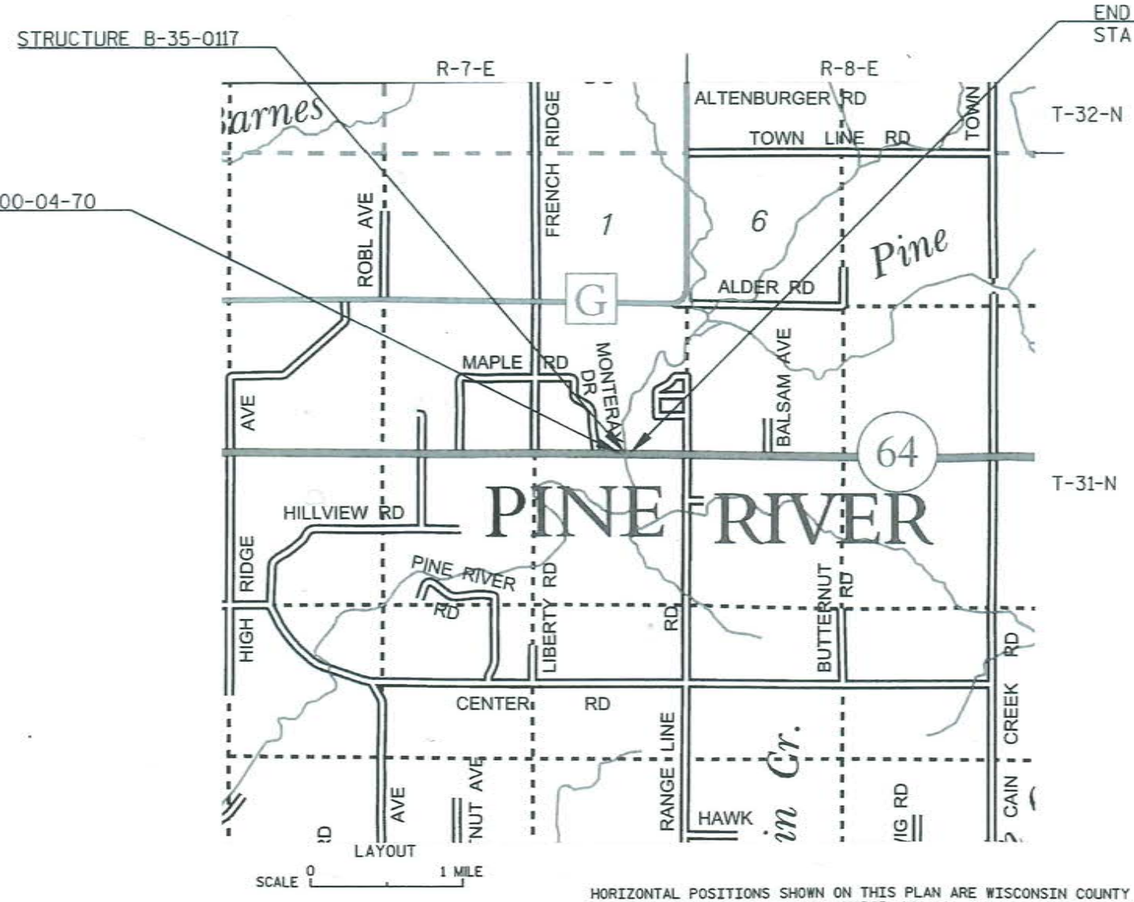
PINE RIVER BRIDGE, B-35-0117

STH 64

LINCOLN COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
9000-04-70	WISC 2019747	1

STATE PROJECT NUMBER
9000-04-70



TOTAL NET LENGTH OF CENTERLINE = 0.000

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES,LINCOLN 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 ON THE PLAN ARE REFERENCED TO NAVD 88.

ORIGINAL PLANS PREPARED BY

AECOM

WISCONSIN PROFESSIONAL ENGINEER
ISAAC W. DOLAN
E-45009
WAUSAU, WI

07/19/19 (Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	AECOM
Designer	AECOM
Project Manager	JEFF STEWART
Regional Examiner	CHERYL SIMON
Regional Supervisor	ROBIN STAFFORD

APPROVED FOR THE DEPARTMENT
DATE: 7/19/19 (Signature)

E

GENERAL NOTES

THERE MAY BE UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

EXCAVATION BELOW SUBGRADE (EBS) IS NOT USED TO BALANCE YARDAGE AND IS NOT SHOWN ON THE CROSS SECTIONS. IF EBS IS REQUIRED, IT SHALL BE MEASURED AND PAID FOR AS EXCAVATION COMMON. LOCATION FOR EBS WILL BE DETERMINED BY THE ENGINEER.

THE WISCONSIN DEPARTMENT OF TRANSPORTATION WILL FURNISH THE CONTRACTOR AN ALUMINUM MONUMENT TO SET IN THE STRUCTURE AS DESIGNATED BY THE ENGINEER.

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 = 3.337 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 1.882 ACRES

UTILITY CONTACTS

WISCONSIN PUBLIC SERVICE (ELECTRIC)
ATTN: CLAYTON VIRCKS
1700 SHERMAN STREET
P.O. BOX 1166
WAUSAU, WI 54402-1166
O: 715-848-7317
M: 715-573-7806
E: CLAYTON.VIRCKS@WISCONSINPUBLICSERVICE.COM

FRONTIER COMMUNICATIONS (COMMUNICATION)
ATTN: CHRIS POLLACK
525 SUPERIOR STREET521 NORTH 4TH STREET
WAUSAU, WI 54403
O: 715-847-1240
M: 715-297-4773
E: CHRISTOPHER.POLLACK@FTR.COM

ATC MANAGEMENT, INC. (TRANSMISSION-ELECTRIC)
ATTN: MIKE OLSEN
801 O'KEEFE ROAD
P.O. BOX 6113
DE PERE, WI 54115-6113
O: 920-338-6582
E: MOLSEN@ATCLLC.COM

AGENCY CONTACTS

WISCONSIN DEPARTMENT OF NATURAL RESOURCES (WDNR)
ATTN: WENDY HENNIGES
107 SUTLIFF AVENUE
RHINELANDER, WI 54501
O: 715-365-8916
E: WENDY.HENNIGES@WISCONSIN.GOV

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

** DENOTES UTILITIES THAT ARE NOT DIGGER'S HOTLINE MEMBERS

2

2

N

PINE RIVER

TLE

SLOPE INTERCEPT

TLE

TLE

R/W

SLOPE INTERCEPT

END CONSTRUCTION
STA 28+97.40

5+00 20+00 6+00 21+00 22+00 7+00 8+00 9+00 23+00 24+00 25+00 26+00 10+00 11+00 12+00 27+00 28+00 13+00 14+00 29+00 15+00

STH 64

BEGIN CONSTRUCTION
STA 5+25.22

STA BACK = 5+33.95
STA AHEAD = 20+00.00

TLE

R/W

BEGIN PROJECT
STA 7+17.55

SLOPE INTERCEPT

STRUCTURE B-35-0117
REQUIRED

SLOPE INTERCEPT

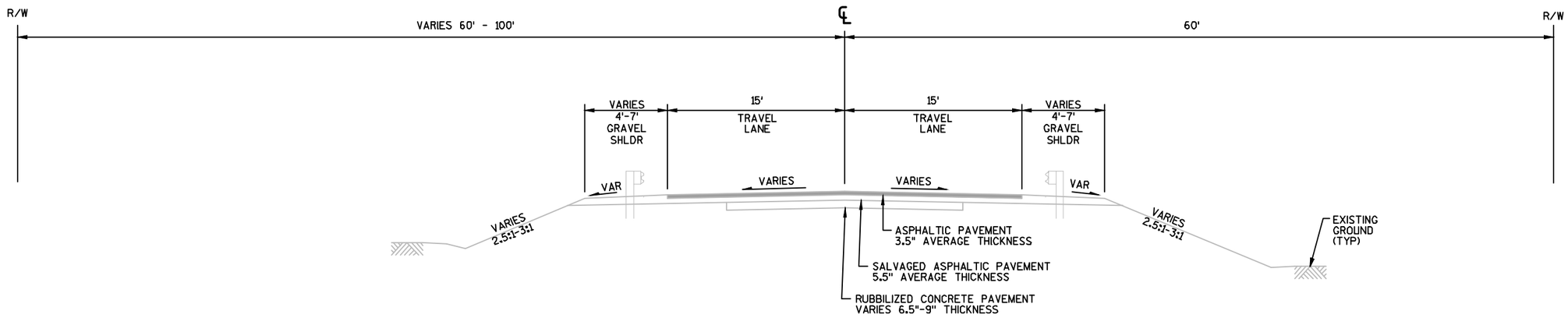
END PROJECT
STA 12+84.96

STA BACK = 29+25.69
STA AHEAD = 14+41.05

PL

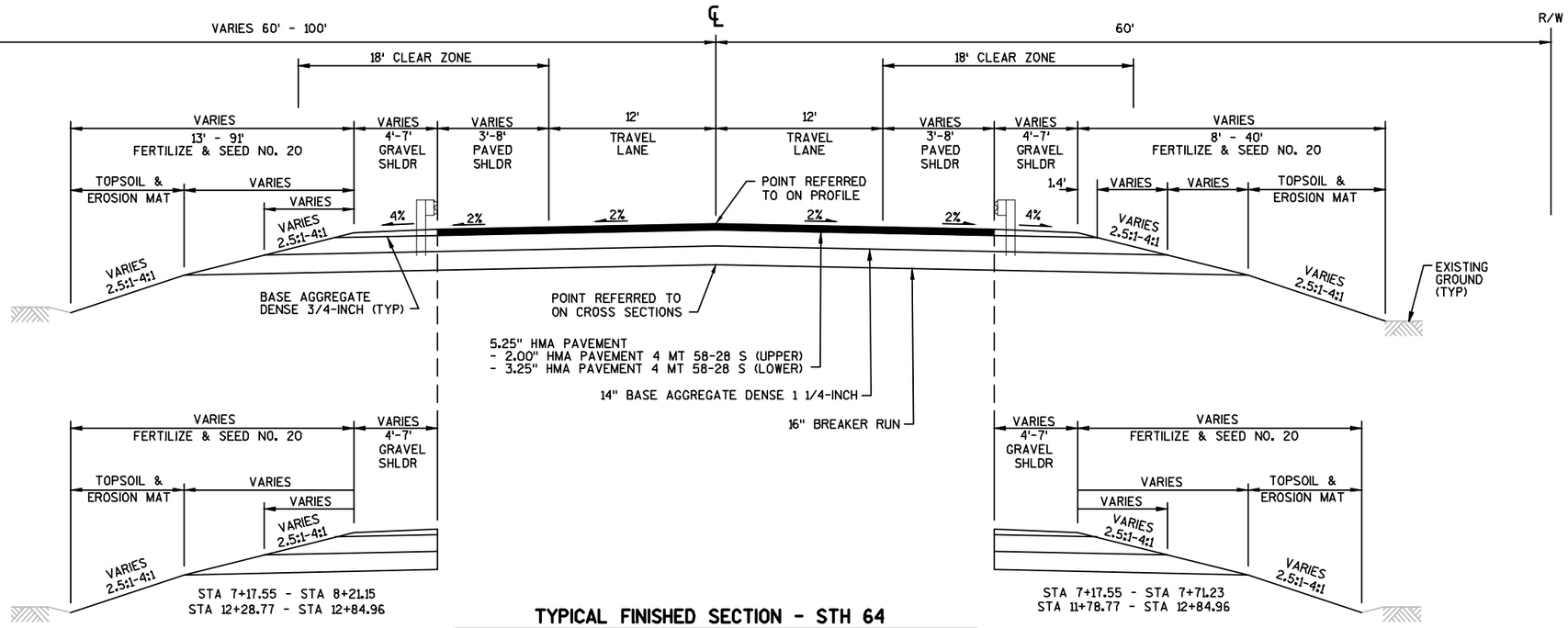
PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	PROJECT OVERVIEW	SHEET	E

FILE NAME : P:\60548628\900_WORK\910_CAD\90000400\SHEETSPLAN\0202-PO.DWG
LAYOUT NAME - 020201-PO
PLOT DATE : 5/24/2019 1:23 PM PLOT BY : DOLAN, ISAAC PLOT NAME : PLOT SCALE : Custom
WISDOT/CADDS SHEET 42



TYPICAL EXISTING SECTION - STH 64

STA 7+17.55 - STA 12+84.96



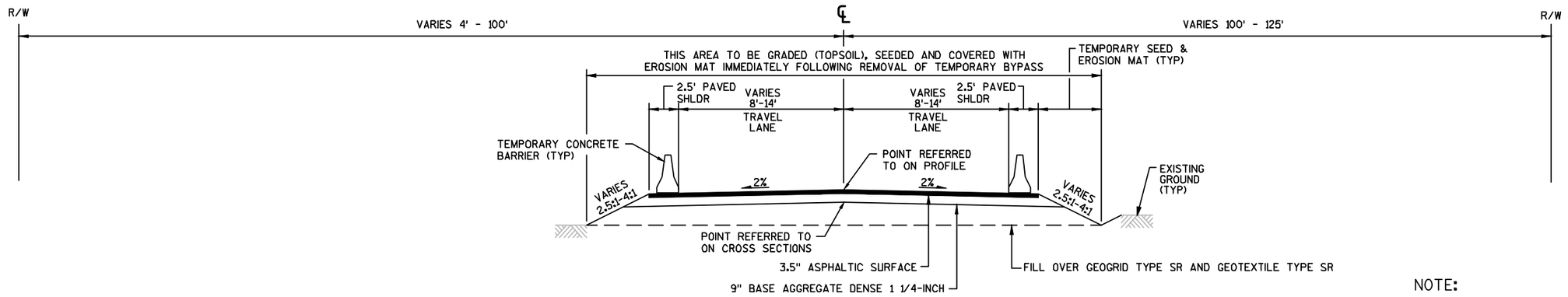
TYPICAL FINISHED SECTION - STH 64

STA 7+17.55 - STA 12+84.96

STRUCTURE B-35-117
(9+23.75 - 10+76.25)

PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	TYPICAL SECTIONS	SHEET 4	E

FILE NAME : P:\60548628\900_WORK\910_CAD\90000400\SHEETSPLAN\0203-TS.DWG
LAYOUT NAME - 020301_TS
PLOT DATE : 5/24/2019 12:56 PM PLOT BY : DOLAN, ISAAC PLOT NAME : PLOT SCALE : **********
WISDOT/CADDS SHEET 42



TYPICAL FINISHED SECTION - TEMPORARY BYPASS

STA 20+26.52 - STA 28+97.40

BYPASS STRUCTURE
(24+15.41 - 25+35.38)

NOTE:

GEOGRID, GEOTEXTILE FABRIC AND SILT FENCE TO BE PLACED PRIOR TO CONSTRUCTION OF TEMPORARY BYPASS TO PROTECT EXISTING GROUND AND WETLANDS. TEMPORARY BYPASS TO BE REMOVED TO FABRIC AFTER COMPLETION OF BRIDGE AND ROADWAY APPROACHES DURING STAGE 3. GEOGRID AND GEOTEXTILE FABRIC SHALL BE REMOVED DURING THE REMOVAL OF THE TEMPORARY BYPASS AND IS INCIDENTAL TO EXCAVATION COMMON ITEM. THE FINISHED SURFACE IN THE AREAS OF THE FULLY REMOVED TEMPORARY BYPASS SHALL BE RESTORED TO MATCH THE EXISTING SURFACE ELEVATIONS PRIOR TO CONSTRUCTION.

2

⊙ WELL

N

PINE RIVER

+26.25, -20.00' LT
+86.85, -20.00' LT
+74.35, -20.00' LT
+21.15, -22.00' LT
+73.75, -20.00' LT
+13.15, -20.00' LT
+75.65, -20.00' LT
+28.77, -22.00' LT
10:1
7.6:1
STH 64
7+00
8+00
9+00
10+00
11+00
12+00
13+00
MGS GUARDRAIL TERMINAL EAT
MGS GUARDRAIL 3
MGS THRIE BEAM TRANSITION
MGS THRIE BEAM TRANSITION
MGS GUARDRAIL 3
MGS GUARDRAIL TERMINAL EAT
8:1
15:1
+71.23, 22.00' RT
+24.35, 20.00' RT
+86.85, 20.00' RT
+25.65, 20.00' RT
+78.77, 22.00' RT
MGS GUARDRAIL 3
+13.15, 20.00' RT
+26.25, 20.00' RT
STRUCTURE B-35-117 REQUIRED
+73.75, 20.00' RT

PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	CONSTRUCTION DETAILS - GUARDRAIL LAYOUT	SHEET 6	E

NOTE: FOR OTHER DETAILS NOT SHOWN SEE S.D.D. "CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES". THE S.D.D. SPECIFIES GEOTEXTILE TYPE R; USE TYPE HR AS SPECIFIED BELOW.

N

PINE RIVER

RIP RAP MEDIUM WITH GEOTEXTILE TYPE HR

APRON ENDWALL FOR CULVERT PIPE STEEL 12-INCH

PIPE UNDERDRAIN UNPERFORATED 12-INCH

CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES

10'

6'

3'

5'

17.2'

USE 4-INCH SLOPED TYPE CURB HEAD (REFERENCE TBT-TYPE CONCRETE CURB & GUTTER FOUND ON S.D.D. 8D1-A). PAID FOR AS "CONCRETE SURFACE DRAINS"

+73.25, -22.60' LT

+76.25, -23.49' LT

+91.25, -23.50' LT

STH 64

9+00

10+00

11+00

PAID FOR AS "GUARDRAIL MOW STRIP EMULSIFIED ASPHALT"

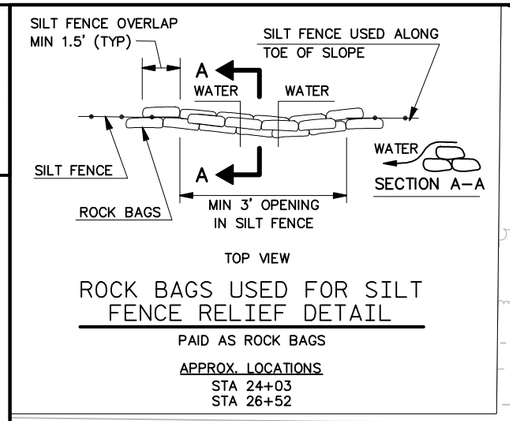
STRUCTURE B-35-0117

+91.25, 23.50' RT

+76.25, 23.50' RT

+73.25, 22.60' RT

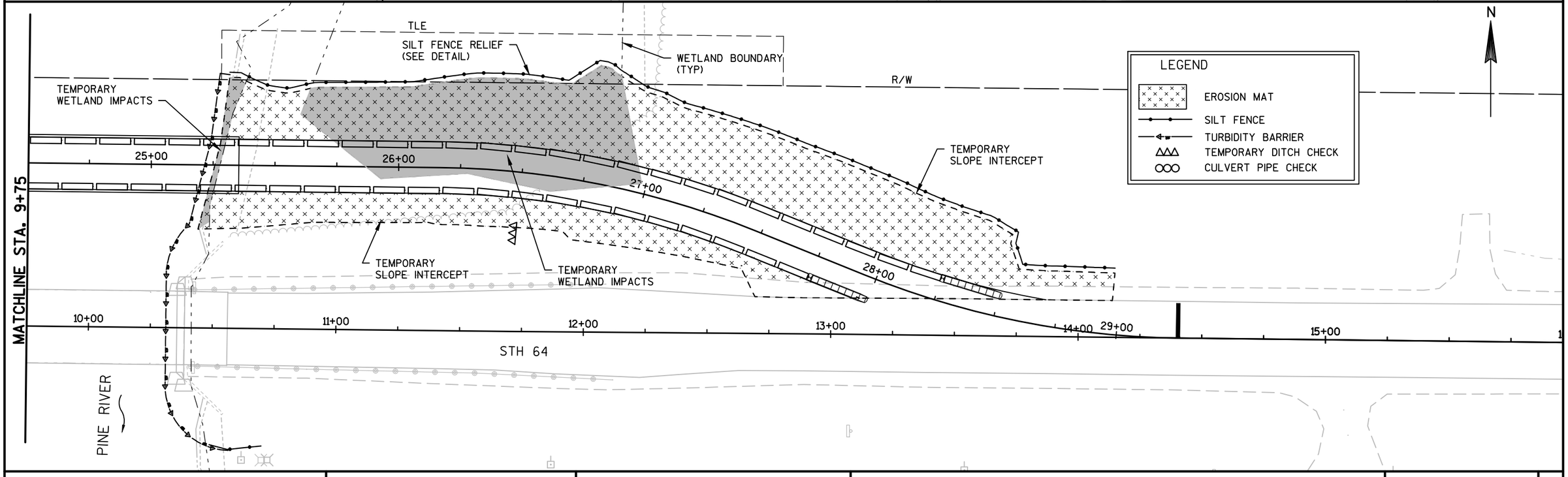
PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	CONSTRUCTION DETAILS - SURFACE DRAIN & MOW STRIP LAYOUT	SHEET 7	E



ROCK BAGS USED FOR SILT FENCE RELIEF DETAIL

PAID AS ROCK BAGS

APPROX. LOCATIONS
STA 24+03
STA 26+52



PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	EROSION CONTROL - STAGE 1	SHEET 8	E

2

TLE

R/W

22+00

23+00

24+00

25+00

26+

21+00

6+00

7+00

8+00

9+00

10+00

11+00

STH 64

FINAL SLOPE INTERCEPT

PERMANENT WETLAND IMPACTS

FINAL SLOPE INTERCEPT

WETLAND BOUNDARY (TYP)

R/W

TLE

PINE RIVER

MATCHLINE STA. 11+25

N

2

WETLAND BOUNDARY

00

27+00

28+00

29+00

12+00

13+00

14+00

15+00

16+00

FINAL SLOPE INTERCEPT

STH 64

MATCHLINE STA. 11+25

R/W

R/W

N

LEGEND

EROSION MAT

SILT FENCE

EROSION MAT INSTALLED IN PHASE 1

SILT FENCE INSTALLED IN PHASE 1

TURBIDITY BARRIER INSTALLED IN PHASE 1

TEMPORARY DITCH CHECK INSTALLED IN PHASE 1

CULVERT PIPE CHECK INSTALLED IN PHASE 1

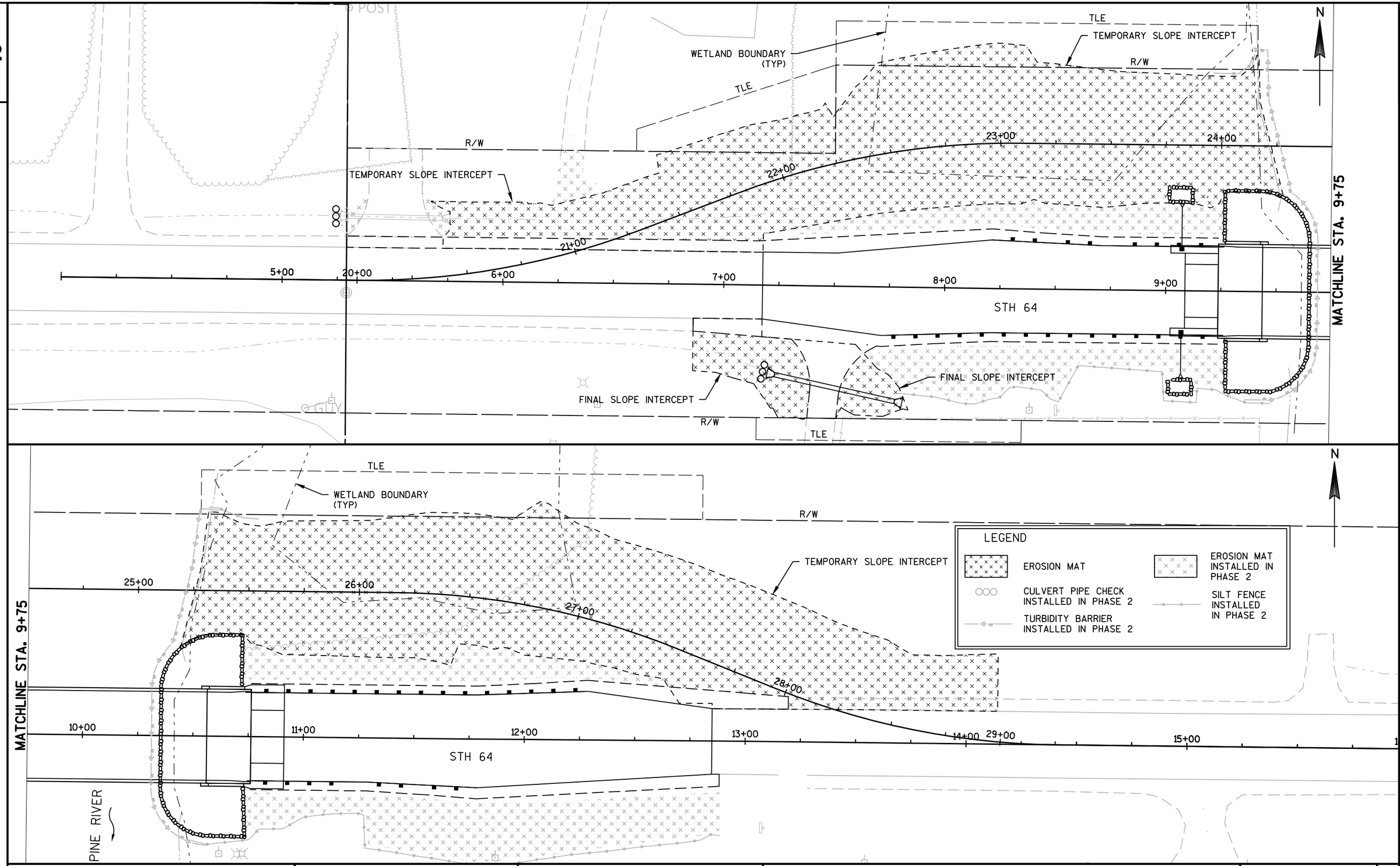
PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	EROSION CONTROL - STAGE 2	SHEET	E

FILE NAME : P:\60548628\900_WORK\910_CAD\90000400\SHEETSPLAN\0222-EC.DWG
LAYOUT NAME - ----

PLOT DATE : 5/24/2019 1:20 PM PLOT BY : DOLAN, ISAAC PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

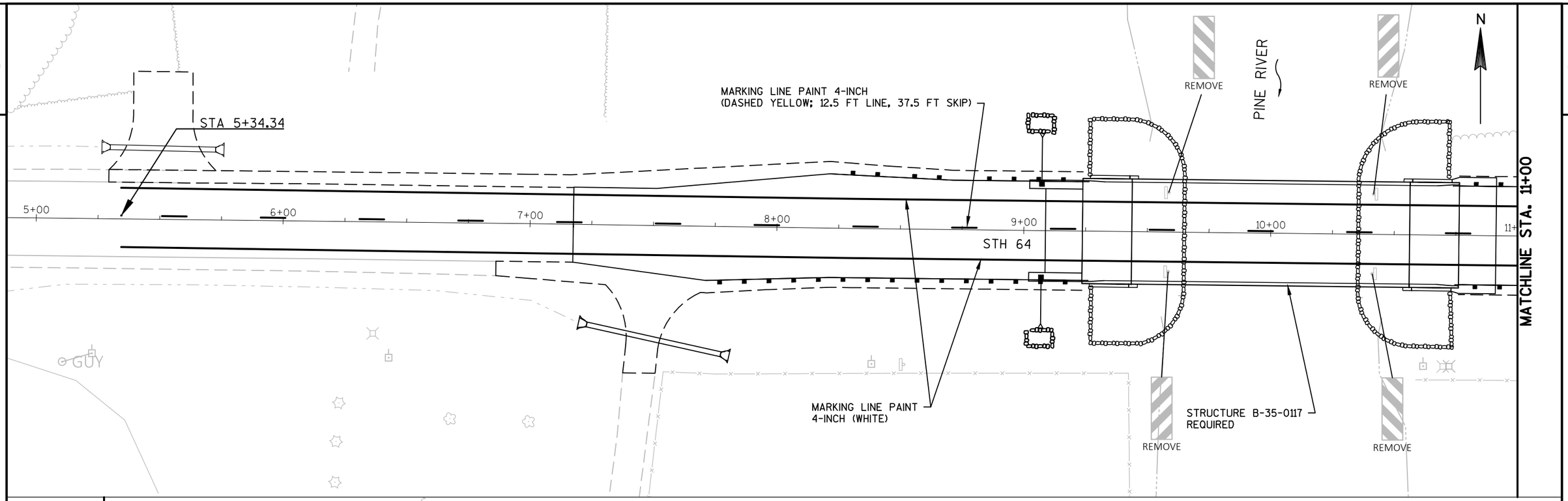
2

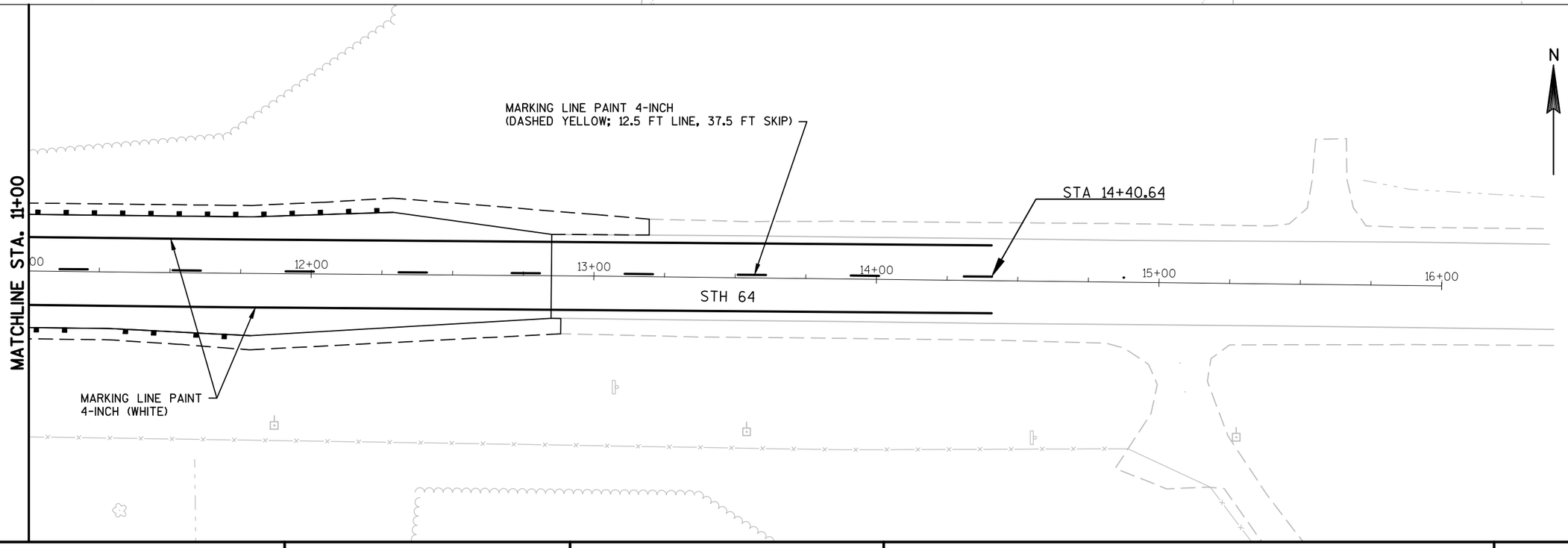


2

PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	EROSION CONTROL - STAGE 3	SHEET	E

FILE NAME : P:\60548628\900_WORK\910_CAD\90000400\SHEETSPLAN\0223-EC.DWG
LAYOUT NAME - ----
PLOT DATE : 5/24/2019 1:12 PM PLOT BY : DOLAN, ISAAC PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42





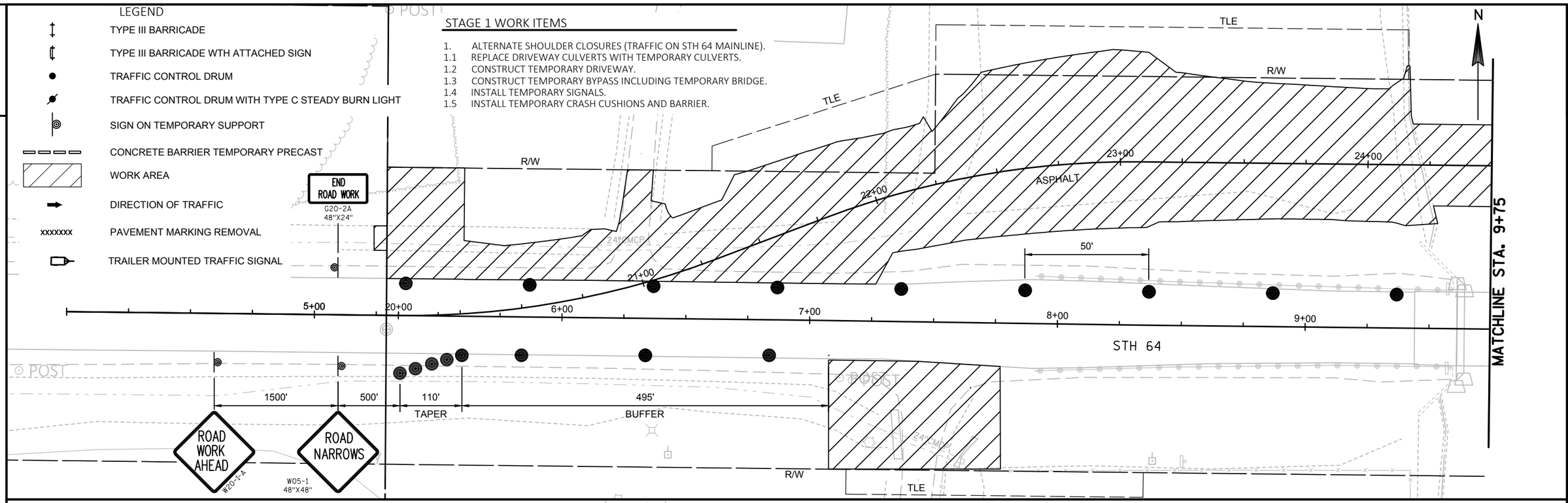
PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	PAVEMENT MARKING AND SIGNING	SHEET 11	E

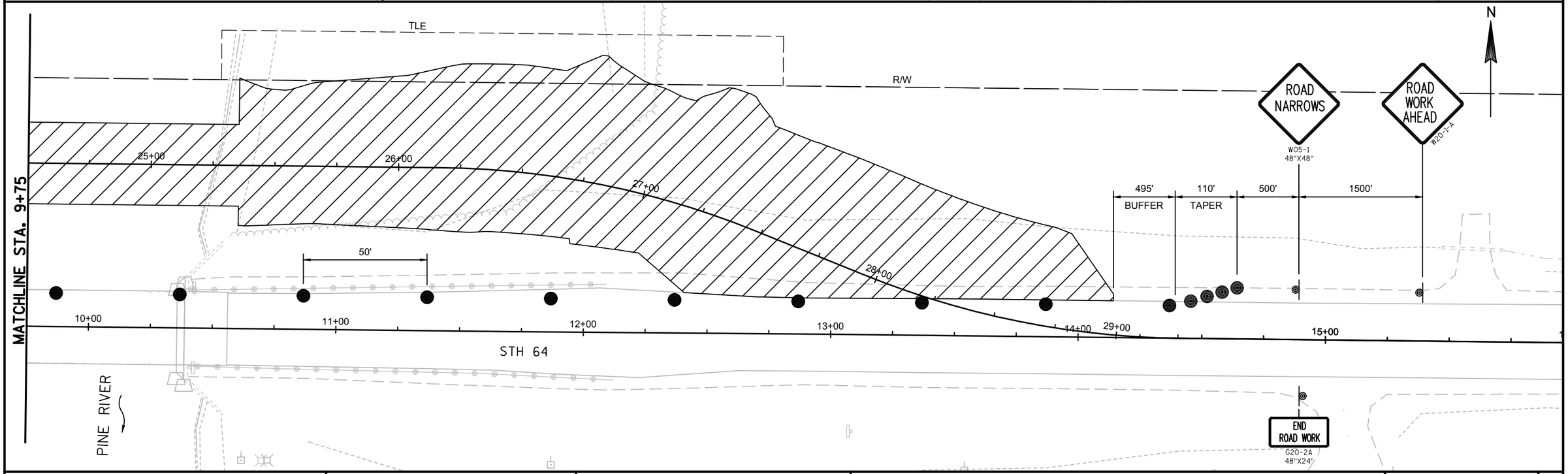
LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- SIGN ON TEMPORARY SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- xxxxxxx PAVEMENT MARKING REMOVAL
- TRAILER MOUNTED TRAFFIC SIGNAL

STAGE 1 WORK ITEMS

1. ALTERNATE SHOULDER CLOSURES (TRAFFIC ON STH 64 MAINLINE).
1.1 REPLACE DRIVEWAY CULVERTS WITH TEMPORARY CULVERTS.
1.2 CONSTRUCT TEMPORARY DRIVEWAY.
1.3 CONSTRUCT TEMPORARY BYPASS INCLUDING TEMPORARY BRIDGE.
1.4 INSTALL TEMPORARY SIGNALS.
1.5 INSTALL TEMPORARY CRASH CUSHIONS AND BARRIER.



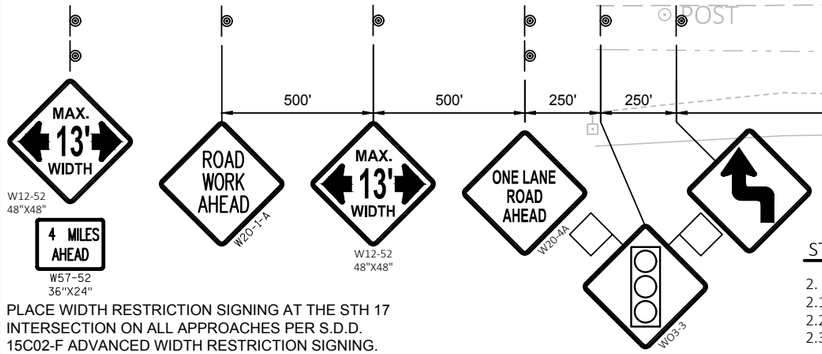


PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	TRAFFIC CONTROL - STAGE 1	SHEET E

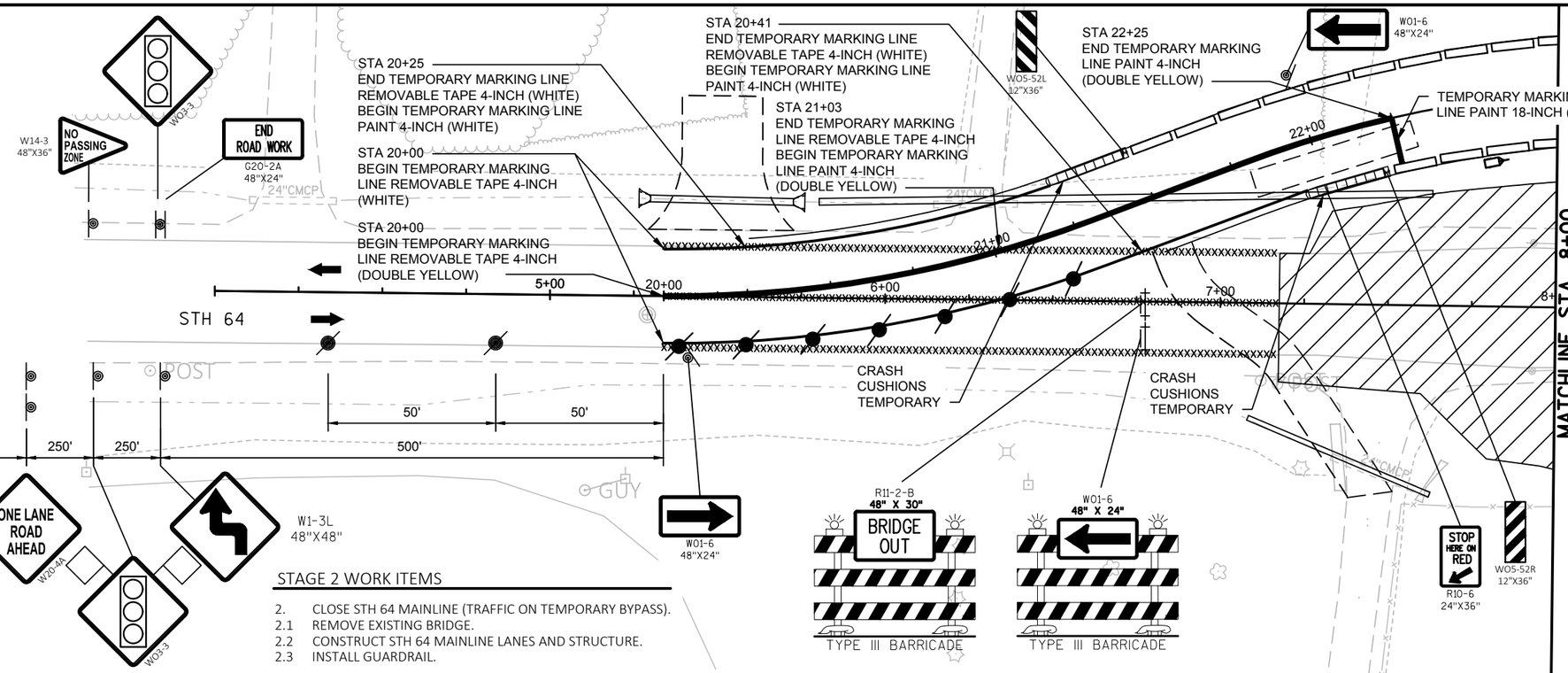
FILE NAME : P:\60548628\900_WORK\910_CAD\90000400\SHEETSPLAN\0251-TC.DWG
LAYOUT NAME - ----
PLOT DATE : 5/24/2019 1:42 PM PLOT BY : DOLAN, ISAAC PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- SIGN ON TEMPORARY SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- xxxxxxx PAVEMENT MARKING REMOVAL
- TRAILER MOUNTED TRAFFIC SIGNAL
- VEHICLE DETECTION AREA

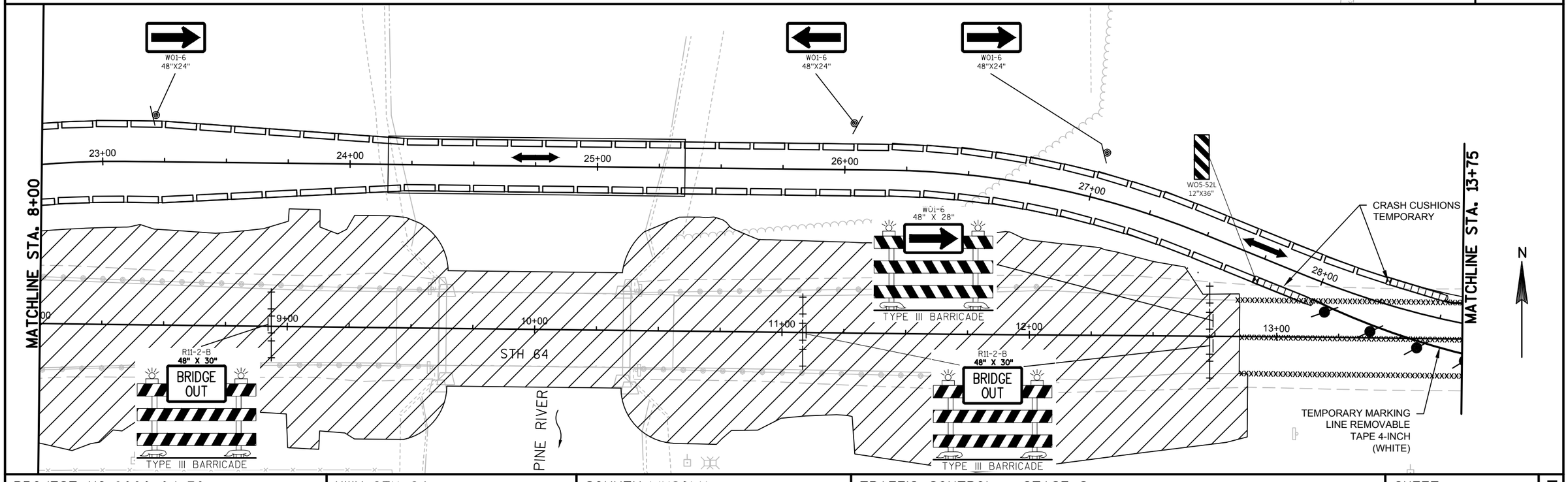


PLACE WIDTH RESTRICTION SIGNING AT THE STH 17 INTERSECTION ON ALL APPROACHES PER S.D.D. 15C02-F ADVANCED WIDTH RESTRICTION SIGNING.

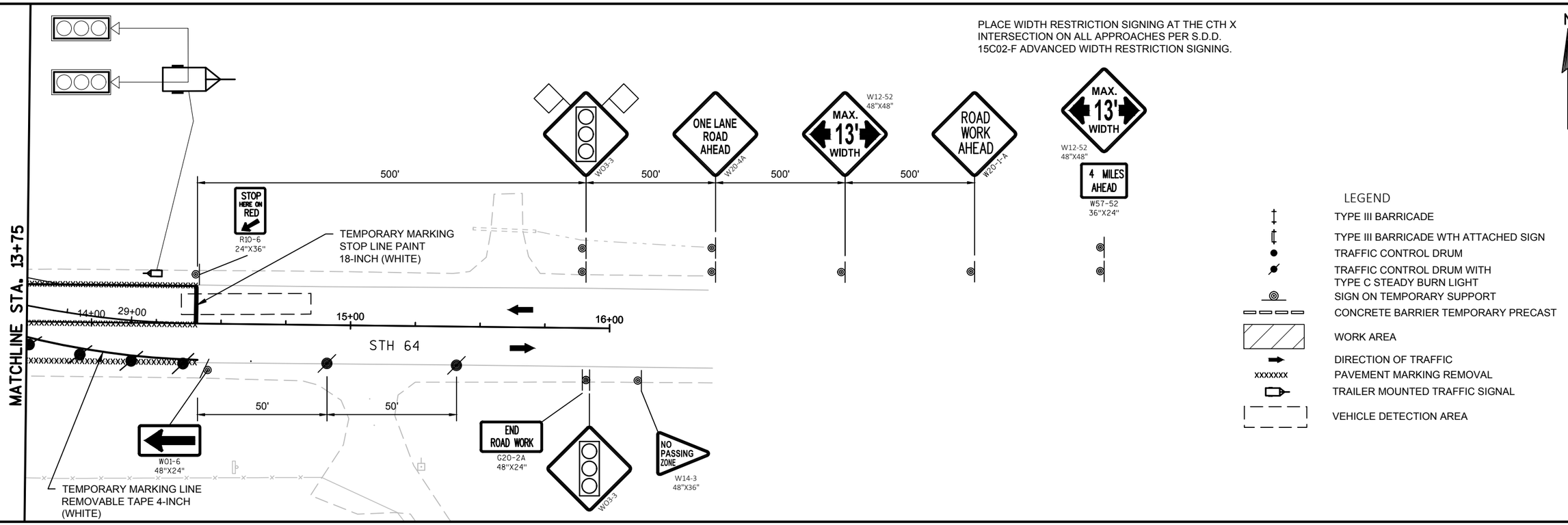


STAGE 2 WORK ITEMS

2. CLOSE STH 64 MAINLINE (TRAFFIC ON TEMPORARY BYPASS).
2.1 REMOVE EXISTING BRIDGE.
2.2 CONSTRUCT STH 64 MAINLINE LANES AND STRUCTURE.
2.3 INSTALL GUARDRAIL.



PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	TRAFFIC CONTROL - STAGE 2	SHEET 13	E



TEMPORARY SIGNAL TIMING PINE RIVER BRIDGE (700-FT STOP BAR SPACING)

SIGNAL TIMING PROVIDED BY NC REGION, TRAFFIC SECTION

7:00AM TO 7:00 PM (EB)	
GREEN	30 SEC
YELLOW	5 SEC
ALL RED	23 SEC

7:00AM TO 7:00 PM (WB)	
GREEN	30 SEC
YELLOW	5 SEC
ALL RED	23 SEC

TOTAL CYCLE LENGTH = 116 SEC

7:00 PM TO 7:00AM (EB)	
GREEN	21 SEC
YELLOW	5 SEC
ALL RED	23 SEC

7:00 PM TO 7:00AM (WB)	
GREEN	21 SEC
YELLOW	5 SEC
ALL RED	23 SEC

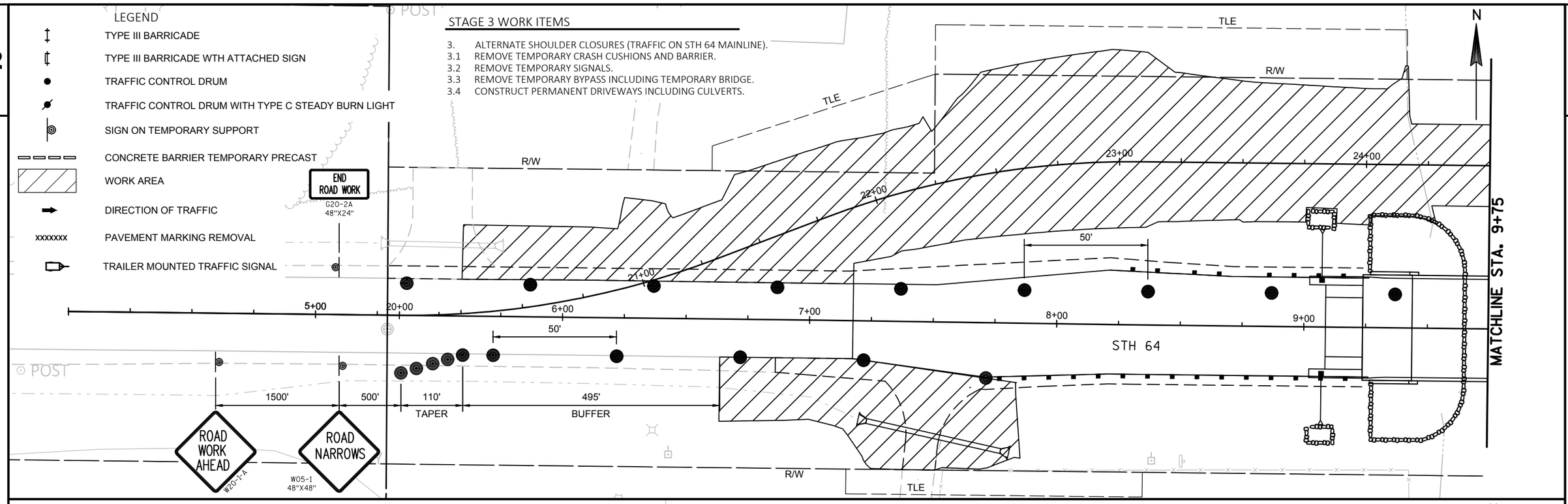
TOTAL CYCLE LENGTH = 98 SEC

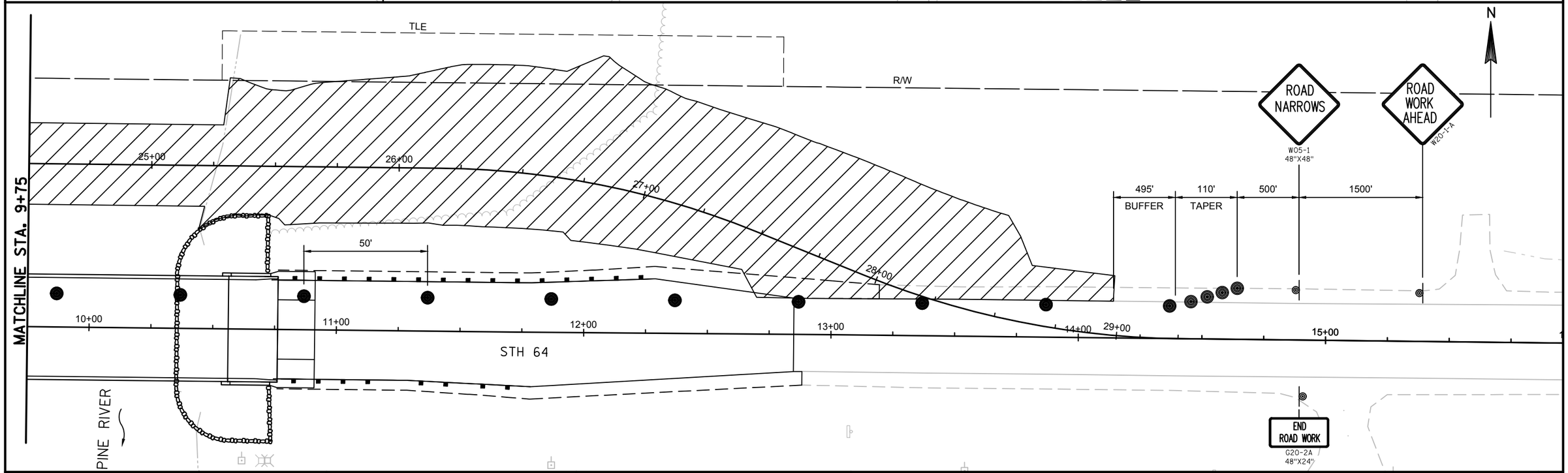
LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- SIGN ON TEMPORARY SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- xxxxxxx PAVEMENT MARKING REMOVAL
- TRAILER MOUNTED TRAFFIC SIGNAL

STAGE 3 WORK ITEMS

3. ALTERNATE SHOULDER CLOSURES (TRAFFIC ON STH 64 MAINLINE).
3.1 REMOVE TEMPORARY CRASH CUSHIONS AND BARRIER.
3.2 REMOVE TEMPORARY SIGNALS.
3.3 REMOVE TEMPORARY BYPASS INCLUDING TEMPORARY BRIDGE.
3.4 CONSTRUCT PERMANENT DRIVEWAYS INCLUDING CULVERTS.





PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	TRAFFIC CONTROL - STAGE 3	SHEET E

FILE NAME : P:\60548628\900_WORK\910_CAD\90000400\SHEETSPLAN\0253-TC.DWG
LAYOUT NAME - ----
PLOT DATE : 5/24/2019 1:43 PM PLOT BY : DOLAN, ISAAC PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

BYPASS

CURVE 1

PI STA = 20+66.05
Y = 121,601.774
X = 425,976.310
DELTA = 21°22'26"
D = 16°22'13"
T = 66.05'
L = 130.57'
R = 350.00'
PC STA = 20+00.00
Y = 121,602.532
X = 425,910.264
PT STA = 21+30.57
Y = 121,625.138
X = 426,038.090

CURVE 2

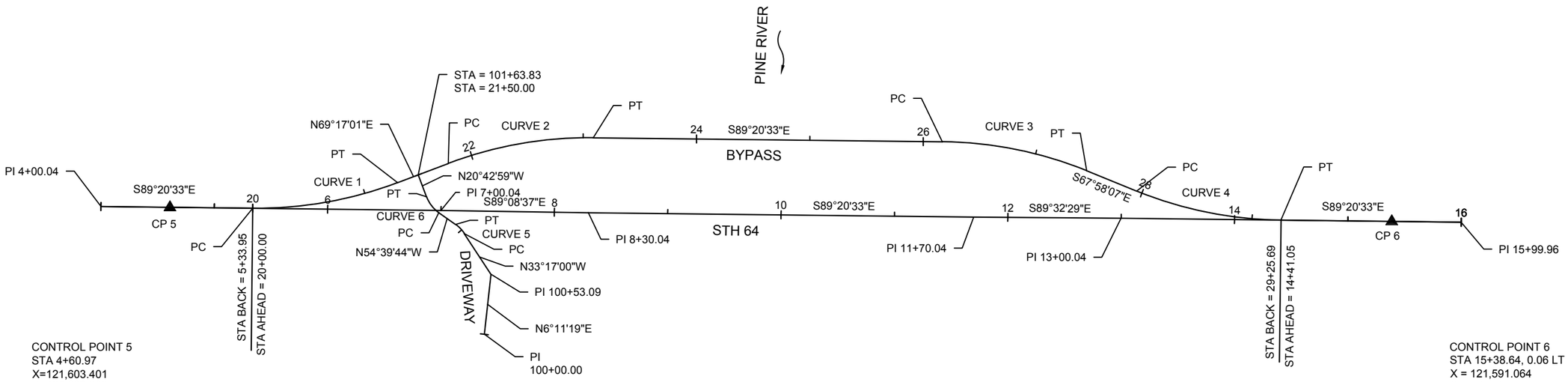
PI STA = 22+44.29
Y = 121,665.367
X = 426,144.460
DELTA = 21°22'26"
D = 16°22'13"
T = 66.05'
L = 130.57'
R = 350.00'
PC STA = 21+78.24
Y = 121,642.002
X = 426,082.680
PT STA = 23+08.80
Y = 121,664.609
X = 426,210.506

CURVE 3

PI STA = 26+82.93
Y = 121,660.315
X = 426,584.612
DELTA = 21°22'26"
D = 16°22'13"
T = 66.05'
L = 130.57'
R = 350.00'
PC STA = 26+16.88
Y = 121,661.073
X = 426,518.565
PT STA = 27+47.45
Y = 121,635.538
X = 426,645.839

CURVE 4

PI STA = 28+61.17
Y = 121,592.879
X = 426,751.258
DELTA = 21°22'26"
D = 16°22'13"
T = 66.05'
L = 130.57'
R = 350.00'
PC STA = 27+95.12
Y = 121,617.656
X = 426,690.030
PT STA = 29+25.69
Y = 121,592.121
X = 426,817.304



CONTROL POINT 5
STA 4+60.97
X=121,603.401
Y=425,837.289
ELEV = 1302.29

CONTROL POINT 6
STA 15+38.64, 0.06 LT
X = 121,591.064
Y = 426,914.891
ELEV = 1301.70

STH 64

PI STA = 4+00.00
Y = 121,604.069
X = 425,776.323

PI STA = 7+00.00
Y = 121,600.626
X = 426,076.303

PI STA = 8+30.00
Y = 121,598.683
X = 426,206.290

PI STA = 11+70.00
Y = 121,594.781
X = 426,546.268

PI STA = 13+00.00
Y = 121,593.740
X = 426,676.262

PI STA = 16+00.00
Y = 121,590.297
X = 426,976.243

DRIVEWAY

PI STA=100+00.00
Y = 121,491.563
X = 426,114.587

PI STA = 100+53.09
Y = 121,544.340
X = 426,120.310

CURVE 5

PI STA = 101+01.71
Y = 121584.991
X = 426093.624
DELTA = 21°22'44"
D = 190°59'09"
T = 5.66'
L = 11.19'
R = 30.00'
PC STA = 100+96.05
Y = 121,580.257
X = 426,096.732
PT STA =101+07.24
Y = 121,588.27
X = 426,089.00

CURVE 6

PI STA = 101+34.37
Y = 121603.953
X = 426066.880
DELTA = 33°56'46"
D = 190°59'09"
T = 9.16'
L = 17.77'
R = 30.00'
PC STA = 101+25.21
Y = 121,598.657
X = 426,074.350
PT STA = 101+42.98
Y = 121,612.517
X = 426,063.641

PI STA = 101+63.83
Y = 121,632.013
X = 426,056.268

PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	ALIGNMENT DIAGRAM	SHEET	E

9000-04-70

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	5.000	5.000
0004	201.0205	Grubbing	STA	5.000	5.000
0006	203.0100	Removing Small Pipe Culverts	EACH	2.000	2.000
0008	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. STA. 10+00	LS	1.000	1.000
0010	204.0165	Removing Guardrail	LF	690.000	690.000
0012	205.0100	Excavation Common	CY	7,907.000	7,907.000
0014	206.1000	Excavation for Structures Bridges (structure) 01. B-35-0117	LS	1.000	1.000
0016	208.0100	Borrow	CY	6,463.000	6,463.000
0018	210.1500	Backfill Structure Type A	TON	390.000	390.000
0020	213.0100	Finishing Roadway (project) 01. 9000-04-70	EACH	1.000	1.000
0022	305.0110	Base Aggregate Dense 3/4-Inch	TON	429.000	429.000
0024	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	3,538.000	3,538.000
0026	305.0500	Shaping Shoulders	STA	2.000	2.000
0028	311.0110	Breaker Run	TON	2,200.000	2,200.000
0030	415.0060	Concrete Pavement 6-Inch	SY	44.000	44.000
0032	415.0410	Concrete Pavement Approach Slab	SY	80.000	80.000
0034	416.0610	Drilled Tie Bars	EACH	10.000	10.000
0036	416.1010	Concrete Surface Drains	CY	3.600	3.600
0038	455.0605	Tack Coat	GAL	84.000	84.000
0040	460.2000	Incentive Density HMA Pavement	DOL	410.000	410.000
0042	460.6224	HMA Pavement 4 MT 58-28 S	TON	512.000	512.000
0044	465.0125	Asphaltic Surface Temporary	TON	425.000	425.000
0046	502.0100	Concrete Masonry Bridges	CY	448.000	448.000
0048	502.3200	Protective Surface Treatment	SY	699.000	699.000
0050	502.3210	Pigmented Surface Sealer	SY	152.000	152.000
0052	503.0155	Prestressed Girder Type I 54W-Inch	LF	666.000	666.000
0054	505.0400	Bar Steel Reinforcement HS Structures	LB	5,980.000	5,980.000
0056	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	59,870.000	59,870.000
0058	505.0800.S	Bar Steel Reinforcement HS Stainless Structures	LB	1,470.000	1,470.000
0060	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	12.000	12.000
0062	506.4000	Steel Diaphragms (structure) 01. B-35-0117	EACH	10.000	10.000
0064	516.0500	Rubberized Membrane Waterproofing	SY	26.000	26.000
0066	520.1024	Apron Endwalls for Culvert Pipe 24-Inch	EACH	2.000	2.000
0068	520.2024	Culvert Pipe Temporary 24-Inch	LF	246.000	246.000
0070	520.3324	Culvert Pipe Class III-A 24-Inch	LF	50.000	50.000
0072	521.1012	Apron Endwalls for Culvert Pipe Steel 12-Inch	EACH	2.000	2.000
0074	522.2419	Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 19x30-Inch	LF	38.000	38.000

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Line	Item	Item Description	Unit	Total	Qty
0076	522.2619	Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 19x30-Inch	EACH	2.000	2.000
0078	526.0100	Temporary Structure (station) 01. STA. 24+75	LS	1.000	1.000
0080	550.0500	Pile Points	EACH	26.000	26.000
0082	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	1,365.000	1,365.000
0084	603.8000	Concrete Barrier Temporary Precast Delivered	LF	1,261.000	1,261.000
0086	603.8125	Concrete Barrier Temporary Precast Installed	LF	1,261.000	1,261.000
0088	606.0200	Riprap Medium	CY	4.000	4.000
0090	606.0300	Riprap Heavy	CY	450.000	450.000
0092	611.0654	Inlet Covers Type V	EACH	2.000	2.000
0094	611.3220	Inlets 2x2-FT	EACH	2.000	2.000
0096	612.0212	Pipe Underdrain Unperforated 12-Inch	LF	50.000	50.000
0098	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	170.000	170.000
0100	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0102	614.0397	Guardrail Mow Strip Emulsified Asphalt	SY	14.000	14.000
0104	614.0905	Crash Cushions Temporary	EACH	4.000	4.000
0106	614.2300	MGS Guardrail 3	LF	150.000	150.000
0108	614.2500	MGS Thrie Beam Transition	LF	157.600	157.600
0110	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0112	618.0100	Maintenance And Repair of Haul Roads (project) 01. 9000-04-70	EACH	1.000	1.000
0114	619.1000	Mobilization	EACH	1.000	1.000
0116	624.0100	Water	MGAL	38.000	38.000
0118	625.0100	Topsoil	SY	4,890.000	4,890.000
0120	628.1104	Erosion Bales	EACH	12.000	12.000
0122	628.1504	Silt Fence	LF	1,330.000	1,330.000
0124	628.1520	Silt Fence Maintenance	LF	1,330.000	1,330.000
0126	628.1905	Mobilizations Erosion Control	EACH	7.000	7.000
0128	628.1910	Mobilizations Emergency Erosion Control	EACH	6.000	6.000
0130	628.2006	Erosion Mat Urban Class I Type A	SY	9,940.000	9,940.000
0132	628.6005	Turbidity Barriers	SY	480.000	480.000
0134	628.7504	Temporary Ditch Checks	LF	25.000	25.000
0136	628.7555	Culvert Pipe Checks	EACH	18.000	18.000
0138	628.7570	Rock Bags	EACH	46.000	46.000
0140	629.0210	Fertilizer Type B	CWT	4.000	4.000
0142	630.0120	Seeding Mixture No. 20	LB	195.000	195.000
0144	630.0200	Seeding Temporary	LB	85.000	85.000
0146	630.0500	Seed Water	MGAL	141.000	141.000
0148	638.2602	Removing Signs Type II	EACH	4.000	4.000
0150	638.3000	Removing Small Sign Supports	EACH	4.000	4.000

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Line	Item	Item Description	Unit	Total	Qty
0152	642.5001	Field Office Type B	EACH	1.000	1.000
0154	643.0300	Traffic Control Drums	DAY	2,375.000	2,375.000
0156	643.0420	Traffic Control Barricades Type III	DAY	600.000	600.000
0158	643.0705	Traffic Control Warning Lights Type A	DAY	900.000	900.000
0160	643.0715	Traffic Control Warning Lights Type C	DAY	950.000	950.000
0162	643.0900	Traffic Control Signs	DAY	2,220.000	2,220.000
0164	643.1050	Traffic Control Signs PCMS	DAY	42.000	42.000
0166	643.5000	Traffic Control	EACH	1.000	1.000
0168	645.0111	Geotextile Type DF Schedule A	SY	130.000	130.000
0170	645.0120	Geotextile Type HR	SY	800.000	800.000
0172	645.0135	Geotextile Type SR	SY	4,190.000	4,190.000
0174	645.0220	Geogrid Type SR	SY	4,190.000	4,190.000
0176	646.1005	Marking Line Paint 4-Inch	LF	2,050.000	2,050.000
0178	646.9000	Marking Removal Line 4-Inch	LF	755.000	755.000
0180	649.0105	Temporary Marking Line Paint 4-Inch	LF	396.000	396.000
0182	649.0150	Temporary Marking Line Removable Tape 4-Inch	LF	581.000	581.000
0184	649.0805	Temporary Marking Stop Line Paint 18-Inch	LF	28.000	28.000
0186	650.4500	Construction Staking Subgrade	LF	1,468.000	1,468.000
0188	650.6000	Construction Staking Pipe Culverts	EACH	4.000	4.000
0190	650.6500	Construction Staking Structure Layout (structure) 01. B-35-0117	LS	1.000	1.000
0192	650.9910	Construction Staking Supplemental Control (project) 01. 9000-04-70	LS	1.000	1.000
0194	650.9920	Construction Staking Slope Stakes	LF	2,258.000	2,258.000
0196	661.0100	Temporary Traffic Signals for Bridges (structure) 01. B-35-0117	LS	1.000	1.000
0198	690.0150	Sawing Asphalt	LF	60.000	60.000
0200	715.0415	Incentive Strength Concrete Pavement	DOL	340.000	340.000
0202	715.0502	Incentive Strength Concrete Structures	DOL	2,688.000	2,688.000
0204	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	1,200.000	1,200.000
0206	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	600.000	600.000
0208	SPV.0105	Special 01. Temporary Vehicle Detection for Bridges (B-35-0117)	LS	1.000	1.000

3

EARTHWORK

STAGE	FROM/TO STATION	LOCATION	COMMON EXCAVATION (1) (ITEM #205.0100)	SALVAGED/ UNUSABLE PAVEMENT MATERIAL (3)	AVAILABLE MATERIAL (4)	UNEXPANDED FILL	EXPANDED FILL (5)	MASS ORDINATE +/- (6)	WASTE	BORROW (ITEM #208.0100)	COMMENT
			CUT (2)				FACTOR 1.25				
1	20+26 to 28+97	TEMPORARY BYPASS (CAT. 0030)	98	0	98	5212	6515	-6417	0	-6417	
1	100+55 to 100+95	TEMPORARY DRIVEWAY (CAT. 0030)	1	0	1	38	47	-46	0	-46	
		STAGE 1 SUBTOTAL	**99**	**0**	**99**	**5250**	**6562**	**-6463**	**0**	**6463**	
2	7+17 to 12+89	MAINLINE (CAT. 0010)	2390	136	2253	121	151	2102	2102	0	
		STAGE 2 SUBTOTAL	**2390**	**136**	**2253**	**121**	**151**	**2102**	**2102**	**0**	
3	20+26 to 28+98	TEMP. BYPASS REMOVAL (CAT. 0030)	5418	167	5250	36	45	5205	5205	0	
		STAGE 3 SUBTOTAL	**5418**	**167**	**5250**	**36**	**45**	**5205**	**5205**	**0**	
		COMBINED SUBTOTALS	**7906**	**304**	**7603**	**5407**	**6758**	**844**	**7307**	**6463**	
		CAT. 0010 TOTAL COMMON EXC.	**2390**						**CAT. 0010 TOTAL BORROW**	**0**	
		CAT. 0030 TOTAL COMMON EXC.	**5517**						**CAT. 0030 TOTAL BORROW**	**6463**	
		GRAND TOTAL COMMON EXC.	**7906**						**GRAND TOTAL BORROW**	**6463**	

1) COMMON EXCAVATION IS THE SUM OF THE CUT COLUMN. ITEM NUMBER 205.0100

2) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT QUANTITY.

3) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS BITUMINOUS/CONCRETE MATERIAL THAT IS EXCLUDED FROM AVAILABLE MATERIAL QUANTITY.

4) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL

5) EXPANDED FILL. EXPANSION FACTOR = 1.25

6) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE STAGE. A PLUS (POSITIVE) QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE STAGE. A MINUS (NEGATIVE) INDICATES A SHORTAGE OF MATERIAL WITHIN THE STAGE.

3

CLEARING AND GRUBBING (CAT. 0030)

STATION	-	STATION	201.0150 CLEARING	201.0205 GRUBBING
7+30	-	9+53	3	3
10+44	-	12+29	2	2
PROJECT 9000-04-70 TOTAL			**5**	**5**

REMOVING SMALL PIPE CULVERTS (CAT. 0010)

STATION	OFFSET	TYPE	SIZE IN	LENGTH FT	203.0100 REMOVING SMALL PIPE CULVERTS EACH
6+30	27' LT	CMCP	24	25	1
7+47	44' RT	CMCP	24	32	1
PROJECT 9000-04-70 TOTAL					**2**

REMOVING GUARDRAIL (CAT. 0010)

STATION	-	STATION	OFFSET	204.0165 REMOVING GUARDRAIL LF
7+91	-	7+59	RT	170
7+91	-	7+59	LT	170
10+40	-	12+09	LT	170
10+40	-	12+12	RT	180
PROJECT 9000-04-70 TOTAL				**690**

3

FINISHING ROADWAY (CAT. 0010)

PROJECT	213.0100 FINISHING ROADWAY EACH
9000-04-70	1
PROJECT 9000-04-70 TOTAL	**1**

SHAPING SHOULDERS (CAT. 0010)

STATION	-	STATION	LOCATION	305.0500 SHAPING SHOULDERS STA
5+29	-	5+59	LT	1
13+19	-	14+14	LT	1
PROJECT 9000-04-70 TOTAL				**2**

BASE AGGREGATE DENSE

STATION	-	STATION	LOCATION	305.0110 3/4-INCH TON	305.0120 1 1/4-INCH TON	311.0100 BREAKER RUN TON	624.0100 WATER MGAL	CATEGORY
STAGE 1								
5+51			DRIVEWAY LT	45	---	---	0.5	0010
20+26	-	28+97	TEMPORARY BYPASS	---	980	---	9.8	0030
7+46			TEMPORARY DRIVEWAY RT	55	---	---	0.6	0030
UNDISTRIBUTED				10	100	0	1.1	0030
STAGE 1 SUBTOTAL				110	1080	0	12.0	
STAGE 2								
7+17	-	9+27	SHOULDER LT	45	---	---	0.5	0010
7+17	-	9+24	SHOULDER RT	40	---	---	0.4	0010
7+17	-	9+27	MAINLINE	---	940	990	9.4	0010
10+76	-	12+85	MAINLINE	---	960	1010	9.6	0010
10+76	-	12+65	SHOULDER LT	35	---	---	0.4	0010
10+76	-	12+89	SHOULDER RT	45	---	---	0.5	0010
UNDISTRIBUTED				15	190	200	2.2	0010
STAGE 2 SUBTOTAL				180	2090	2200	23.0	
STAGE 3								
5+59	-	7+17	SHOULDER LT	55	55	---	1.1	0010
6+86	-	7+17	SHOULDER RT	15	15	---	0.3	0010
7+46			DRIVEWAY RT	25	---	---	0.3	0010
12+65	-	13+19	SHOULDER LT	30	25	---	0.6	0010
UNDISTRIBUTED				15	15	0	0.7	0010
STAGE 3 SUBTOTAL				140	110	0	3.0	
CATEGORY 0010 TOTAL				364	2200	2200	26.5	
CATEGORY 0030 TOTAL				65	1080	0	11.5	
PROJECT 9000-04-70 TOTAL				**430**	**3,280**	**2,200**	**38**	

3

CONCRETE ITEMS (CAT. 0010)

STATION	-	STATION	LOCATION	415.0060 CONCRETE PAVEMENT 6-INCH SY	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY
9+08	-	9+24	RT/LT	17	40
10+76	-	10+91	RT/LT	27	40
PROJECT 9000-04-70 TOTAL				**44**	**80**

CONCRETE SURFACE DRAIN (CAT. 0010)

STATION	-	STATION	LOCATION	416.0610 DRILLED TIE BARS EACH	416.1010 CONCRETE SURFACE DRAINS CY	521.1012 APRON ENDWALL FOR CULVERT PIPE STEEL 12-INCH EACH	606.0200 RIPRAP MEDIUM CY	611.3220 INLETS 2x2-FT EACH	611.0654 INLET COVER TYPE V EACH	612.0212 PIPE UNDERDRAIN UNPERFORATED 12-INCH LF	645.0120 GEOTEXTILE TYPE HR SY
9+02	-	9+24	LT	5	1.8	---	---	---	---	---	---
9+02	-	9+24	RT	5	1.8	---	---	---	---	---	---
9+07			RT	---	---	1	2	1	1	25	10
9+08			LT	---	---	1	2	1	1	25	10
PROJECT 9000-04-70 TOTAL				**10**	**3.6**	**2**	**4**	**2**	**2**	**50**	**20**

3

ASPHALT PAVEMENT ITEMS

STATION	-	STATION	OFFSET	LOCATION	455.0605 TACK COAT (CAT. 0010) GAL	465.0125 ASPHALTIC SURFACE TEMPORARY (CAT. 0030) TON	460.6224 HMA PAVEMENT 4 MT 58-28 S (CAT. 0010) TON
20+26	-	28+97		TEMPORARY BYPASS	---	425	---
7+17	-	12+85		UPPER MAINLINE	84	---	195
7+17	-	12+85		LOWER MAINLINE	---	---	317
PROJECT 9000-04-70 TOTAL					**84**	**425**	**512**

CULVERT PIPES

STATION	OFFSET	520.1024 APRON ENDWALLS FOR CULVERT PIPE 24-INCH EACH	520.2024 CULVERT PIPE TEMPORARY 24-INCH LF	520.3324 CULVERT PIPE CLASS III-A* 24-INCH LF	522.2419 CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 19X30-INCH LF	522.2619 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 19X30-INCH EACH	CATEGORY
STAGE 1							
5+51	29' RT	---	---	---	38	2	0010
21+40	3' LT	---	187	---	---	---	0030
7+51	45' RT	---	59	---	---	---	0030
STAGE 1 SUBTOTAL		0	246	0	38	2	
STAGE 3							
7+51	45' RT	2	---	50	---	---	0010
STAGE 3 SUBTOTAL		2	0	50	0	0	
CATEGORY 0010 TOTAL		2	0	50	38	2	
CATEGORY 0030 TOTAL		0	246	0	0	0	
PROJECT 9000-04-70 TOTAL		**2**	**246**	**50**	**38**	**2**	

MINIMUM THICKNESS FOR STEEL CULVERT PIPE:
18-INCH THROUGH 24-INCH = 0.064 INCHES

***Class III-A pipe lengths were estimated using reinforced concrete as the default material for both the culvert pipe and apron endwalls. Adjust accordingly if other pipe material is used.**

GUARDRAIL (CAT. 0010)

STATION	-	STATION	OFFSET	614.0397 GUARDRAIL MOW STRIP EMULSIFIED ASPHALT SY	614.2300 MGS GUARDRAIL 3 LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH
STAGE 2							
7+71	-	8+24	20' RT	---	---	---	1
8+24	-	8+87	20' RT	---	62.5	---	---
8+87	-	9+26	20' RT	---	---	39.4	---
10+73	-	10+91	20'-23.5' RT	7	---	---	---
10+74	-	11+13	20' RT	---	---	39.4	---
11+13		11+26	20' RT	---	12.5	---	---
11+26	-	11+79	20' RT	---	---	---	1
8+21	-	8+74	20' LT	---	---	---	1
8+74	-	8+87	20' LT	---	12.5	---	---
8+87	-	9+26	20' LT	---	---	39.4	---
10+73	-	10+91	20'-23.5' LT	7	---	---	---
10+74	-	11+13	20' LT	---	---	39.4	---
11+13	-	11+76	20' LT	---	62.5	---	---
11+76	-	12+29	20' LT	---	---	---	1
PROJECT 9000-04-70 TOTAL				**14**	**150**	**157.6**	**4**

EROSION CONTROL MOBILIZATION

STAGE	619.1905 MOBILIZATIONS EROSION CONTROL EACH	619.1910 MOBILIZATION EMERGENCY EROSION CONTROL EACH	CATEGORY
STAGE 1	1	1	0030
UNDISTRIBUTED	1	1	0030
STAGE 1 SUBTOTAL	2	2	
STAGE 2	1	1	0010
UNDISTRIBUTED	1	1	0010
STAGE 2 SUBTOTAL	2	2	
STAGE 3	2	1	0010
UNDISTRIBUTED	1	1	0010
STAGE 3 SUBTOTAL	3	2	
CATEGORY 0010 TOTAL	5	4	
CATEGORY 0030 TOTAL	2	2	
PROJECT 9000-04-70 TOTAL	**7**	**6**	

EROSION CONTROL

STATION	-	STATION	OFFSET	628.1104 EROSION BALES* EACH	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.6005 TURBIDITY BARRIERS SY	628.7504 TEMPORARY DITCH CHECK LF	628.7555 CULVERT PIPE CHECKS EACH	628.7570 ROCK BAGS EACH	CATEGORY
STAGE 1											
5+25			LT	---	---	---	---	---	3	---	0010
20+45			LT	---	---	---	---	---	3	---	0030
7+09			RT	---	---	---	---	---	3	---	0030
22+25	-	24+14	LT	---	210	210	---	---	---	---	0030
23+50			RT	---	---	---	---	10	---	---	0030
24+03			LT	---	---	---	---	---	---	16	0030
24+15	-	24+31	LT/RT	---	---	---	100	---	---	---	0030
9+57	-	9+36	LT/RT	---	---	---	150	---	---	---	0010
25+32	-	28+98	LT	---	388	388	---	---	---	---	0030
25+16	-	25+34	LT/RT	---	---	---	90	---	---	---	0030
26+50			RT	---	---	---	---	10	---	---	0030
26+52			LT	---	---	---	---	---	---	16	0030
10+40	-	10+57	LT/RT	---	---	---	140	---	---	---	0010
UNDISTRIBUTED				12	150	150	---	5	3	13	0030
STAGE 1 SUBTOTAL				12	748	748	480	25	12	45	
STAGE 2											
7+79	-	9+48	RT	---	203	203	---	---	---	---	0010
10+49	-	12+89	RT	---	260	260	---	---	---	---	0010
UNDISTRIBUTED				---	119	119	---	---	---	---	0010
STAGE 2 SUBTOTAL				0	582	582	0	0	0	0	
STAGE 3											
7+20			RT	---	---	---	---	---	3	---	0010
UNDISTRIBUTED				---	---	---	---	---	---	1	0010
STAGE 3 SUBTOTAL				0	0	0	0	0	3	1	
CATEGORY 0010 TOTAL				0	582	582	290	0	6	1	
CATEGORY 0030 TOTAL				12	748	748	190	25	12	45	
PROJECT 9000-04-70 TOTAL				**12**	**1,330**	**1,330**	**480**	**25**	**18**	**46**	

***SILT FENCE RELIEFS - PLAN DETAIL SHOWS ROCK BAGS SO ROCK BAGS ARE INCLUDED IN THE MISCELLANEOUS QUANTITIES TABLE ABOVE. ROCK BAGS CAN BE SUBSTITUTED WITH EROSION BALES WHICH ARE INCLUDED IN TABLE ABOVE AS UNDISTRIBUTED.**

CONCRETE BARRIER (CAT. 0030)

STATION	-	STATION	LOCATION	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED LF	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED LF	614.0905 CRASH CUSHION TEMPORARY EACH	CRASH CUSHION CONSTRUCTION DETAILS					
							BACK WIDTH FT	OBJECT MARKING PATTERN	CRASH TEST LEVEL	TRAFFIC DIRECTION	TRAFFIC LOCATION	CRASH CUSHION SHIELDS
STAGE 2												
	21+94		TEMP BYPASS RT	---	---	1	2	OM-3R (W5-58R)	TL-2	UNIDIRECTIONAL	L	STEEP SLOPES/TEMPORARY BARRIER END
22+22	-	27+74	TEMP BYPASS RT	569	569	---	---	---	---	---	---	---
	27+74		TEMP BYPASS RT	---	---	1	2	OM-3L (W5-58L)	TL-2	UNIDIRECTIONAL	R	STEEP SLOPES/TEMPORARY BARRIER END
	21+21		TEMP BYPASS LT	---	---	1	2	OM-3L (W5-58L)	TL-2	UNIDIRECTIONAL	R	STEEP SLOPES/TEMPORARY BARRIER END
21+47	-	28+25	TEMP BYPASS LT	692	692	---	---	---	---	---	---	---
	28+25		TEMP BYPASS LT	---	---	1	2	OM-3R (W5-58R)	TL-2	UNIDIRECTIONAL	L	STEEP SLOPES/TEMPORARY BARRIER END
PROJECT 9000-04-70 TOTAL				**1,261**	**1,261**	**4**						

LANDSCAPING

STATION	-	STATION	LOCATION	625.0100 TOPSOIL SY	628.2006 EROSION MAT URBAN CLASS I TYPE A SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0200 SEEDING TEMPORARY LB	630.0500 SEED WATER MGAL	CATEGORY
STAGE 1										
20+27	-	21+02	LT	70	70	---	---	2	1.00	0030
21+08	-	24+20	LT	600	600	---	---	17	8.40	0030
21+47	-	24+28	RT	300	300	---	---	8	4.20	0030
7+07	-	7+38	RT	110	110	---	---	3	1.60	0030
25+19	-	27+80	RT	310	310	---	---	9	4.40	0030
25+28	-	28+97	LT	990	990	---	---	27	14.00	0030
UNDISTRIBUTED				600	600	---	---	19	8.40	0030
STAGE 1 SUBTOTAL				2,980	2,980	0	0	85	42.00	
STAGE 2										
7+31	-	9+27	LT	220	220	0.1	6	---	3.20	0010
7+84	-	9+27	RT	270	270	0.2	8	---	3.80	0010
10+72	-	12+33	LT	220	220	0.1	6	---	3.20	0010
10+73	-	12+88	RT	480	480	0.3	13	---	6.80	0010
UNDISTRIBUTED				300	300	0.2	12	---	5.00	0010
STAGE 2 SUBTOTAL				1,490	1,490	1	45	---	22.00	
STAGE 3										
5+59	-	6+23	LT	110	110	0.1	3	---	1.60	0010
6+35	-	9+53	LT	---	1,900	1.2	52	---	26.60	0030
6+86	-	7+40	RT	150	150	0.1	4	---	2.20	0010
7+52	-	7+84	RT	70	70	0.0	2	---	1.00	0010
10+44	-	14+14	LT	---	2,140	1.3	58	---	30.00	0030
UNDISTRIBUTED				90	1,100	0.7	31	---	15.60	0030
STAGE 3 SUBTOTAL				420	5,470	3	150	---	77.00	
CATEGORY 0010 TOTAL				1,820	1,820	1	54	---	27	
CATEGORY 0030 TOTAL				3,070	8,120	3	141	85	114	
PROJECT 9000-04-70 TOTAL				**4,890**	**9,940**	**4**	**195**	**85**	**141**	

MOBILIZATION (CAT. 0010)

PROJECT	619.1000 MOBILIZATION EACH
9000-04-70	1
PROJECT 9000-04-70 TOTAL	1

PERMANENT SIGNING (CAT. 0010)

STATION	OFFSET	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
9+59	16' RT	1	1	TIGER BOARD
9+59	16' LT	1	1	TIGER BOARD
10+42	16' RT	1	1	TIGER BOARD
10+42	16' LT	1	1	TIGER BOARD
PROJECT 9000-04-70 TOTAL		**4**	**4**	

FIELD OFFICE (CAT. 0010)

PROJECT	642.5001 TYPE B EACH
9000-04-70	1
PROJECT 9000-04-70 TOTAL	1

TRAFFIC CONTROL

LOCATION	DAYS IN SERVICE	643.0300 TRAFFIC CONTROL DRUMS NO.	643.0300 TRAFFIC CONTROL DRUMS DAY	643.0420 TRAFFIC CONTROL BARRICADES TYPE III NO.	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A NO.	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C NO.	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C DAY	643.0900 TRAFFIC CONTROL SIGNS NO.	643.0900 TRAFFIC CONTROL SIGNS DAY	661.0100 TEMPORARY TRAFFIC SIGNAL FOR BRIDGES (B-35-0117) LS	SPV.0105.01 TEMPORARY VEHICLE DETECTION FOR BRIDGES (B-35-0117) LS	CATEGORY
STAGE 1	30	31	930	---	---	---	---	---	---	6	180	1	1	0030
STAGE 1 SUBTOTAL			930		0		0		0	6	180	1	1	
STAGE 2	50	19	950	12	600	18	900	19	950	39	1,950	---	---	0010
STAGE 2 SUBTOTAL			950		600		900		950		1,950	0	0	
STAGE 3	15	33	495	---	---	---	---	---	---	6	90	---	---	0030
STAGE 3 SUBTOTAL			495		0		0		0		90	0	0	
CATEGORY 0010 TOTAL			950		600		900		950		1950	0	0	
CATEGORY 0030 TOTAL			1425		0		0		0		270	1	1	
PROJECT 9000-04-70 TOTAL			**2375**		**600**		**900**		**950**		**2220**	**1**	**1**	

TRAFFIC CONTROL SIGNS PCMS (CAT. 0010)

LOCATION	STAGE	DAYS IN SERVICE	643.1050 TRAFFIC CONTROL SIGNS PCMS NO.	643.1050 TRAFFIC CONTROL SIGNS PCMS DAY
STH 64 - EAST PROJECT APPROACH	PRIOR TO STAGE 1	7	1	7
STH 64 - WEST PROJECT APPROACH	PRIOR TO STAGE 1	7	1	7
STH 64 - EAST PROJECT APPROACH	PRIOR TO STAGE 2	7	1	7
STH 64 - WEST PROJECT APPROACH	PRIOR TO STAGE 2	7	1	7
STH 64 - EAST PROJECT APPROACH	PRIOR TO STAGE 3	7	1	7
STH 64 - WEST PROJECT APPROACH	PRIOR TO STAGE 3	7	1	7
PROJECT 9000-04-70 TOTAL				**42**

TRAFFIC CONTROL (CAT. 0010)

PROJECT	643.5000 TRAFFIC CONTROL 9000-04-70 EACH
9000-04-70	1
PROJECT 9000-04-70 TOTAL	1

3

GEOTEXTILE AND GEOGRID (CAT. 0030)

STATION	-	STATION	645.0135 GEOTEXTILE TYPE SR SY	645.0220 GEOGRID TYPE SR SY
5+59	-	9+53	2110	2110
10+44	-	14+15	2080	2080
PROJECT 9000-04-70 TOTAL			**4190**	**4190**

MARKING LINE ITEMS (CAT. 0010)

STATION	-	STATION	TYPE	646.1005 MARKING LINE PAINT 4-INCH YELLOW LF	646.1005 MARKING LINE PAINT 4-INCH WHITE LF
5+34	-	14+87	CENTERLINE (DASHED)	238	---
5+34	-	14+41	EDGELINE RT (SOLID)	---	906
5+34	-	14+41	EDGELINE LT (SOLID)	---	906
5+34	-	14+50	CENTERLINE	---	---
SUBTOTAL				**238**	**1,812**
PROJECT 9000-04-70 TOTAL				**2,050**	

TEMPORARY PAVEMENT MARKING ITEMS (CAT. 0030)

STATION	-	STATION	TYPE	649.0105 TEMPORARY MARKING LINE PAINT 4-INCH YELLOW LF	649.0105 TEMPORARY MARKING LINE PAINT 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 LF	649.0805 TEMPORARY MARKING STOP LINE PAINT 18-INCH WHITE LF	646.9000 MARKING REMOVAL LINE 4-INCH LF
STAGE 2									
5+33	-	6+33	CENTERLINE	---	---	---	---	---	---
5+33	-	7+18	CENTERLINE (DASHED)	---	---	---	---	---	38
5+33	-	7+18	EDGELINE (SOLID)	---	---	---	---	---	366
20+00	-	20+25	EDGELINE (SOLID)	---	---	---	25	---	---
20+00	-	21+03	CENTERLINE (DOUBLE SOLID)	---	---	206	---	---	---
20+00	-	21+41	EDGELINE (SOLID)	---	---	---	146	---	---
20+25	-	21+22	EDGELINE (SOLID)	---	97	---	---	---	---
21+03	-	22+25	CENTERLINE (DOUBLE SOLID)	245	---	---	---	---	---
21+41	-	21+95	EDGELINE (SOLID)	---	54	---	---	---	---
22+25			STOP BAR	---	---	---	---	14	---
12+84	-	14+41	CENTERLINE (DASHED)	---	---	---	---	---	38
12+84	-	14+41	EDGELINE (SOLID)	---	---	---	---	---	314
13+53	-	14+41	CENTERLINE	---	---	---	---	---	---
28+00	-	29+25	EDGELINE (SOLID)	---	---	---	131	---	---
28+50	-	29+25	EDGELINE (SOLID)	---	---	---	73	---	---
29+25			STOP BAR	---	---	---	---	14	---
STAGE 2 SUBTOTAL				245	151	206	375	28	755
PROJECT 9000-04-70 TOTAL				**396**		**581**		**28**	**755**

FILE NAME: \\P:\60548628\900_Work\910_CAD\90000400\SheetsPlan\030201_MQ.pptx ORIGINATOR: DILLON SCHMENK ORIG. DATE: AUGUST 20, 2018 PLOTTED DATE: 5/30/2019 12:12 PM

CONSTRUCTION STAKING

STATION	-	STATION	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.6000 CONSTRUCTION STAKING PIPE CULVERTS EACH	650.9910 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL 9000-04-70 LS	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT B-35-0117 LS	CATEGORY
STAGE 1								
5+51 L			---	1	---	---	---	0010
21+40 L			---	1	---	---	---	0030
20+00	-	29+00	900	---	---	900	---	0030
7+48 R			---	1	---	---	---	0030
STAGE 1 SUBTOTAL			900	3	0	900	0	
STAGE 2								
7+18	-	12+85	568	---	1	568	1	0010
STAGE 2 SUBTOTAL			568	0	1	568	1	
STAGE 3								
5+29	-	7+18	189	---	---	189	---	0010
7+18	-	12+85	---	---	---	567	---	0010
12+85	-	13+19	34	---	---	34	---	0010
7+48 R			---	1	---	---	---	0010
STAGE 3 SUBTOTAL			223	1	0	790	0	
CATEGORY 0010 TOTAL			568	2	1	1358	1	0010
CATEGORY 0030 TOTAL			900	2	0	900	0	0030
PROJECT 9000-04-70 TOTAL			**1,468**	**4**	**1**	**2,258**	**1**	

SAWING ASPHALT (CAT. 0010)

STATION	LOCATION	690.0150 SAWING ASPHALT LF
7+18	STH 64	30
12+85	STH 64	30
PROJECT 9000-04-70 TOTAL		**60**

CONVENTIONAL SYMBOLS

SECTION LINE
QUARTER LINE
SIXTEENTH LINE
NEW REFERENCE LINE
NEW R/W LINE
EXISTING R/W OR HE LINE
PROPERTY LINE — P.L.
LOT, TIE & OTHER MINOR LINES
SLOPE INTERCEPT
CORPORATE LIMITS
NEW R/W (FEE OR HE) (HATCHING VARIES BY OWNER)
TEMPORARY LIMITED EASEMENT AREA
EASEMENT AREA (PERMANENT LIMITED OR RESTRICTED DEVELOPMENT)
PARALLEL OFFSETS

SECTION CORNER SYMBOL (18 / 23 24 / 26 25 / 9)
SECTION CORNER MONUMENT
GEODETIC SURVEY MONUMENT
SIXTEENTH CORNER MONUMENT
SIGN — SIGN
OFF-PREMISE SIGN — I-25 — SIGN

R/W MONUMENT (TO BE SET)
NON-MONUMENTED R/W POINT
FOUND IRON PIN (1-INCH UNLESS NOTED) IP *

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)
R/W BOUNDARY POINT (200)
TLE BOUNDARY POINT (300)
BUILDING — TO BE REMOVED

CONVENTIONAL UTILITY SYMBOLS

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

	NON COMPENSABLE	COMPENSABLE
POWER POLE		
TELEPHONE POLE		
TELEPHONE PEDESTAL		
ELECTRIC TOWER		
LIGHTING POLE		
HYDRANT		
INLET/CATCH BASIN	INL	
MANHOLE		
WATER VALVE		
SEPTIC VALVE	SEPV	
UTILITY POLE		
TANK	T	
AIR CONDITIONING UNIT	A/C	
ANTENNA	ANT	
MONITORING WELL		
CONCRETE MONUMENT		

CONVENTIONAL ABBREVIATIONS

ACCESS POINT/ DRIVEWAY CONNECTION	AP	PERMANENT LIMITED EASEMENT	PLE
ACCESS RIGHTS	AR	PROPERTY LINE	PL
ACRES	AC	RECORDED AS	(100')
AND OTHERS	ET AL	REFERENCE LINE	R/L
CENTERLINE	C/L	RELEASE OF RIGHTS	ROR
CERTIFIED SURVEY MAP	CSM	REMAINING	REM
CORNER	COR	RESTRICTED DEVELOP EASEMENT	RDE
DOCUMENT	DOC	RIGHT-OF-WAY	R/W
EASEMENT	EASE	SECTION	SEC
HIGHWAY EASEMENT	HE	STATION	STA
LAND CONTRACT	LC	TEMPORARY LIMITED EASEMENT	TLE
MONUMENT	MON	VOLUME	V
PAGE	P		

CURVE DATA

LONG CHORD	LCH
LONG CHORD BEARING	LCB
RADIUS	R
DEGREE OF CURVE	D
CENTRAL ANGLE OR DELTA	Δ/DELTA
LENGTH OF CURVE	L
TANGENT	TAN

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATE SYSTEM COORDINATES (WISCORS), LINCOLN 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.

ALL NEW RIGHT-OF-WAY MONUMENTS WILL BE TYPE 2 (TYPICALLY 3/4"X24" IRON REBARS) UNLESS OTHERWISE NOTED, AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

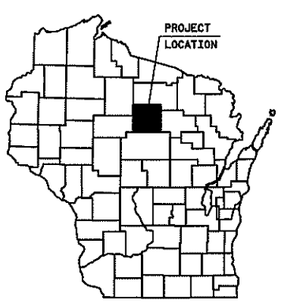
RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER "SURVEYS" OF PUBLIC RECORD.

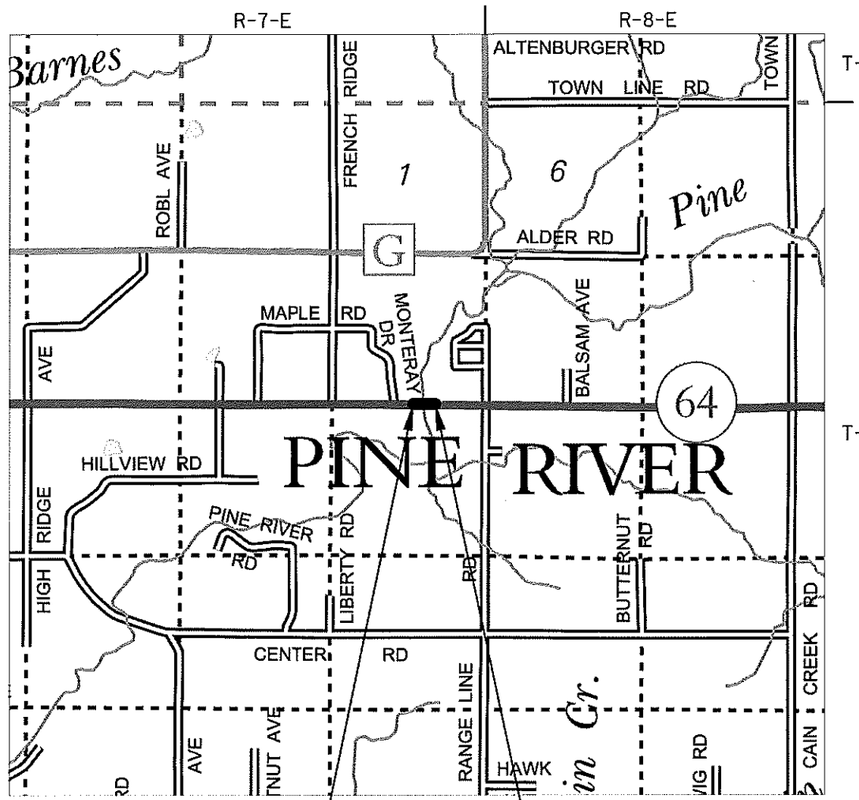
DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO THE NEW REFERENCE LINES.

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 DEPARTMENT MAY DEEM DESIRABLE. ALL (TLEs) ON THIS PLAT EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

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 WISCONSIN DEPARTMENT OF TRANSPORTATION.





BEGIN RELOCATION ORDER
STATION 6+59.80
4.15' NORTH AND 130.71' EAST OF THE SOUTH QUARTER CORNER OF SECTION 12, T31N, R7E.

END RELOCATION ORDER
STATION 13+08.91
3.30' SOUTH AND 779.77' EAST OF THE SOUTH QUARTER CORNER OF SECTION 12, T31N, R7E.

N

LAYOUT
SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.160 MI.

R/W PROJECT NUMBER	SHEET NUMBER	TOTAL SHEETS
9000-04-20	4.01	2
FEDERAL PROJECT NUMBER		

PLAT OF RIGHT-OF-WAY REQUIRED FOR
MERRILL - ANTIGO
PINE RIVER BRIDGE, B-35-0117
STH 64 LINCOLN COUNTY

CONSTRUCTION PROJECT NUMBER
9000-04-70

ORIGINAL PLAT PREPARED BY
AECOM

WISCONSIN
DONALD J. BUZA
S-2338
CUSTER, WI
LAND SURVEYOR

Donald J Buza
DONALD J. BUZA, PLS-2338

DATE: 10/18/2018

REVISION DATE
9/23/19 NC

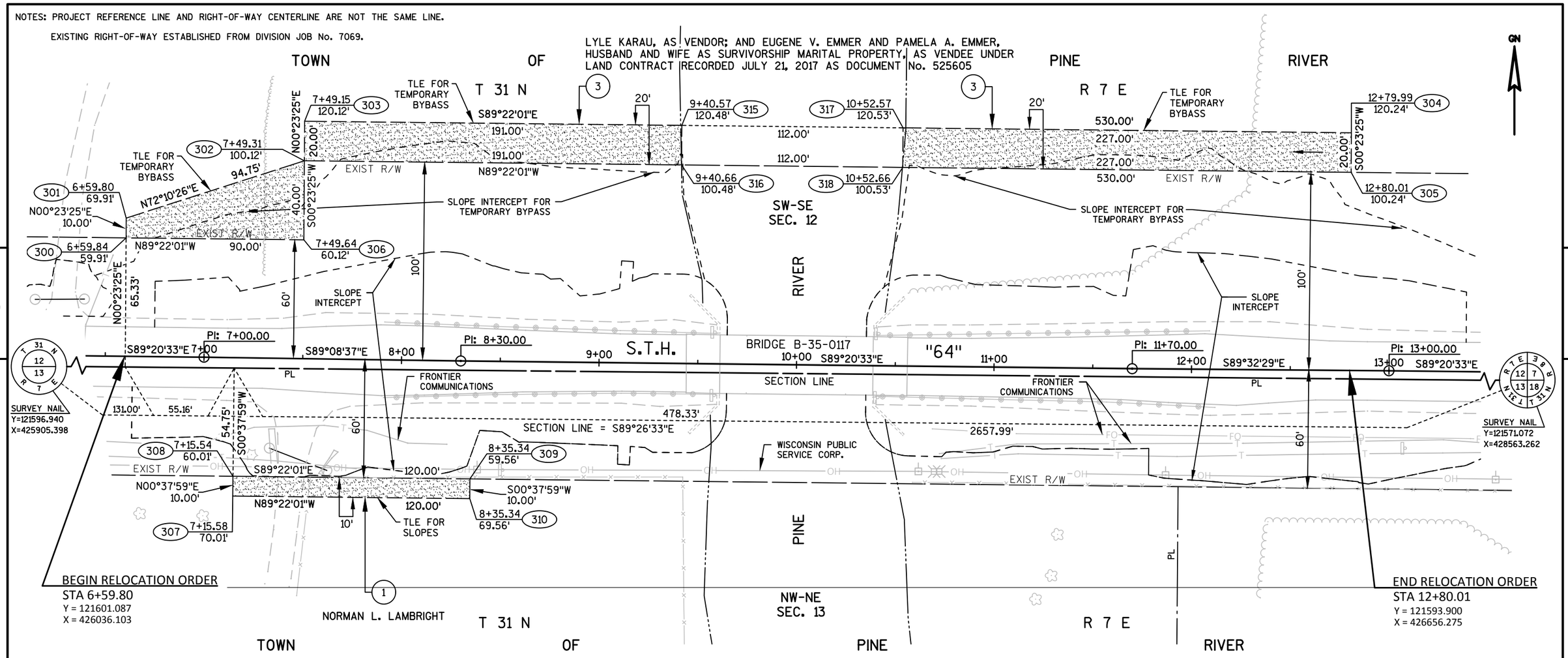
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED FOR THE DEPARTMENT
DATE: 1-24-19 Brent L Dalles (Signature)

FILE NAME : P:\60548628\900_WORK\910_CAD\90000400\SHEETSPLAN\0401_RP.DWG PLOT DATE : 1/16/2019 4:24 PM PLOT BY : BUZA, DONALD PLOT NAME : ----------
WISDOT/CADDS SHEET 50

NOTES: PROJECT REFERENCE LINE AND RIGHT-OF-WAY CENTERLINE ARE NOT THE SAME LINE.

EXISTING RIGHT-OF-WAY ESTABLISHED FROM DIVISION JOB No. 7069.



REFERENCE LINE ALIGNMENT

PI: 7+00.00	PI: 8+30.00	PI: 11+70.00	PI: 13+00.00
Y = 121600.626	Y = 121598.683	Y = 121594.781	Y = 121593.740
X = 426076.303	X = 426206.290	X = 426546.268	X = 426676.263

SCHEDULE OF LANDS & INTERESTS REQUIRED

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

PARCEL NUMBER	SHEET NUMBER	OWNER(S)	INTEREST REQUIRED	R/W ACRES REQUIRED NEW	EXISTING	TOTAL	TLE ACRES
1	4.02	NORMAN L. LAMBRIGHT	TLE	-----	-----	-----	0.028
3	4.02	LYLE KARAU, AS VENDOR; AND EUGENE V. EMMER AND PAMELA A. EMMER, HUSBAND AND WIFE AS SURVIVORSHIP MARITAL PROPERTY, AS VENDEE UNDER LAND CONTRACT RECORDED JULY 21, 2017 AS DOCUMENT No. 525605	TLE	-----	-----	-----	0.244

TLE COORDINATE TABLE

POINT	Y	X
300	121660.992	426036.837
301	121670.991	426036.905
302	121699.997	426127.105
303	121719.996	426127.241
304	121714.140	426657.214
305	121694.141	426657.078
306	121659.997	426126.833
307	121530.387	426090.838
308	121540.386	426090.949
309	121539.060	426210.942
310	121529.061	426210.831
315	121717.886	426318.230
316	121697.886	426318.093
317	121716.648	426430.228
318	121696.649	426430.091

REVISION DATE: 5/20/19, 9/23/19

DATE: 10/18/18

GRID FACTOR N/A

SCALE, FEET 0 25 50

HWY: STH 64

COUNTY: LINCOLN

STATE R/W PROJECT NUMBER 9000-04-20

CONSTRUCTION PROJECT NUMBER 9000-04-70

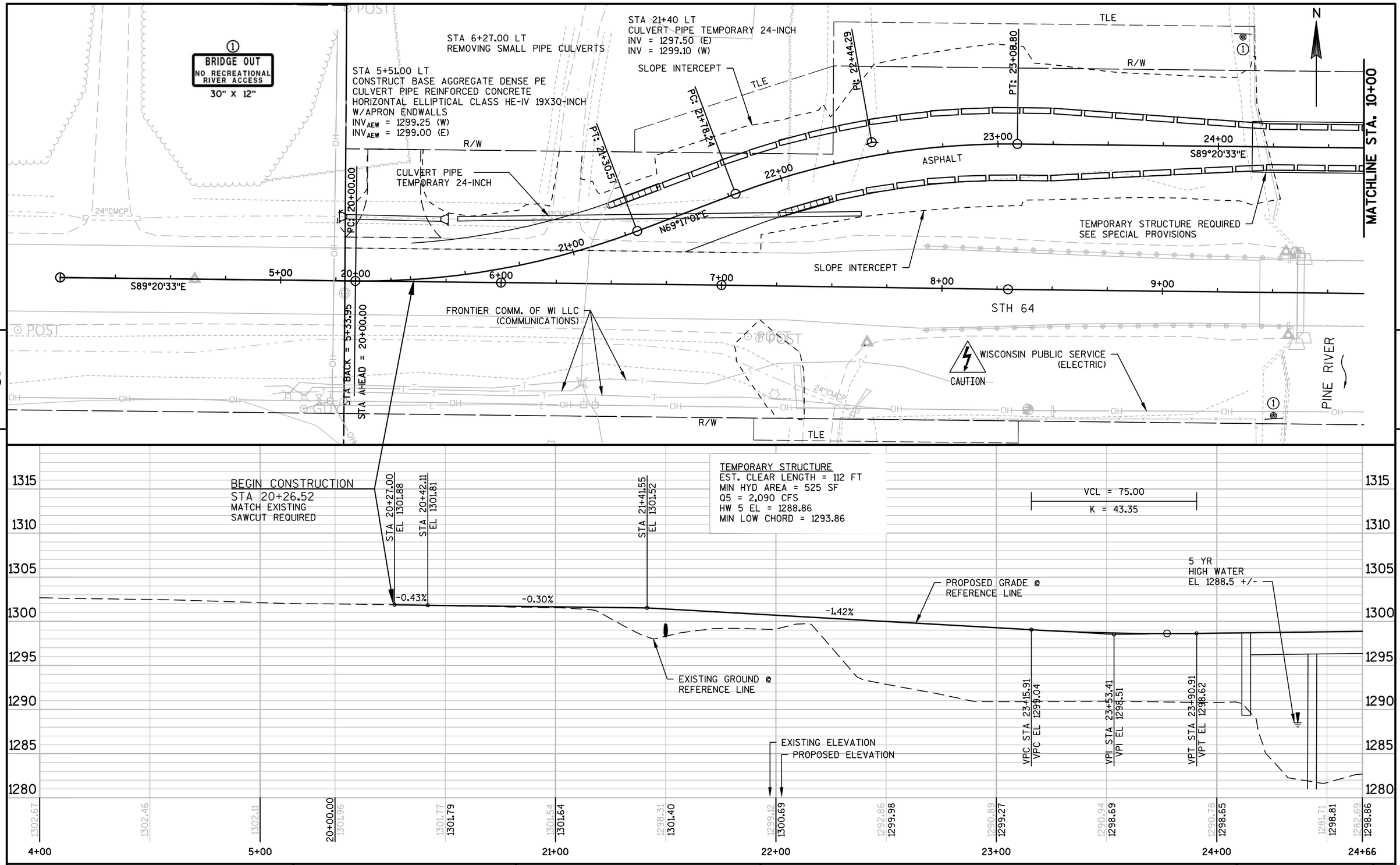
PLAT SHEET 4.02

PS&E SHEET 29 E

FILE NAME : 0401_RP.DWG
LAYOUT NAME - ****

PLOT DATE : 9/23/2019 8:34 AM PLOT BY : BUZA, DONALD PLOT NAME : PLOT SCALE : 1 IN:50 FT

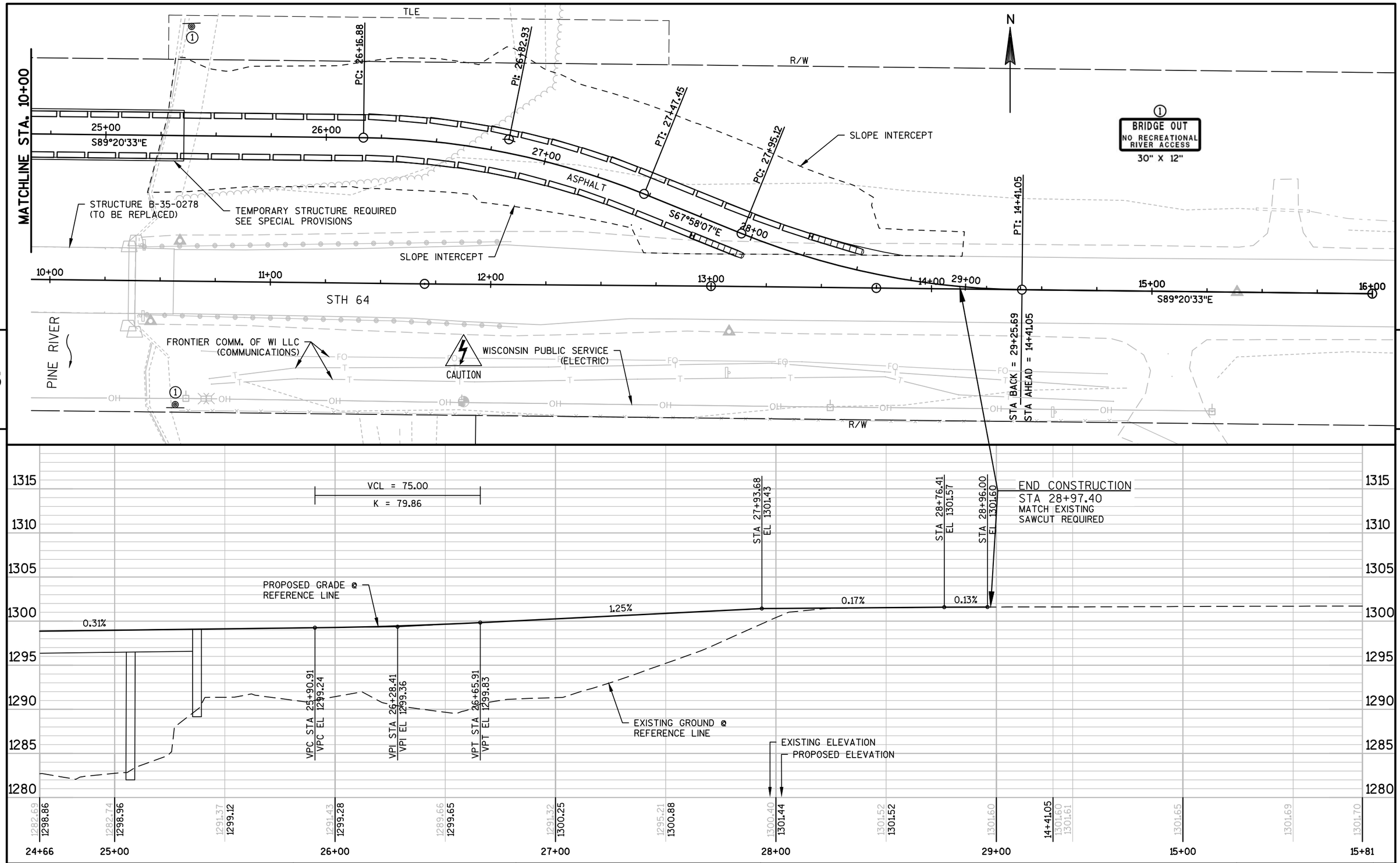
WISDOT/CADDS SHEET 75



PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	PLAN AND PROFILE: TEMPORARY BYPASS	SHEET 30	E

FILE NAME : P:\60548628\900_WORK\910_CAD\90000400\SHEETSPLAN\050101-PP_BYPASS.DWG
LAYOUT NAME - 050102-PP_BYPASS

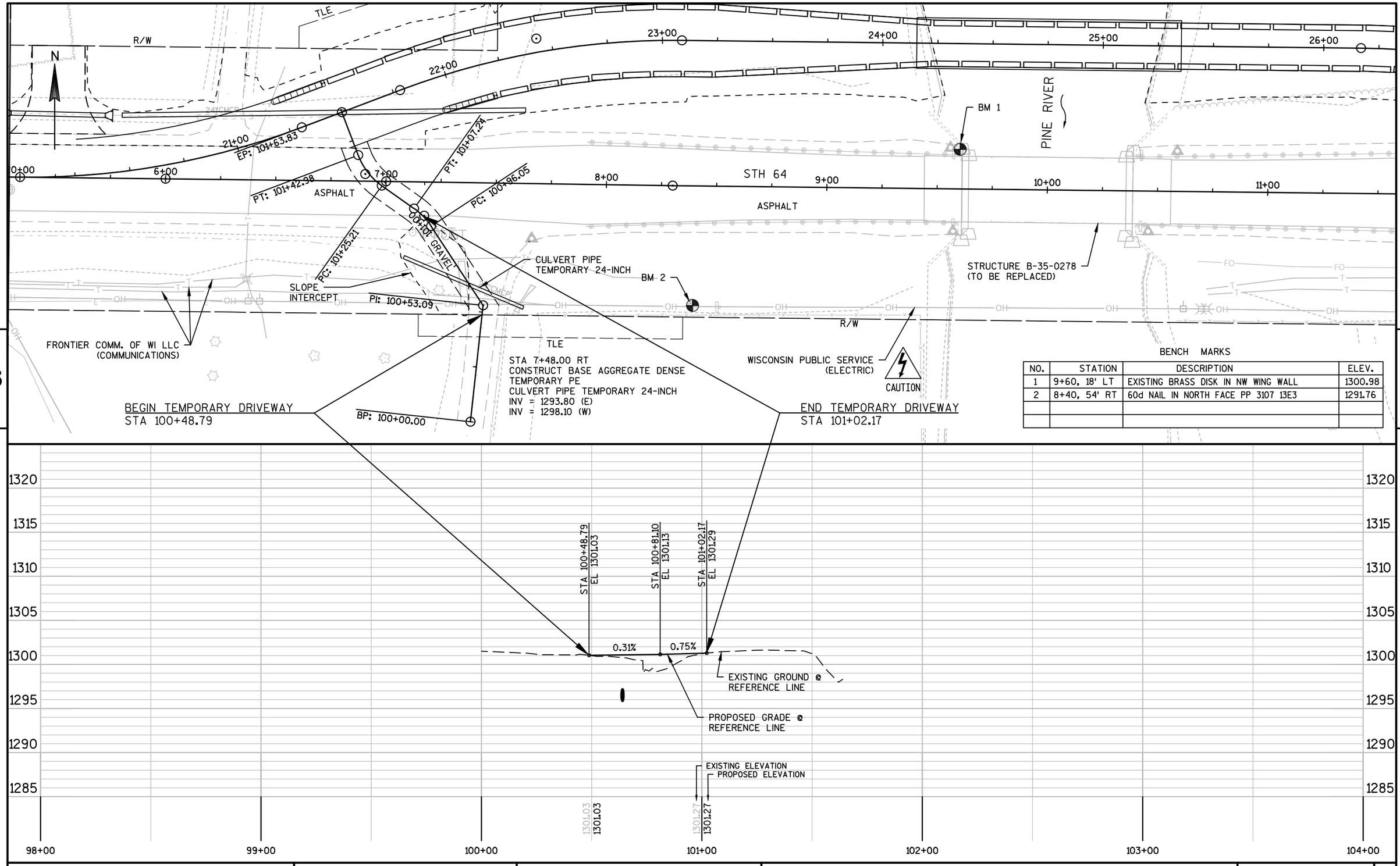
PLOT DATE : 5/29/2019 2:51 PM PLOT BY : DOLAN, ISAAC PLOT NAME : PLOT SCALE : 1 IN:40 FT



5

5

PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	PLAN AND PROFILE: TEMPORARY BYPASS	SHEET 31	E



PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	PLAN AND PROFILE: TEMPORARY DRIVEWAY REALIGNMENT	SHEET E

FILE NAME : P:\60548628\900_WORK\910_CAD\90000400\SHEETSPLAN\050103-PP_DWY.DWG
LAYOUT NAME - 050104-PP_DWY

PLOT DATE : 5/29/2019 2:50 PM PLOT BY : DOLAN, ISAAC PLOT NAME : PLOT SCALE : 1 IN:40 FT

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
1	9+60, 18' LT	EXISTING BRASS DISK IN NW WING WALL	1300.98
2	8+40, 54' RT	60d NAIL IN NORTH FACE PP 3107 13E3	1291.76

TLE

R/W

TLE

BRIDGE OUT
NO RECREATIONAL RIVER ACCESS
30" X 12"

N

INLETS 2x2-FT

SLOPE INTERCEPT

STA 5+29.17 - STA 7+17.55 LT
CONSTRUCT GRAVEL SHOULDERS
SEE CROSS SECTIONS

SLOPE INTERCEPT

PI: 7+00.00

PI: 8+30.00

BM 1

PINE RIVER

24"CMCP

5+00

S89° 20' 33"E

6+00

7+00

S89°08'37"E

8+00

9+00

10+00

S89°20'33"E

11+00

ASPHALT

STH 64

FRONTIER COMM. OF WI LLC
(COMMUNICATIONS)

STA 6+86.32 - STA 7+17.55 RT
CONSTRUCT GRAVEL SHOULDER
SEE CROSS SECTIONS

SLOPE INTERCEPT

BM 2

STRUCTURE B-35-0278
(TO BE REPLACED)

R/W

STRUCTURE B-35-0117
REQUIRED

STA 7+48.00 RT
CONSTRUCT BASE AGGREGATE DENSE PE
REMOVING SMALL PIPE CULVERTS
24" CULVERT PIPE CLASS IIIA
W/ APRON ENDWALLS
INV_{AEW} = 1297.53 (W)
INV_{AEW} = 1292.63 (E)

BEGIN PROJECT
STA 7+17.55
MATCH EXISTING
SAWCUT REQUIRED
Y = 121,600.364
X = 426,093.852

TLE

WISCONSIN PUBLIC SERVICE
(ELECTRIC)

CAUTION

INLETS 2x2-FT

5

5

1310
1305
1300
1295
1290
1285
1280

STA 7+17.55
EL 1301.63

VCL = 180.00

K = 195.30

SINGLE SLOPE PARAPET
SEE STRUCTURE PLANS

STA 10+00.00
REMOVE STRUCTURE B-35-0278
SINGLE SPAN STEEL TRUSS BRIDGE
75'-0" OVERALL LENGTH
30'-0" CLEAR ROADWAY WIDTH
0° SKEW

VPC STA 10+80.00
VPC EL 1301.68

EXISTING GROUND @
REFERENCE LINE

-0.62%

0.30%

PROPOSED GRADE @
REFERENCE LINE

VPC STA 7+40.00
VPC EL 1301.49

VPI STA 8+30.00
VPI EL 1300.93

VPT STA 9+20.00
VPT EL 1301.20

HIGH WTR. 100
EL. 1293.04

HIGH WTR. 2
EL. 1287.35

OBSERVED WTR. LEVEL
EL. 1285.33

STA 10+00.00
STRUCTURE B-35-0117 REQUIRED
SINGLE SPAN PRESTRESSED CONCRETE
DECK GIRDER BRIDGE (54W")
114'-6" OVERALL LENGTH
40'-0" CLEAR ROADWAY WIDTH
0° SKEW

EXISTING ELEVATION
PROPOSED ELEVATION

VCL = 180.00

K = 322.66

1302.11 1301.92 1301.77 1301.65 1301.64 1301.53 1301.43 1301.34 1301.21 1301.22 1301.11 1301.15 1301.15 1301.09 1301.29 1280.65 1301.44 1301.13 1301.59 1301.40 1301.73

5+00 6+00 7+00 8+00 9+00 10+00 11+00

PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	PLAN AND PROFILE	SHEET 33	E

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
3	11+88, 53' RT	60d NAIL IN NORTH FACE PP 3107 13E5	1293.00

TLE

R/W

N

SLOPE INTERCEPT

STA 12+84.96 - STA 13+19.35 LT
CONSTRUCT GRAVEL SHOULDER
SEE CROSS SECTIONS

PI: 11+70.00

PI: 13+00.00

EP: 16+00.00

STH 64

12+00 S89°32'29"E 13+00 14+00 15+00 S89° 20' 33"E 16+00

FRONTIER COMM. OF WI LLC
(COMMUNICATIONS)

5

5

BM 3

SLOPE INTERCEPT

R/W

END PROJECT
STA 12+84.96
MATCH EXISTING
SAWCUT REQUIRED

STA 12+84.96 - STA 13+28.40 RT
CONSTRUCT GRAVEL SHOULDER
SEE CROSS SECTIONS

CAUTION

WISCONSIN PUBLIC SERVICE
(ELECTRIC)

VPI STA 11+70.00
VPI EL 1301.95

VPT STA 12+60.00
VPT EL 1301.72

STA 12+84.96
EL 1301.65

PROPOSED GRADE @
REFERENCE LINE

-0.26%

EXISTING GROUND @
REFERENCE LINE

VCL = 180.00

K = 322.66

EXISTING ELEVATION

PROPOSED ELEVATION

1315 1310 1305 1300 1295 1290 1285

1301.40 1301.73 1301.55 1301.81 1301.67 1301.81 1301.61 1301.74 1301.65 1301.64 1301.62 1301.61 1301.65 1301.69 1301.69

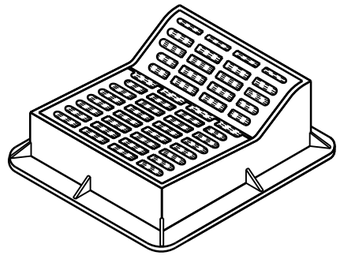
11+00 12+00 13+00 14+00 15+00 16+00 17+00

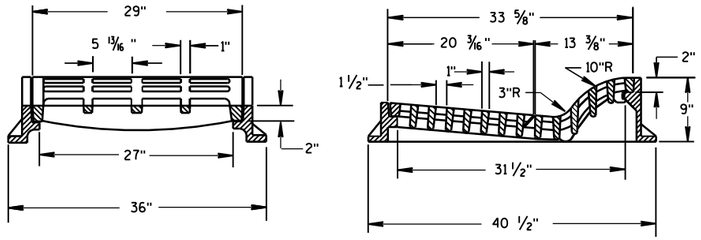
PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	PLAN AND PROFILE	SHEET 34	E

Standard Detail Drawing List

08A05-19C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08C07-02	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D01-20A	CONCRETE CURB & GUTTER
08D03-07	CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES
08D21-01	DRIVEWAYS WITHOUT CURB & GUTTER
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
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
09G02-05A	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
09G02-05B	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
09G02-05C	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
12A03-10	NAME PLATE (STRUCTURES)
13A03-06	CONCRETE PAVEMENT SHOULDERS
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13B02-09B	STRUCTURAL APPROACH SLAB AND 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
14B28-03	GUARDRAIL MOW STRIP
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)
15C02-07A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-07B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-07C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C02-07D	ON RAMP LANE CLOSURE
15C02-07E	OFF RAMP LANE CLOSURE
15C02-07F	ADVANCED WIDTH RESTRICTION SIGNING
15C06-09	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-19A	LONGITUDINAL MARKING (MAINLINE)
15C11-07B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15D28-03	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D31-03	TRAFFIC CONTROL, TEMPORARY BYPASS ROADWAY
15D33-06	TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS

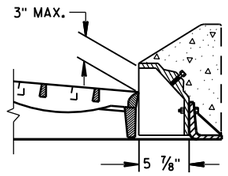
6





TYPE "F"

USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.



ALTERNATIVE CURB BOX FOR TYPE "HM" COVER

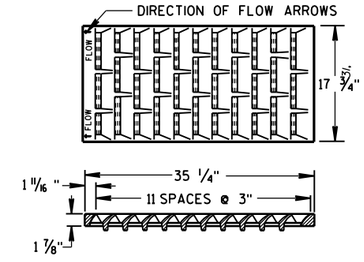
USE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH
NOTED AS TYPE HM-GJ ON DRAINAGE TABLE

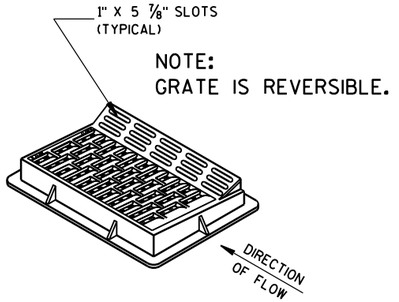
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM-GJ" COVER
NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE

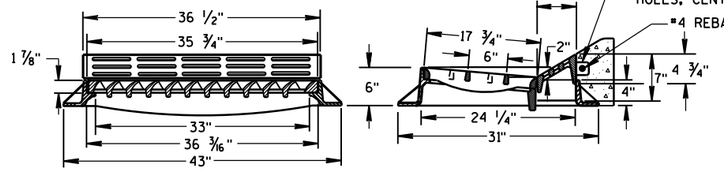
GENERAL NOTES

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



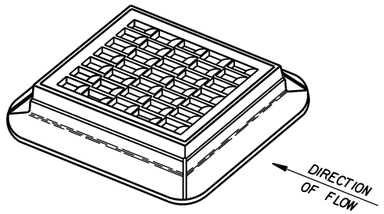


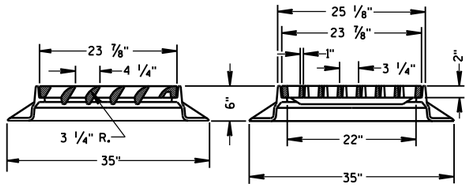


TYPE "HM"

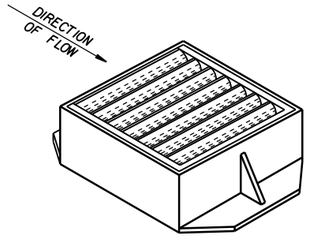
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.

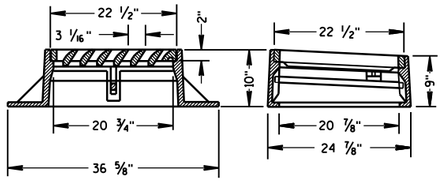
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM" COVER
NOTED AS TYPE HM-S ON DRAINAGE TABLE



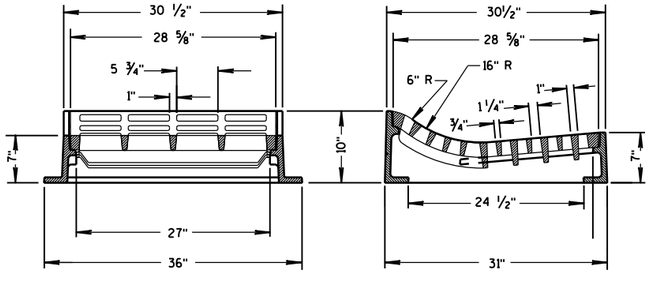


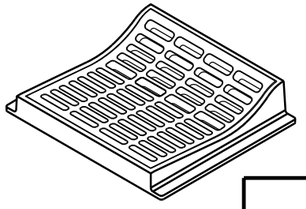
TYPE "S"





TYPE "V"





TYPE "T"

USE WITH TYPES R & T CONCRETE CURB & GUTTER, 36 INCH.

INLET COVERS
TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S

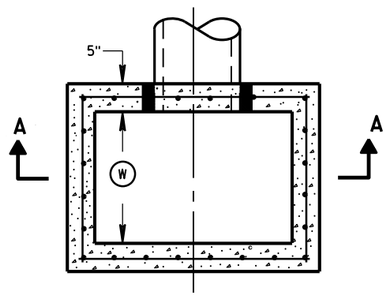
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013
DATE

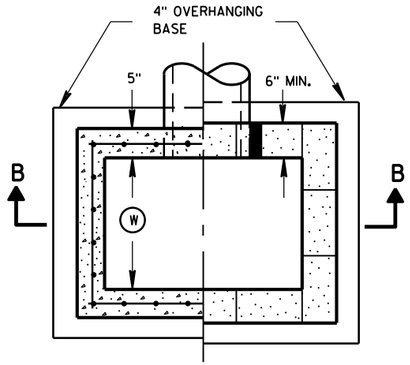
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

FHWA

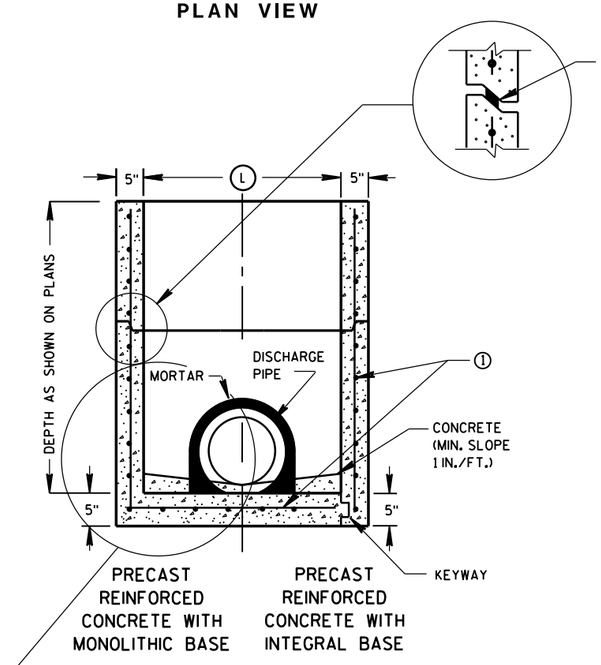
6
S.D.D. 8 A 5-19c



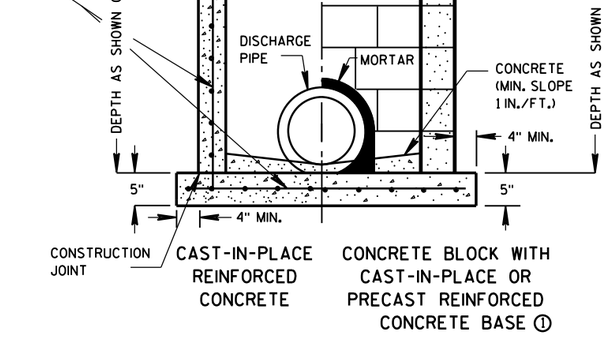
PLAN VIEW



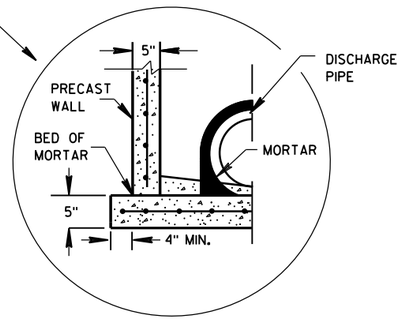
PLAN VIEW



SECTION A-A



SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

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 INLET 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 PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES 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.

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

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

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND 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.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3 INCH CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

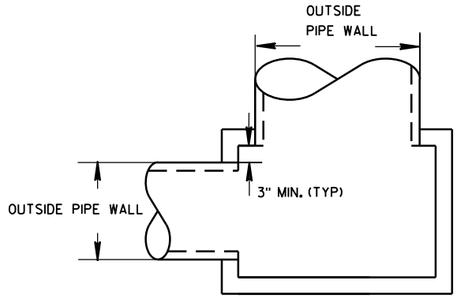
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

INLET SIZE		INLET COVER TYPE	ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM
	WIDTH (W) (FT)	LENGTH (L) (FT)									
2X2-FT	2	2	X	X				X		X	
2X2.5-FT	2	2.5			X			X	X	X	X
2X3-FT	2	3					X				
2.5X3-FT	2.5	3				X					

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
2X2-FT	12	12
2X2.5-FT	12	18
2X3-FT	12	24
2.5X3-FT	18	24



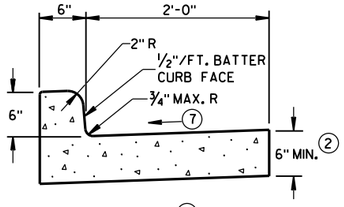
DETAIL "A"

INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

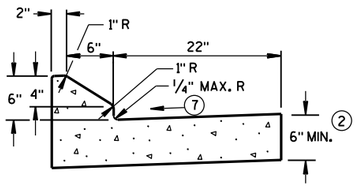
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016 — DATE
/S/ Rodney Taylor
ROADWAY STANDARDS D IT UNIT SUPERVIS
FHWA

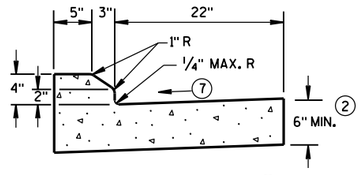
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT



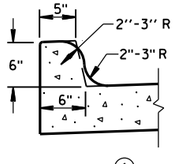
TYPES A (1) & D



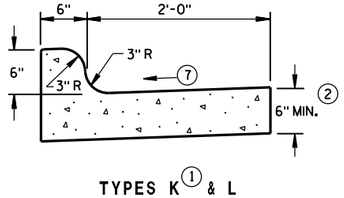
6" SLOPED CURB TYPES G (1) & J



4" SLOPED CURB TYPES G (1) & J

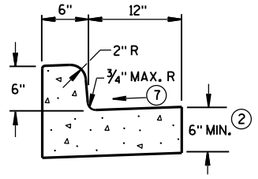


TYPES K (1) & L
(OPTIONAL CURB SHAPE)



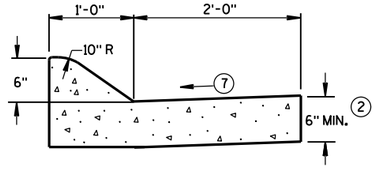
TYPES K (1) & L

CONCRETE CURB & GUTTER 30"

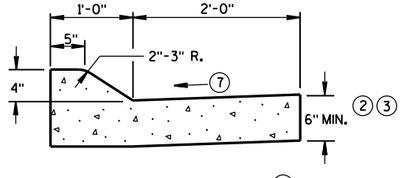


TYPES A (1) & D

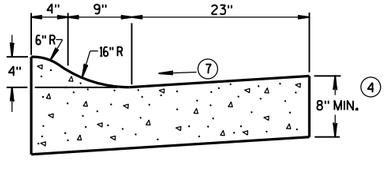
CONCRETE CURB & GUTTER 18"



6" SLOPED CURB TYPES A (1) & D

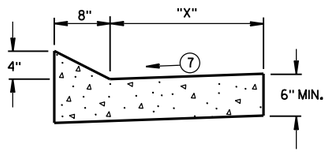


4" SLOPED CURB TYPES A (1) & D



4" SLOPED CURB TYPES R (1) & T (5)

CONCRETE CURB & GUTTER 36"



TYPES TBT & TBTT (1)

CONCRETE CURB & GUTTER

TBT & TBTT	"X"
30"	22"
36"	28"

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURBS.

(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K, R AND TBTT.

(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(3) USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.

(4) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(5) THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

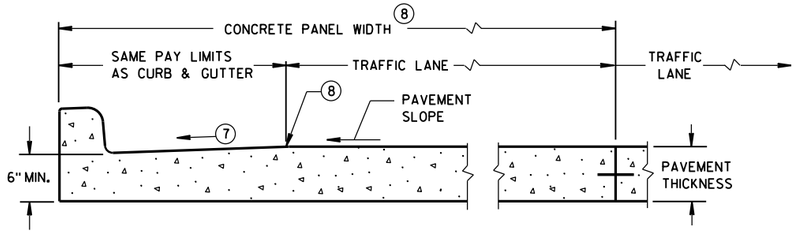
(6) WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

(7) USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.

(8) INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

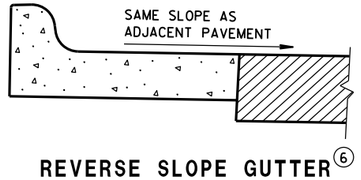
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

PAVEMENT THICKNESS	MAXIMUM PANEL WIDTH
LESS THAN 10"	12'
10" & ABOVE	15'



PARTIAL SECTION OF PAVEMENT * WITH INTEGRAL CURB & GUTTER

* BIKE LANE IS NOT SHOWN.



REVERSE SLOPE GUTTER (6)
(TYPICAL FOR ALL CURB & GUTTER TYPES)

CONCRETE CURB & GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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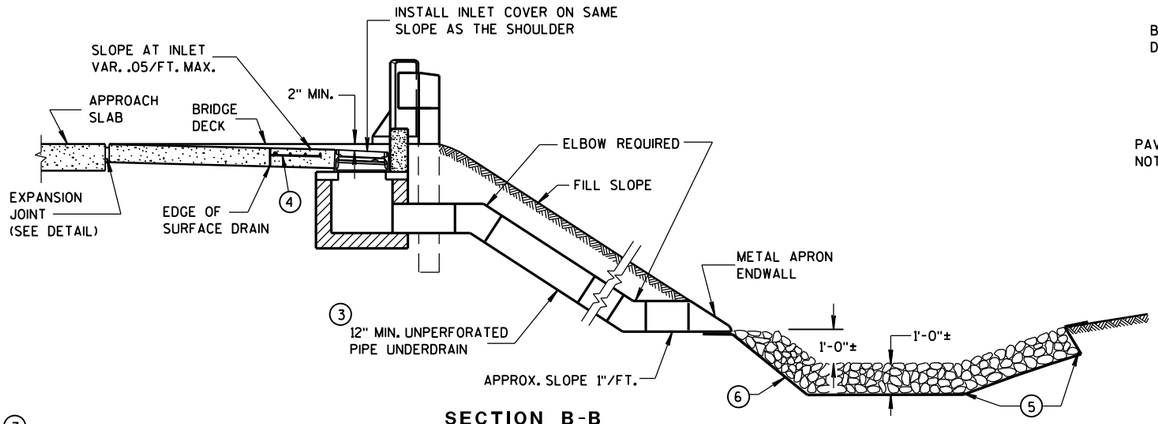
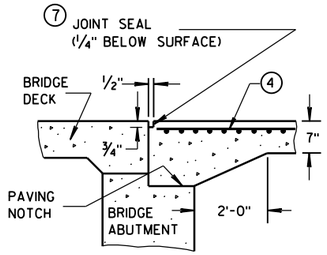
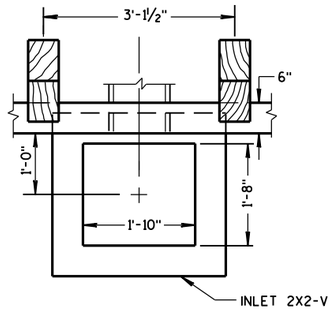


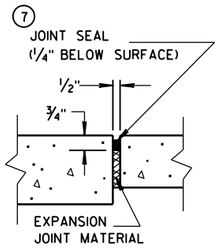
SECTION B-B



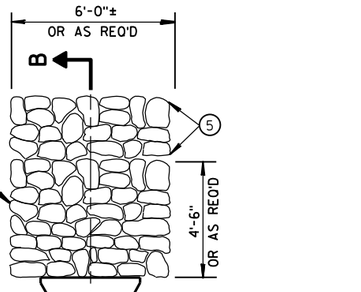
SECTION D-D

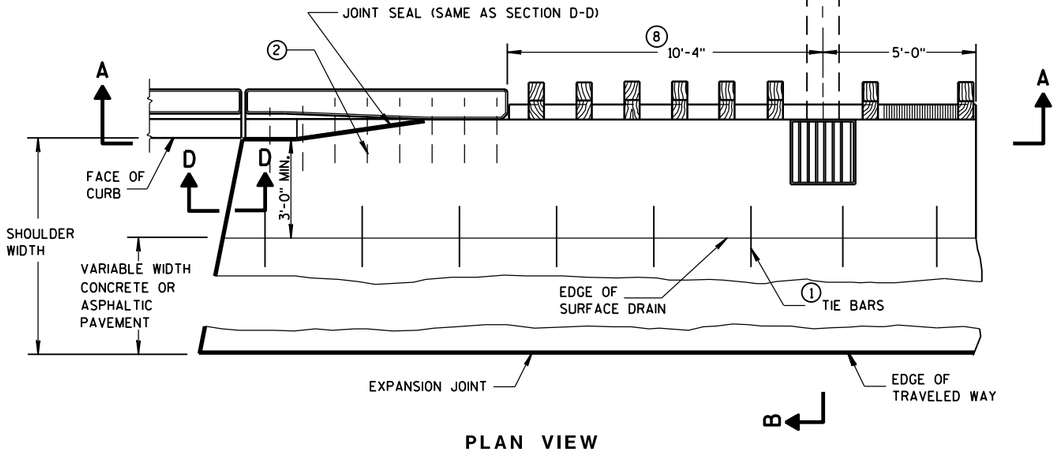


PLAN VIEW

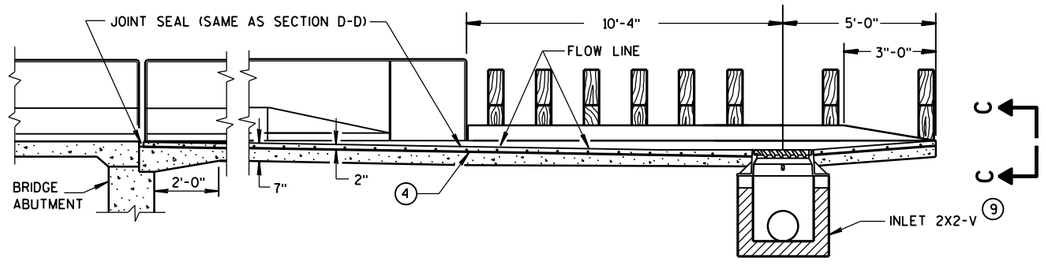


EXPANSION JOINT DETAIL

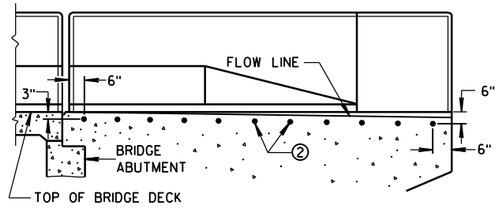




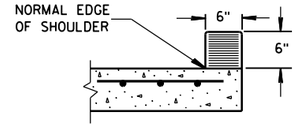
PLAN VIEW



SECTION A-A



LOCATION OF TIE BARS IN WINGWALL



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) 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) THE PIPE UNDERDRAIN MAY BE ANY ONE OF THE SIX MATERIALS LISTED IN THE STANDARD SPECIFICATIONS SECTION 612.2 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.

(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".

(9) SEE CURRENT STANDARD DETAIL DRAWINGS 8A5 AND 8C7 FOR DETAILS.

CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 — DATE
/S/ Rodney Taylor
ROADWAY STANDARDS UNIT SUPERV...
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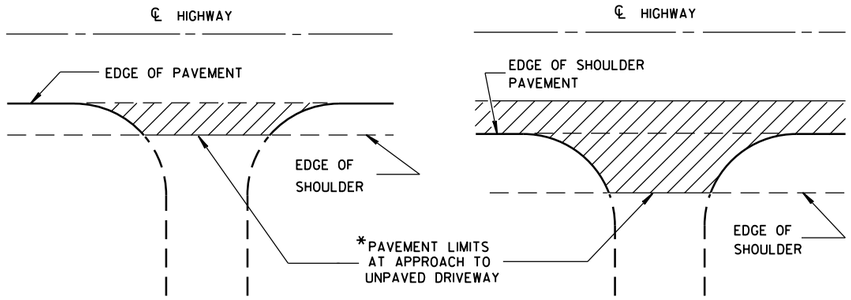
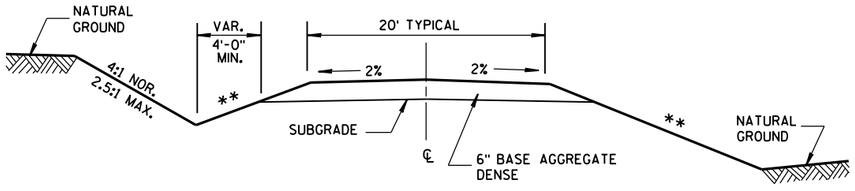


*WHERE DRIVEWAY IS PAVED, APPROACH PAVEMENT SHOULD BE EXTENDED TO MATCH DRIVEWAY PAVEMENT.

PLAN VIEW
(UNPAVED SHOULDER ON HIGHWAY)

PLAN VIEW
(PAVED SHOULDER ON HIGHWAY)

RURAL DRIVEWAY INTERSECTION DETAIL
(NO CURB & GUTTER OR SIDEWALK)

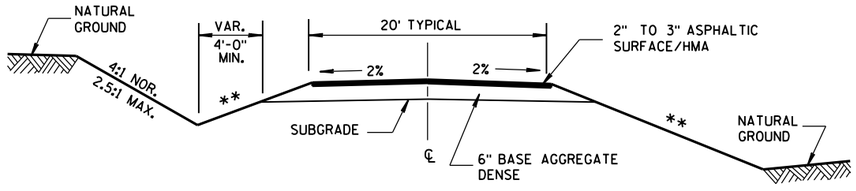


IN CUT **IN FILL**

TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE AGGREGATE SURFACE

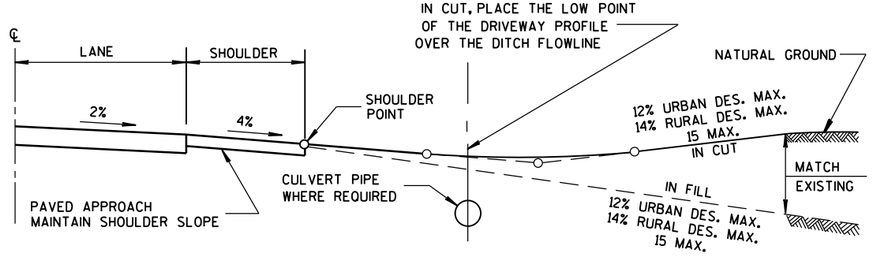
** SLOPE CAN VARY WITH SPEED. SEE 11-45-2.6.2.

POSTED SPEED MPH	MAX. SLOPE
<35	4:1
≥35 TO <60	6:1
≥60	10:1



IN CUT **IN FILL**

TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE ASPHALTIC SURFACE



TYPICAL DRIVEWAY PROFILES

DRIVEWAYS WITHOUT CURB & GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December, 2016 /S/ Rodney Taylor
DATE ROADWAY STANDARDS UNIT SUPERV
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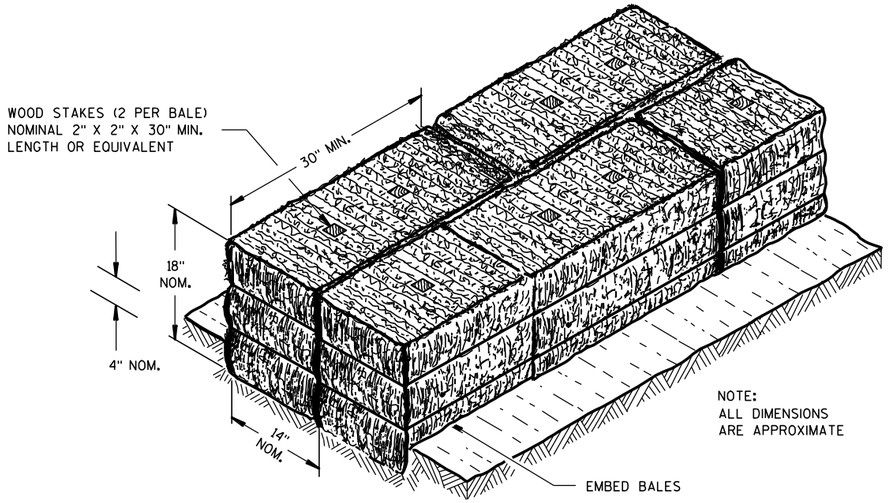
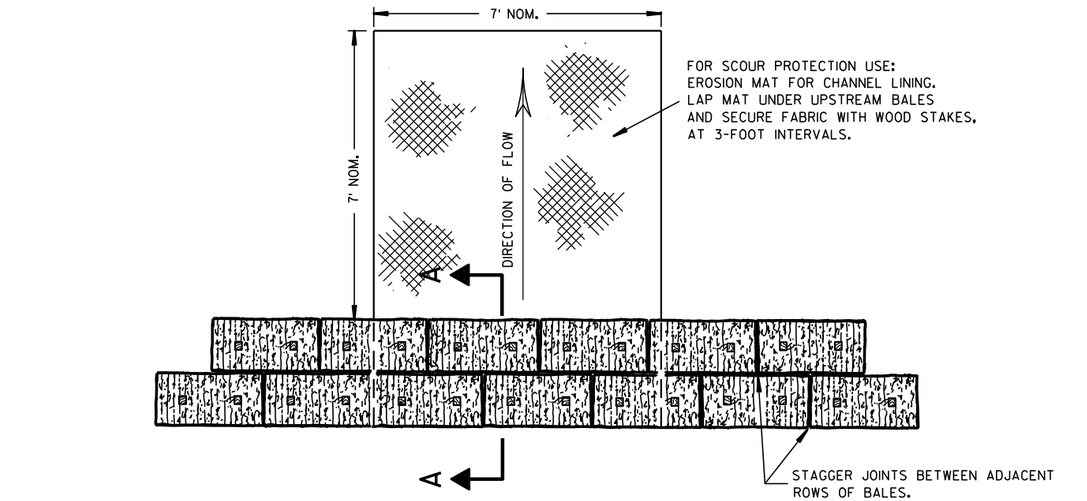
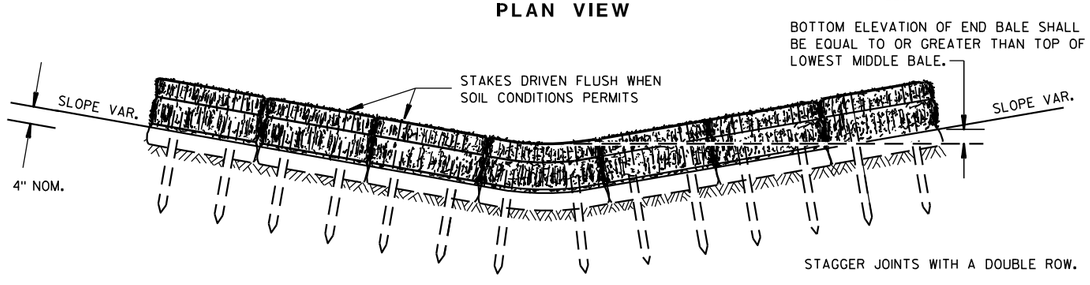


SECTION A-A



PLAN VIEW



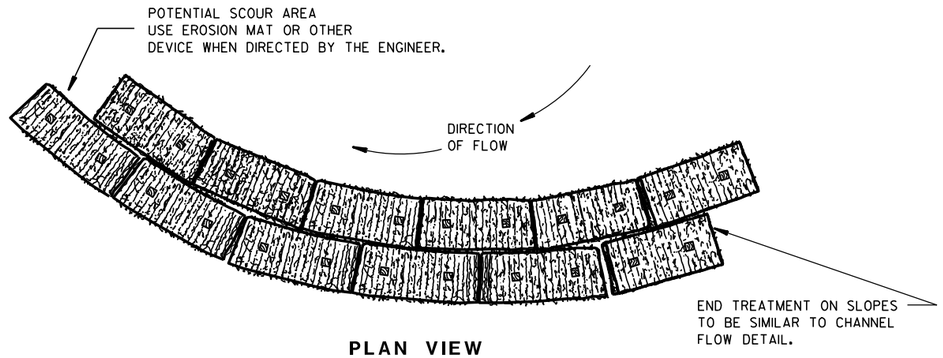
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

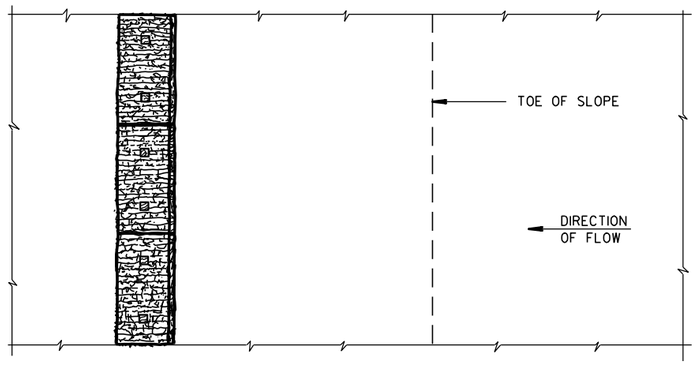
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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.

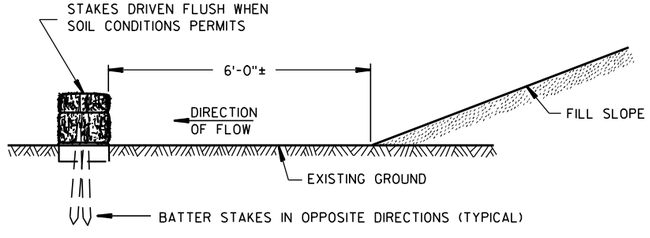


PLAN VIEW

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

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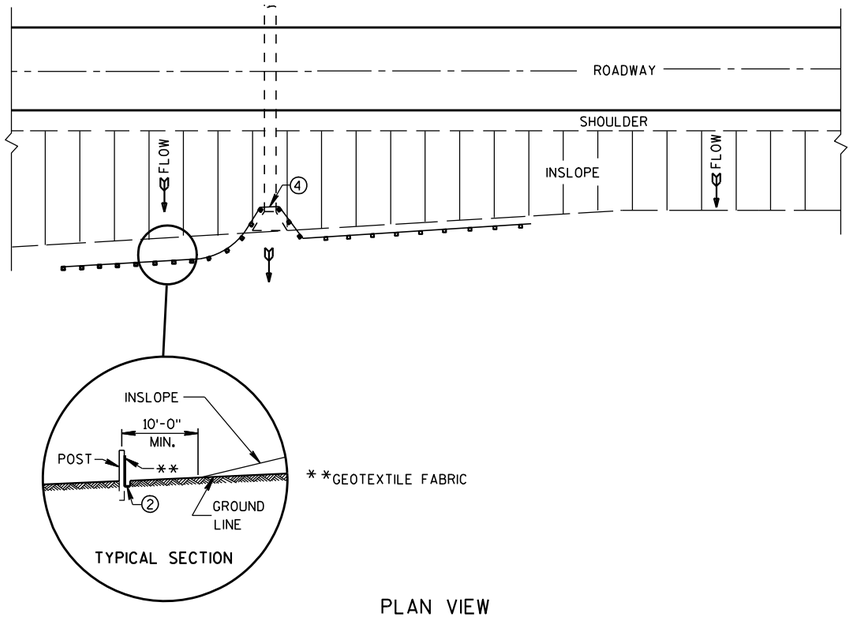
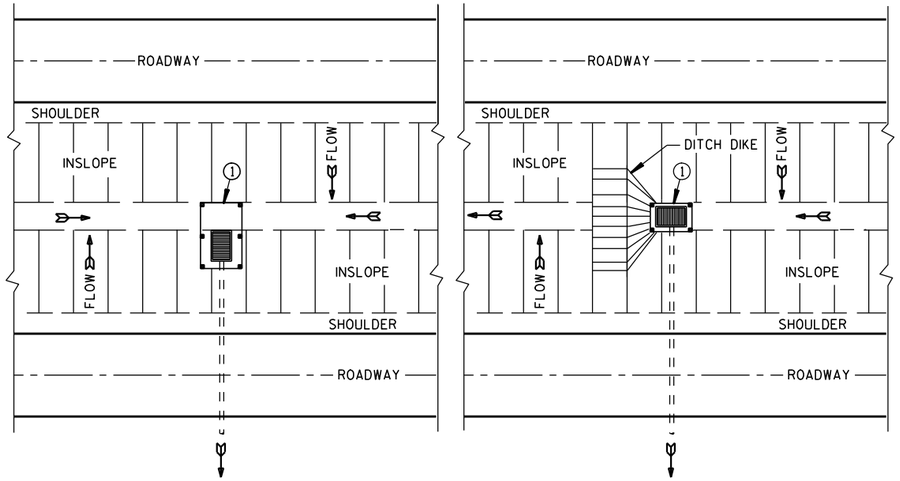
S.D.D. 8 E 8-3



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.

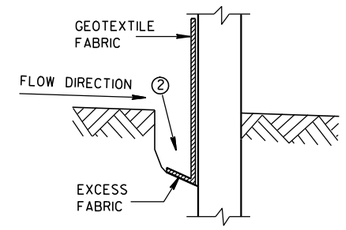
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

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.

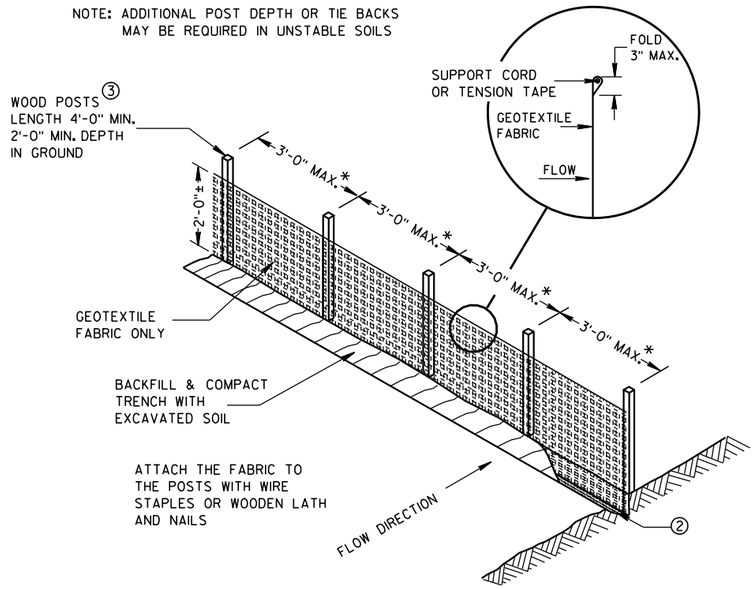
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.

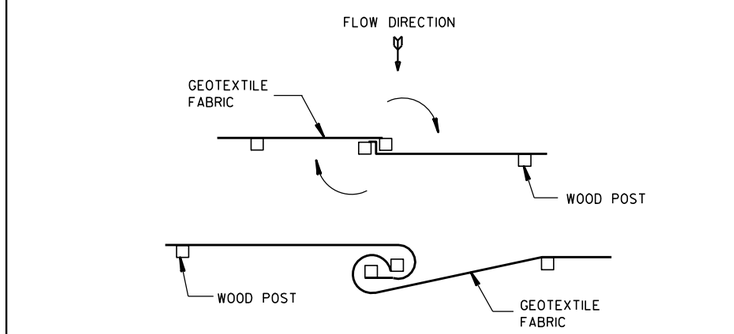
⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



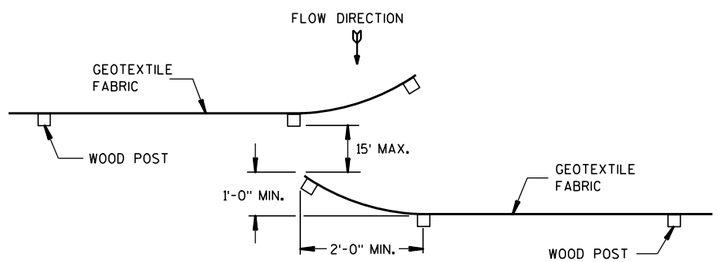
TRENCH DETAIL



SILT FENCE

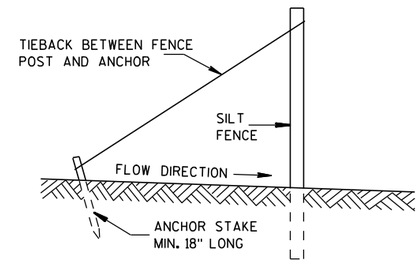


TWIST METHOD



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

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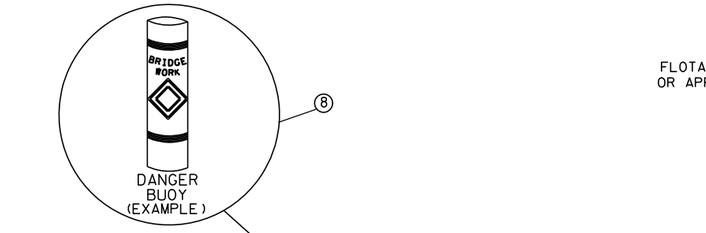
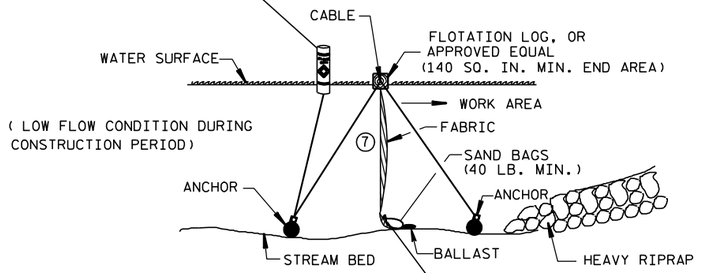
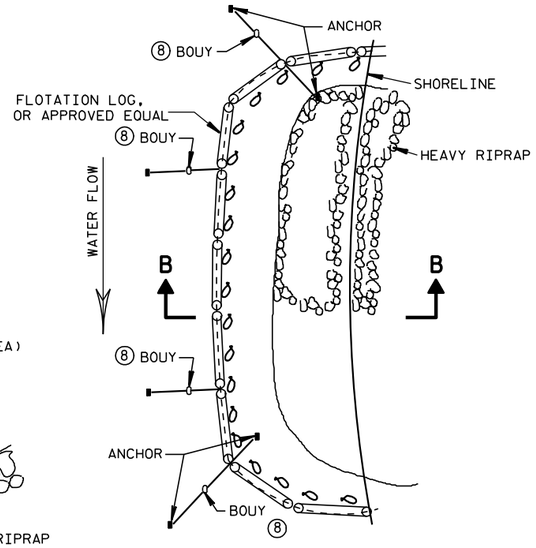
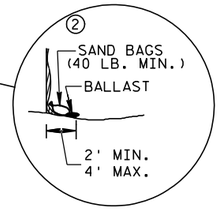
S.D.D. 8 E 9-6



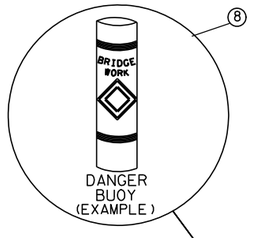


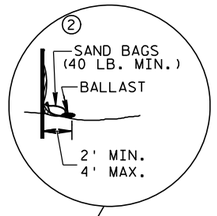


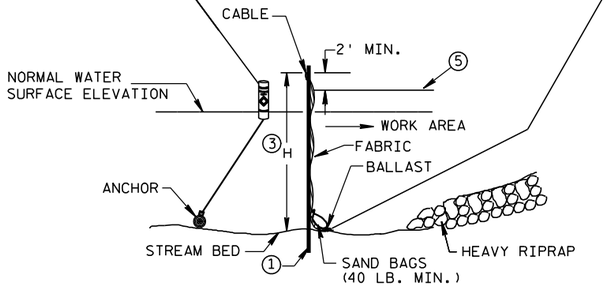
SECTION B-B



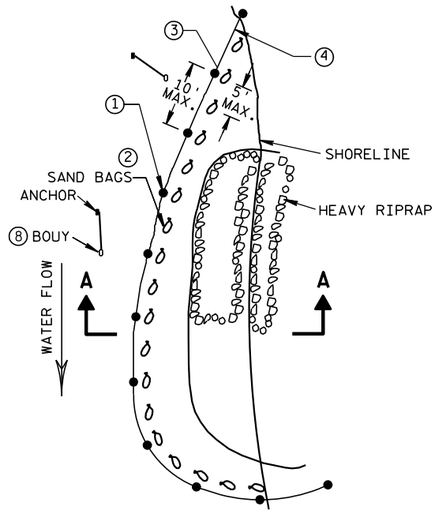
TURBIDITY BARRIER FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6







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.

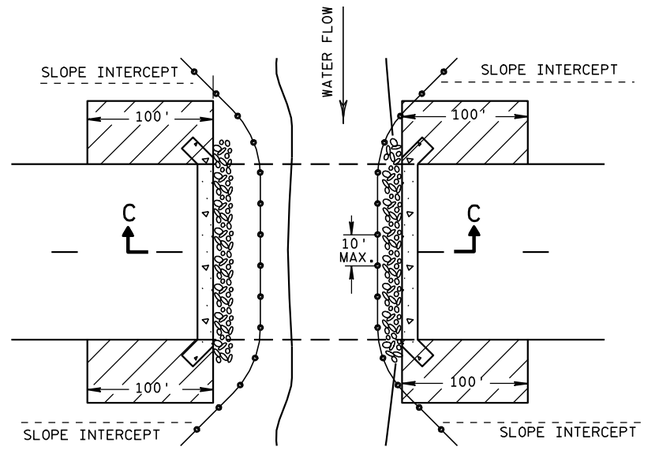
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MIMIMUM BARRIER HEIGHT SHALL BE 2'GREATER THAN EITHER THE 02 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WICHEVER IS GREATER.

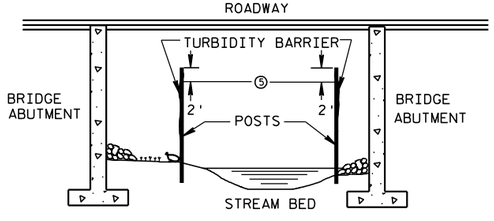
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

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

6

S.D.D. 8 E 11-2

METAL APRON ENDWALLS

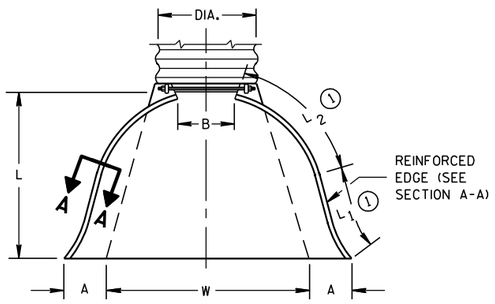
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	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

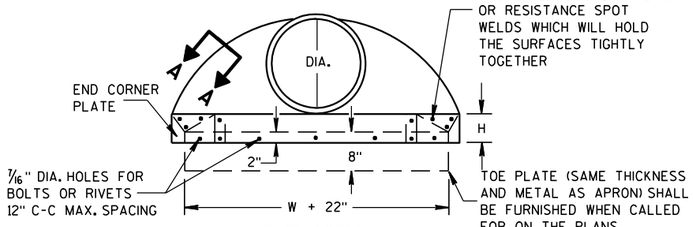
REINFORCED CONCRETE APRON ENDWALLS

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

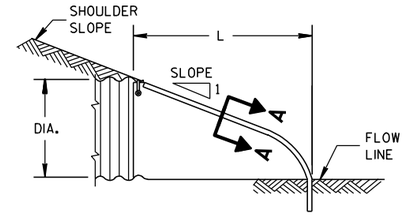
*MINIMUM
**MAXIMUM



PLAN VIEW

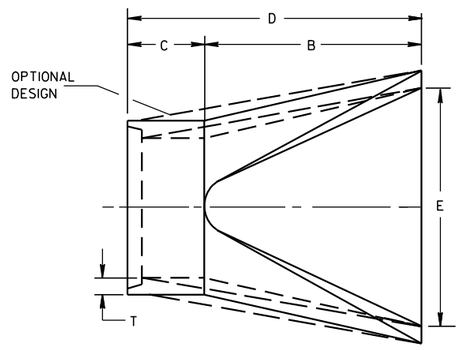


END VIEW

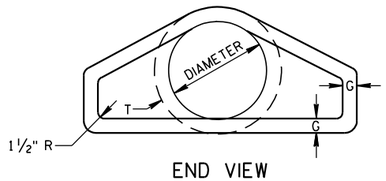


SIDE ELEVATION

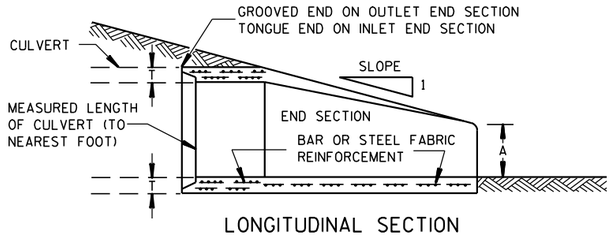
METAL ENDWALLS



PLAN

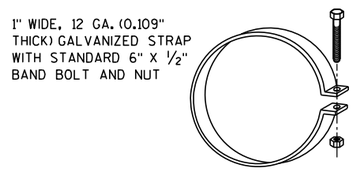


END VIEW



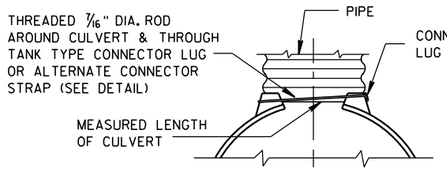
LONGITUDINAL SECTION

CONCRETE ENDWALLS

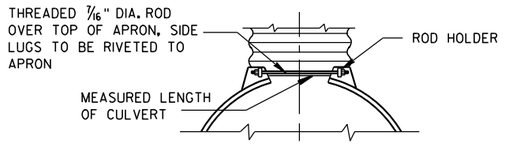


ALTERNATE FOR TYPE 1 CONNECTION

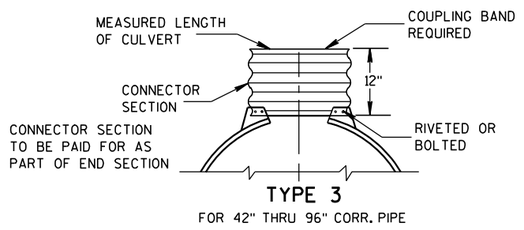
END SECTION CONNECTOR STRAP



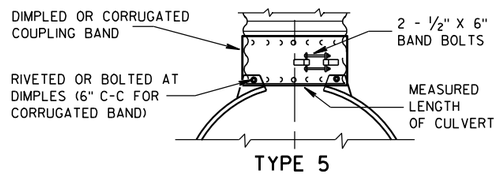
TYPE 1
FOR 12" THRU 24" CORR. PIPE



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

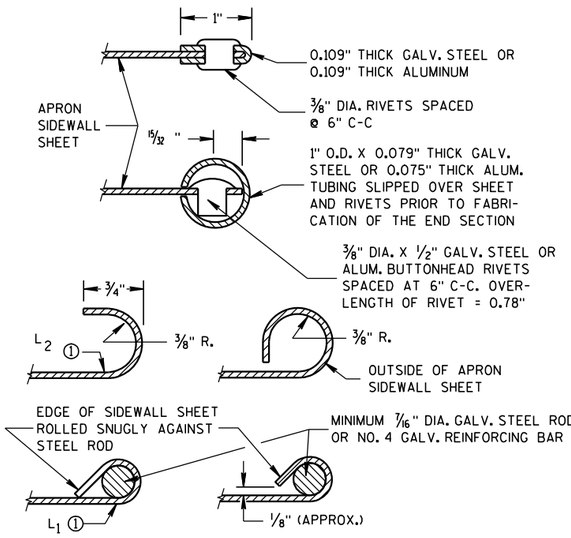
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

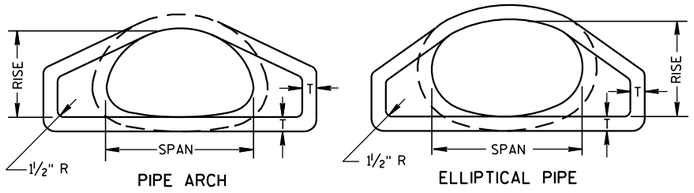
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

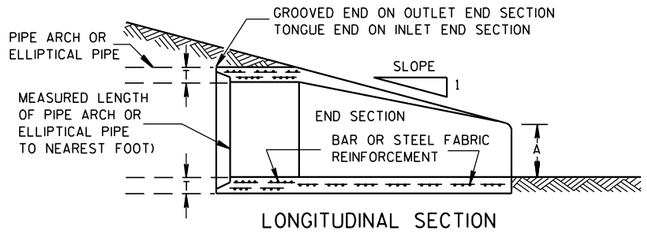
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

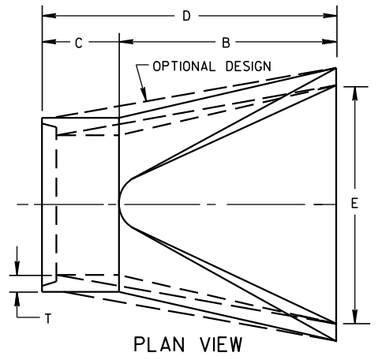
6
S.D.D. 8 F 1-11



END VIEW

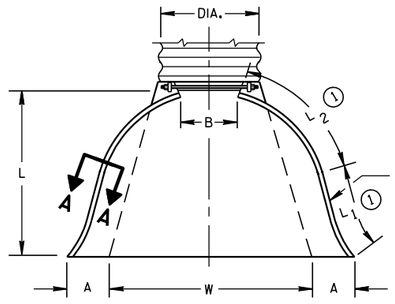


LONGITUDINAL SECTION

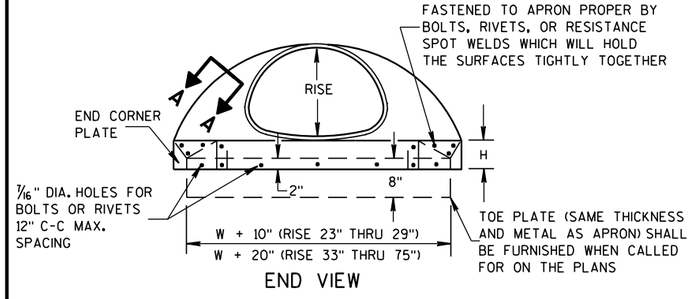


PLAN VIEW

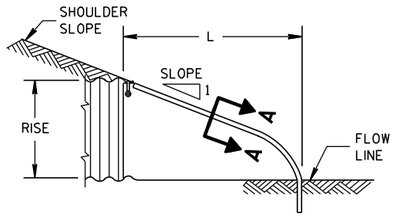
CONCRETE ENDWALLS



PLAN VIEW

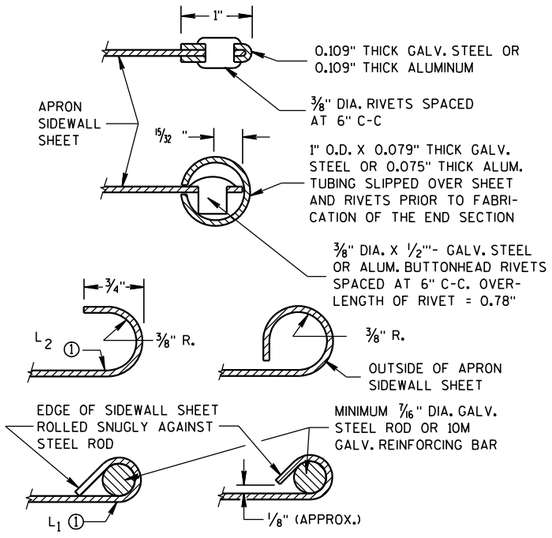


END VIEW



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

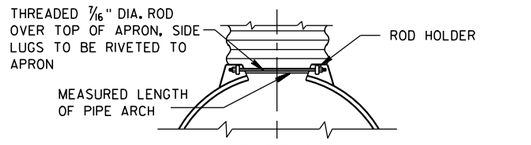
REINFORCED CONCRETE PIPE ARCH

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

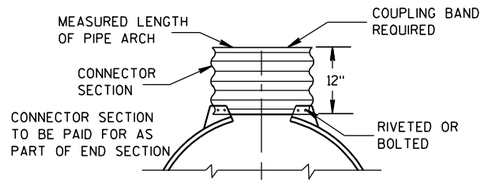
EQUIV. DIA. (Inches)	DIMENSIONS (Inches) ** SPAN	** RISE	T	A	B	C	D	E	APPROX. SLOPE
24	30	19	3¼	8½	39	33	72	48	3 to 1
30	38	24	3¾	9½	54	18	72	60	3 to 1
36	45	29	4½	11⅛	60	24	84	72	2½ to 1
42	53	34	5	15¾	60	36	96	78	2½ to 1
48	60	38	5½	21	60	36	96	84	2½ to 1
54	68	43	6	25½	60	36	96	90	2½ to 1
60	76	48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

**NOMINAL SIZE



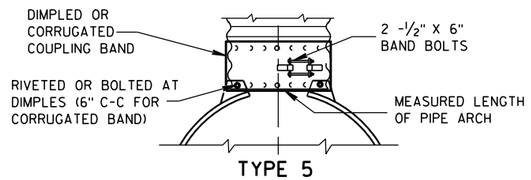
TYPE 2

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

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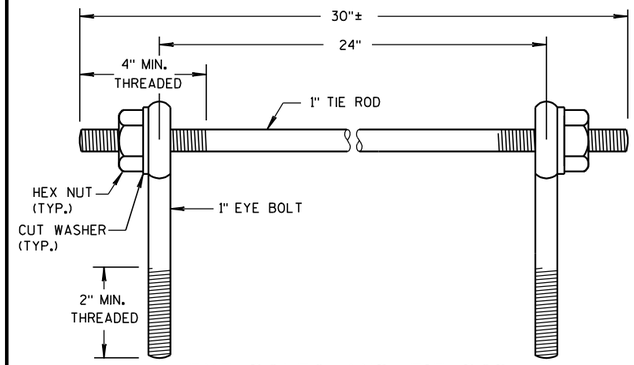
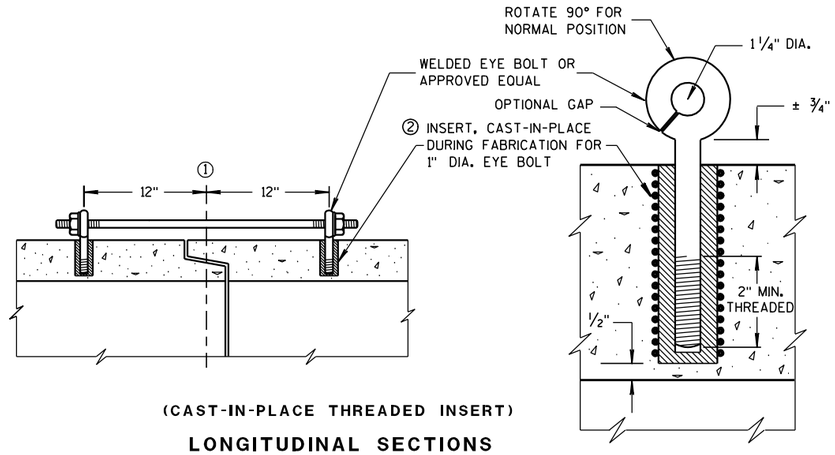
S.D.D. 8 F 2-1



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.

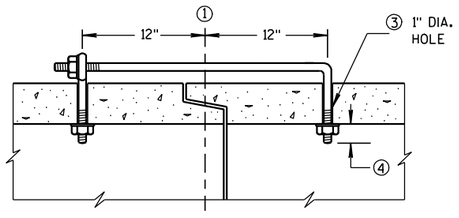
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

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

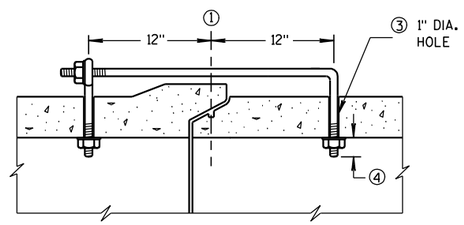
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

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)

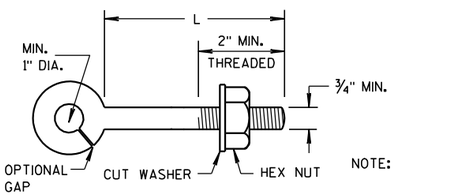


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

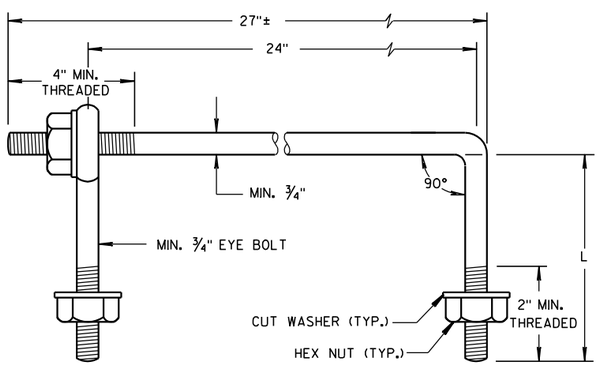
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



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

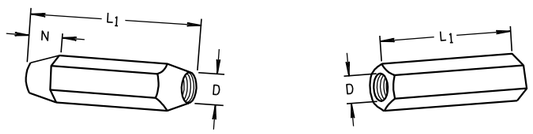
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

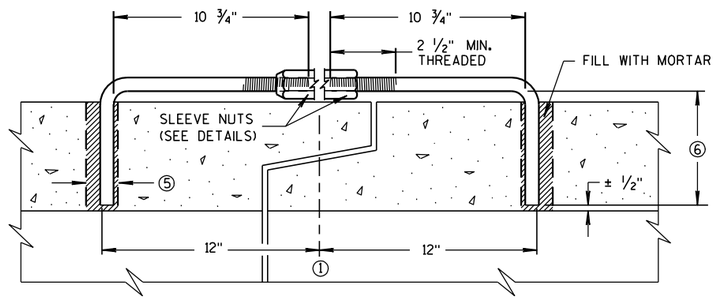
DIMENSIONS SHOWN ARE IN INCHES



TAPERED PLAIN

RIGHT AND LEFT THREADS

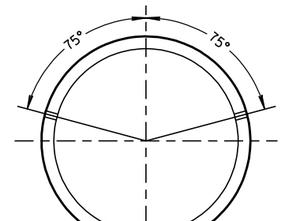
SLEEVE NUTS



LONGITUDINAL SECTION

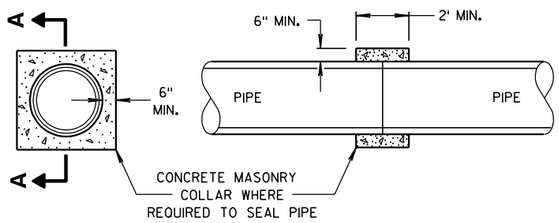
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

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

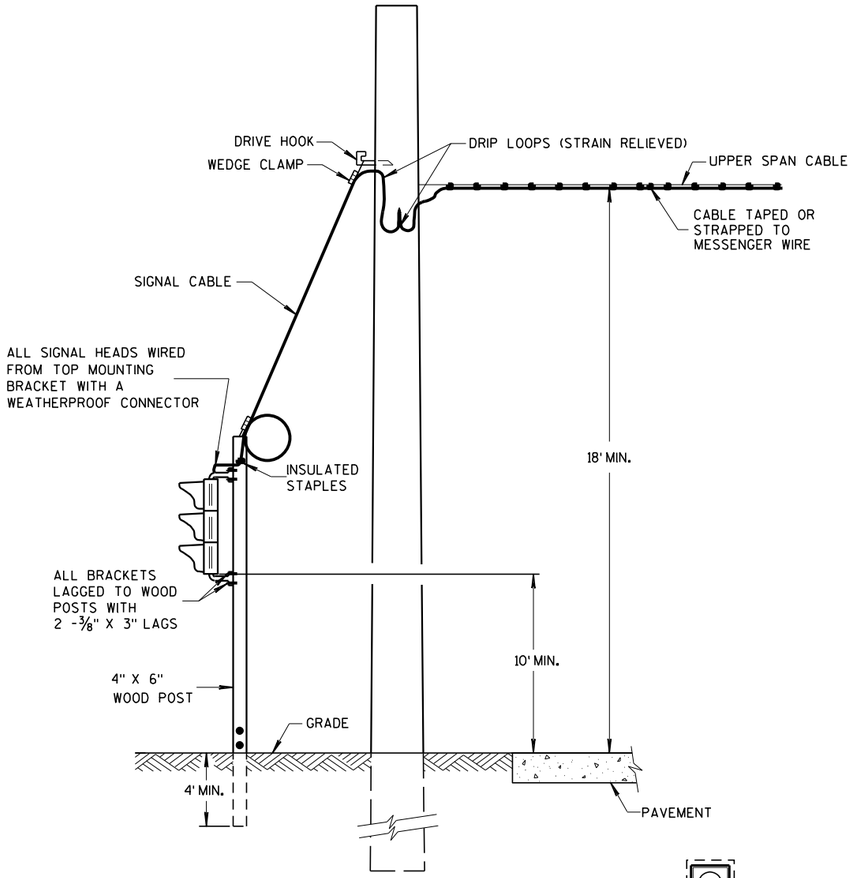
JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

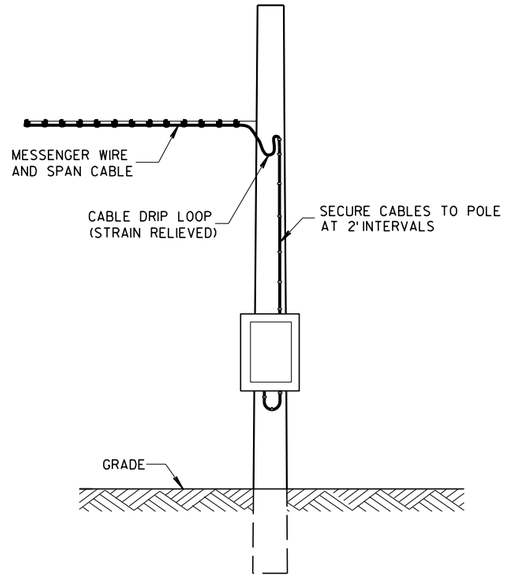
APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
46
FHWA

6

S.D.D. 8 F 4-7



TYPICAL DROP TO TRAFFIC SIGNAL FACE



POLE MOUNT CABINET INSTALLATION

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

POLE MOUNTED TRAFFIC SIGNAL CONTROL CABINET MAYBE MOUNTED ON THE SERVICE POLE IF THE ELECTRICAL UTILITY ALLOWS THE INSTALLATION.

WHEN UTILITY POLES ARE USED TO SPAN THE TEMPORARY OVERHEAD CABLE, WRITTEN PERMISSION MUST BE OBTAINED FROM THE OWNER OF THE POLES AND GIVEN TO THE PROJECT MANAGER. ALL PERTINENT UTILITY AND CODE CLEARANCES SHALL BE MAINTAINED.

WOOD POLES (NONBREAKAWAY) SHALL BE NO CLOSER TO EDGE OF PAVEMENT THAN OFFSET DISTANCE CHART ALLOWS OR 4 FEET BEHIND PROTECTIVE BARRIER (BEAM GUARD, ETC.).

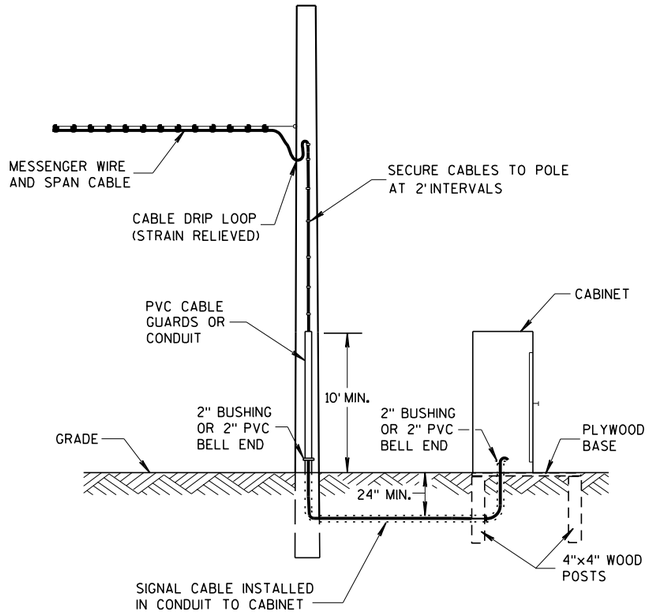
WOOD POSTS (BREAKAWAY) SHALL BE NO CLOSER THAN 2 FEET OUTSIDE OF SHOULDER.

VERTICAL CLEARANCE ETC. PER NEC.

TRAFFIC SIGNAL FACES SHALL BE TYPICALLY PLACED 12 FEET FROM EDGE OF PAVEMENT.

EACH TRAFFIC SIGNAL FACE SHALL HAVE A BACKPLATE.

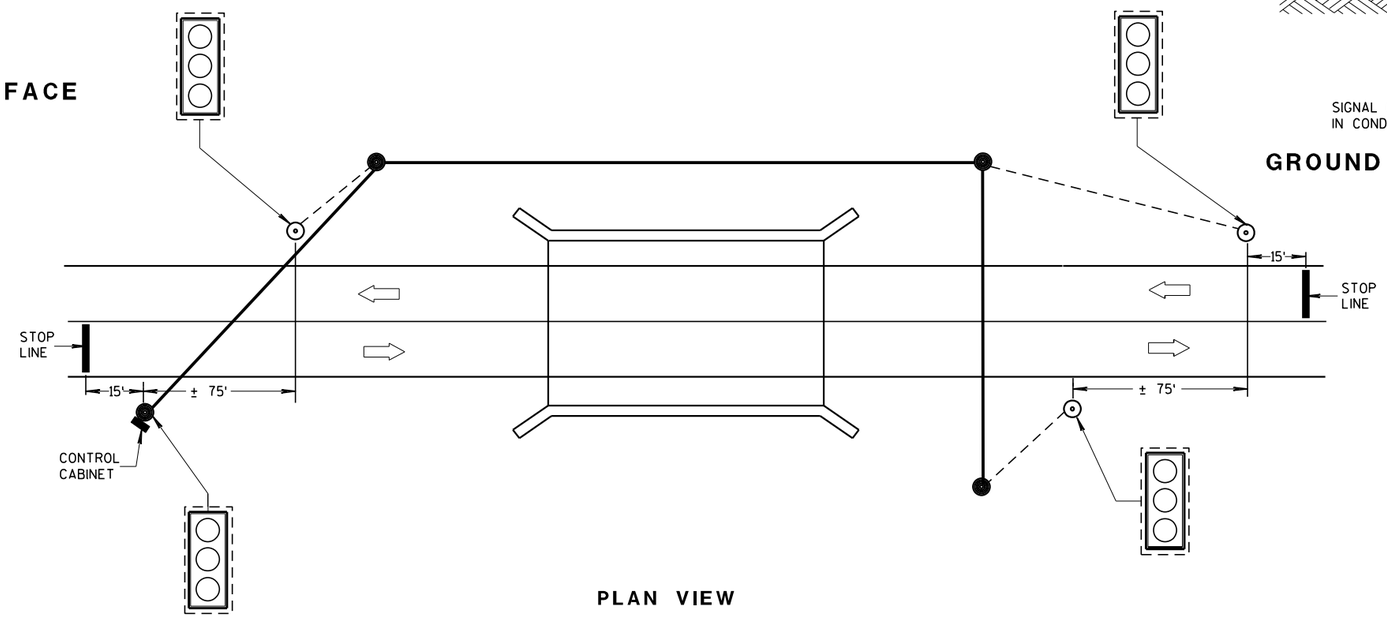
SIGNING, PAVEMENT MARKING AND LANE CONTROL REQUIREMENTS SHALL CONFORM TO STANDARD DETAIL DRAWING 15 D 33.



GROUND MOUNT CABINET INSTALLATION

OFFSET DISTANCES FOR TEMPORARY NON-BREAKAWAY POLES	
SPEED LIMIT	OFFSET DISTANCE**
GREATER THAN 45 MPH	18 FT
45 MPH OR LESS	12 FT
45 MPH OR LESS W/ CURBS	2 FT

**NOTE: OFFSET MEASURED FROM OUTER EDGE OF OUTSIDE THRU LANE.



PLAN VIEW

TYPICAL BRIDGE TEMPORARY TRAFFIC SIGNAL LOCATION

LEGEND

- WOOD POLE (NON-BREAKAWAY)
- WOOD POST (BREAKAWAY)
- SIGNAL CABLE
- SIGNAL CABLE W/MESSENGER
- LED TRAFFIC SIGNAL FACE WITH BACKPLATE (3-12")
- DIRECTION OF TRAFFIC

MINIMUM POLE LENGTHS	CLASS	MINIMUM BURIAL DEPTHS
25 FEET	V	5 FEET
30 FEET	V	6 FEET
35 FEET	IV	7 FEET
40 FEET	IV	8 FEET
45 FEET	IV	9 FEET

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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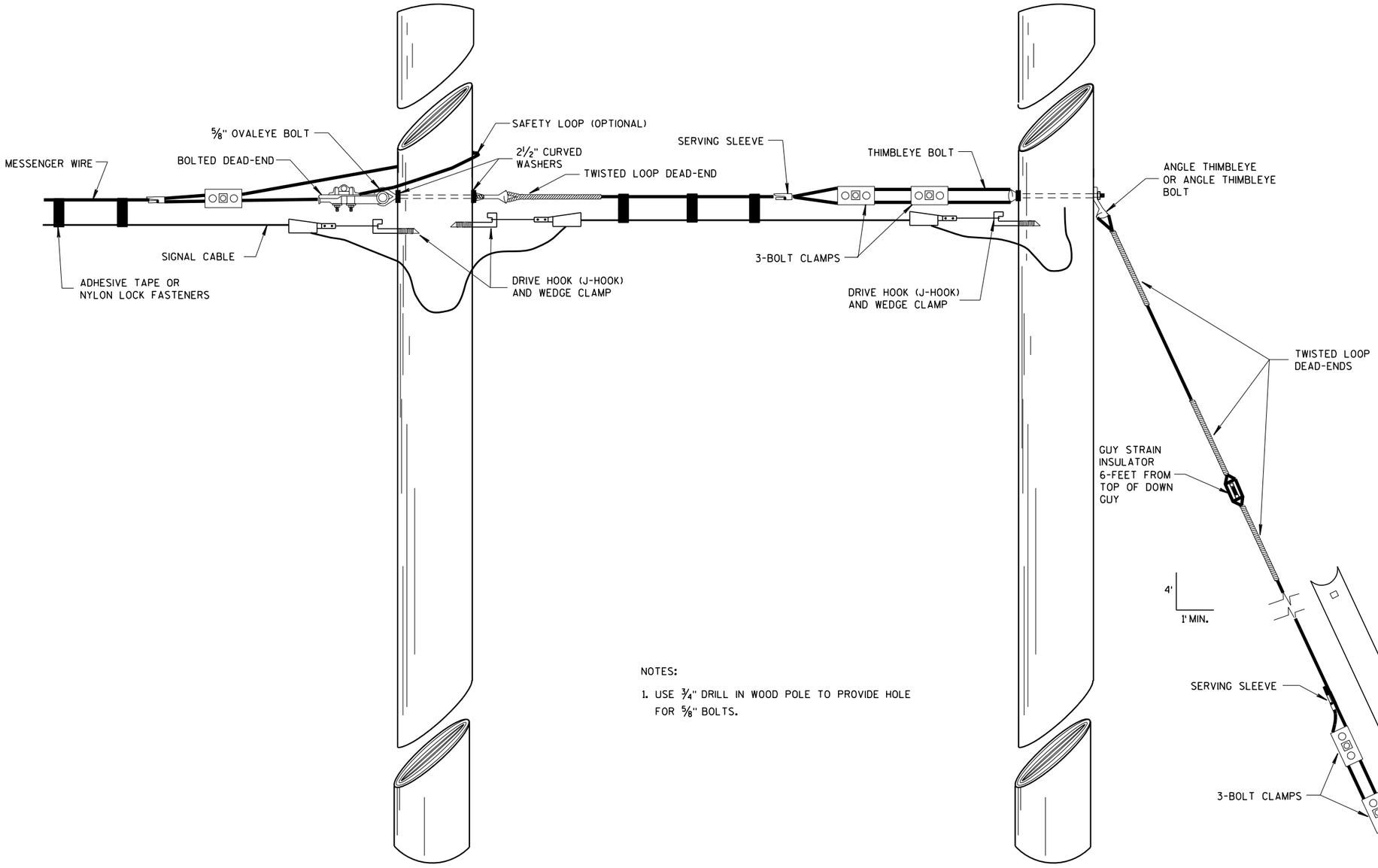
S.D.D. 9 G 2-5a



SPAN WIRE POLE

GUY POLE

NOTES:

1. USE 3/4" DRILL IN WOOD POLE TO PROVIDE HOLE FOR 5/8" BOLTS.

TYPICAL DEAD-ENDINGS OR GUYING

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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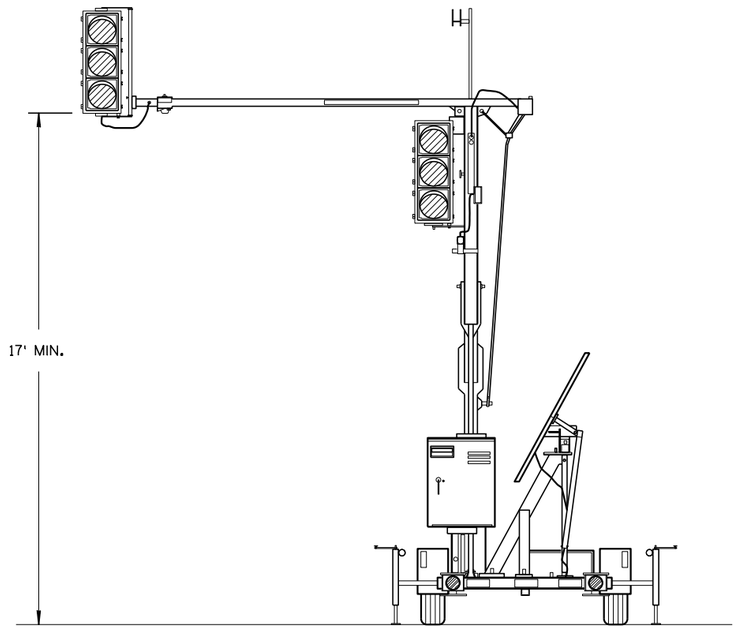
S.D.D. 9 G 2-5b

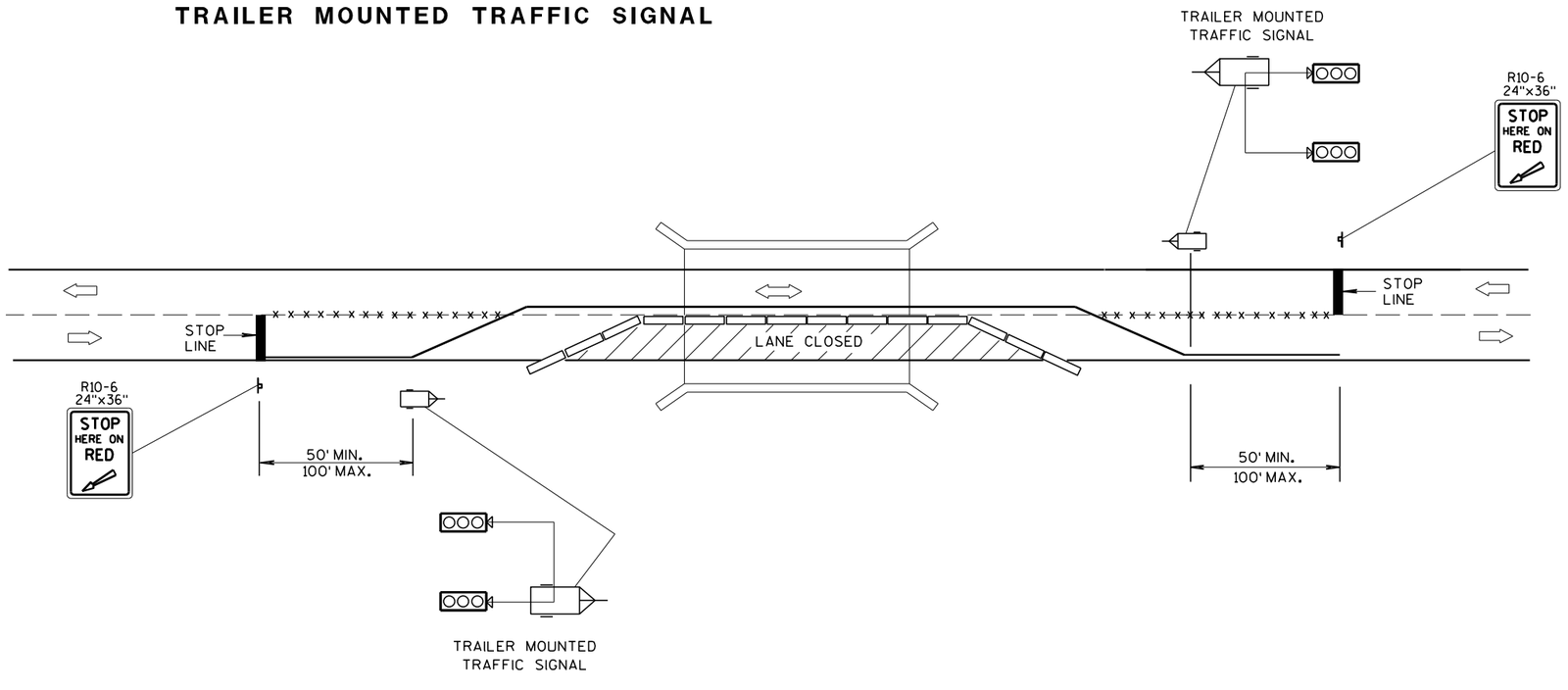


TRAILER MOUNTED TRAFFIC SIGNAL

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

SIGNING, PAVEMENT MARKING AND LANE CONTROL REQUIREMENTS SHALL CONFORM TO STANDARD DETAIL DRAWING 15 D 33.



TYPICAL TRAILER MOUNTED TRAFFIC SIGNAL LOCATION

LEGEND

- POST MOUNTED SIGN
- REMOVING PAVEMENT MARKING
- TEMPORARY PRECAST CONCRETE BARRIER
- TRAILER MOUNTED TRAFFIC SIGNAL
- DIRECTION OF TRAFFIC FLOW

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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S.D.D. 9 G 2-5c

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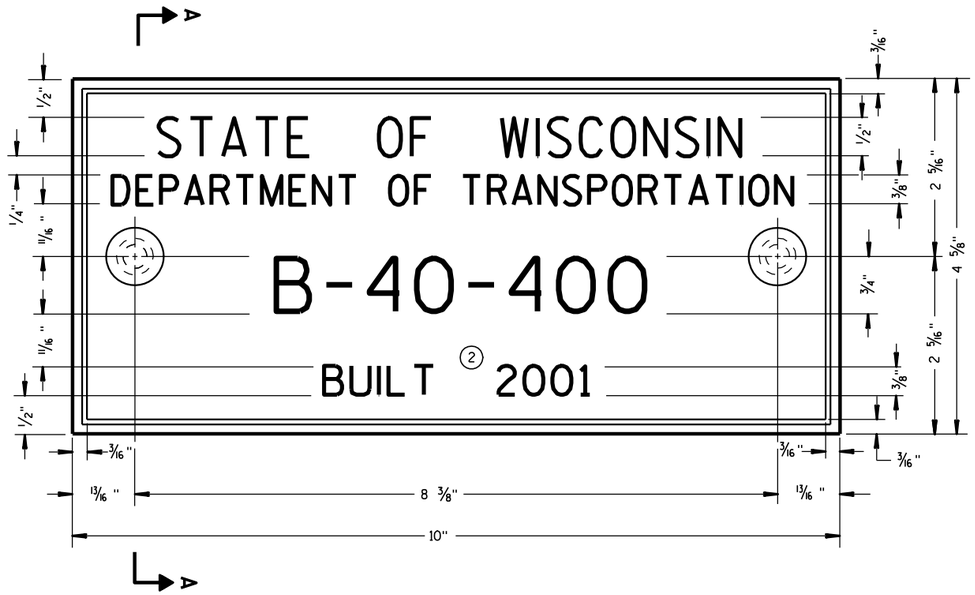
S.D.D. 9 G 2-5c



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

NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

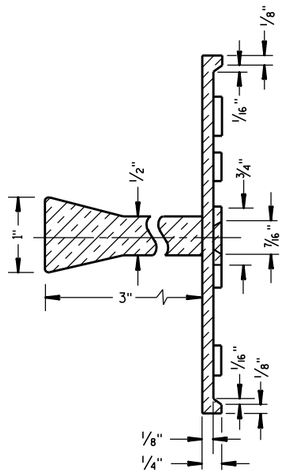
GENERAL NOTES

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.

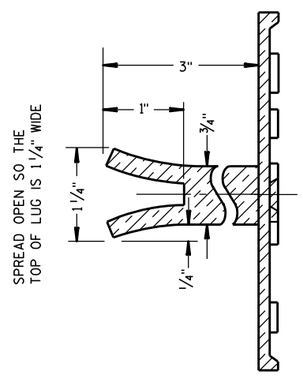
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

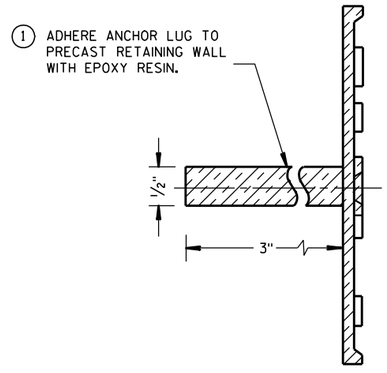
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

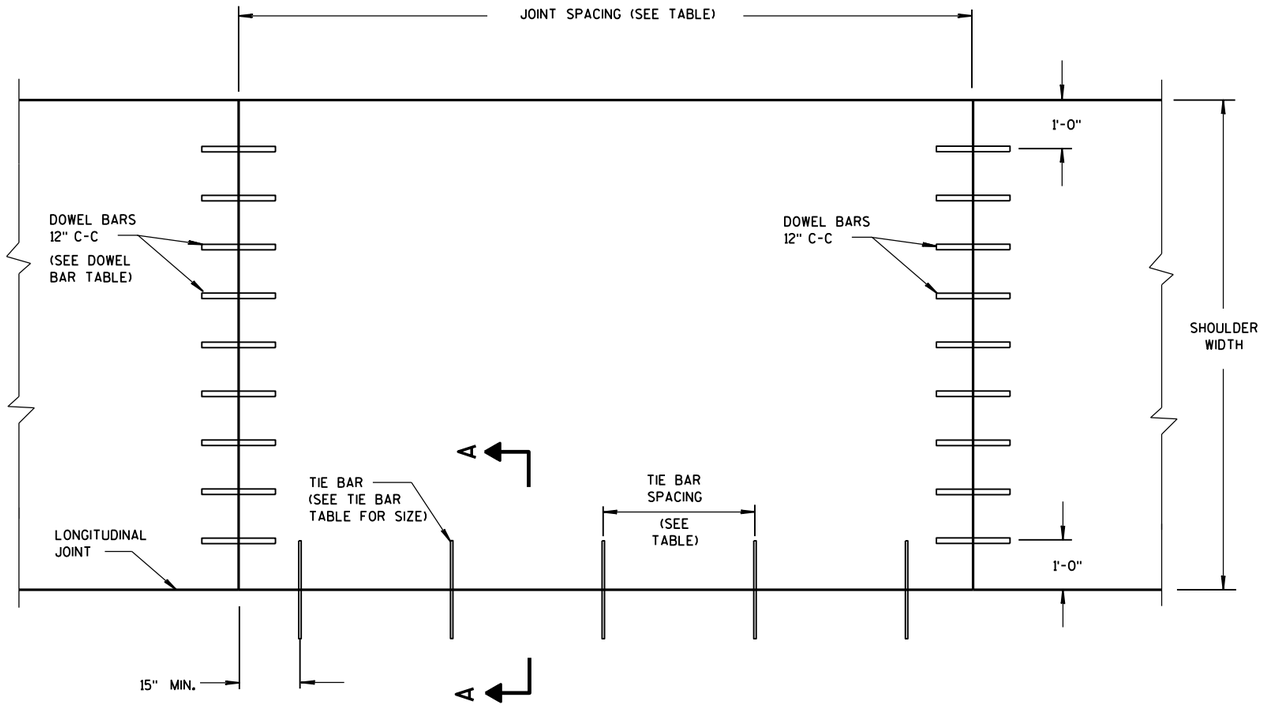
3/26/10 DATE

/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOP ENGINEER

FHWA

6

S.D.D. 12 A 3-10



PLAN VIEW

CONCRETE PAVEMENT SHOULDER

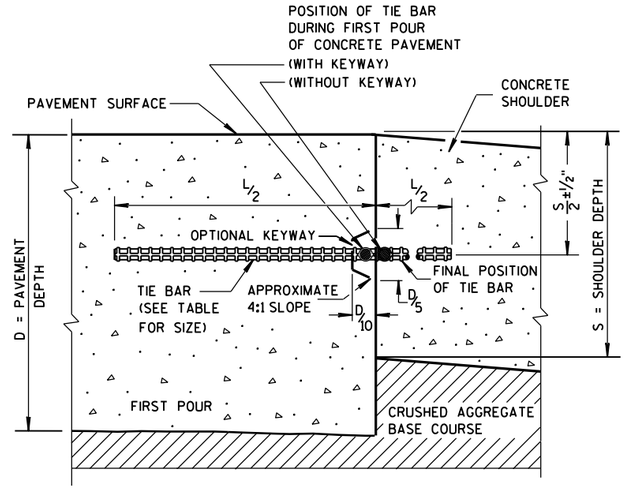
GENERAL NOTES

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 SUPERF
FHWA

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S.D.D. 13 A 3-6

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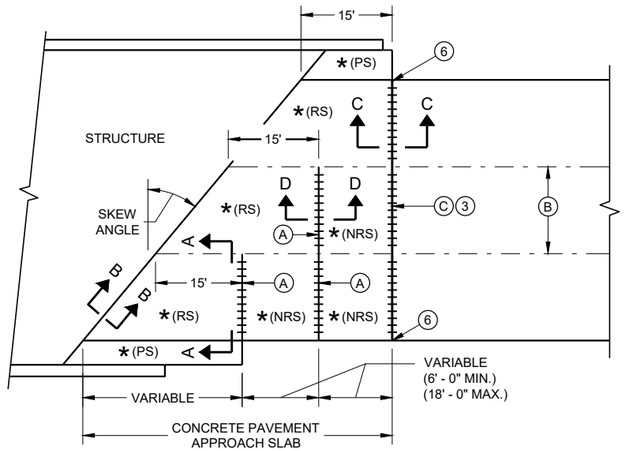
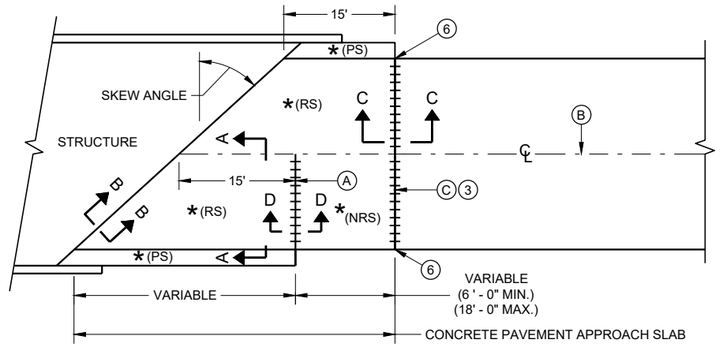
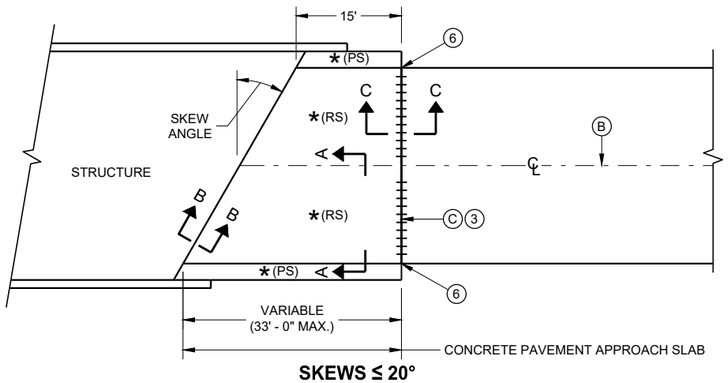
S.D.D. 13 A 3-6



SKEWED APPROACH
(PAVEMENT MORE THAN TWO LANES)



SKEWS > 20°
(PAVEMENT WIDTH ≤ 30')



SKEWS ≤ 20°
(PAVEMENT WIDTH ≤ 30')

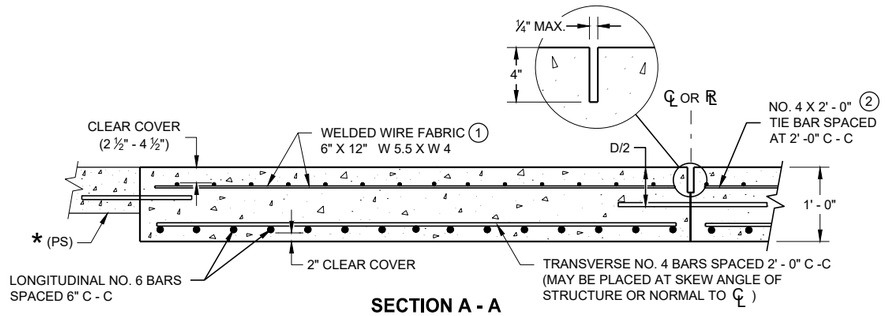
APPROACH SLAB AND ADJACENT PAVEMENT

(RS) = REINFORCED CONCRETE SLAB

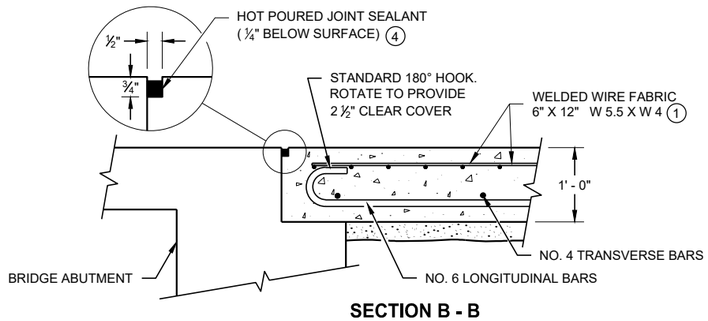
(PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB

(NRS) - NON - REINFORCED CONCRETE SLAB

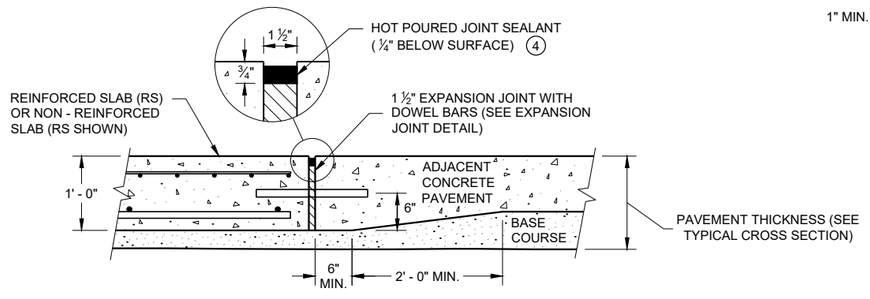
*** STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11 AND SDD 13C13)



SECTION A - A
REINFORCEMENT POSITIONING DETAIL



SECTION B - B
BEND DETAIL
BOTTOM REINFORCEMENT



SECTION C - C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT

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.

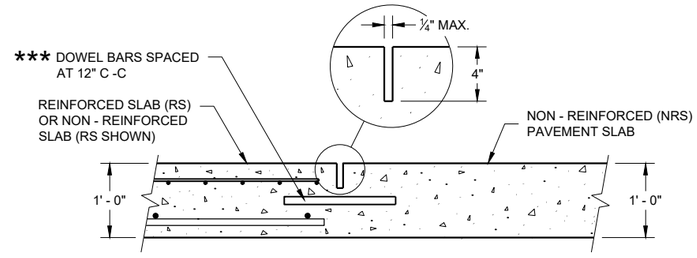
(5) PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.

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

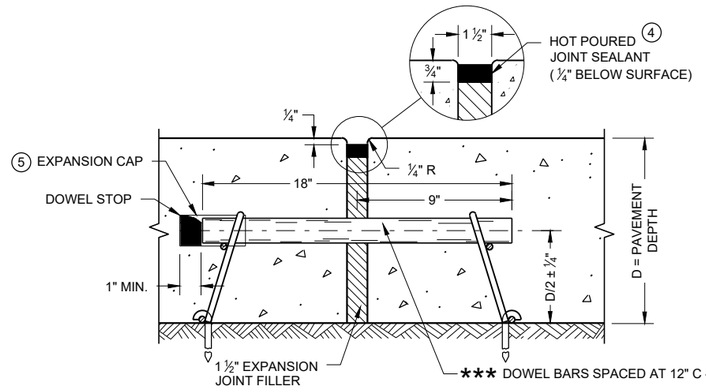
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℞.

(B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.

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



SECTION D - D
CONTRACTION JOINT



EXPANSION JOINT DETAIL

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

/S/ Peter Kemp P.E.
PAVEMENT SUPERVIS

FHWA

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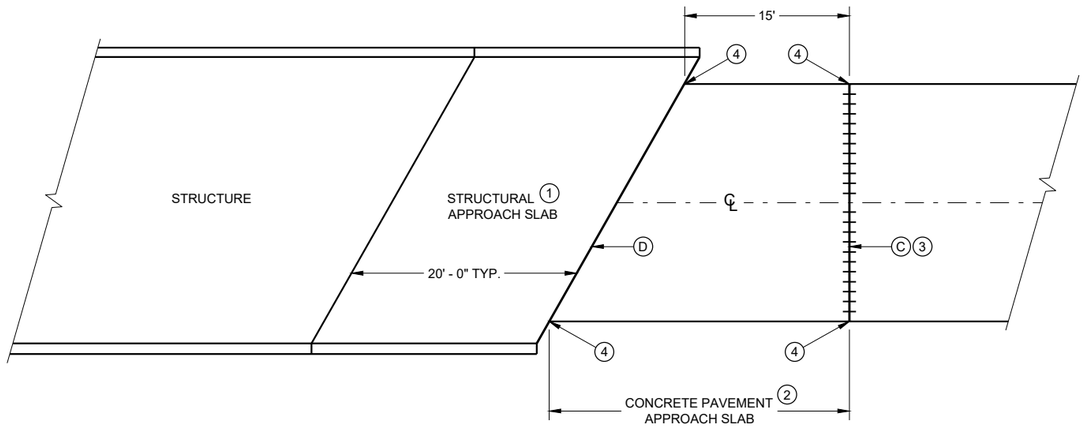
SDD 13B02 - 09a



BRIDGE APPROACHES

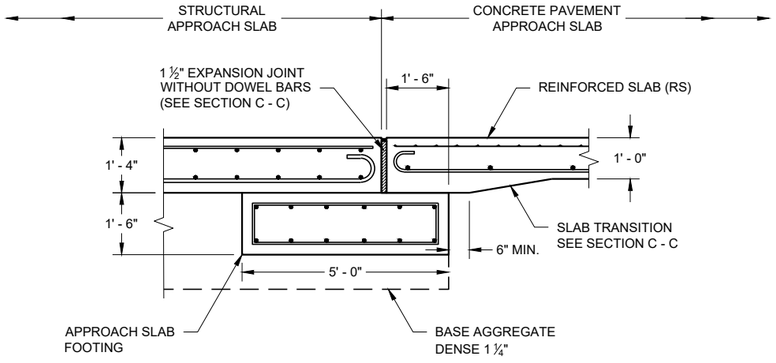
GENERAL NOTES

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 PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE
/S/ Peter Kemp P.E.
PAVEMENT SUPERVIS

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SDD 13B02 - 09b

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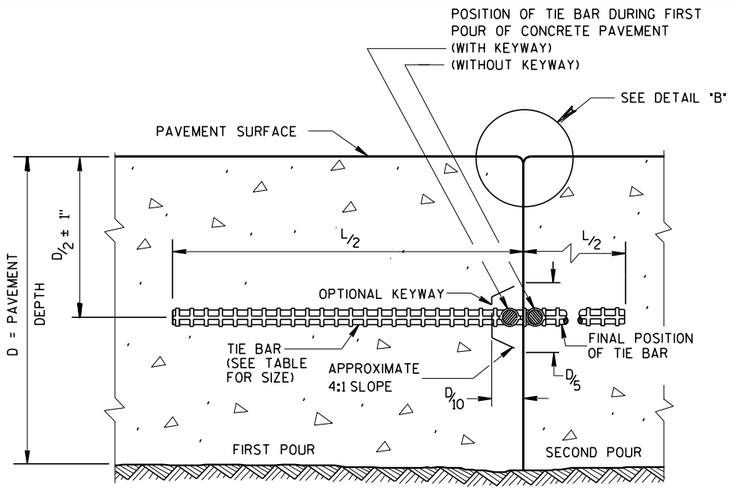
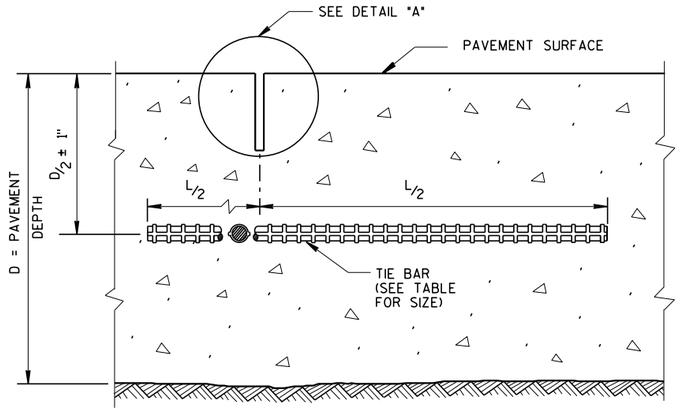
SDD 13B02 - 09b



CONSTRUCTION JOINT



SAWED JOINT

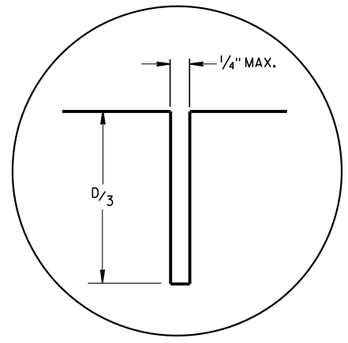
GENERAL NOTES

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

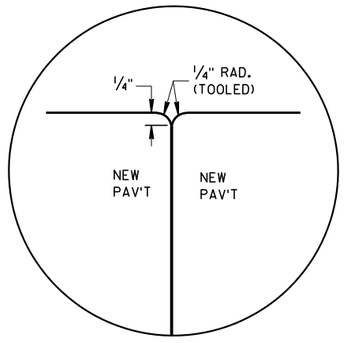
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

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

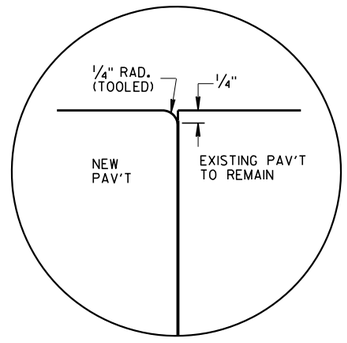
(2) PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.



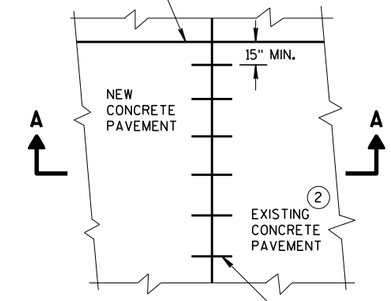
DETAIL "A"



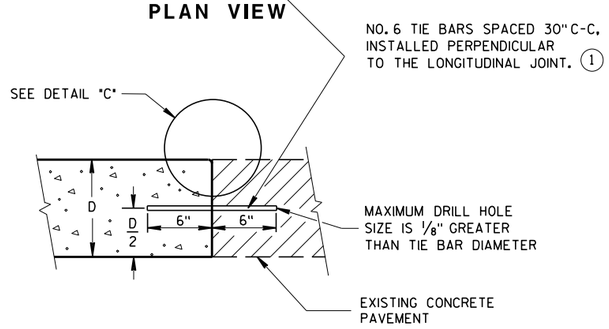
DETAIL "B"



DETAIL "C"



PLAN VIEW



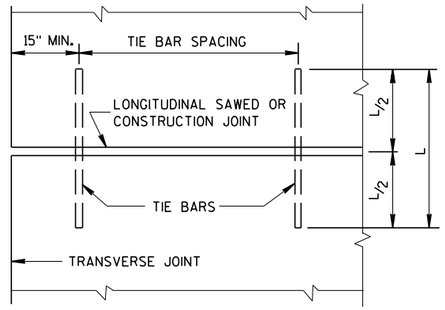
SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT

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
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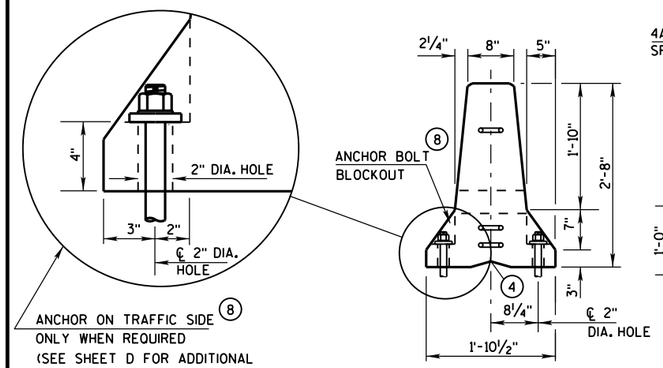
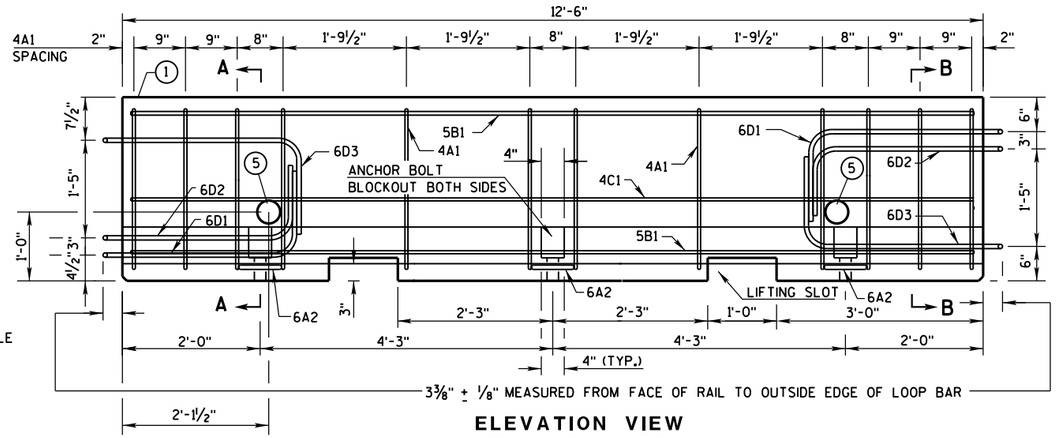
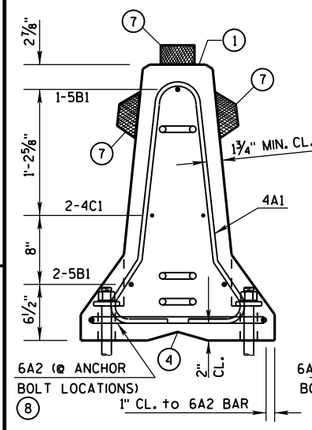


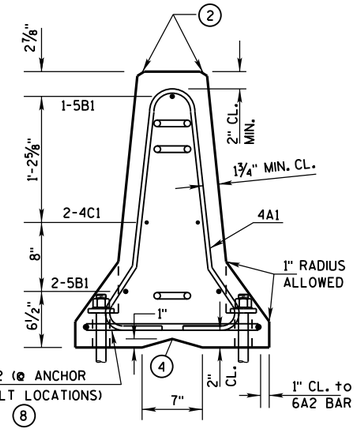
END VIEW



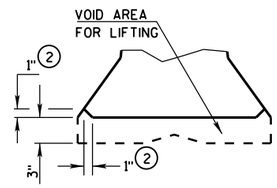
ELEVATION VIEW



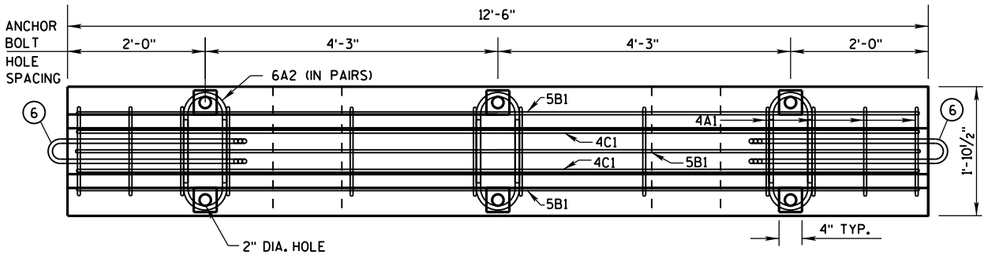
SECTION A-A
(STIRRUP PLACEMENT)



SECTION B-B
(STIRRUP PLACEMENT)

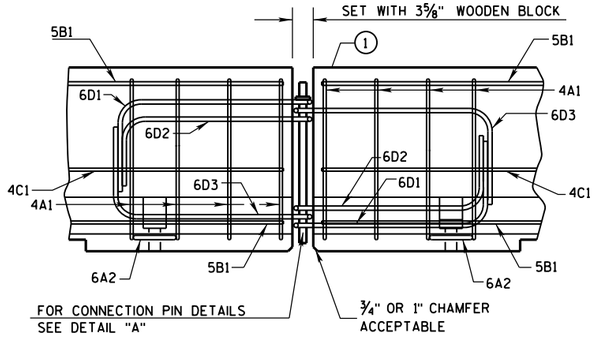


DETAIL "B"
LIFTING SLOT DETAIL

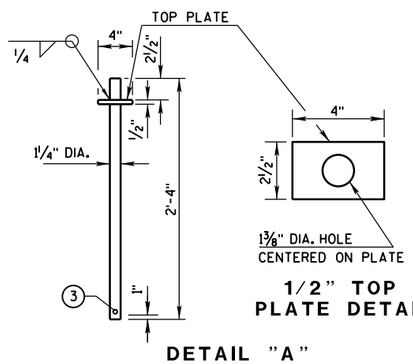


PLAN VIEW

DETAILS OF BARRIER SECTION

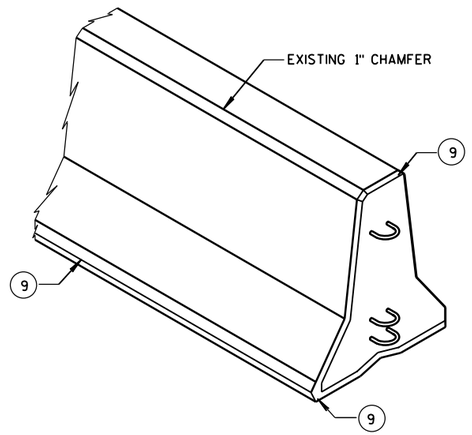


DETAILS OF BARRIER CONNECTION



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.

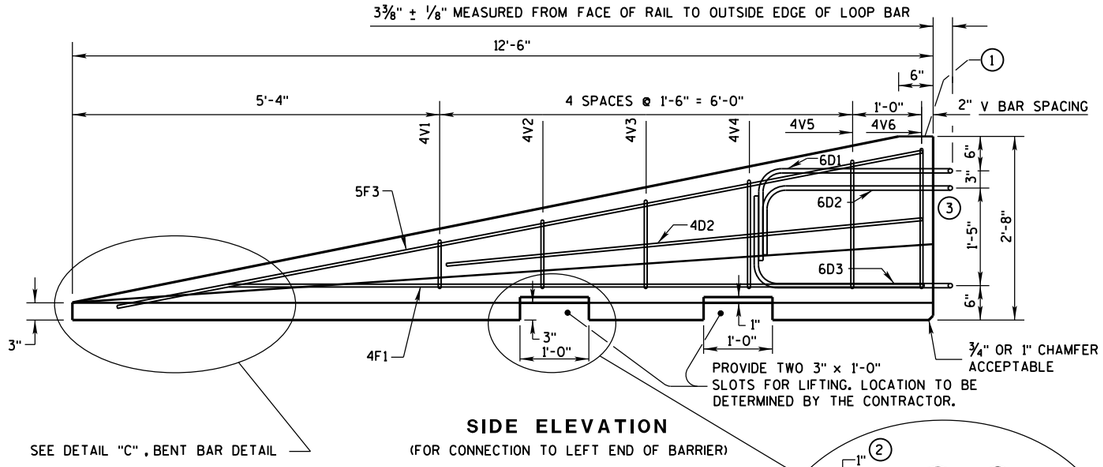
(8) SEE SHEET D FOR HOW TO ANCHOR BARRIER. SEE SHEET E FOR WHEN TO ANCHOR BARRIER.

(9) 1" CHAMFER OPTIONAL.

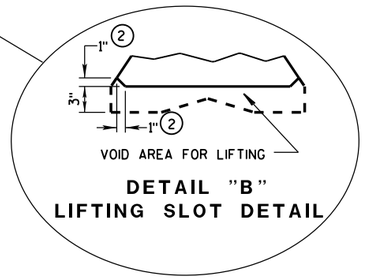
f'c = 4,000 psi

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

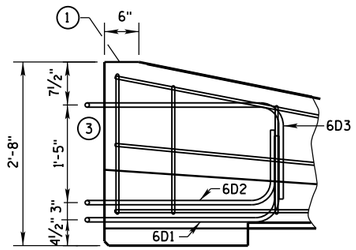
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 55



SIDE ELEVATION
(FOR CONNECTION TO LEFT END OF BARRIER)



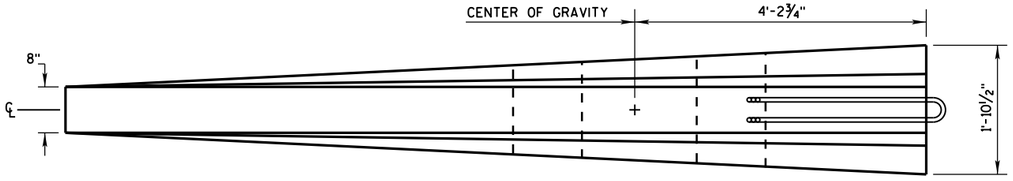
DETAIL "B"
LIFTING SLOT DETAIL



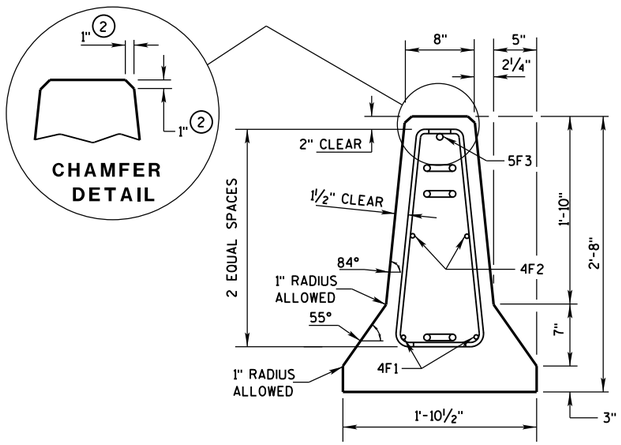
SIDE ELEVATION
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

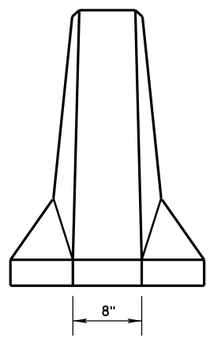
1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



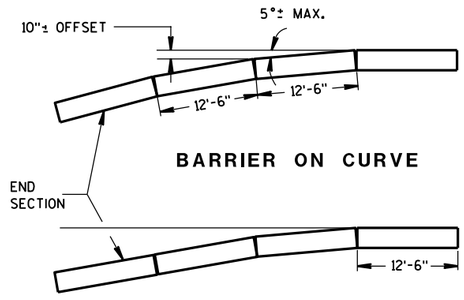
PLAN VIEW



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

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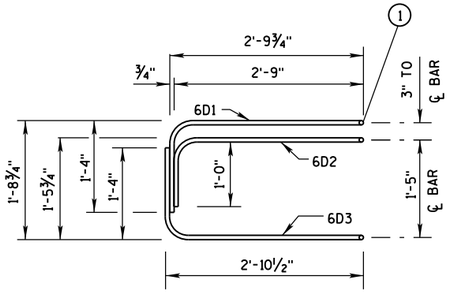
S.D.D. 14 B 7-15b

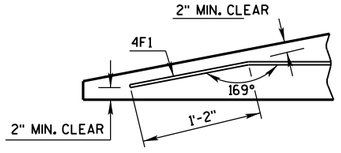
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

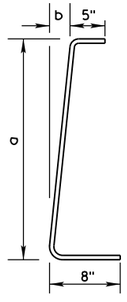
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



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

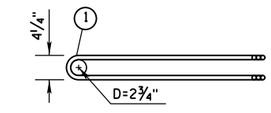
GENERAL NOTES

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

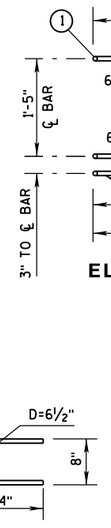
BARRIER SECTION BILL OF MATERIALS

(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"

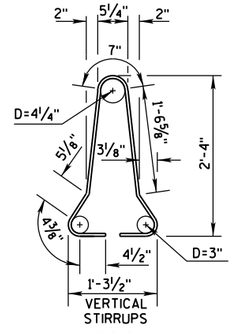


PLAN VIEW
LOOP BAR ASSEMBLY
(MARKED END SHOWN, INVERT FOR OTHER END)



6A2

ELEVATION VIEW



4A1

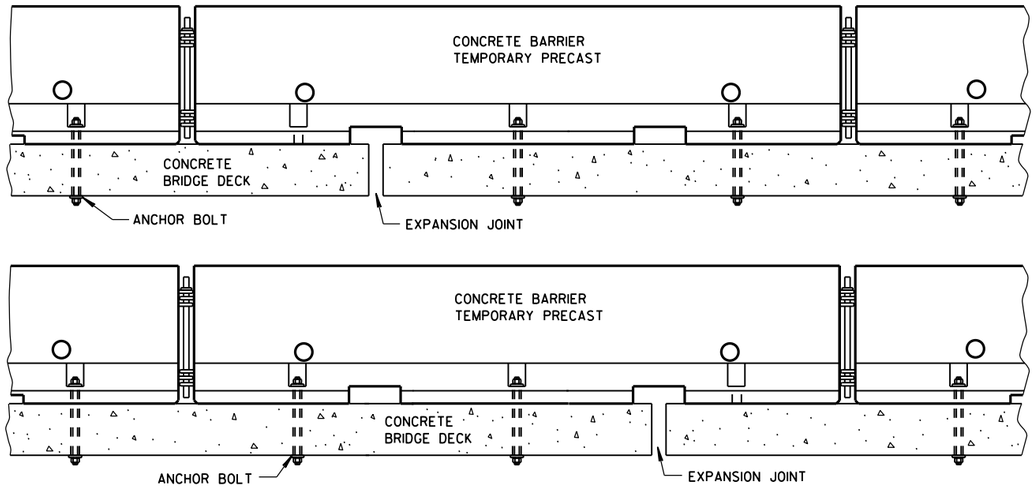
BARRIER SECTION

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

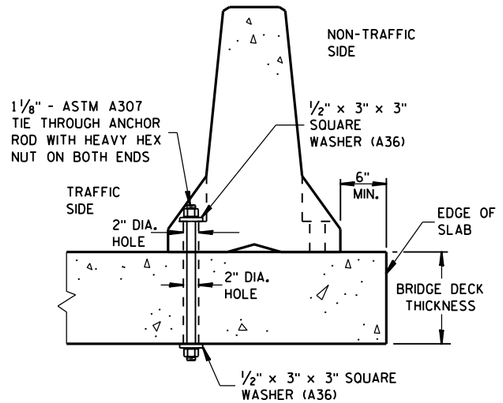
SEE SHEET E FOR WHEN TO ANCHOR. OTHER PARTS OF THE PLAN MAY SHOW ADDITIONAL LOCATIONS REQUIRING ANCHORING.

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.

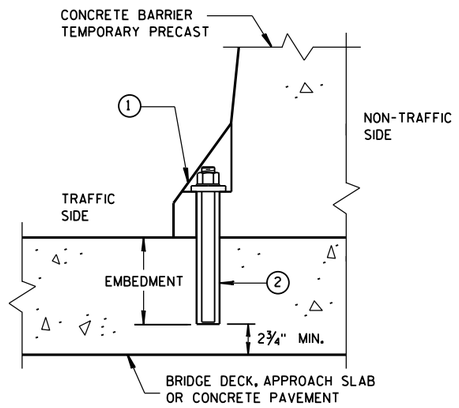
(2) ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5¼" EMBEDMENT. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.

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



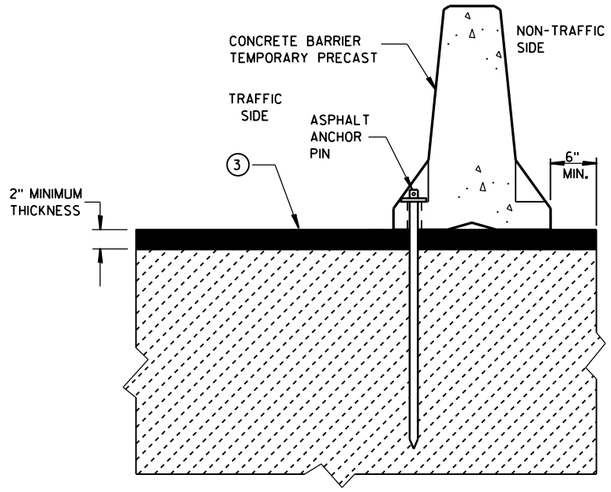
THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)

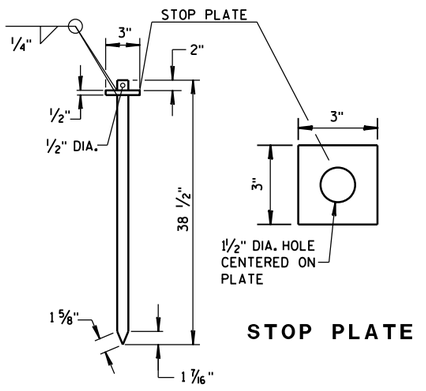


REMOVABLE ADHESIVE ANCHOR INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)



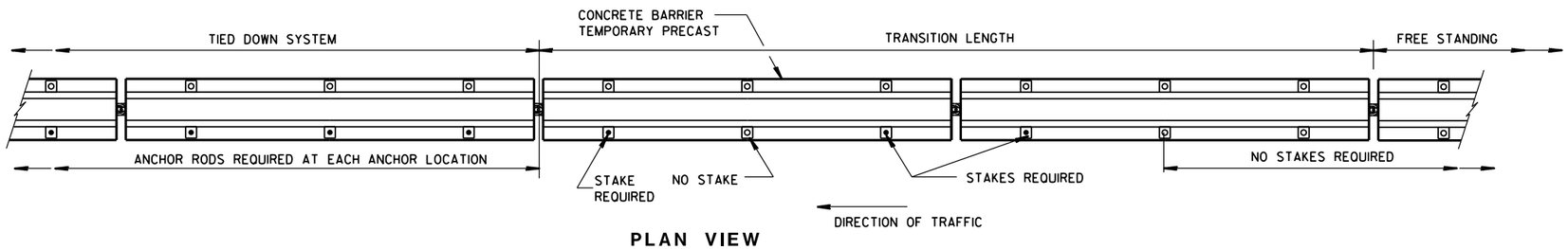
STAKE DOWN INSTALLATION FOR ASPHALTIC SURFACE



STOP PLATE

ASPHALT ANCHOR PIN

(ASTM A36 STEEL)



PLAN VIEW

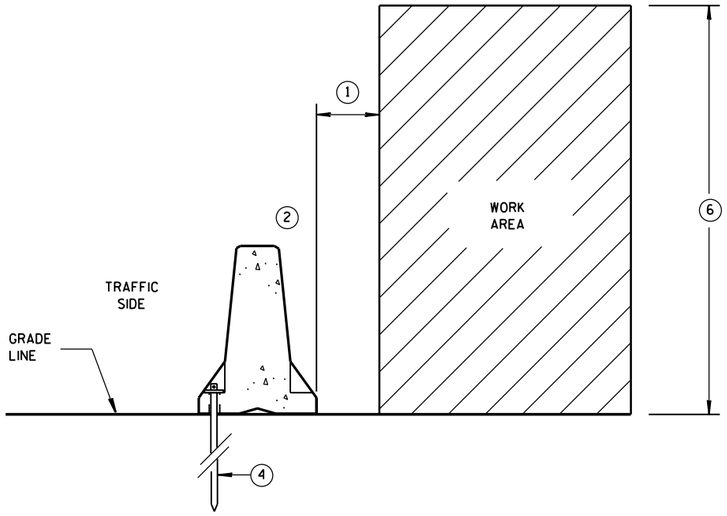
FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

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

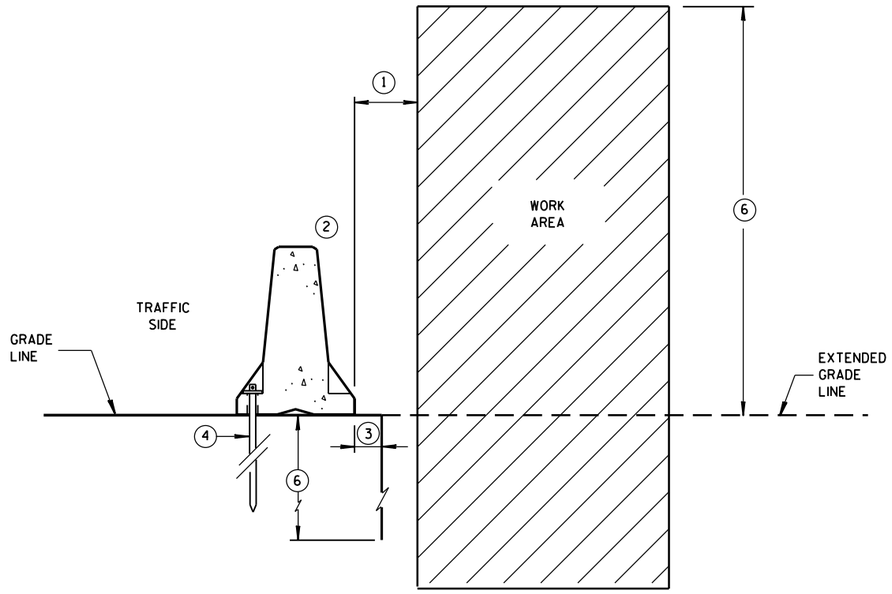
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

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

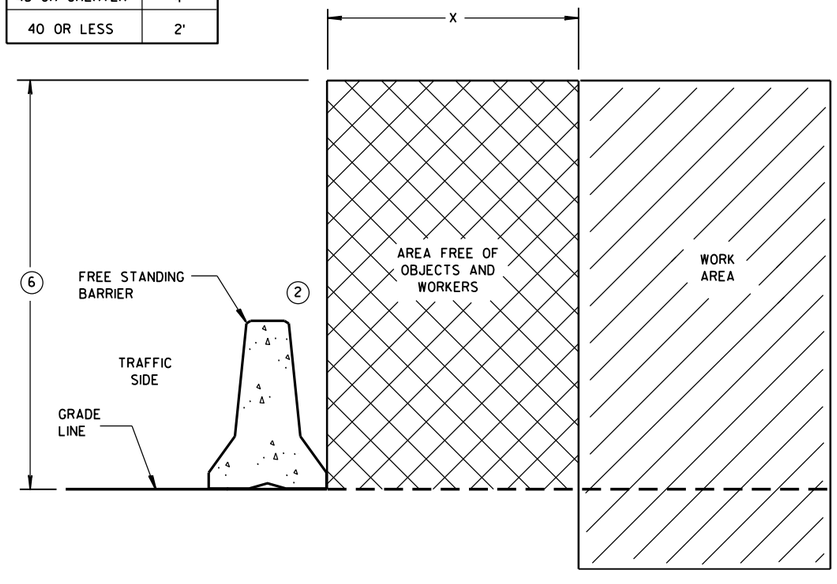


ANCHORED BARRIER SPACE REQUIREMENTS ON VERTICAL DROP OFFS

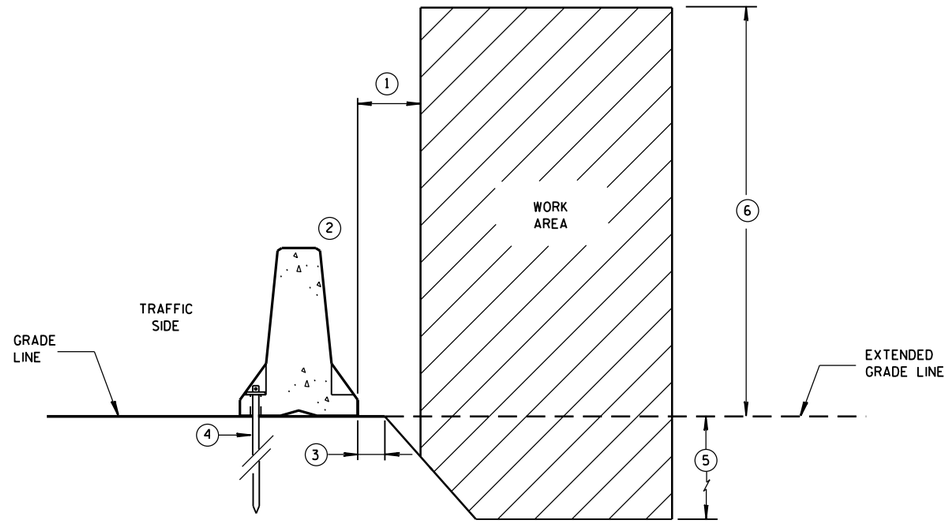
GENERAL NOTES

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

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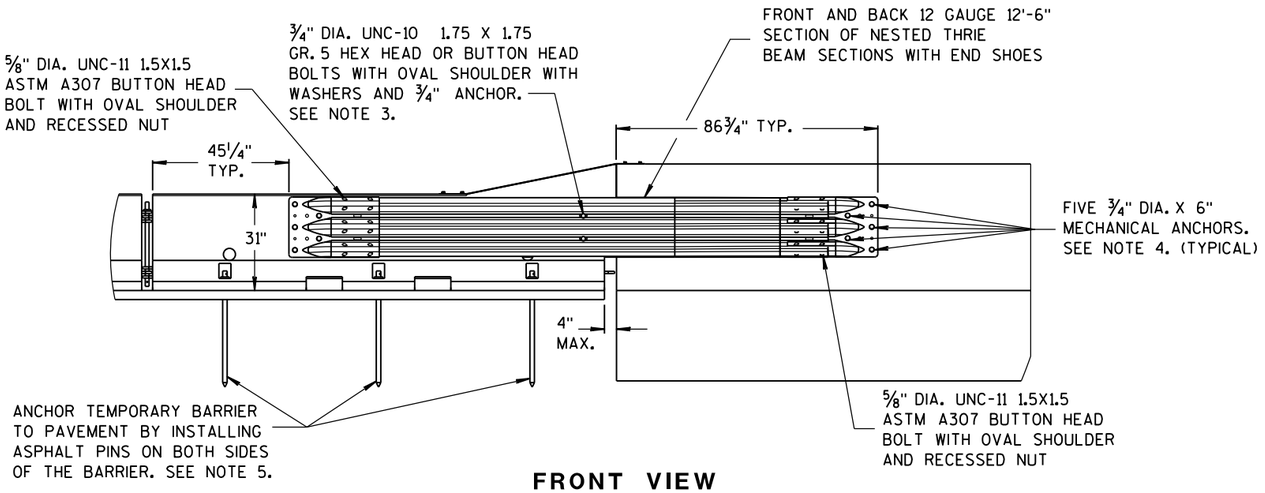
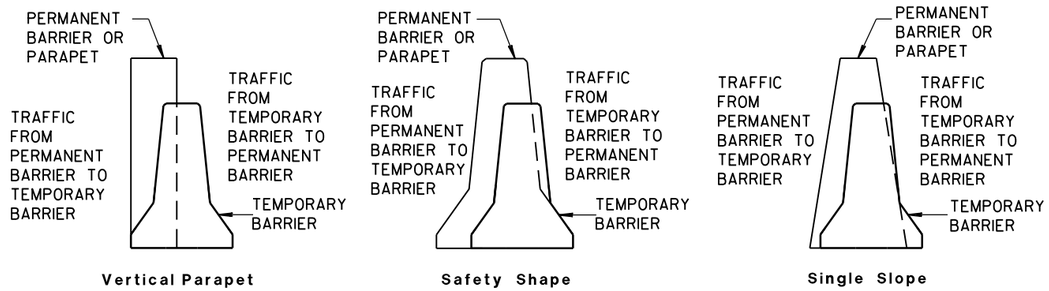
S.D.D. 14 B 7-15e



FRONT VIEW

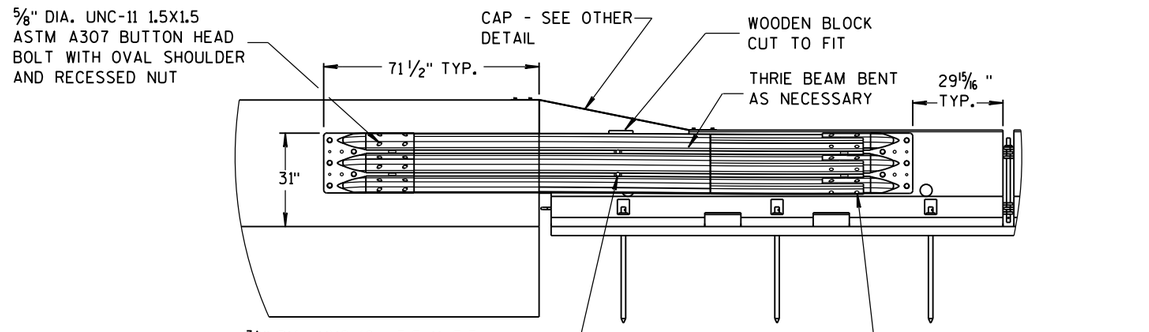


TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

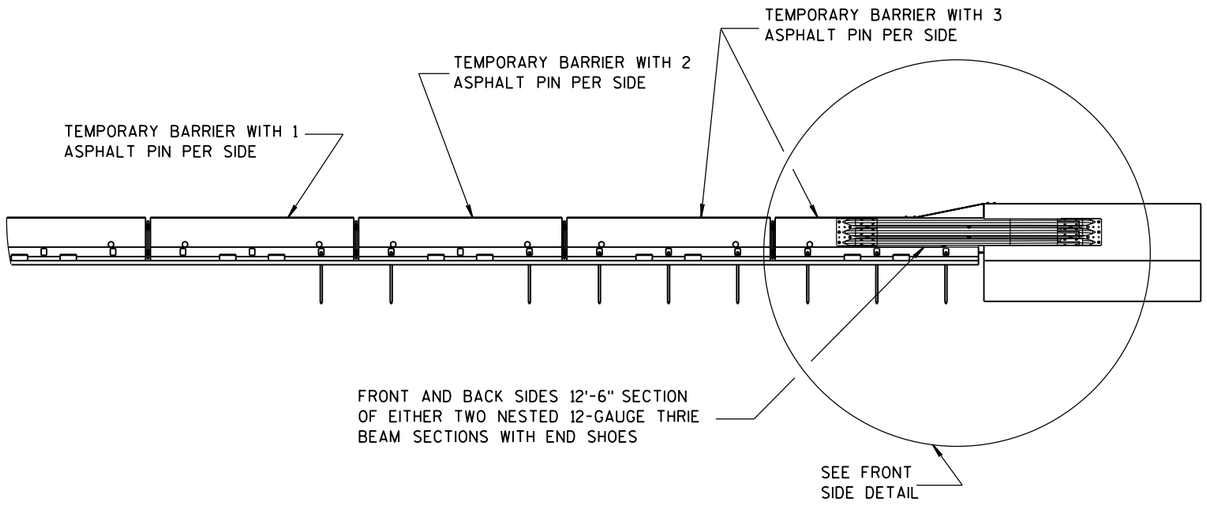
NOTES

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

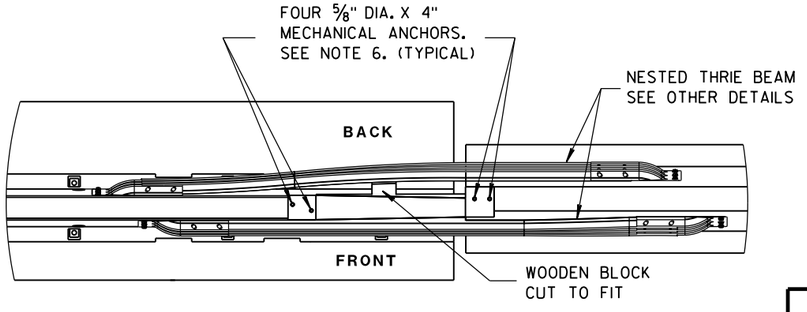
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 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.



BACK VIEW



FRONT VIEW



PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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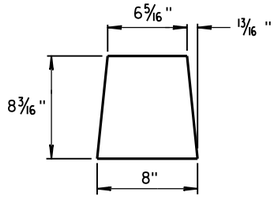
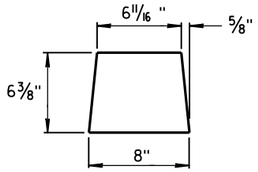
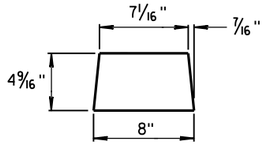
S.D.D. 14 B 7-15f



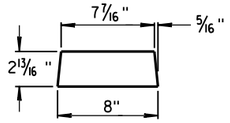
GUSSET 1



GUSSET 2

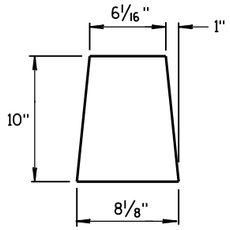


GUSSET 3

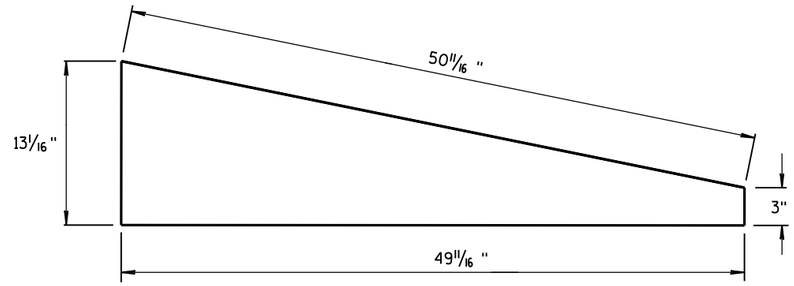


GUSSET 4

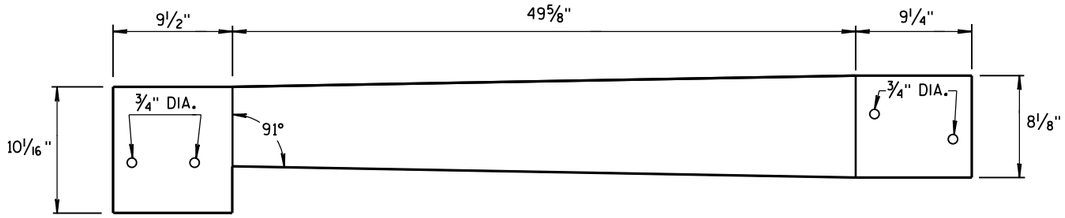
GUSSETS

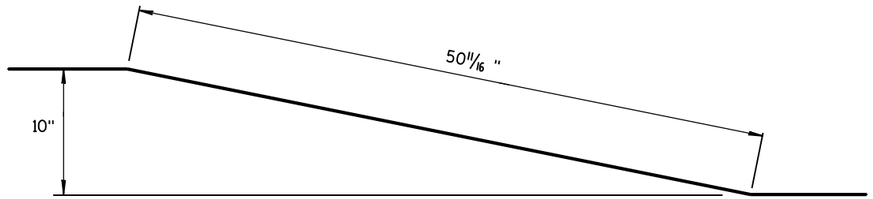


END PLATE



SIDE PLATE

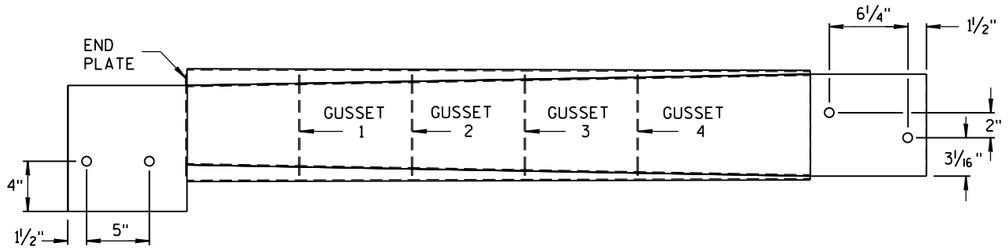


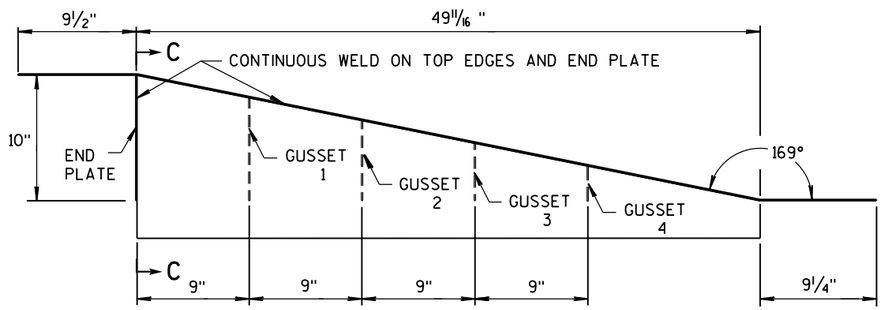


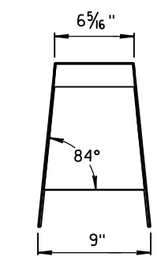
TOP PLATE

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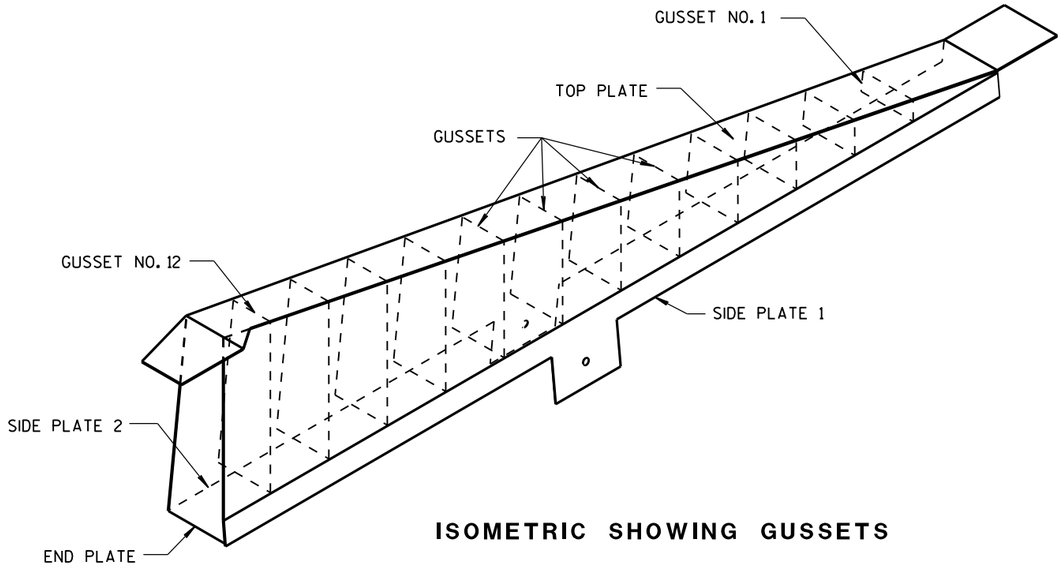
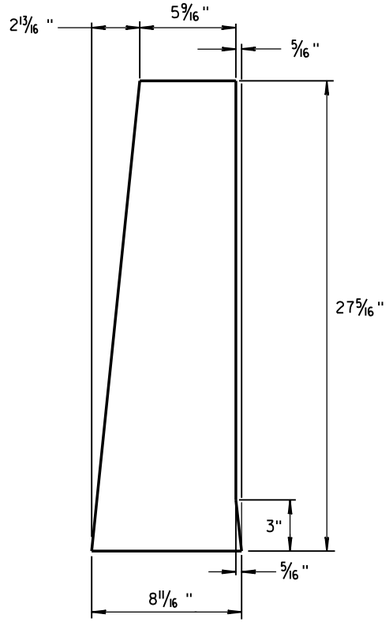
S.D.D. 14 B 7-15g

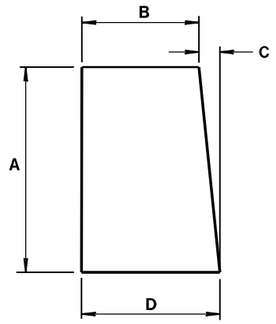


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



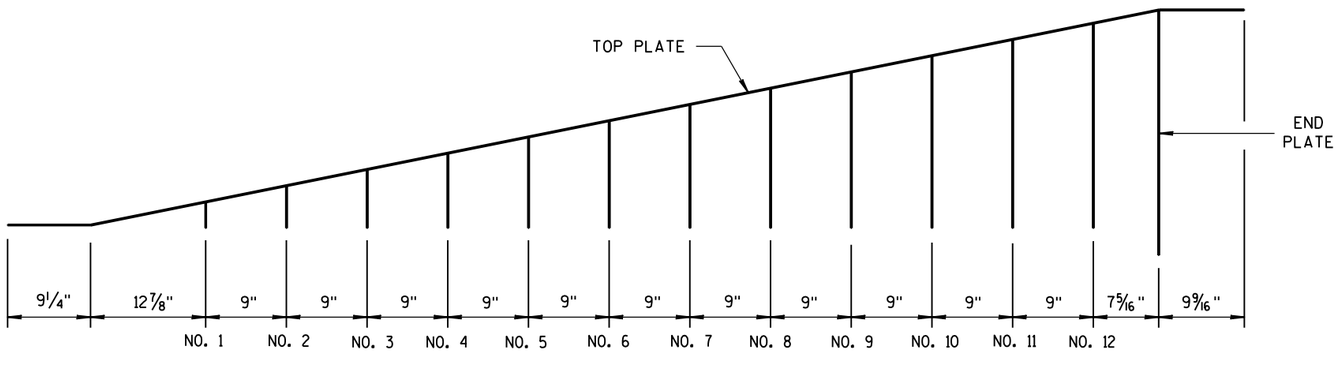
GUSSETS 1 - 12

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 TRANSPOR

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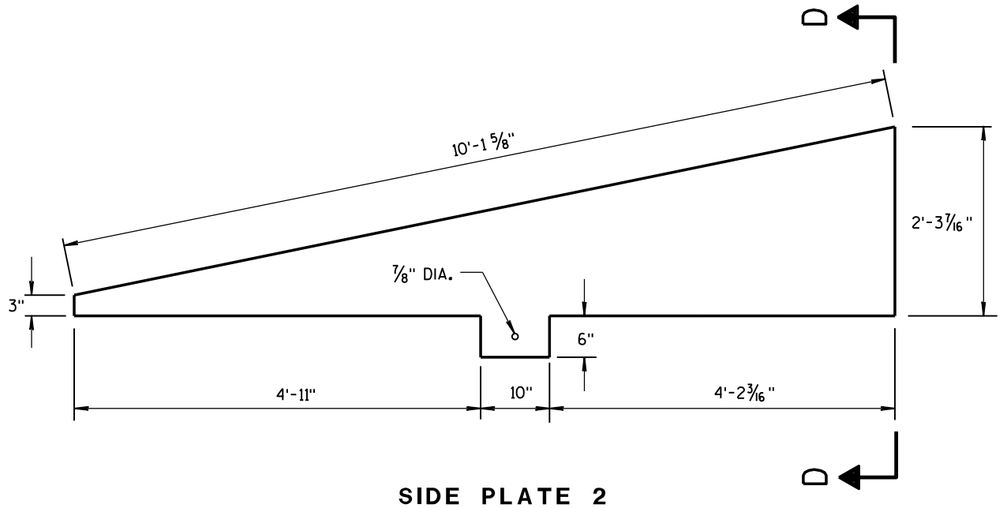
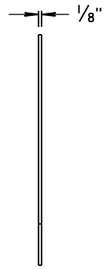
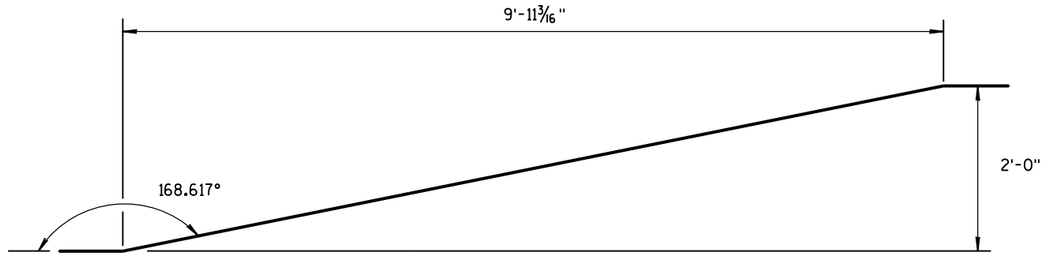
S.D.D. 14 B 7-15h



SIDE PLATE 2

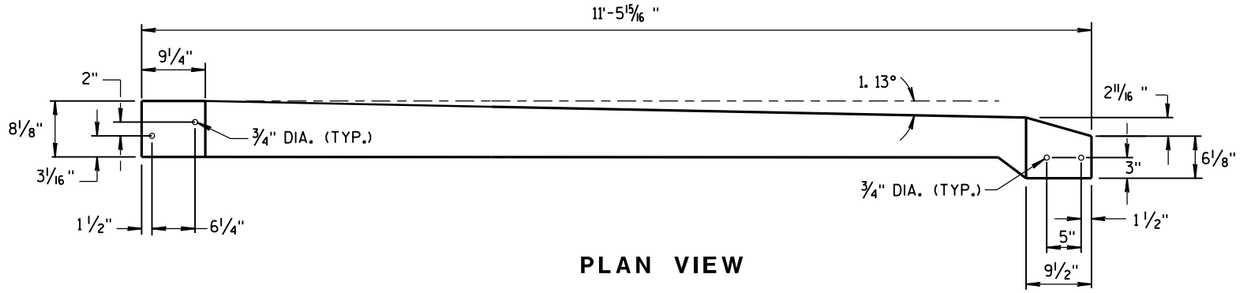


END VIEW



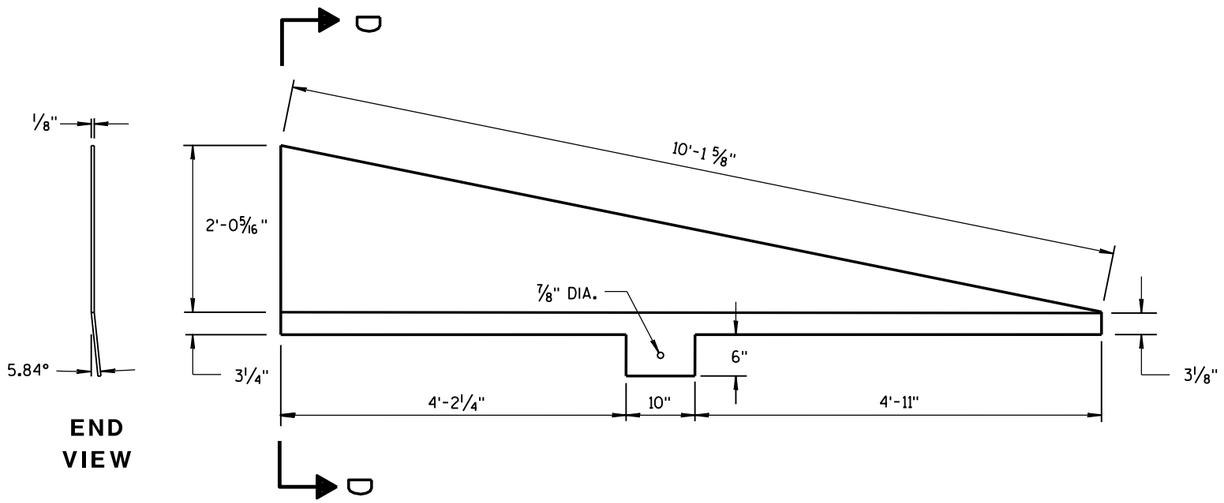
SIDE VIEW

TOP PLATE



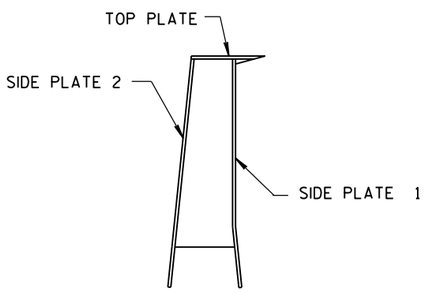
PLAN VIEW

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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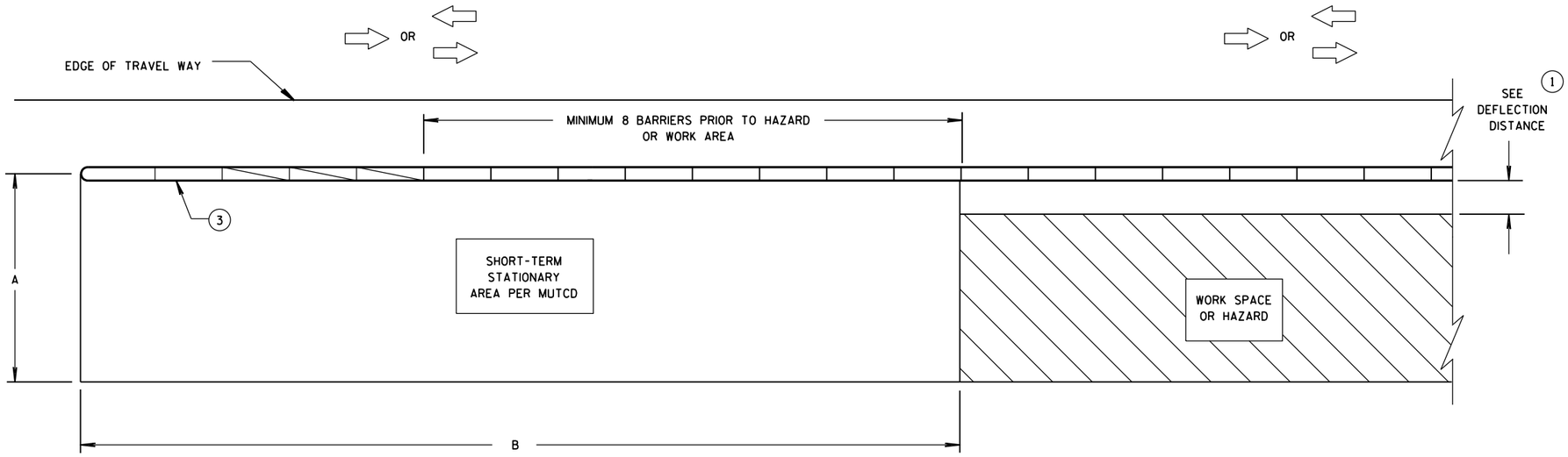


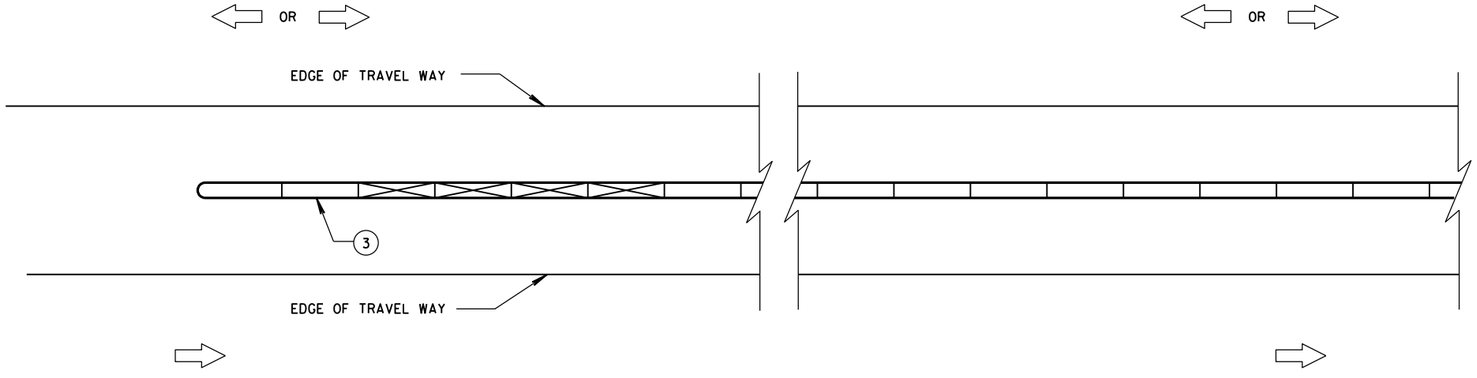
CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER

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.

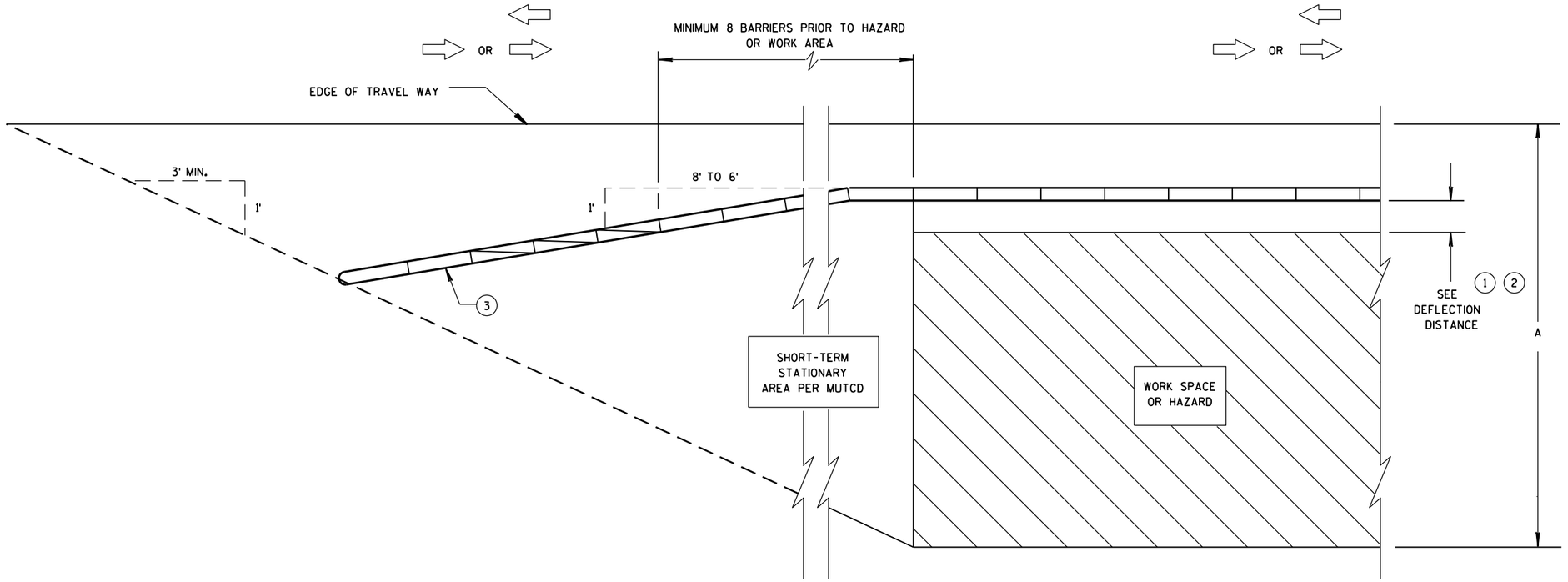
(3) ANCHOR TEMPORARY BARRIER ACCORDING TO CRASH CUSHION OR SAND BARREL MANUFACTURER'S RECOMMENDATIONS. IF MANUFACTURER'S RECOMMENDATIONS ARE NOT PROVIDED, ANCHOR 3 PINS ON TRAFFIC SIDE.

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

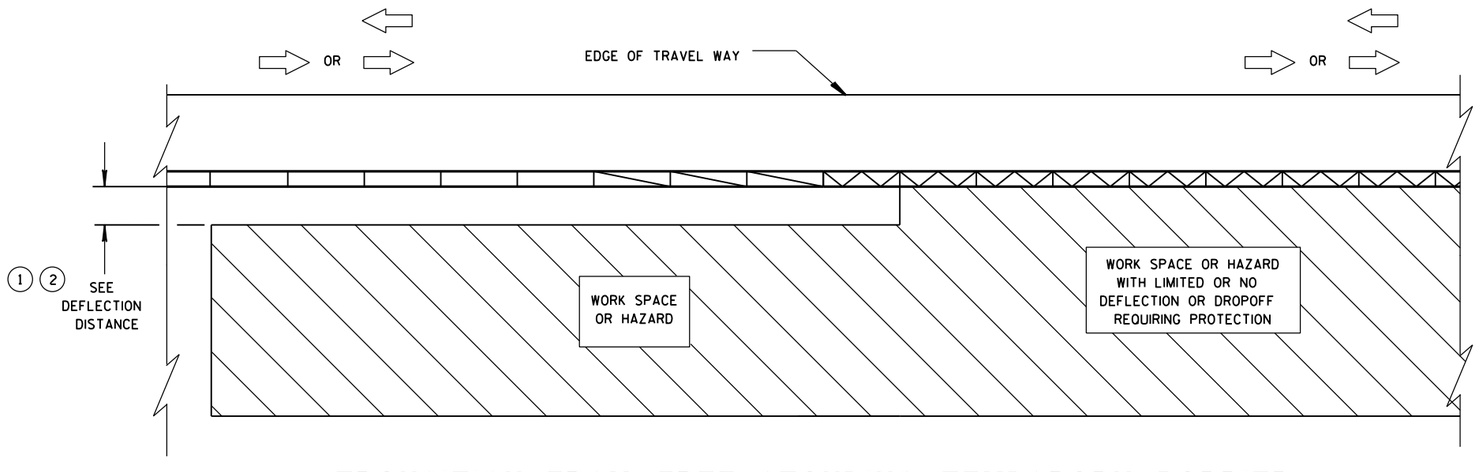
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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

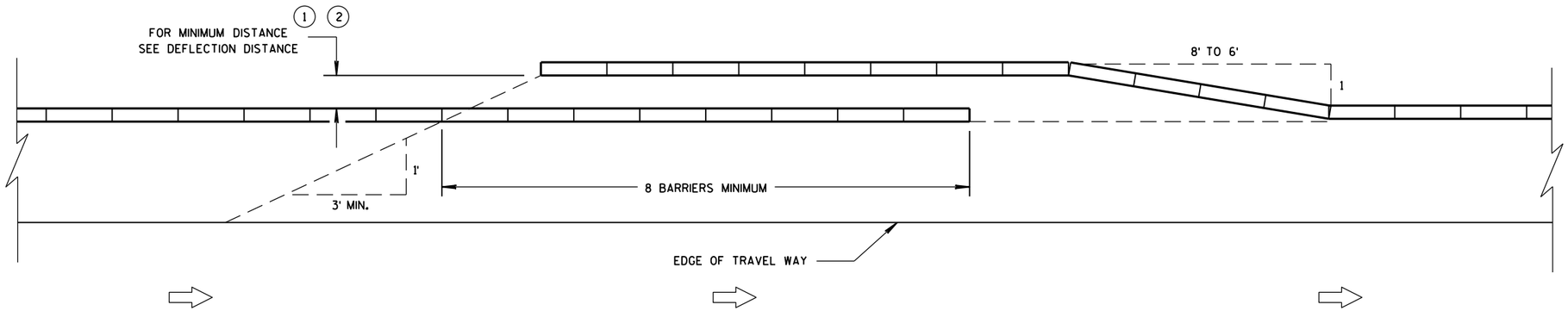
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

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

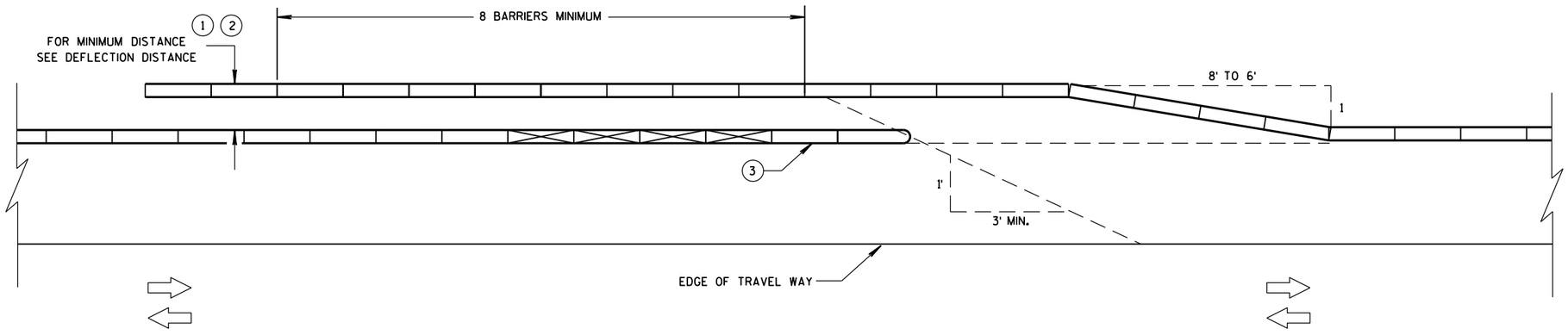
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

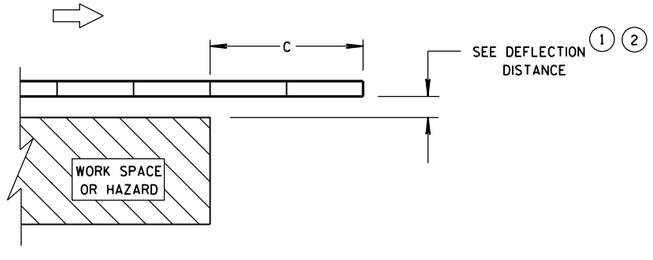
S.D.D. 14 B 8-2b



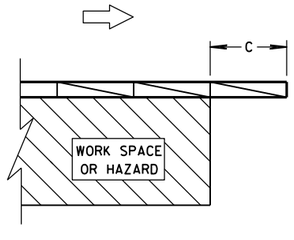
TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC



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

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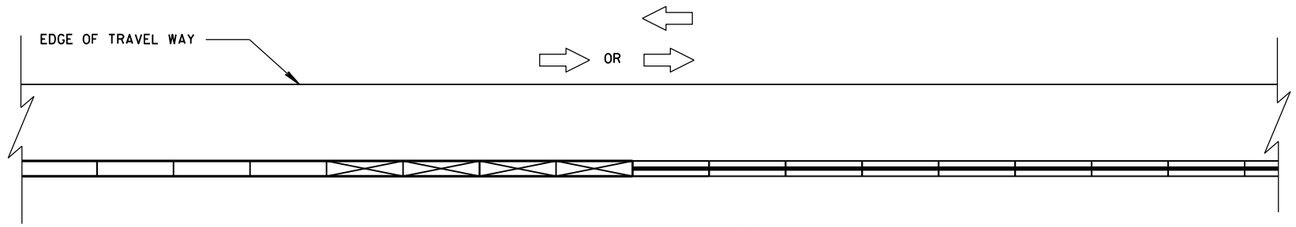
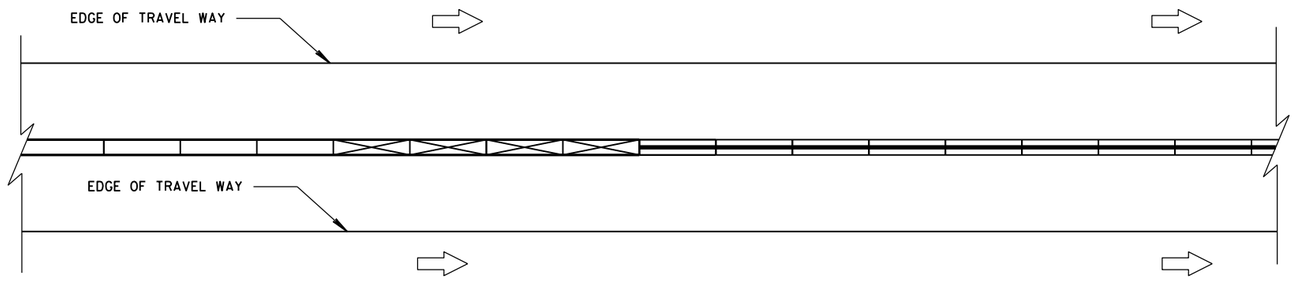
S.D.D. 14 B 8-2c



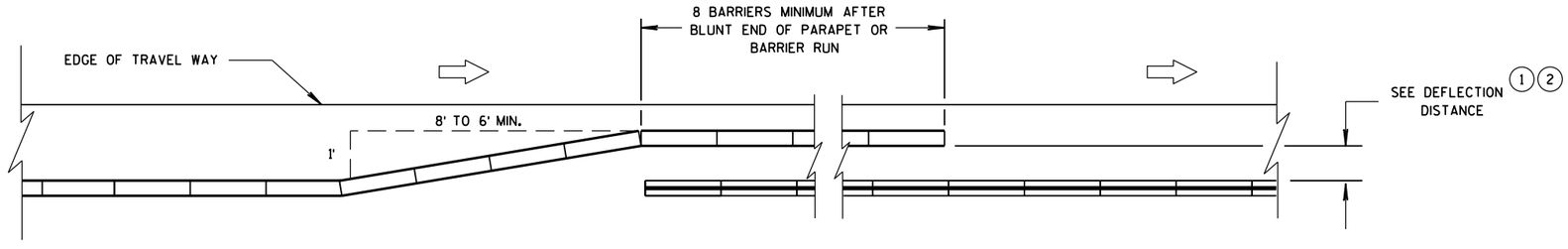
CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON ONE SIDE



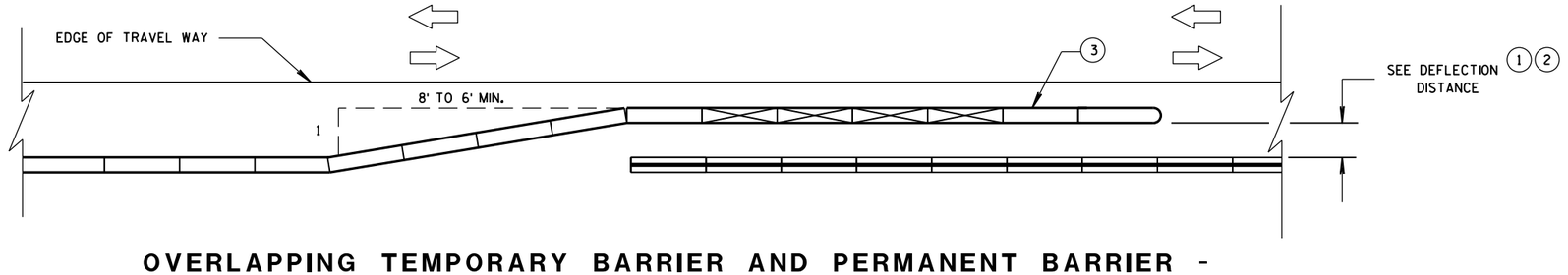
CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON BOTH SIDES

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

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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

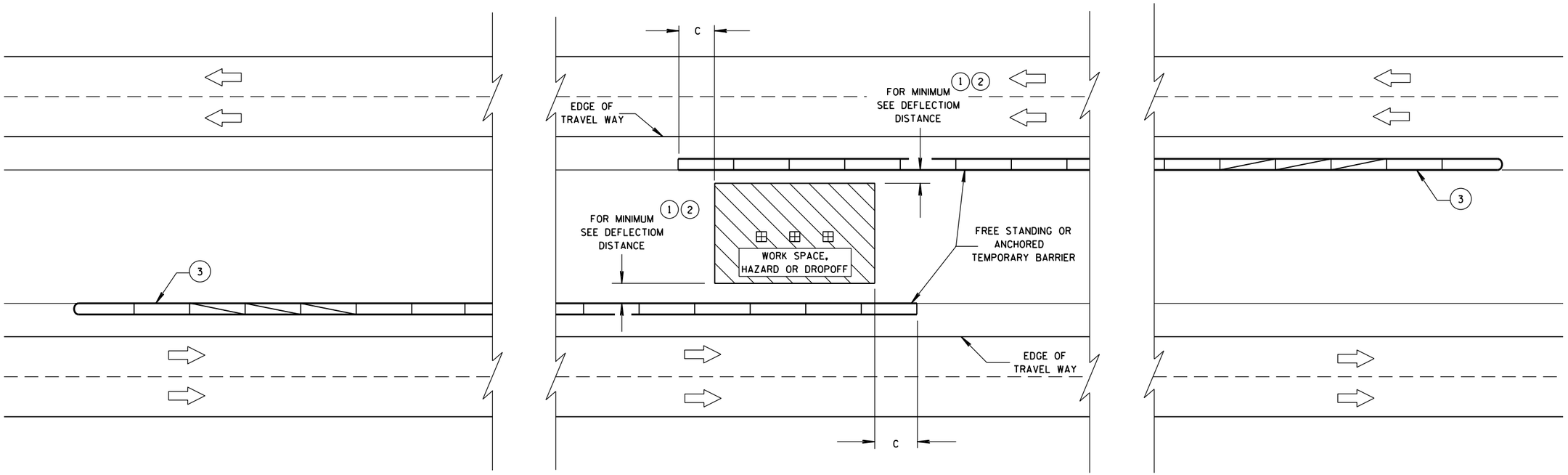
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

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



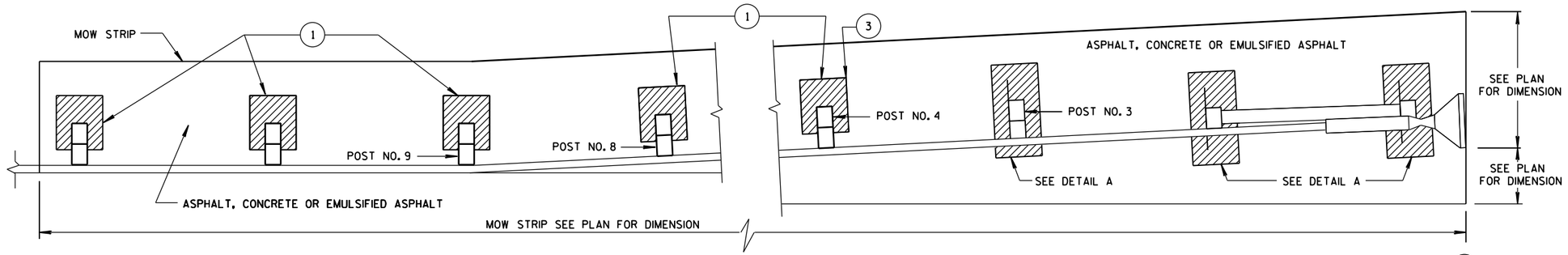
CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

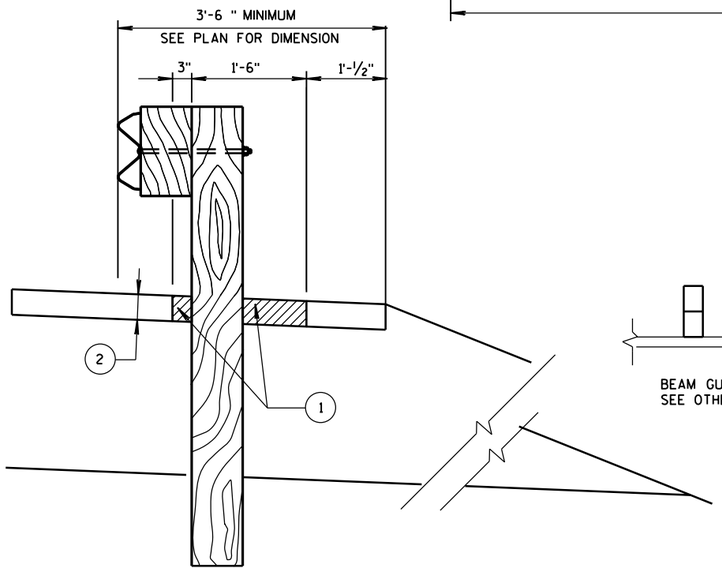
6

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

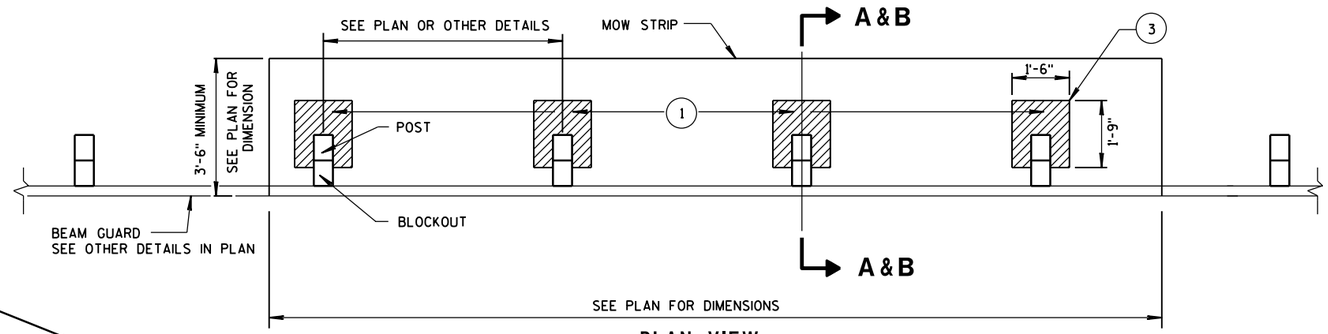


PLAN VIEW

MOW STRIP LAYOUT FOR ENERGY ABORBING TERMINAL

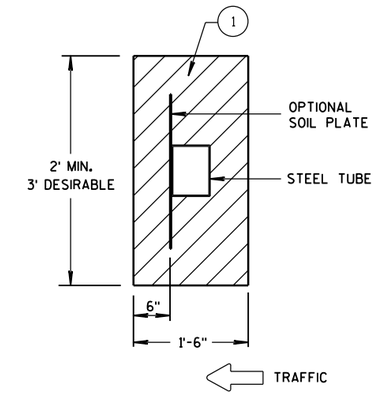


SECTION A-A

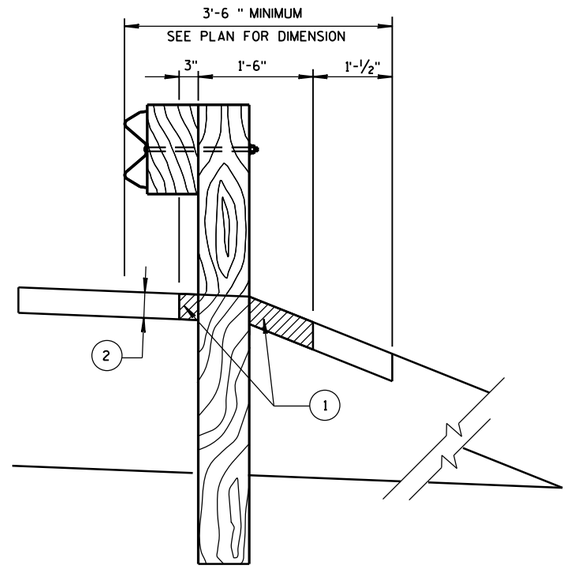


PLAN VIEW

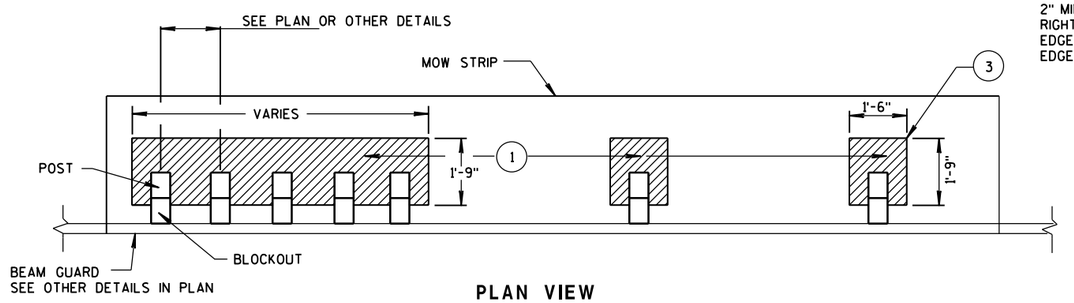
MOW STRIP FOR TYPICAL BLOCKOUT LAYOUT



DETAIL A

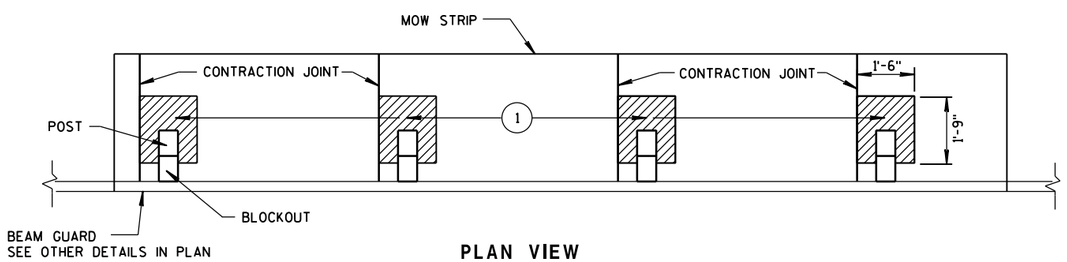


SECTION B-B



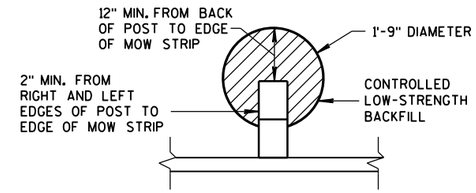
PLAN VIEW

MOW STRIP FOR TIGHT SPACING LAYOUT



PLAN VIEW

JOINT PLACEMENT FOR CONCRETE MOW STRIP



ALTERNATIVE HMA
MOW STRIP DESIGN

(1) CONTROLLED LOW-STRENGTH BACKFILL OR EMULSIFIED ASPHALT.

(2) DEPTH OF MOW STRIP:
ASPHALT - 4"
CONCRETE - 4"
EMULSIFIED ASPHALT - 1" OR LESS

(3) FOR EMULSIFIED ASPHALT MOW STRIP LEAVE OUTS NOT REQUIRED. (TYPICAL FOR ALL POSTS.)

GUARDRAIL MOW STRIP

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 28-3

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S.D.D. 14 B 28-3

(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.

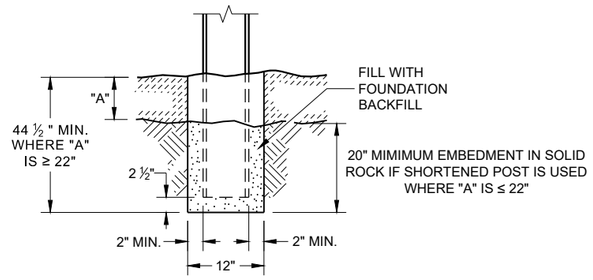
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL 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).

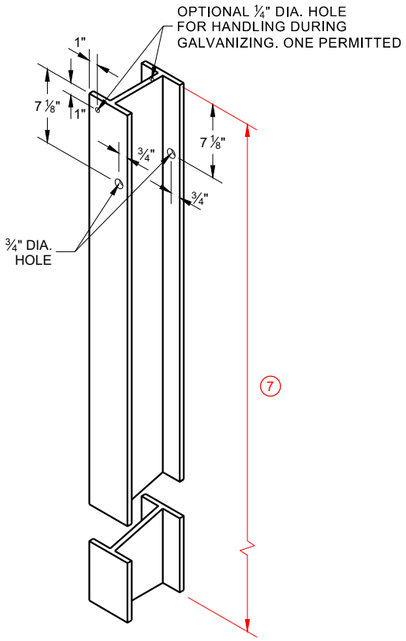
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

(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.

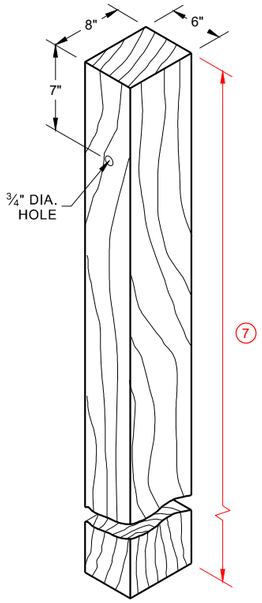
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



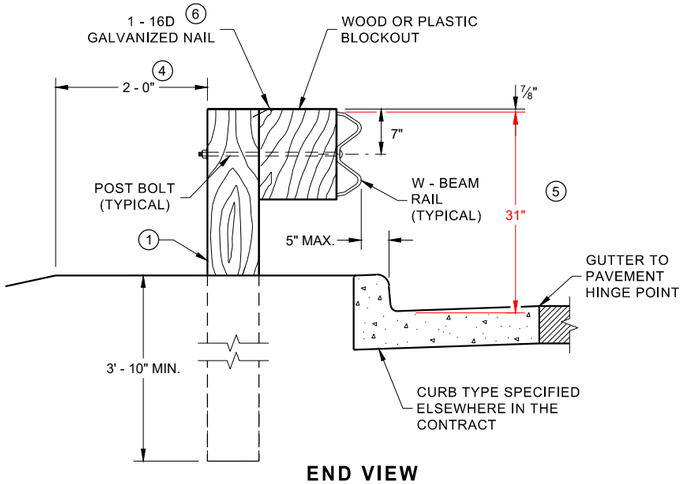
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



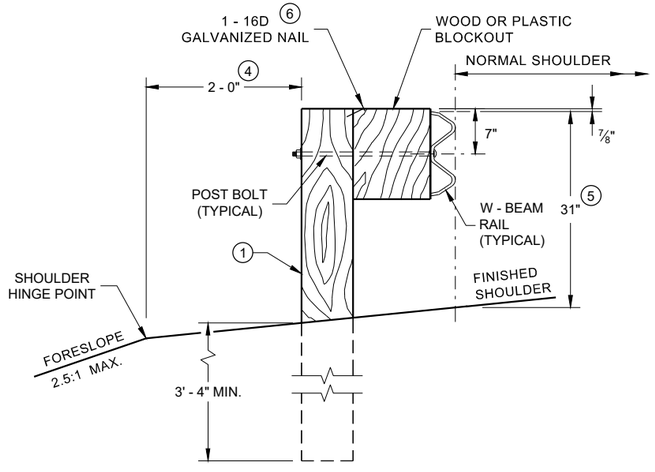
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



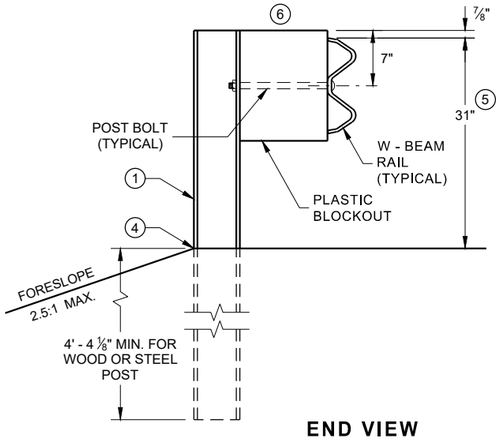
WOOD POST (6" X 8") NOMINAL (1)



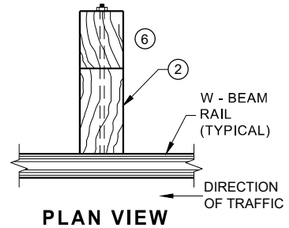
END VIEW
LOCATED ALONG A CURBED ROADWAY



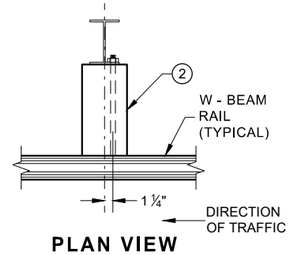
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



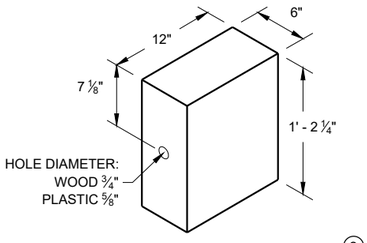
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



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

SDD 14B42 - 06a

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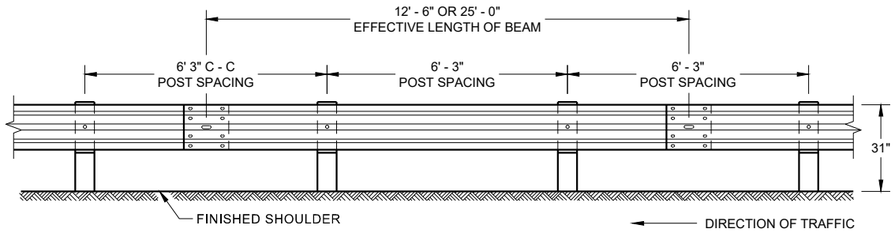
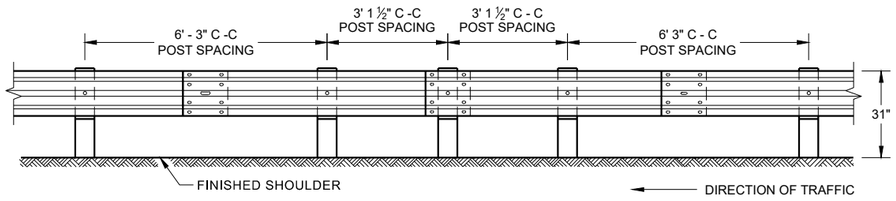
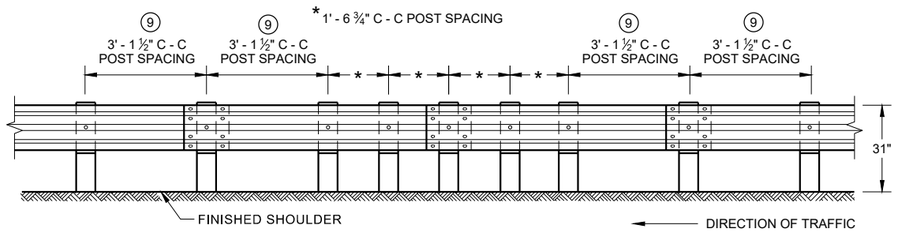
SDD 14B42 - 06a



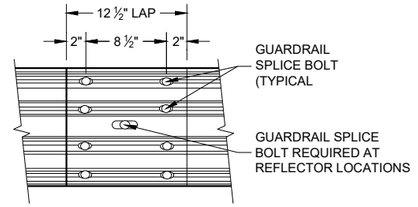
FRONT VIEW
POST SPACING STANDARD INSTALLATION



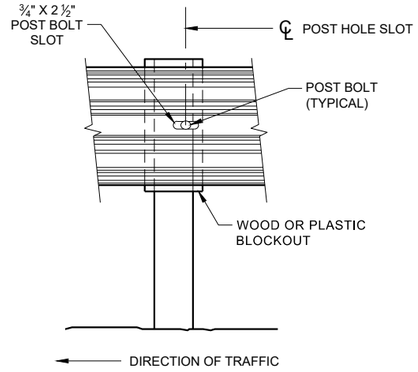
FRONT VIEW
HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)



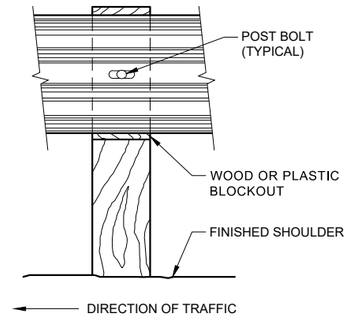
FRONT VIEW
QUARTER POST SPACING (QS)



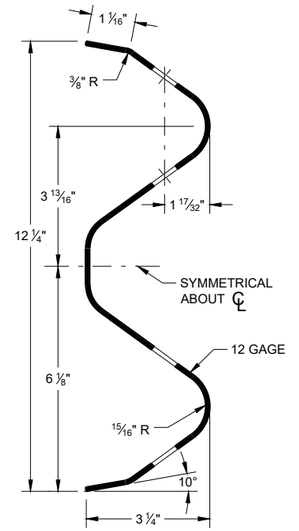
FRONT VIEW
MID-SPAN BEAM SPLICE



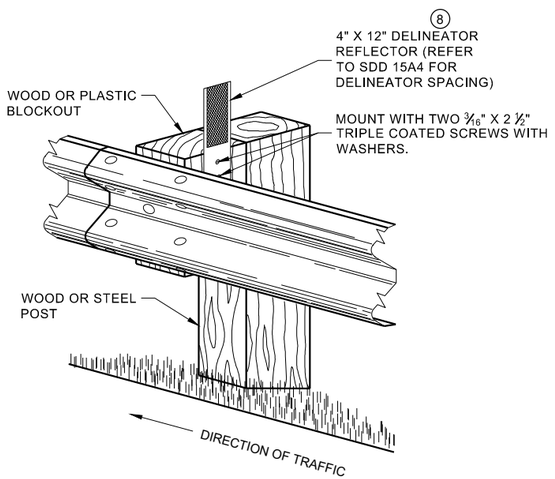
FRONT VIEW AT STEEL POST



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.

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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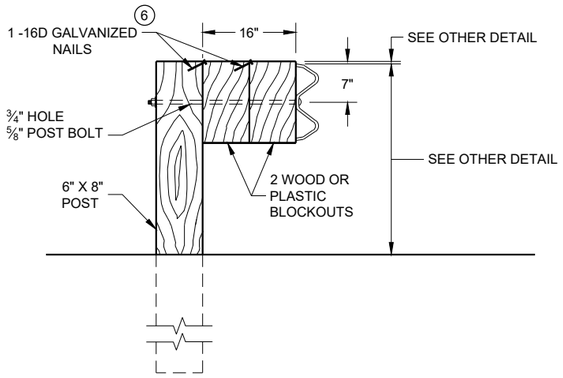
SDD 14B42 - 06b

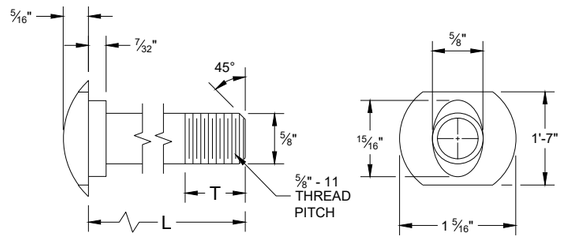


DETAIL FOR 16" BLOCKOUT DEPTH

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.

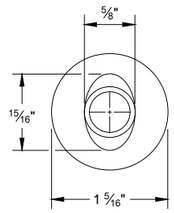
NOTE:

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.

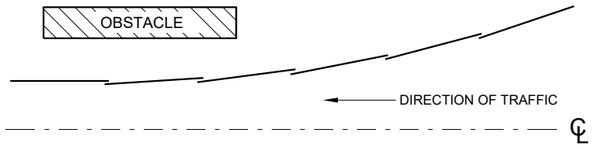


POST BOLT TABLE

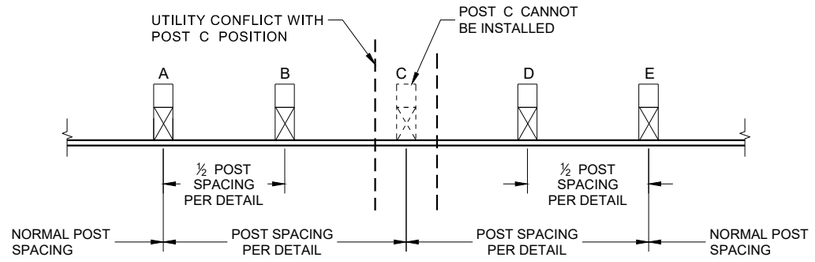
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1⁄16"
18"	4"
21"	4 1⁄16"
25"	4"



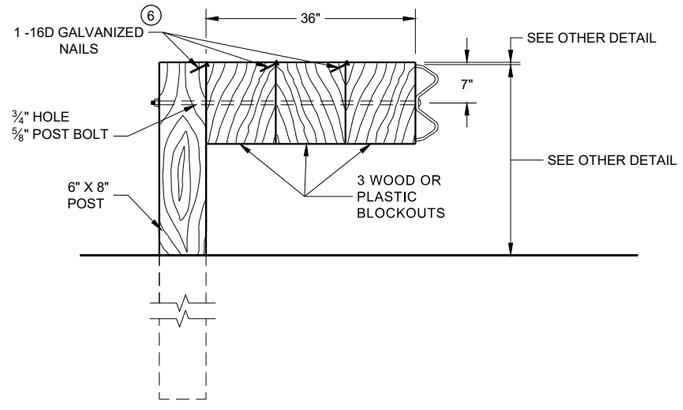
ALTERNATE BOLT HEAD



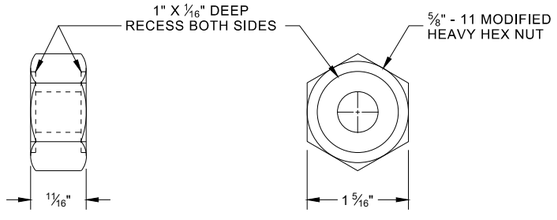
PLAN VIEW
BEAM LAPPING DETAIL



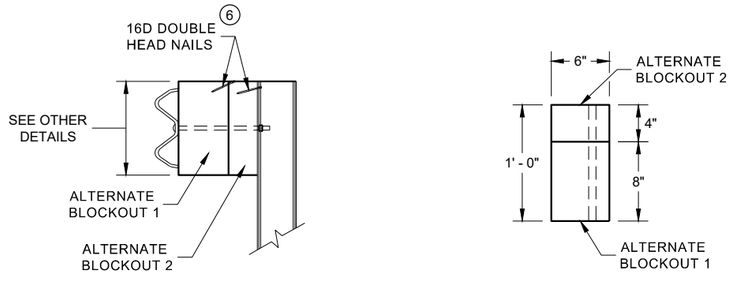
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



DETAIL FOR 36" BLOCKOUT DEPTH



POST BOLT, SPLICE BOLT AND RECESS NUT



SIDE VIEW

PLAN VIEW

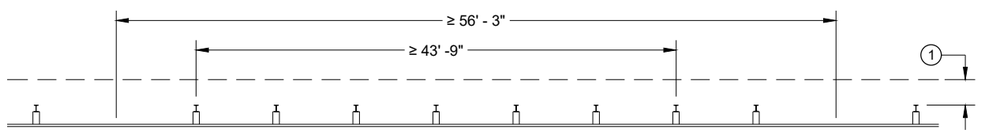
ALTERNATE WOOD BLOCKOUT DETAIL

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.

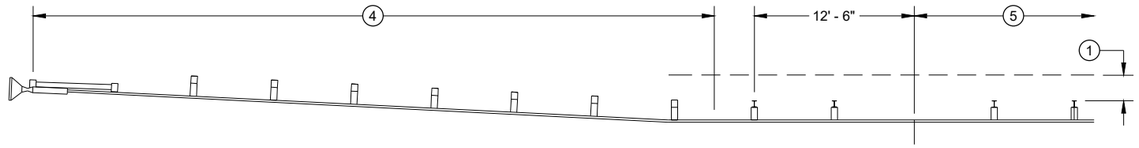
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

(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.

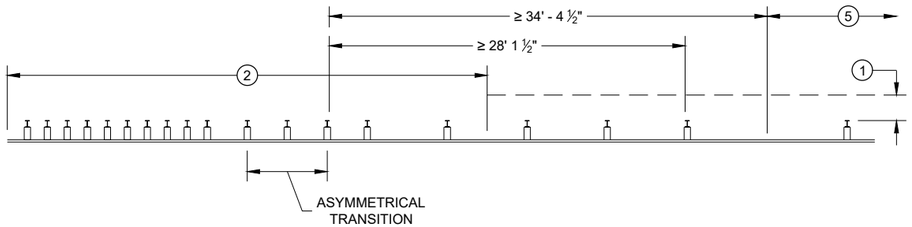
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL



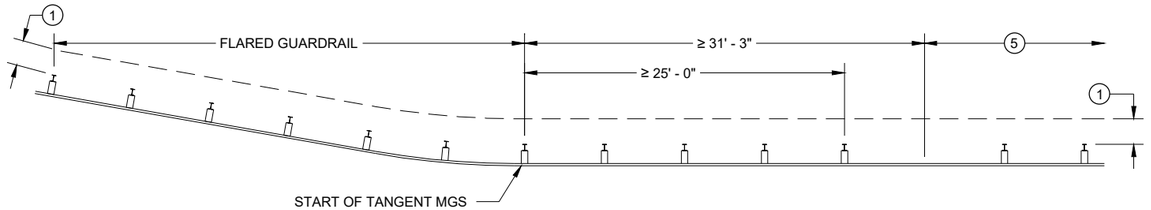
MISSING POST IN NORMAL BEAM GUARD RUN



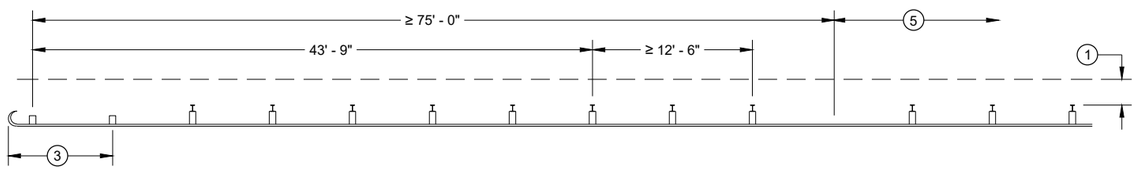
MISSING POST IN NORMAL BEAM GUARD RUN NEAR EAT



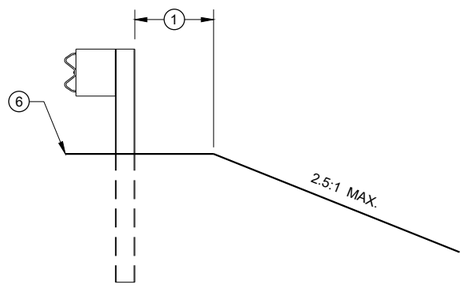
MISSING POST NEAR APPROACH THRIE BEAM TRANSITION



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 SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE UNIT SUPERVISOR
FHWA

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SDD 14B42 - 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.

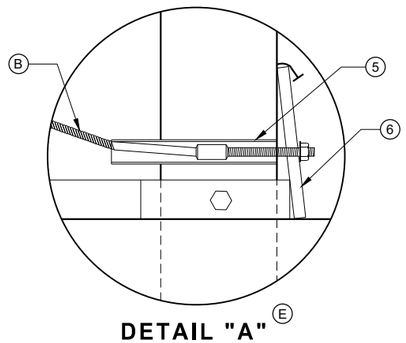
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

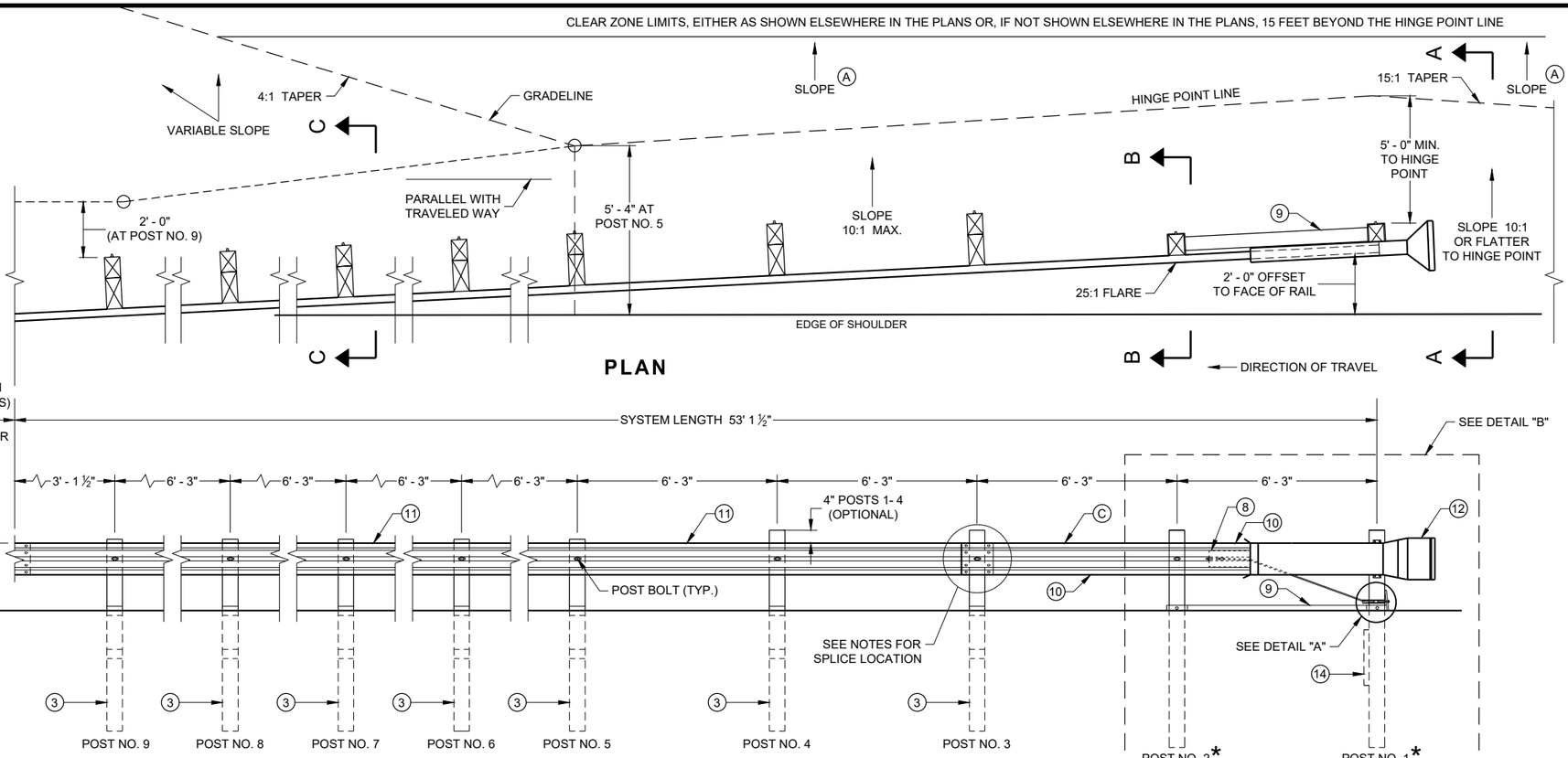
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

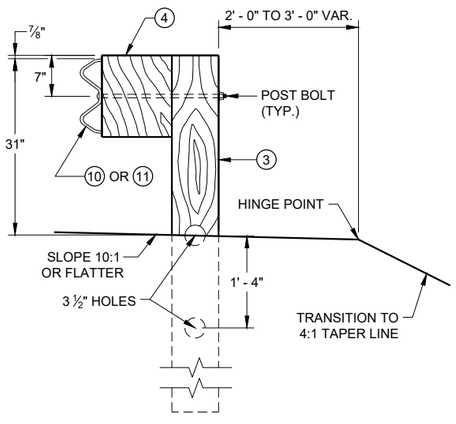
SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

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.

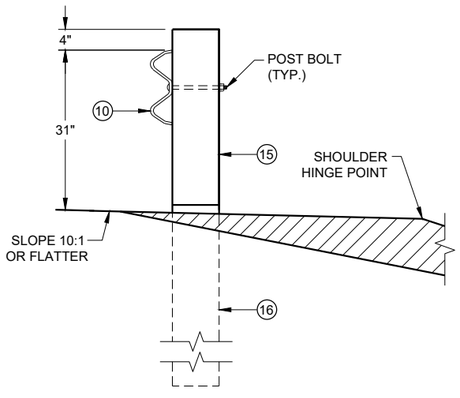


DETAIL "A" (E)

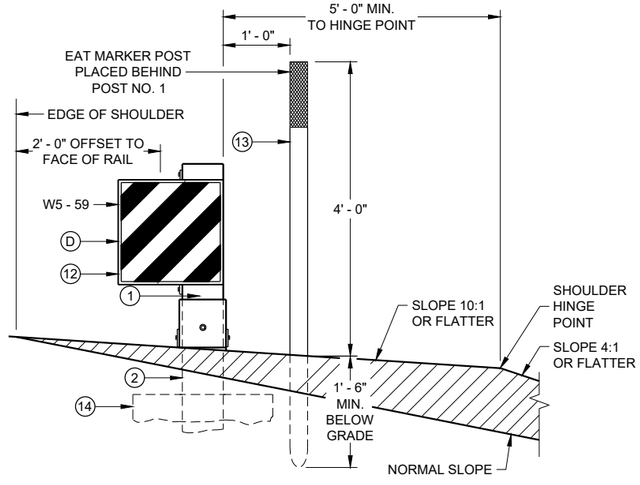




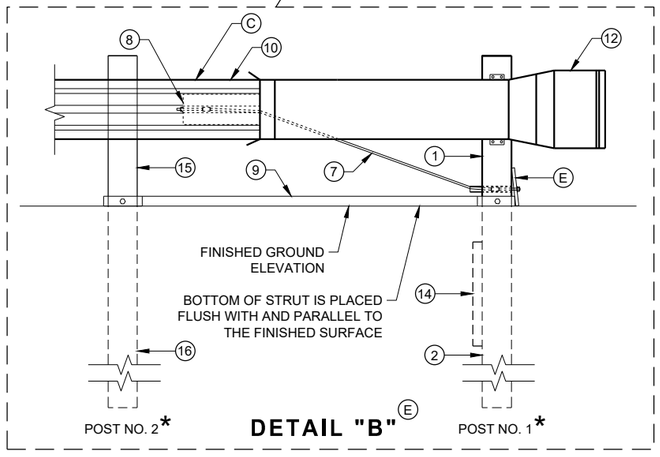
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*



MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

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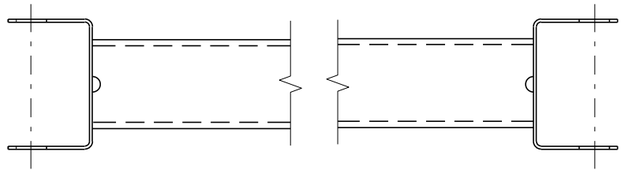
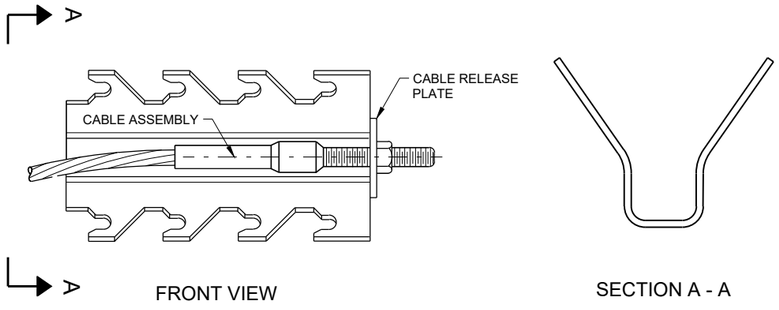


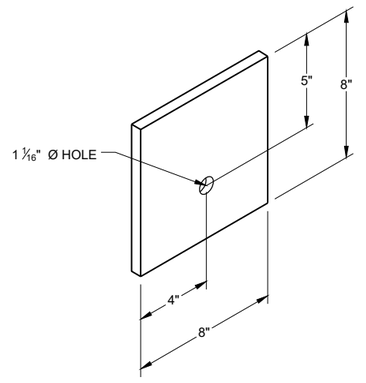
GENERIC GROUND STRUT ⑨ Ⓔ

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

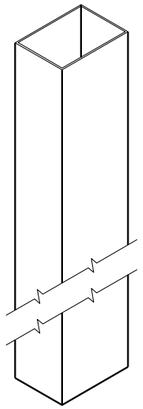
6

SDD 14B44 - 04b

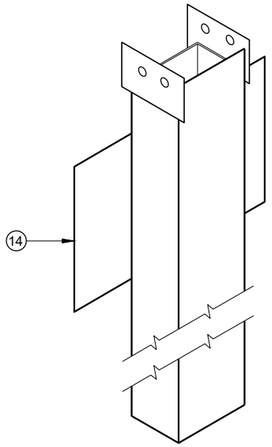
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

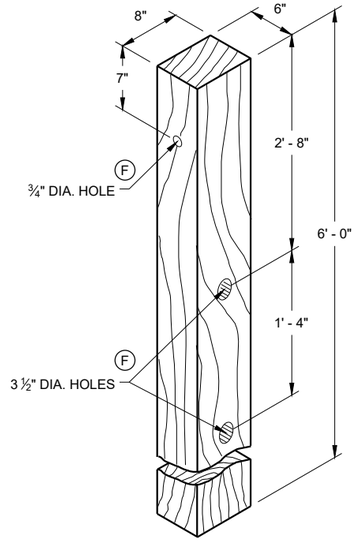
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



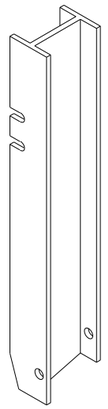
UPPER POST NO. 1 (1) (E)



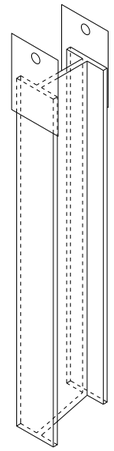
LOWER POST NO. 1 (2) (E)



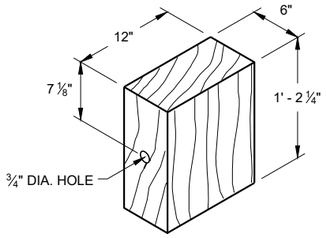
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



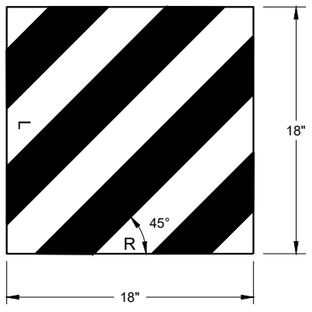
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

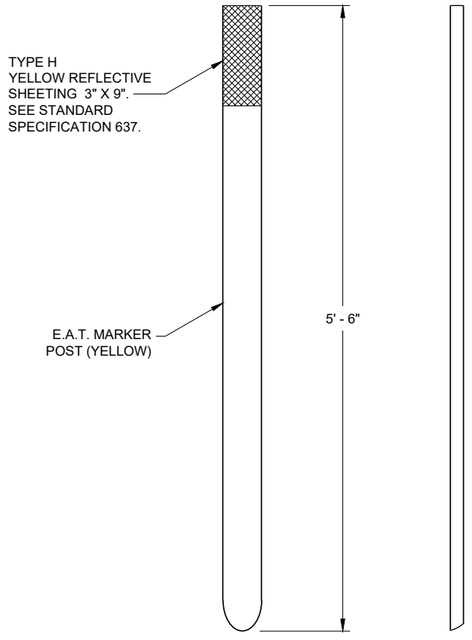


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



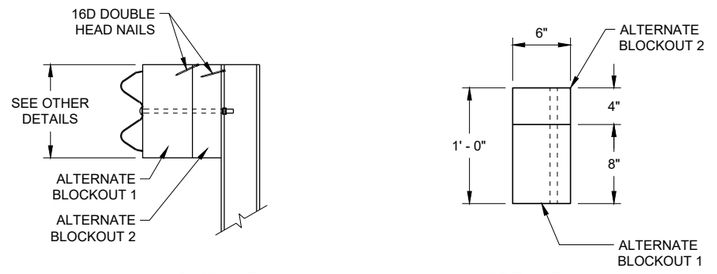
W5 - 59

REFLECTIVE SHEETING DETAIL (E)



FRONT VIEW SIDE VIEW

E.A.T. MARKER POST (13)



SIDE VIEW TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE UNIT SUPERVISOR

FHWA

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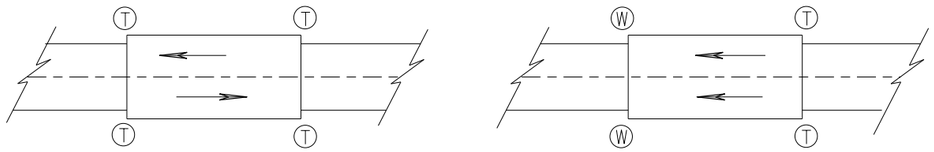
SDD 14B44 - 04c



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.

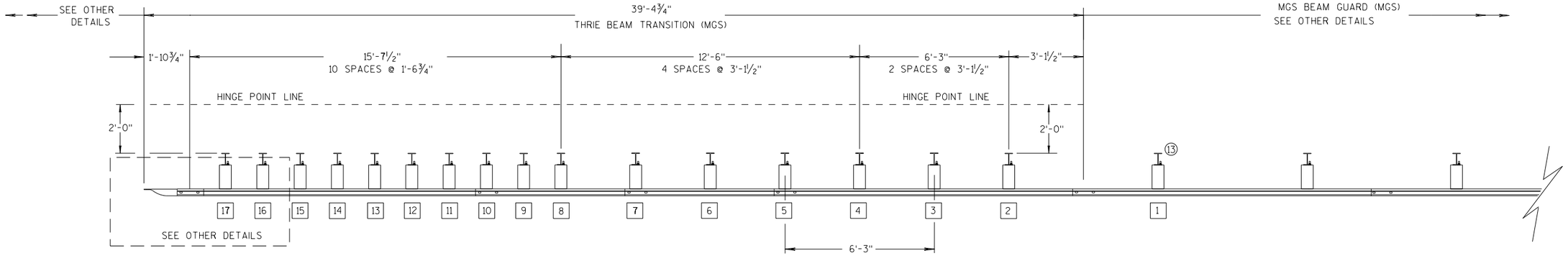
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

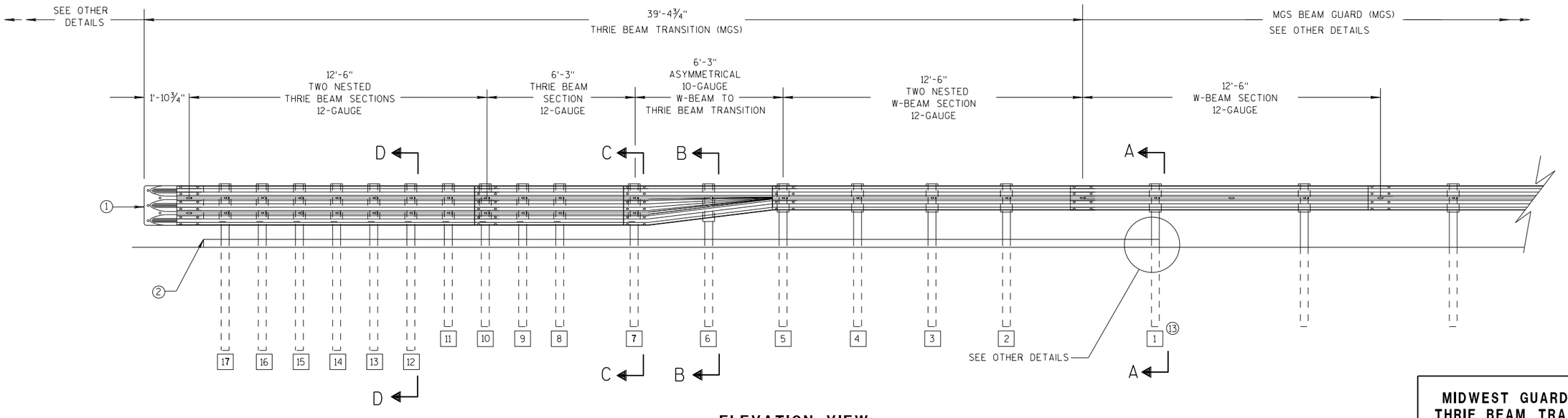
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

(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 77

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S.D.D. 14 B 45-5a

6

S.D.D. 14 B 45-5a

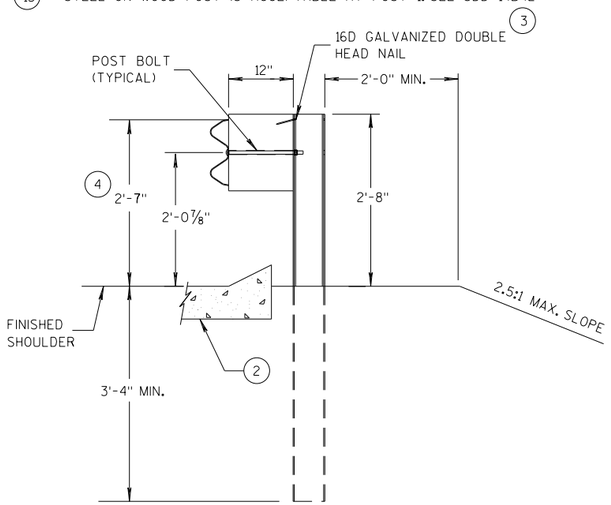
GENERAL NOTES

(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.

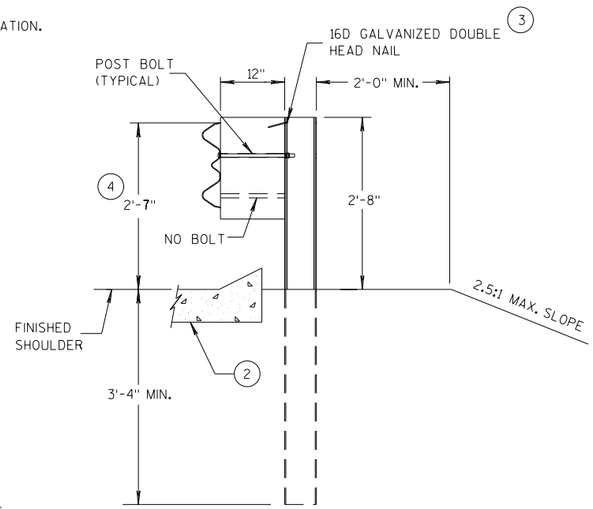
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42



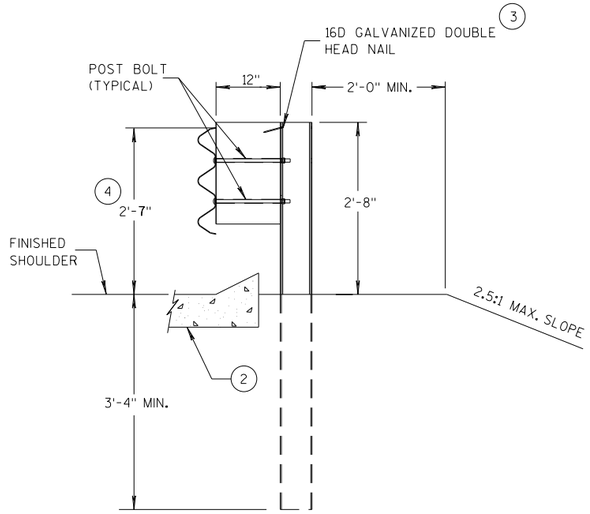
SECTION A-A (13)

POSTS 1-5



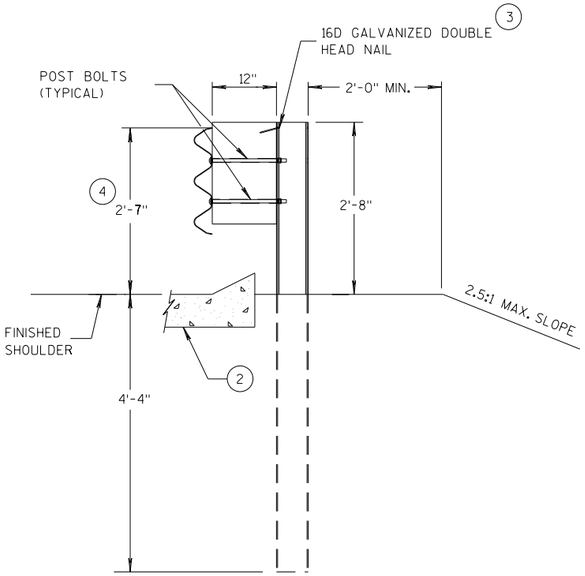
SECTION B-B

POST 6



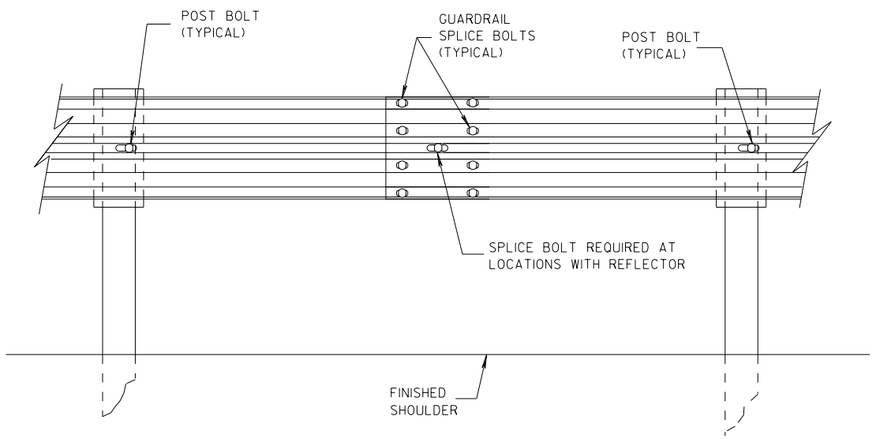
SECTION C-C

POSTS 7-11



SECTION D-D

POSTS 12-17



SPLICE DETAIL

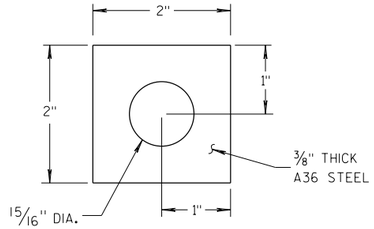
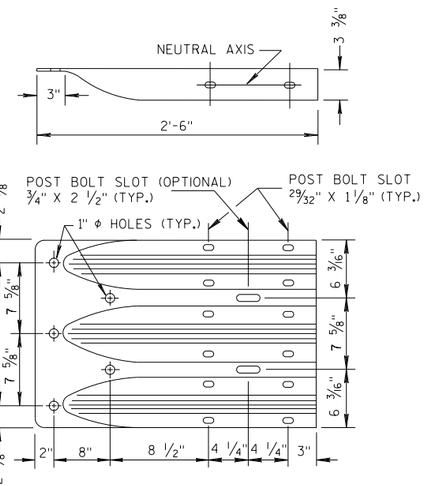
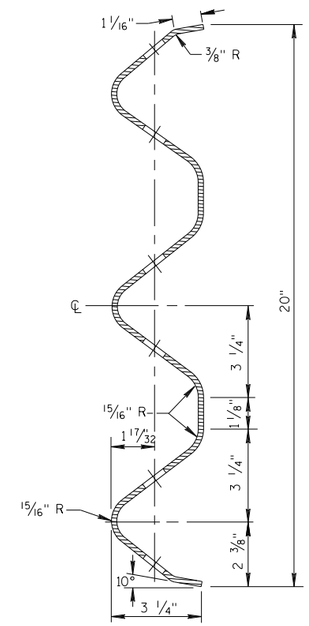


PLATE WASHER DETAIL



THRIE BEAM TERMINAL CONNECTOR



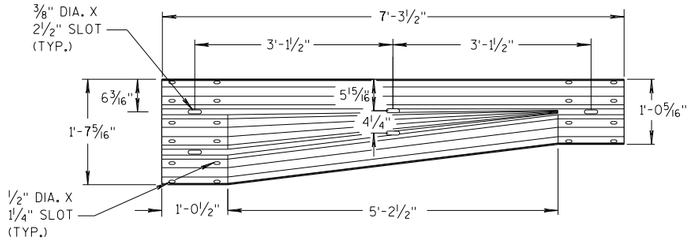
SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

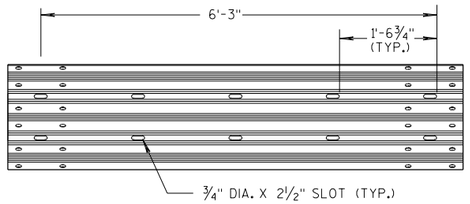
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

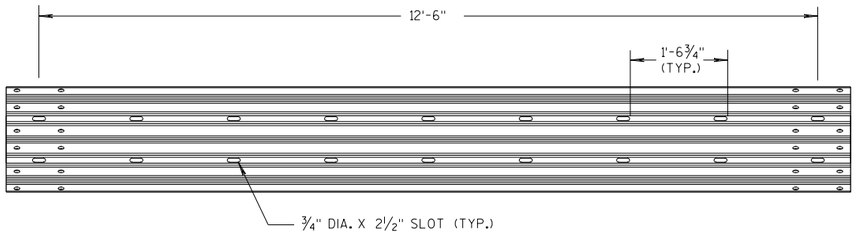
S.D.D. 14 B 45-5b



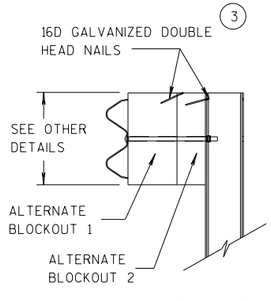
W-BEAM TO THRIE BEAM TRANSITION SECTION



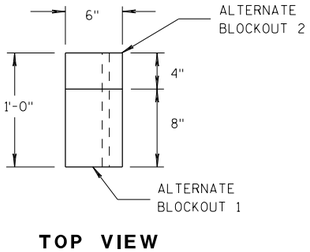
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

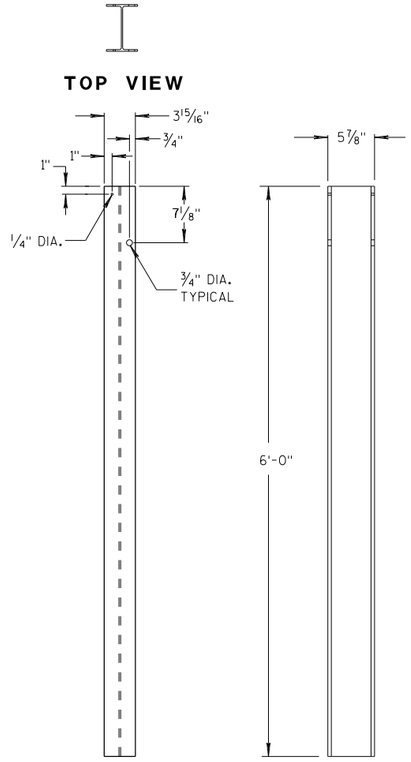


SIDE VIEW



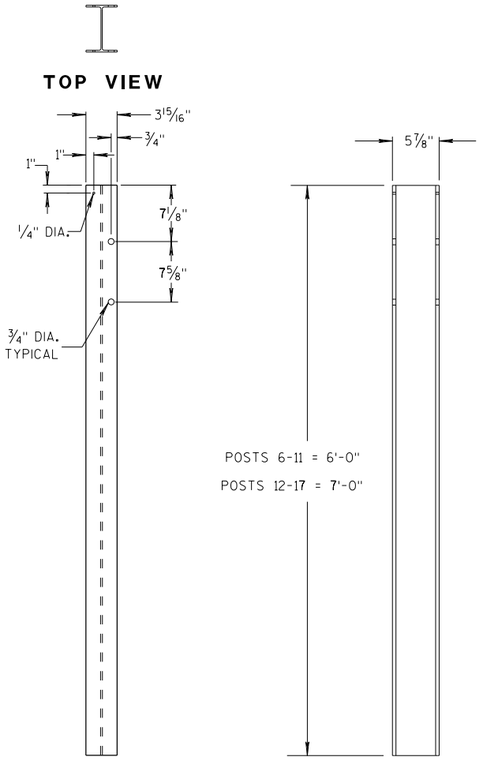
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



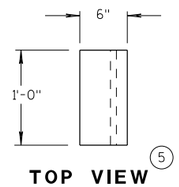
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

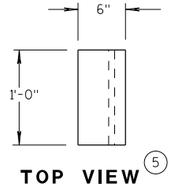


FRONT VIEW SIDE VIEW

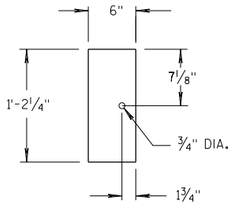
STEEL POSTS 6-17



TOP VIEW (5)

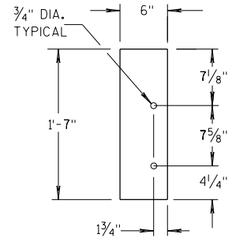


TOP VIEW (5)



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.

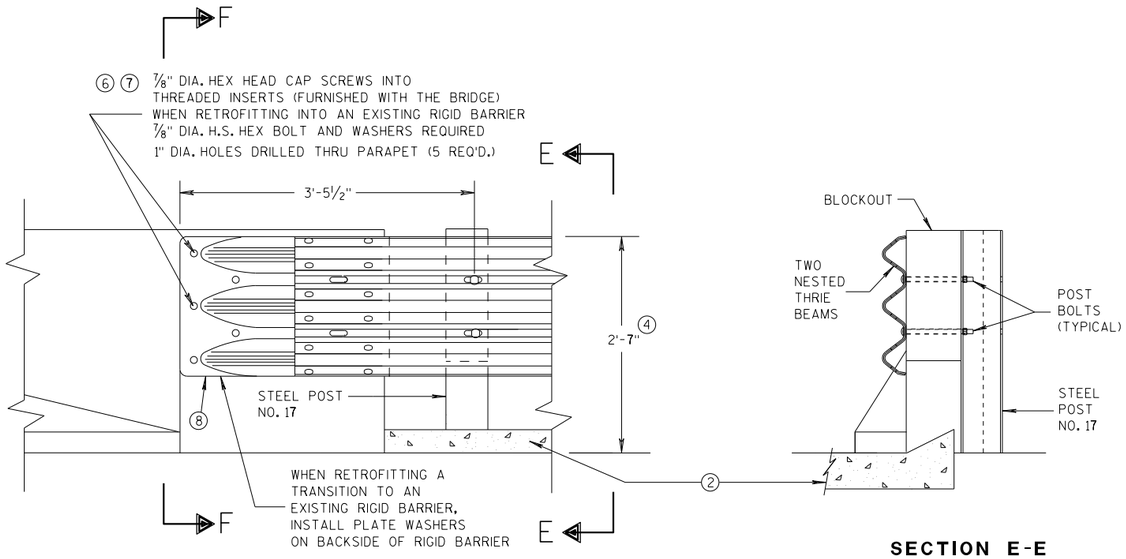
(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

(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 TRANSPOR

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.

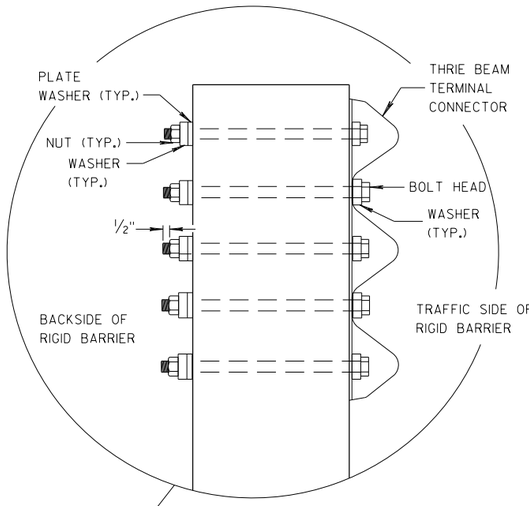
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

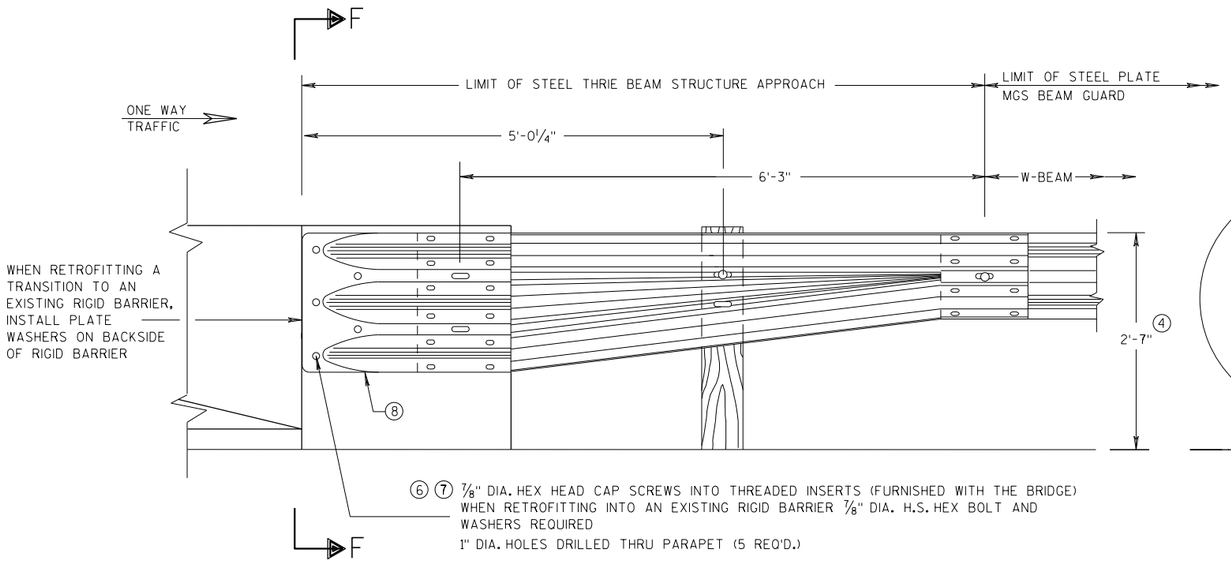
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

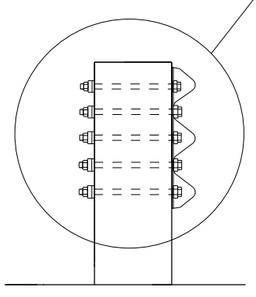
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. 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".

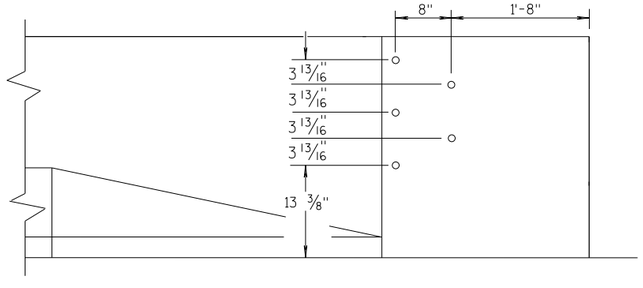




FRONT VIEW



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 UNIT SUPERVIS
NT
FHWA

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S.D.D. 14 B 45-5d

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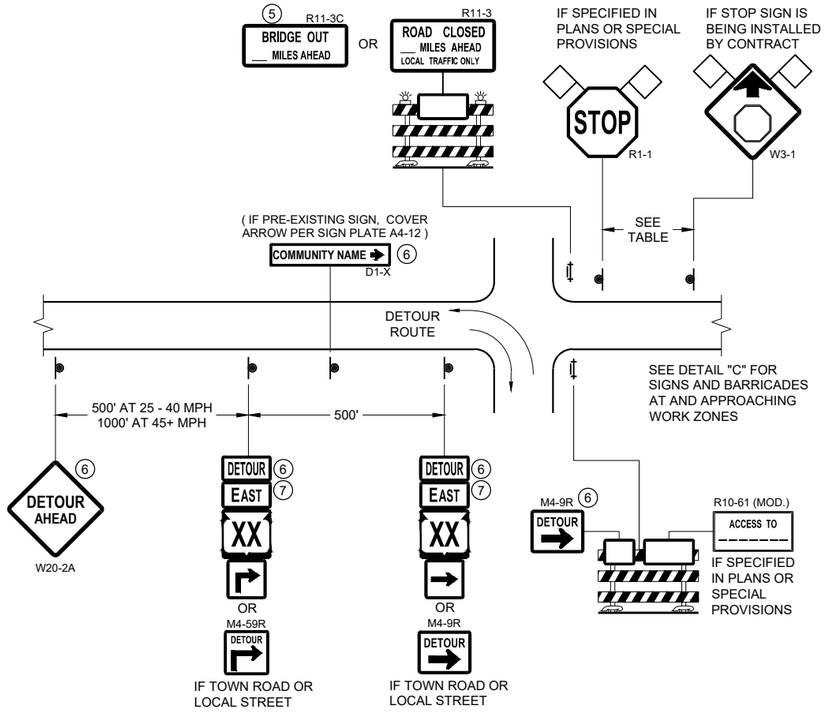
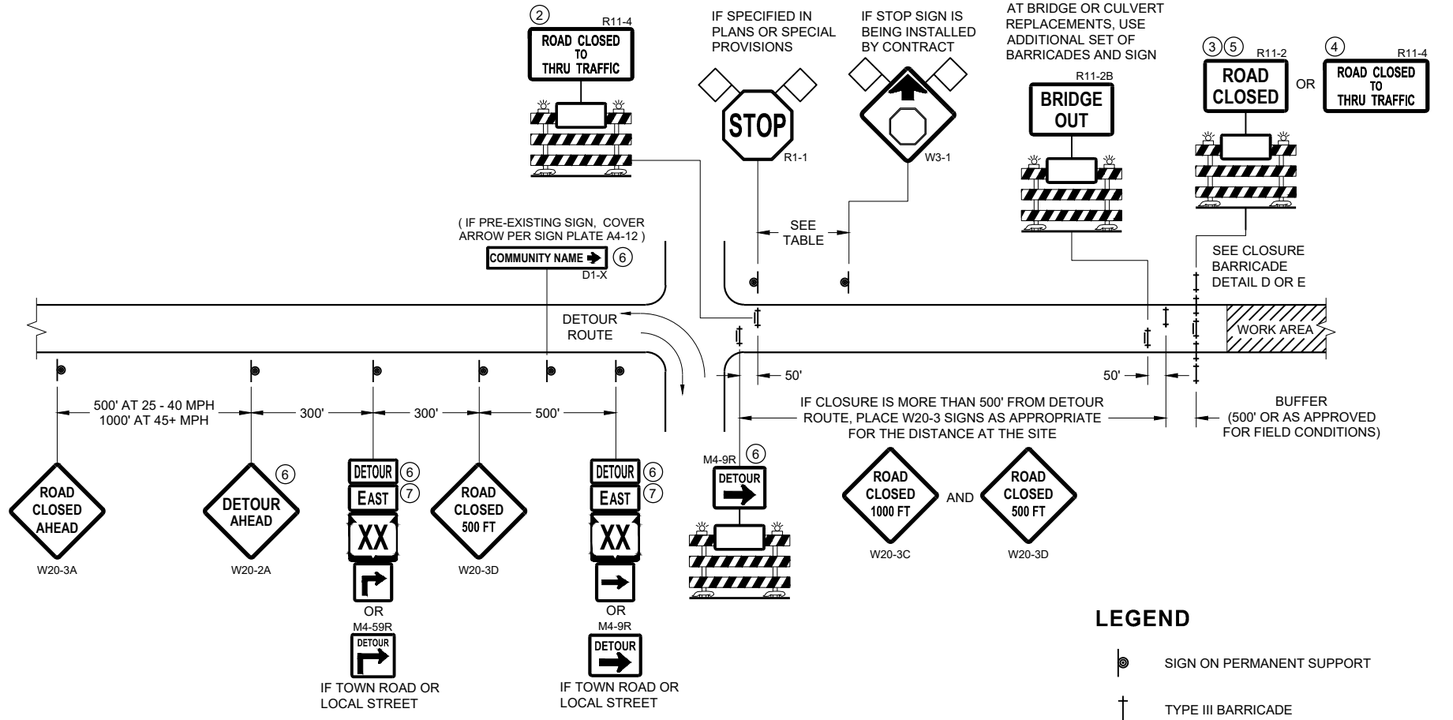
S.D.D. 14 B 45-5d





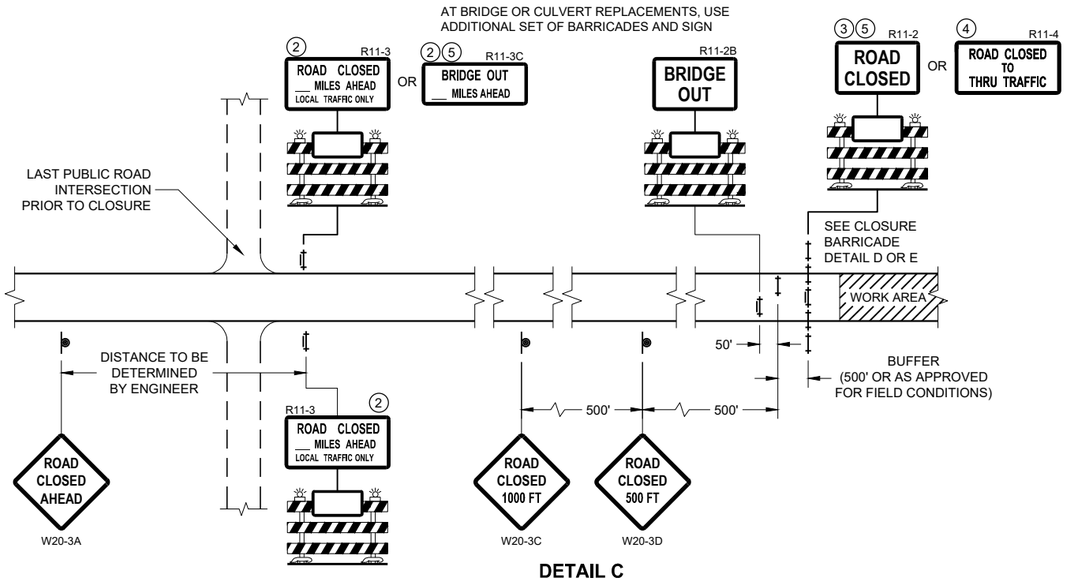
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

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

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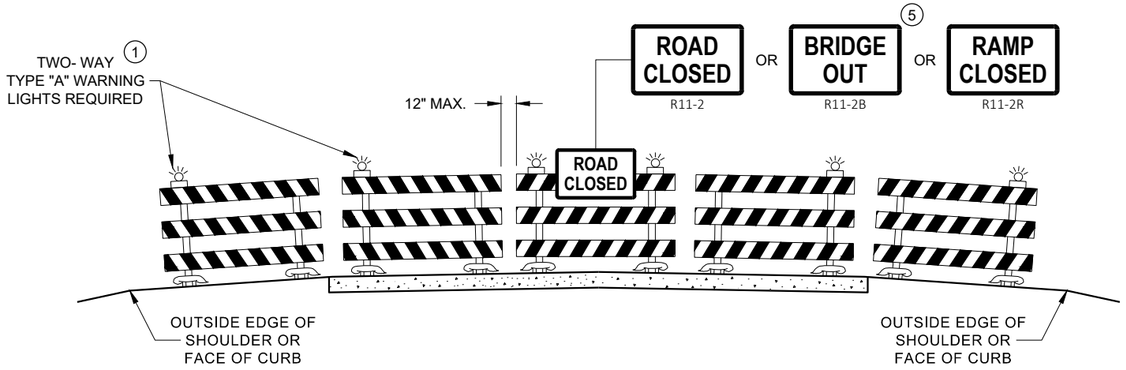
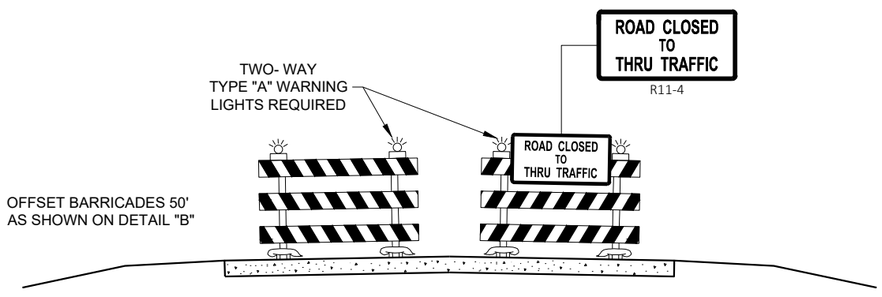
SDD 15C02 - 07a

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

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.

M3-X 24" X 12"
M1-X 24" X 24"
DETOUR AHEAD
W20-2A
USE ON STATE TRUNK, U.S. OR INTERSTATE HIGHWAYS, OR AS SPECIFIED IN THE CONTRACT

500' AT 25-40 MPH
1000' AT 45+ MPH

500'

DETOUR EAST XX *

D1-X COMMUNITY NAME *
(IF PRE-EXISTING SIGN, COVER ARROW PER SIGN PLATE A4-12)

M4-8a END DETOUR WEST XX *

DETOUR EAST XX / WEST XX

DETOUR ROUTE

WORK AREA

DETOUR EAST XX

WEST XX OR M4-9L DETOUR ** IF TOWN ROAD OR LOCAL STREET

500'

DETOUR NEXT X MILES * G20-51

DETOUR WEST XX * OR M4-59L DETOUR ** IF TOWN ROAD OR LOCAL STREET

SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS AND DETAIL A OR B ON SDD SHEET 15C02 - SHEET "a"

MATCH POINT

* M4-59L DETOUR ** OR DETOUR EAST XX * IF TOWN ROAD OR LOCAL STREET

D1-X COMMUNITY NAME * (IF PRE-EXISTING SIGN, COVER ARROW PER SIGN PLATE A4-12)

500'

M4-9L DETOUR ** OR DETOUR EAST XX IF TOWN ROAD OR LOCAL STREET

DETOUR WEST XX

DETOUR WEST XX * M4-9R OR DETOUR ** IF TOWN ROAD OR LOCAL STREET

DETOUR WEST XX * M4-59R * DETOUR ** OR IF TOWN ROAD OR LOCAL STREET

500'

DETOUR ROUTE

500' AT 25 - 40 MPH
1000' AT 45+ MPH

500'

M3-X 24" X 12"
M1-X 24" X 24"
DETOUR AHEAD
W20-2A
USE ON STATE TRUNK, U.S. OR INTERSTATE HIGHWAYS, OR AS SPECIFIED IN THE CONTRACT

DETOUR EAST XX *

D1-X COMMUNITY NAME *
(IF PRE-EXISTING SIGN, COVER ARROW PER SIGN PLATE A4-12)

DETOUR EAST XX

500'

DETOUR EAST XX

D1-X COMMUNITY NAME *
(IF PRE-EXISTING SIGN, COVER ARROW PER SIGN PLATE A4-12)

DETOUR EAST XX *

PLACE SIGNS BEYOND INTERSECTIONS WITH STATE OR COUNTY TRUNK HIGHWAYS OR AT 4 MILE MAXIMUM SPACING (4 BLOCKS IF URBAN AREA)

500' AT 25 - 40 MPH
1000' AT 45+ MPH

DETOUR EAST XX *

M3-X 24" X 12"
M1-X 24" X 24"
DETOUR AHEAD
W20-2A
USE ON STATE TRUNK, U.S. OR INTERSTATE HIGHWAYS, OR AS SPECIFIED IN THE CONTRACT

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

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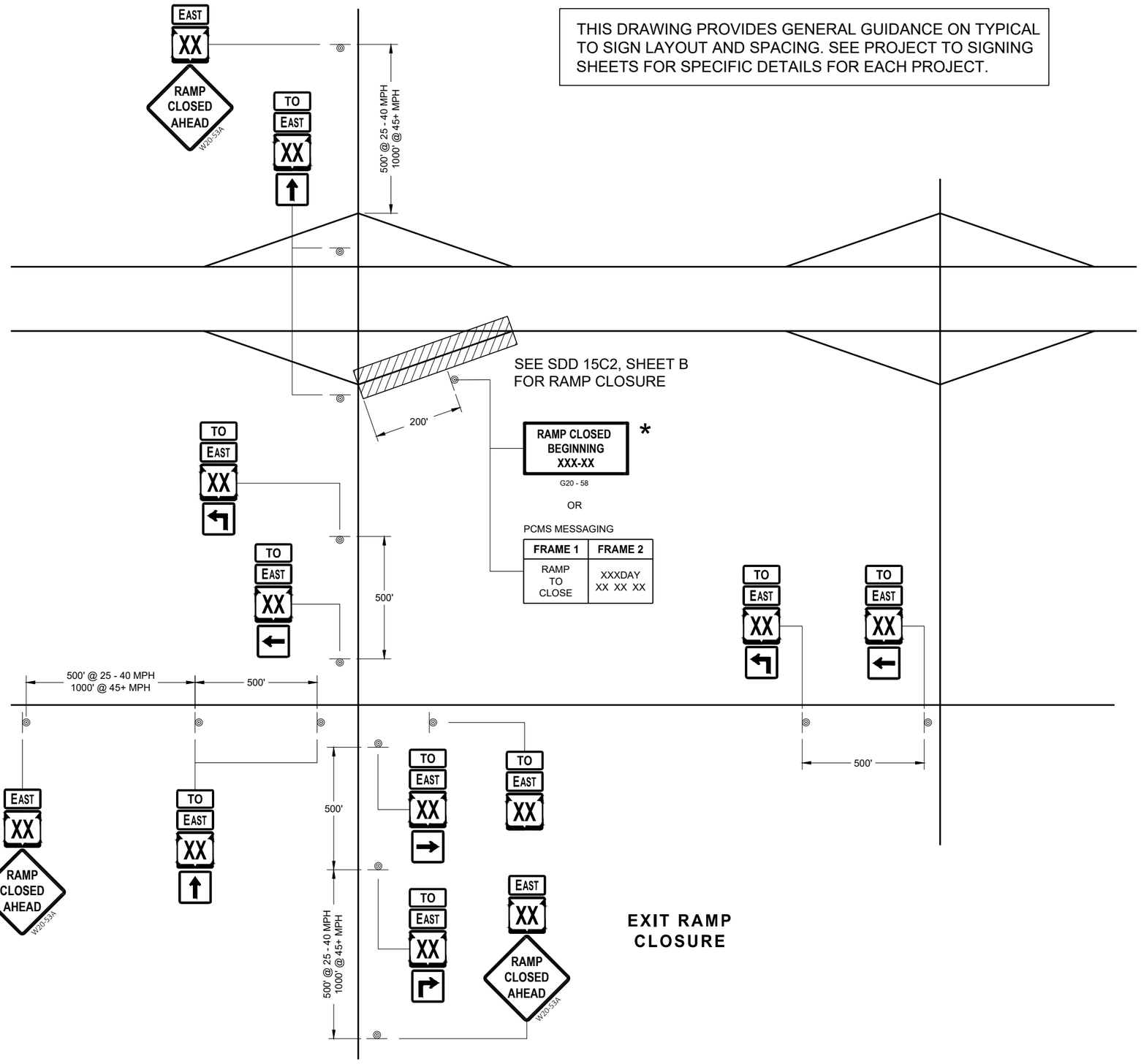
SDD 15C02 - 07c



THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL TO SIGN LAYOUT AND SPACING. SEE PROJECT TO SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.

LEGEND

SIGN ON PERMANENT SUPPORT

TO EAST — MO4 - 5, M3 - X

XX M1 - 6 OR XX M1 - 4 OR INTERSTATE XX M1 - 1

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. FOR LAYOU

IF THERE ARE ANY ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE TO ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT TO SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

THE SPACING BETWEEN TRAFFIC CONTROL AND TO 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 SHALL 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 FOLLOW:
- M3 - X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS).
- MO4 - 5 SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS).
- M1 - 1, M1 - 4, AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS).
- MO5 - 1, MO5 - 2, AND MO6 - 1, SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS).
- W20 - 53A SHALL BE 48" X 48"

* PLACE "RAMP CLOSED BEGINNING" SIGN 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES

ON RAMP LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018 DATE
/S/ Andrew Heidtke WORK ZONE ENGINEE

FHWA

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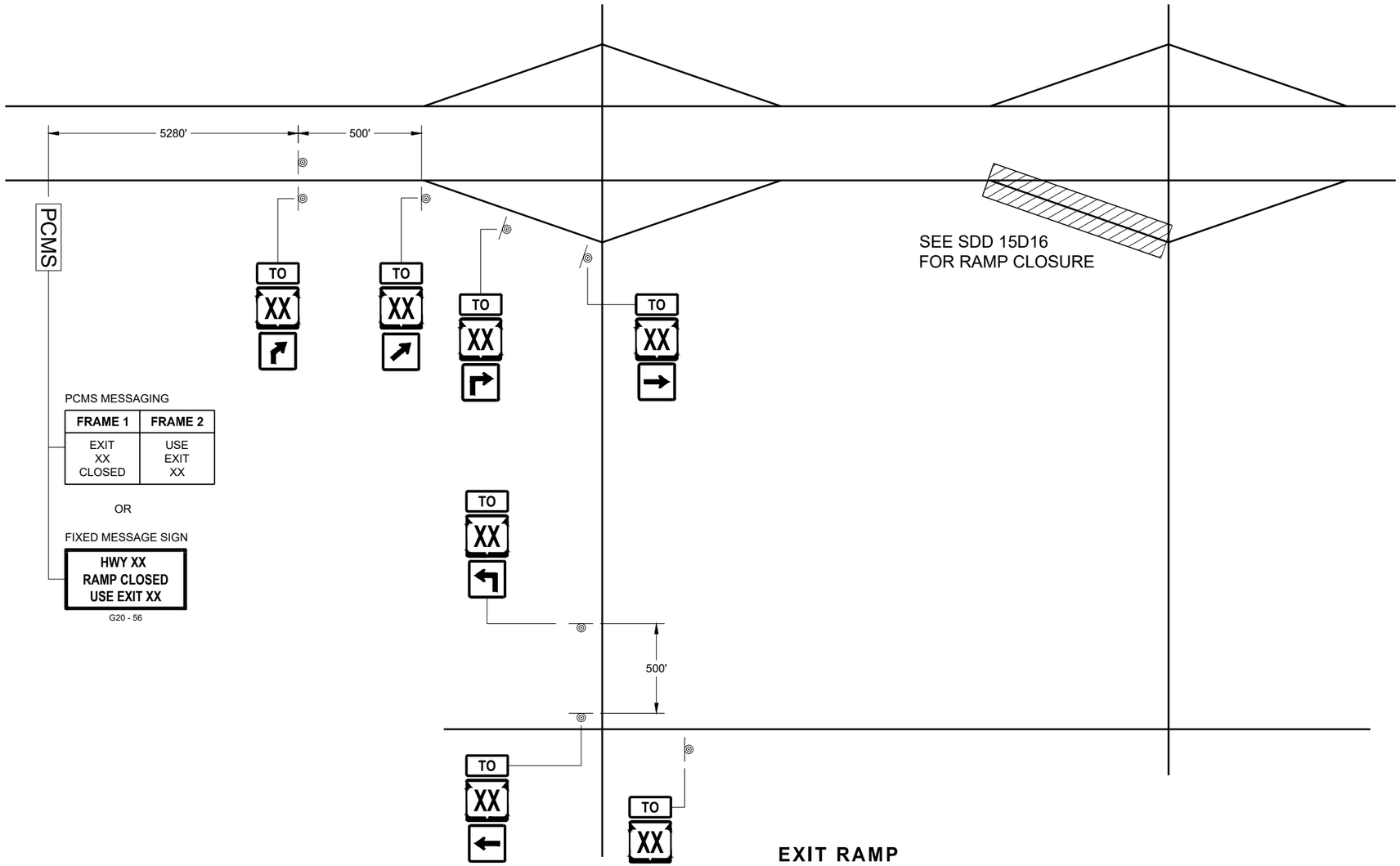
SDD 15C02 - 07d

THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL TO SIGN LAYOUT AND SPACING. SEE PROJECT TO SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.



PCMS MESSAGING

FRAME 1	FRAME 2
EXIT XX CLOSED	USE EXIT XX

OR

FIXED MESSAGE SIGN

HWY XX
RAMP CLOSED
USE EXIT XX

G20 - 56

EXIT RAMP CLOSURE

LEGEND

SIGN ON PERMANENT SUPPORT

PCMS PORTABLE CHANGEABLE MESSAGE SIGN

TO MO4 - 5

XX M1 - 4 OR XX M1 - 6 OR COUNTY X M1 - 5A

M05 - 1 OR M05 - 2 OR M06 - 1 OR M06 - 2

GENERAL NOTES

SEE SDD 15D16 "TRAFFIC CONTROL, EXIT RAMP CLOSURE" DETAIL FOR TRAFFIC CONTROL AT EXIT RAMP CLOSURE.

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

IF THERE ARE ANY ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE TO ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT TO SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

THE SPACING BETWEEN TRAFFIC CONTROL AND TO 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 SHALL 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 FOLLOW:

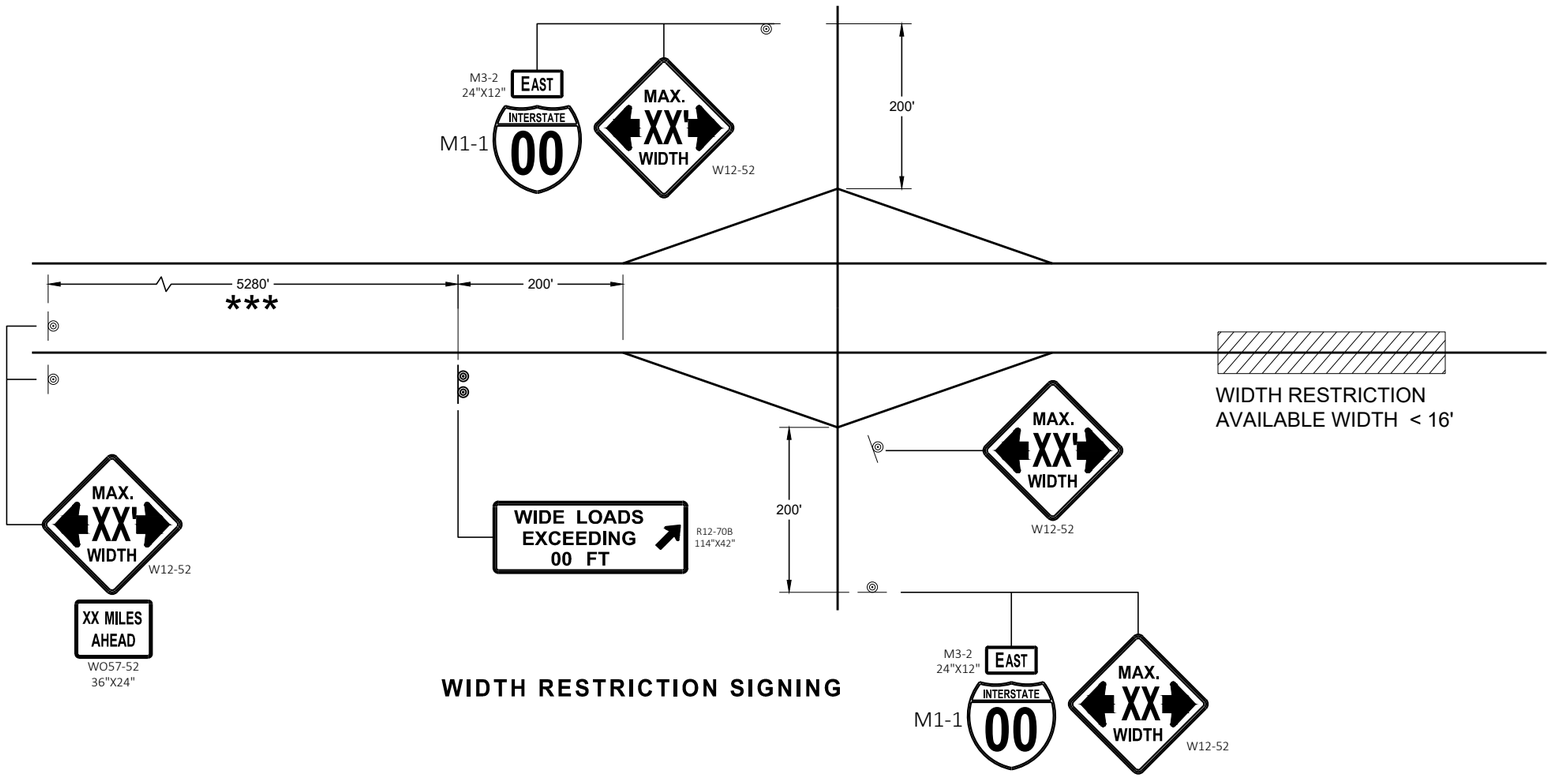
MO4 - 5 SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS).
M1 - 4, M1 - 5A, AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS).
MO5 - 1, MO5 - 2, AND MO6 - 1, SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS).

OFF RAMP LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018 DATE
/S/ Andrew Heidtke WORK ZONE ENGINEE
FHWA

6 SDD 15C02 - 07e



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.

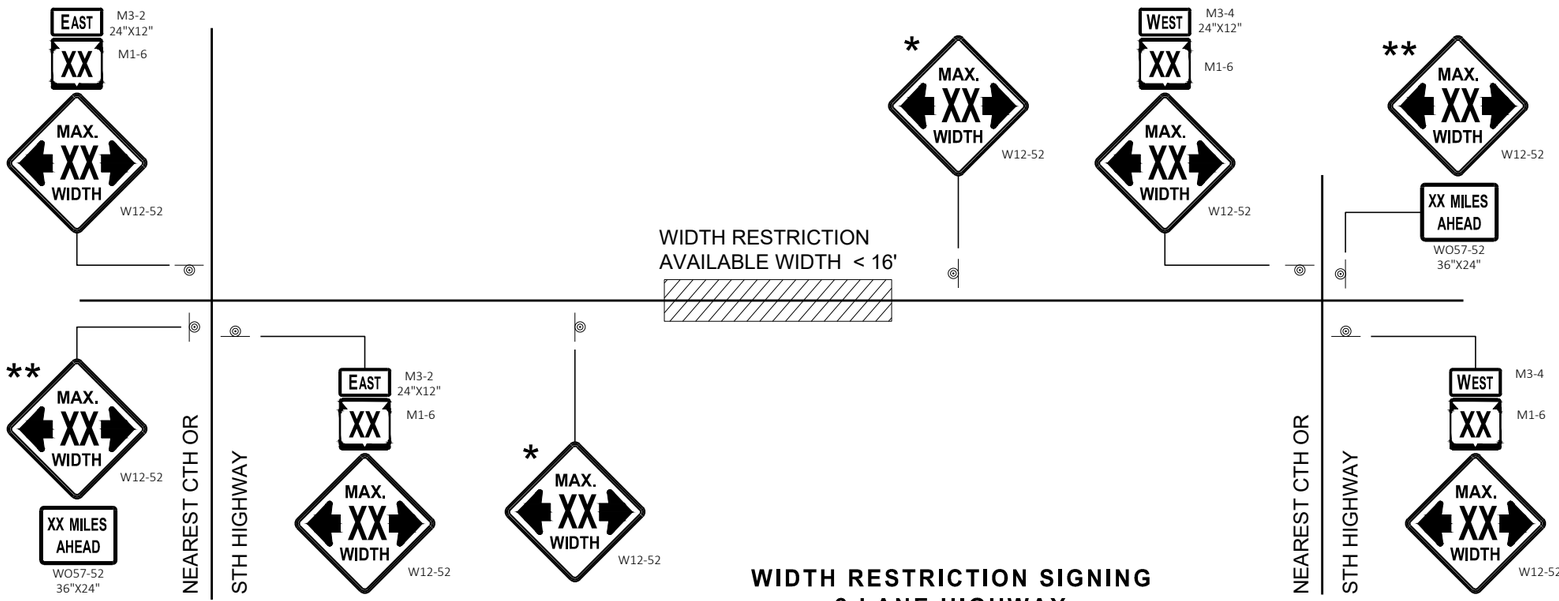
WIDTH ON SIGN TO BE APPROXIMATELY ONE FOOT LESS THAN AVAILABLE WIDTH.

* 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

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SDD 15C02 - 07f

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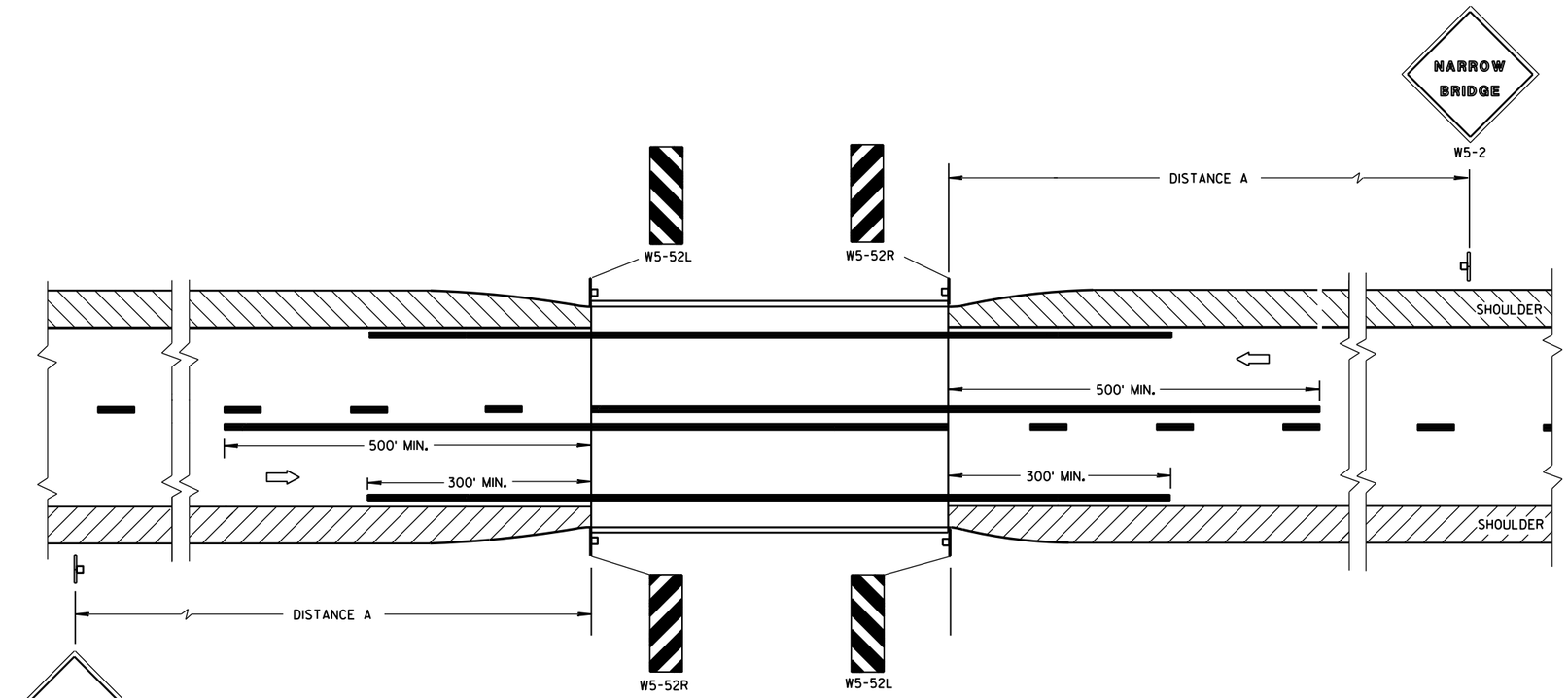


SITUATION 1

WARRANTING CRITERIA:
BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET.

DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	750'

GENERAL NOTES

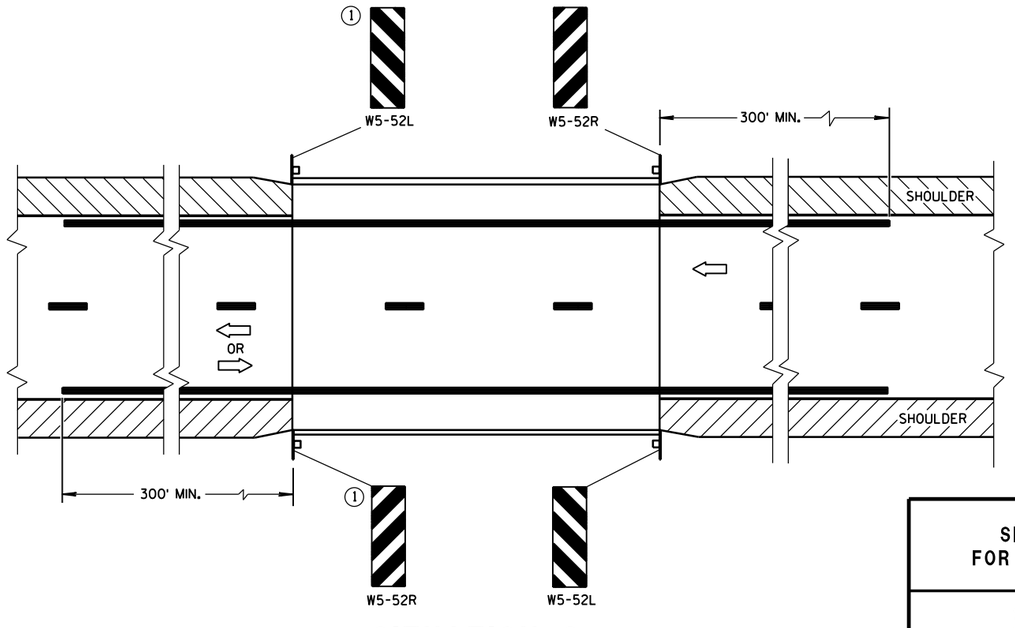
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.

PLACE THE EDGE OF THE W5-52 SIGN IN LINE WITH FACE OF CURB OR PARAPET.

(1) OMIT ON ONE-WAY TRAVELLED WAYS.

⇨ DIRECTION OF TRAFFIC



SITUATION 2

WARRANTING CRITERIA:

1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE SHOULDER WIDTH IS LESS THAN 6 FEET.

SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

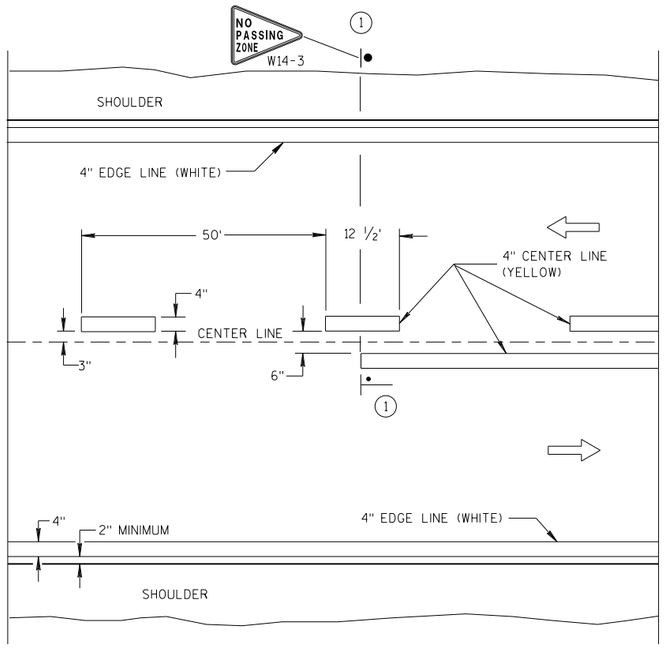
APPROVED
June 2017 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MARKING ENGINEER
FHWA

6

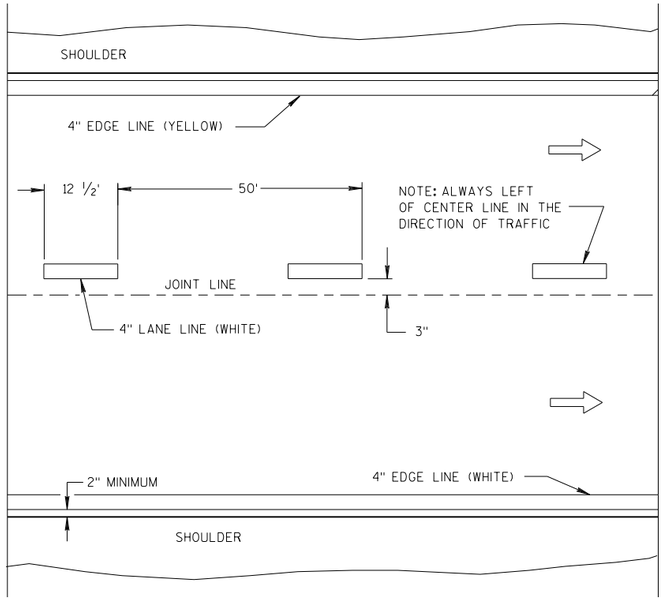
S.D.D. 15 C 6-9

6

S.D.D. 15 C 6-9



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.

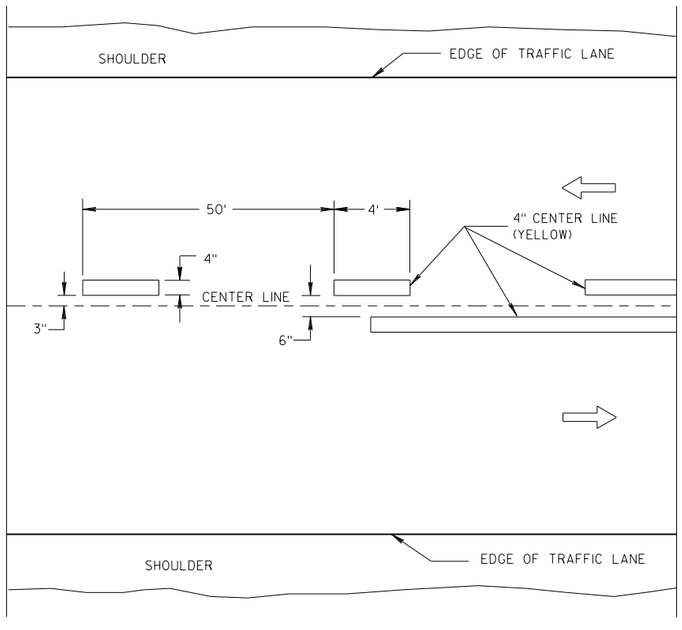
NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

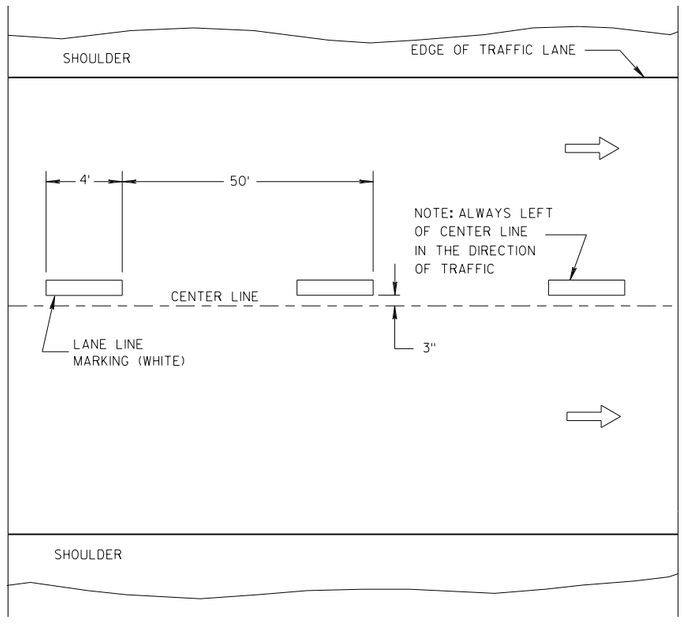
LEGEND

"T" MARKING

POST MOUNTED SIGN



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/2018 DATE

/S/ Matthew R. Rauch
STATE SIGNING AND MARKING ENGINEER

FHWA

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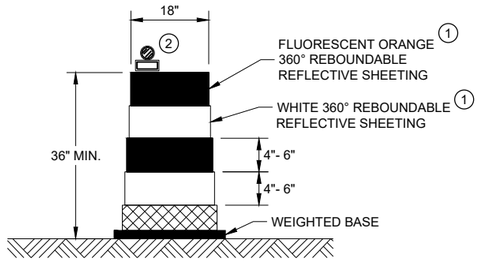
S.D.D. 15 C 8-19a

6

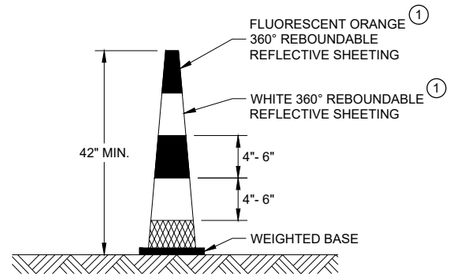
S.D.D. 15 C 8-19a

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.

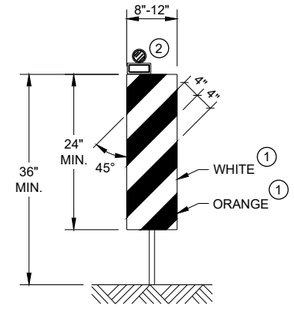


DRUM



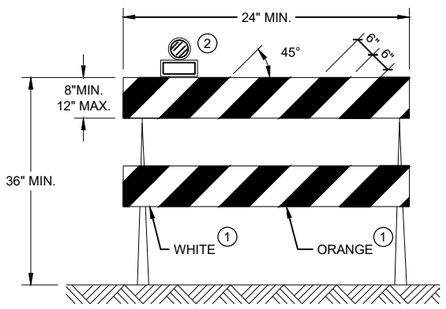
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



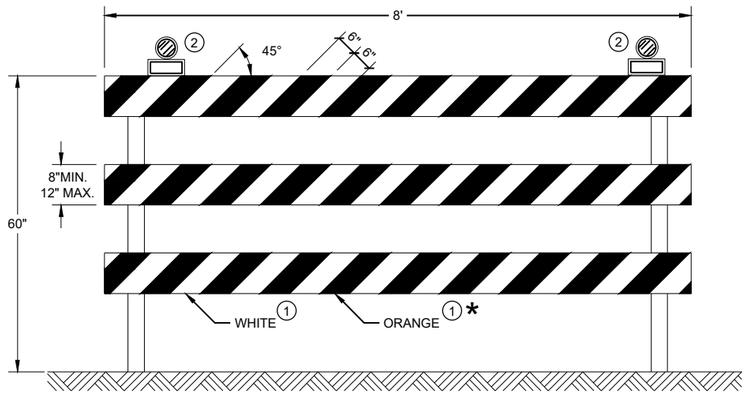
VERTICAL PANEL

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 ENGINEE

FHWA

6

SDD 15C11 - 07b

6

SDD 15C11 - 07b

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- DIRECTION OF TRAFFIC
- WORK ZONE

TABLE A

SHOULDER TAPER LENGTH (FEET)					BUFFER SPACE (FEET)
W / S	4	6	8	10	
30	20	30	40	50	200
35	30	45	55	70	250
40	40	55	75	90	305
45	60	90	120	150	360
50	70	100	135	170	425
55	75	110	150	185	495

W = SHOULDER WIDTH (FEET
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

TAPER LENGTH

L= WS AT 45 MPH OR GREATER
L = WS² / 60 AT 40 MPH OR LESS

SHOULDER TAPER LENGTH = 1/3L

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY THE REGIONAL TRAFFIC UNIT.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

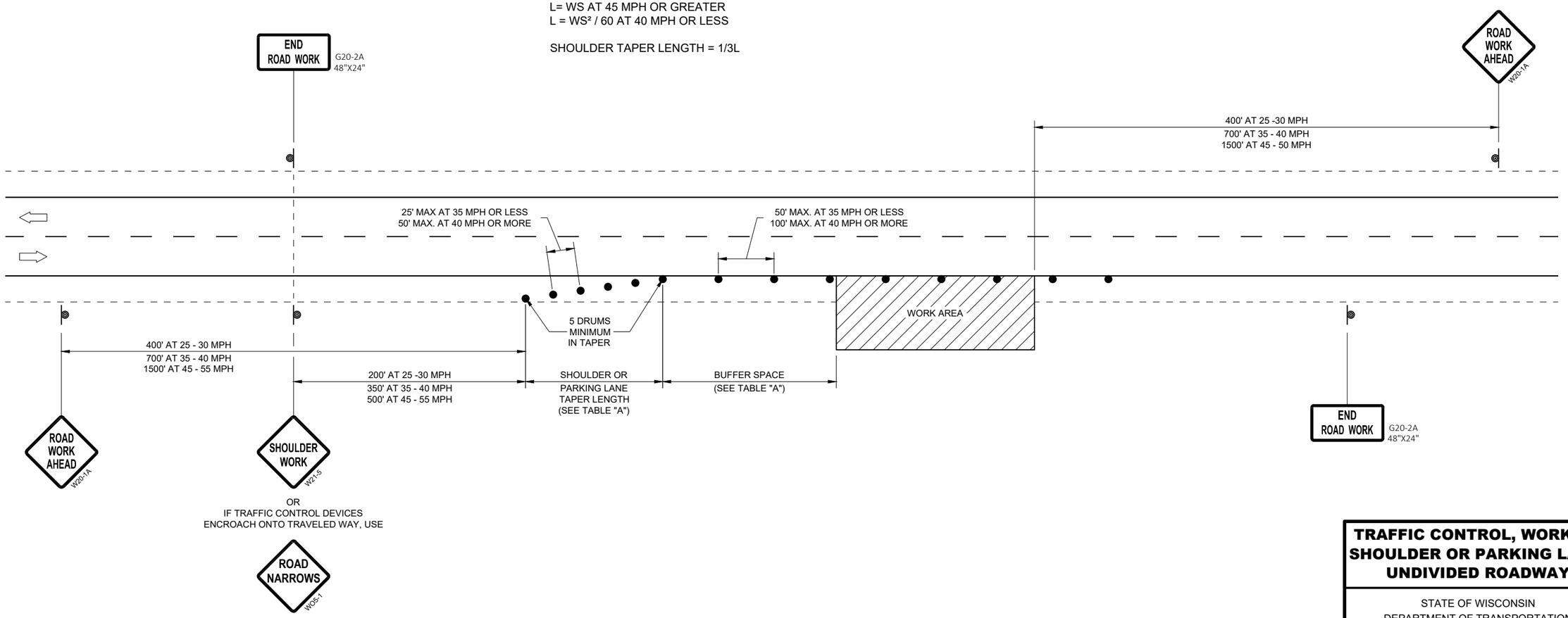
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

W20-1A AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY RESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.



TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2019
DATE

/S/ Andrew Heidtke
STATEWIDE WORK ZONE T SAFETY ENGINEER

FHWA

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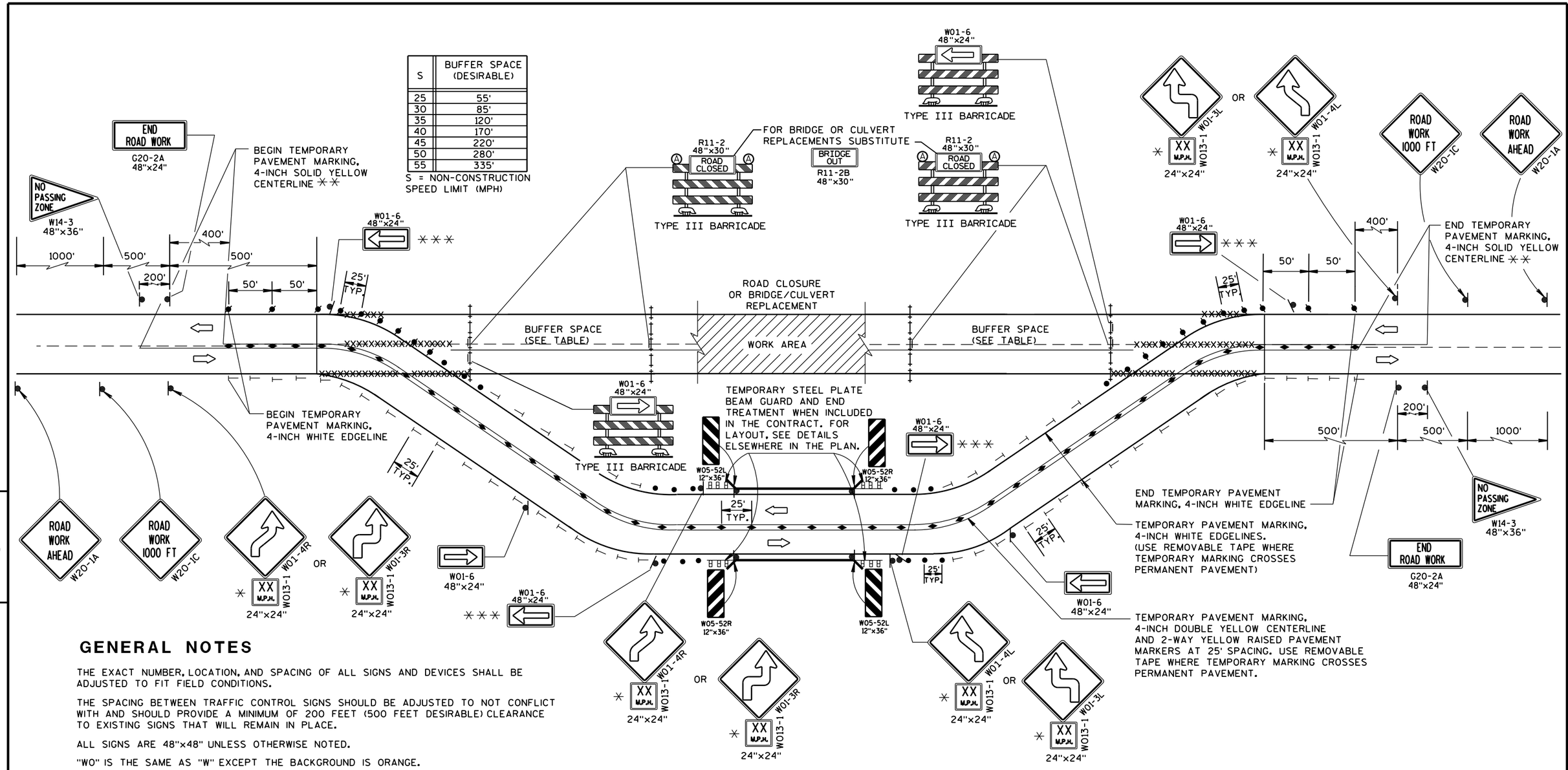
SDD 15D28 - 03



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"x48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED.

EQUIPMENT, VEHICLES, OR MATERIAL SHOULD NOT BE STORED IN BUFFER SPACE.

✳ IF ADVISORY SPEED IS GREATER THAN 30 MPH, USE THE W01-4 SIGN. IF ADVISORY SPEED IS 30 MPH OR LESS, USE THE W01-3 SIGN.

✳✳ WHEN THE DISTANCE TO/FROM THE NEXT CLOSEST NO-PASSING ZONE IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES AS INDICATED IN THE SPECIFICATIONS, THE TWO ZONES SHALL BE CONNECTED.

✳✳✳ OMIT THESE W01-6 SIGNS IF THE ADVISORY SPEED OF THE CURVE IS GREATER THAN 30 MPH.

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY-BURN LIGHT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- Ⓐ TYPE "A" WARNING LIGHT (FLASHING)
- TEMPORARY DELINEATOR, (WHITE) (SINGLE DELINEATOR)
- TEMPORARY RAISED PAVEMENT MARKERS (TWO-WAY YELLOW)
- XXX REMOVE PAVEMENT MARKING
- DIRECTION OF TRAFFIC
- TEMPORARY STEEL PLATE BEAM GUARD AND END TREATMENT
- WORK AREA

TRAFFIC CONTROL, TEMPORARY BYPASS ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept. 2015	/S/ Peter Amakobe Atepe
DATE	STATEWIDE WORK ZONE SAFETY ENGINEER

FHWA

6

S.D.D. 15 D 31-3

6

S.D.D. 15 D 31-3

LEGEND

TYPE III BARRICADE WITH ATTACHED SIGN

SIGN ON PERMANENT SUPPORT

TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT

TRAFFIC CONTROL DRUM

FLAGS, 16" X 16" MIN. (ORANGE)

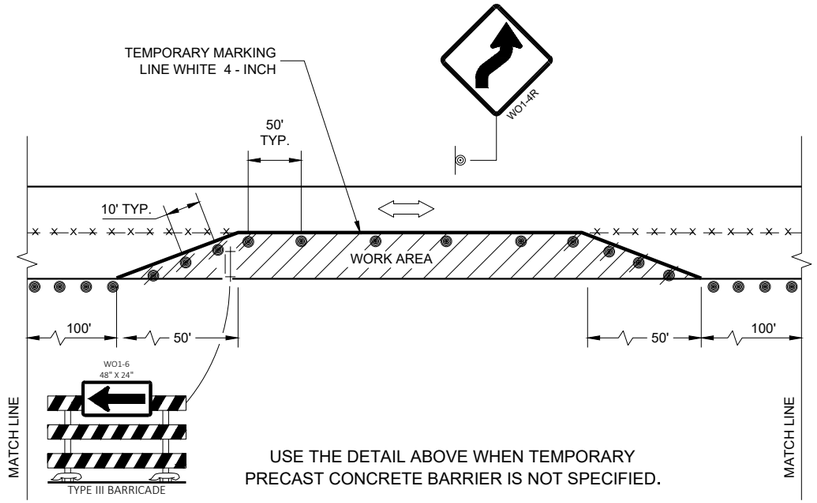
REMOVING PAVEMENT MARKING

DIRECTION OF TRAFFIC

ASPHALTIC PAVEMENT WIDENING

CONCRETE BARRIER TEMPORARY PRECAST

TEMPORARY SIGNAL. SEE SDD 09G02 FOR EXACT PLACEMENT



USE THE DETAIL ABOVE WHEN TEMPORARY PRECAST CONCRETE BARRIER IS NOT SPECIFIED.

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 TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE..

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.

PLACE TEMPORARY PAVEMENT MARKING EDGELINE AND CENTERLINE AND REMOVE EXISTING PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS OR AS NOTED ON DETAIL.

(1) 500 FOOT SPACING SHOWN IS FOR ROADWAYS WITH A PRE-CONSTRUCTION REGULATORY 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.

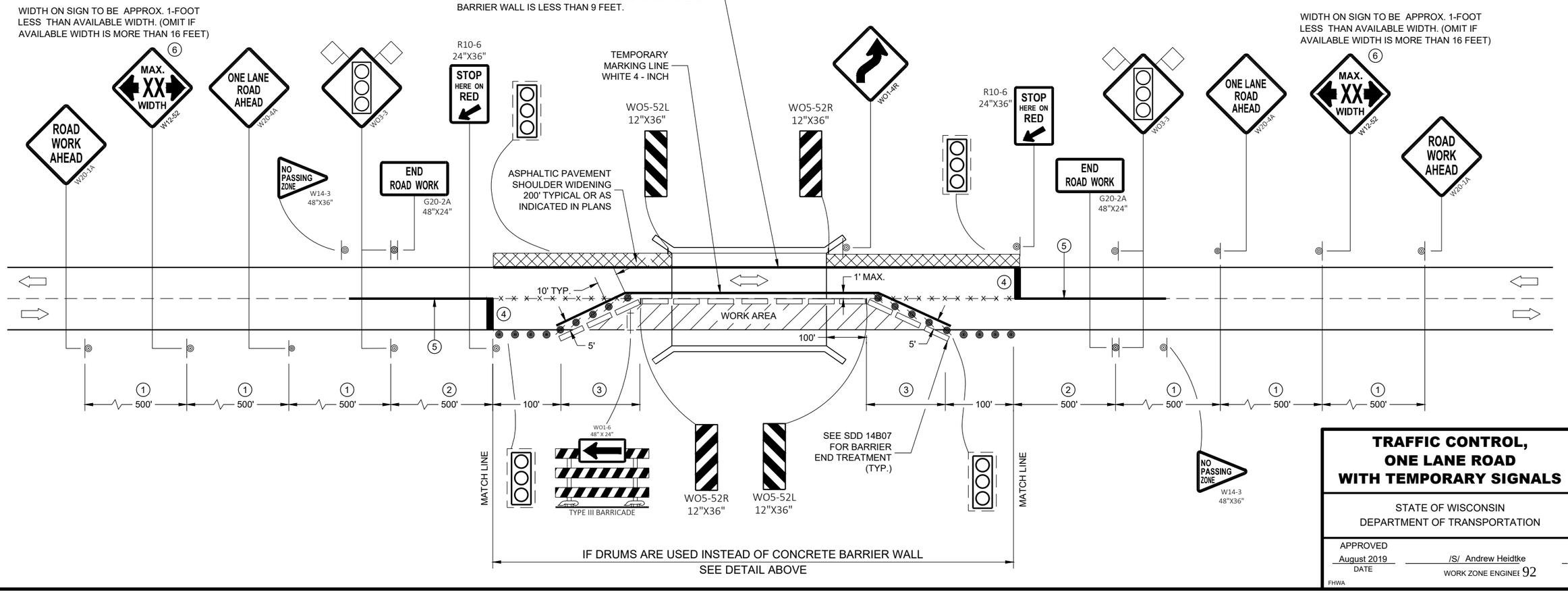
(2) USE 300 FOOT SPACING IF THE PRE - CONSTRUCTION REGULATORY SPEED IS 35 MPH OR LESS.

(3) DIMENSION DETERMINED BY CBTP TAPER FROM EDGE LINE TO TANGENT SECTION OF THE ROAD.

(4) TEMPORARY MARKING STOP LINE REMOVABLE TAPE 18 - INCH.

(5) 700 FOOT TEMPORARY MARKING LINE, DOUBLE YELLOW 4 - INCH . WHEN THE DISTANCE FOR THE PRECEDING NO - PASSING ZONE IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES AS INDICATED IN THE SPECIFICATIONS, THE TWO ZONES SHALL BE CONNECTED.

(6) SEE SDD 15C02 - SHEET "F" FOR ADVANCED WIDTH RESTRICTION SIGNING.



TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

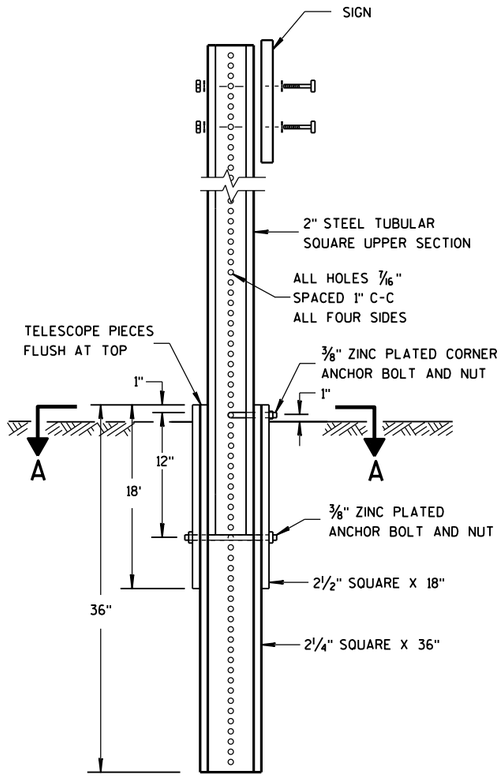
APPROVED
August 2019
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

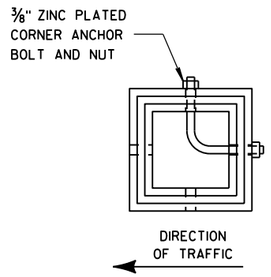
FHWA

SDD 15D33 - 06

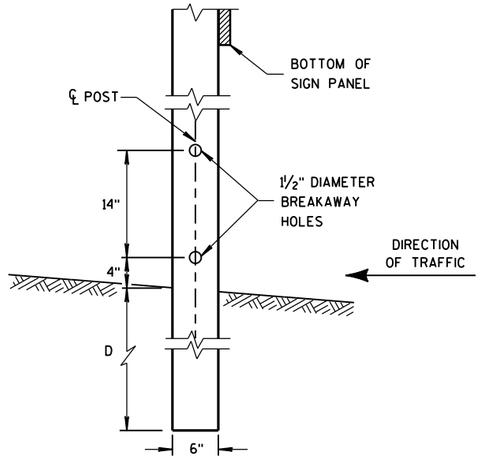
SDD 15D33 - 06



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



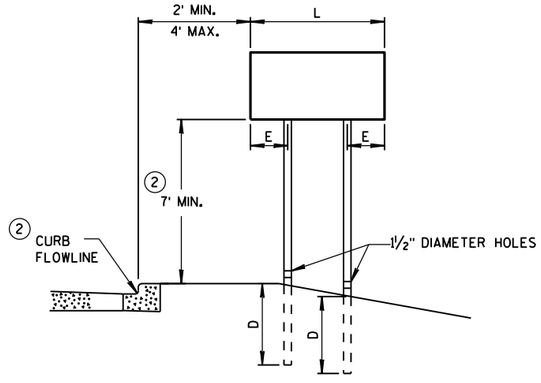
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

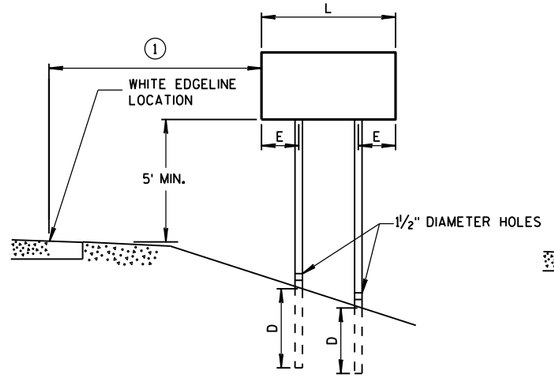
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

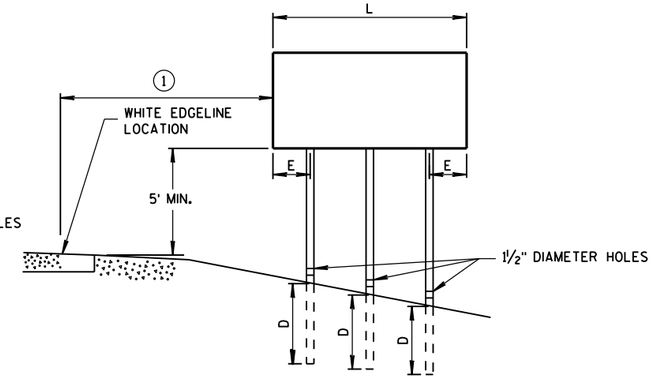
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK 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

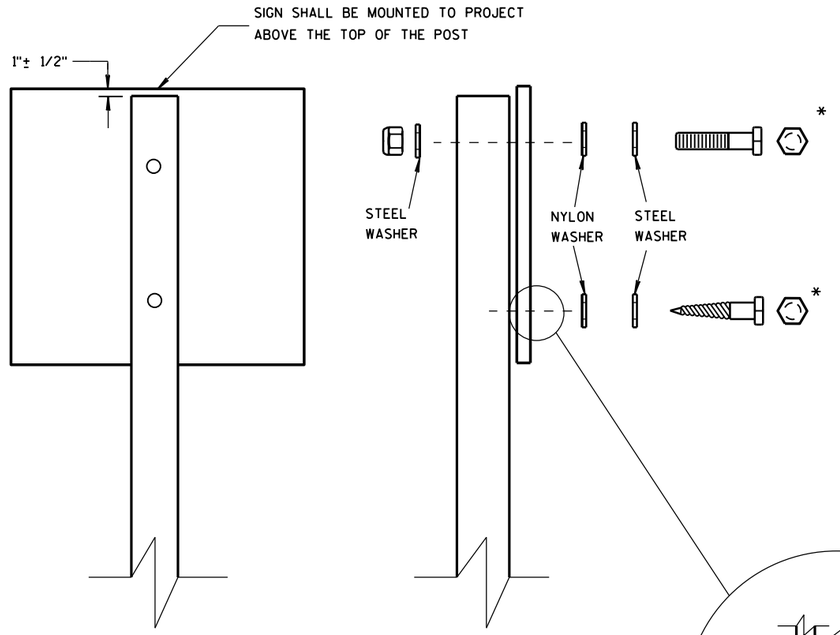
SEE NOTE (3)

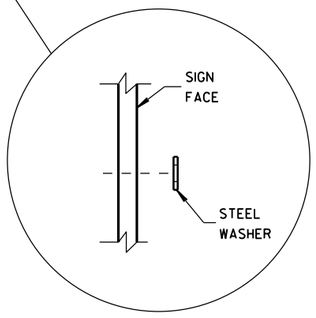
TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

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.

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

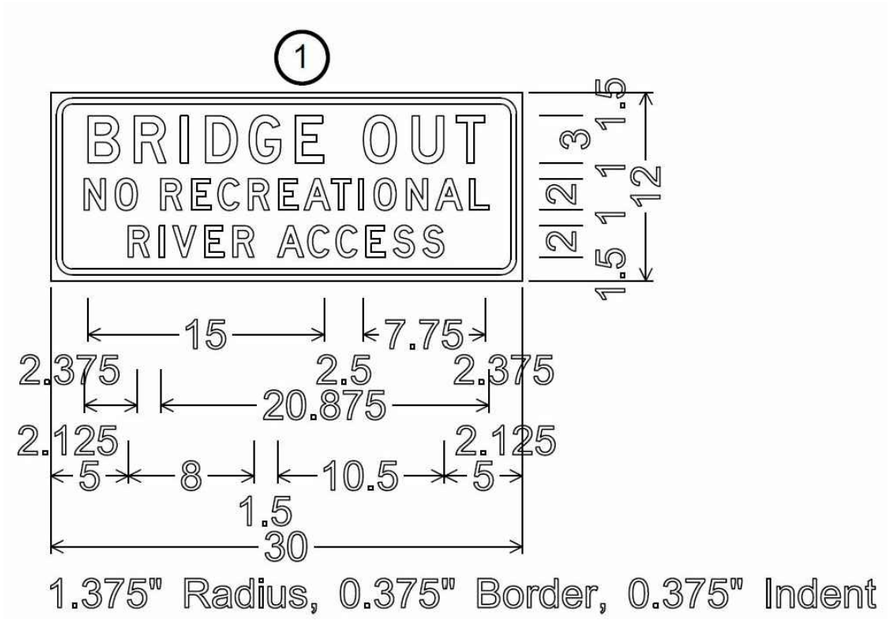
June 2017
DATE

/S/ Andrew Heldtke
WORK ZONE ENG

FHWA

NOTES

1. ALL SIGNS TYPE II - TYPE F REFLECTIVE
2. COLOR:
   BACKGROUND - ORANGE
   MESSAGE - BLACK
3. MESSAGE SERIES - D



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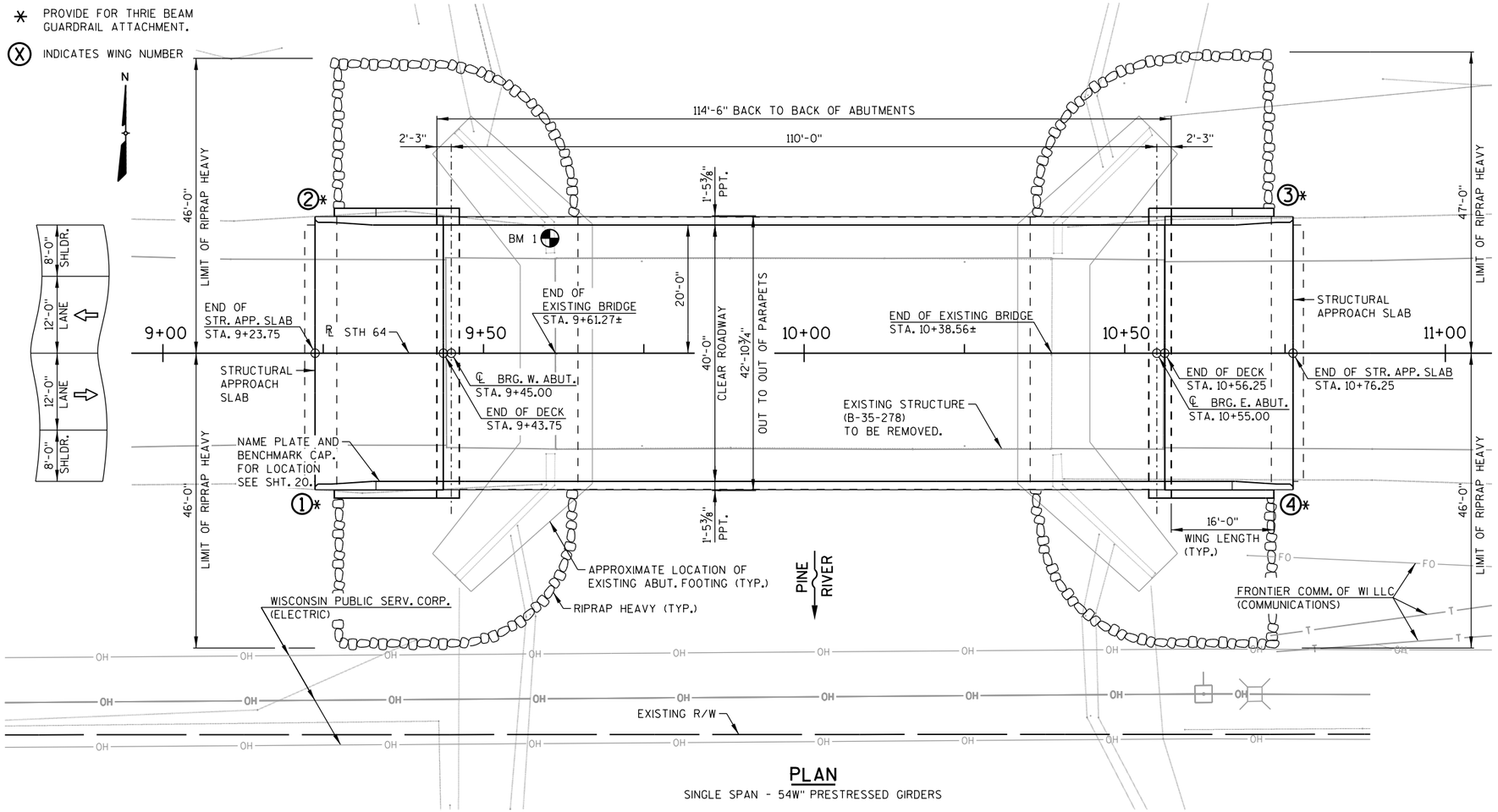
STATE PROJECT NUMBER

9000-04-70

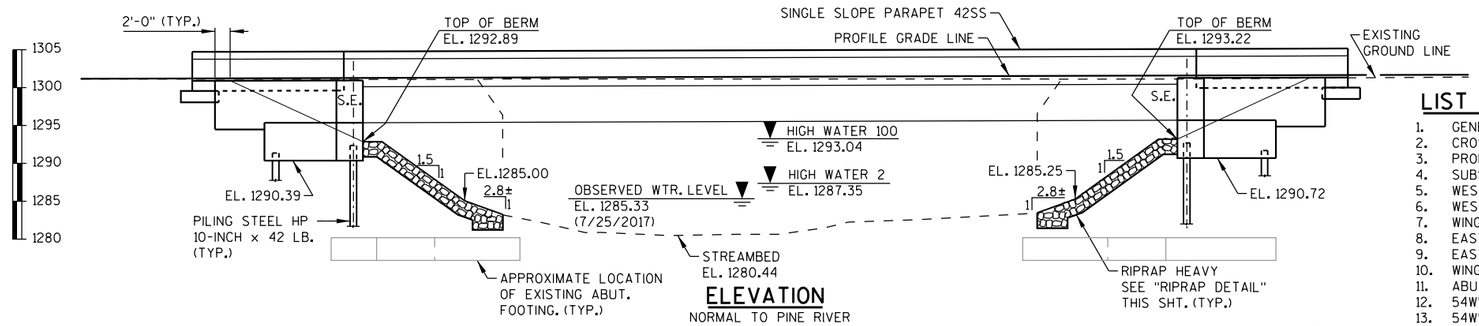
* PROVIDE FOR THRIE BEAM GUARDRAIL ATTACHMENT.

Ⓧ INDICATES WING NUMBER



PLAN

SINGLE SPAN - 54W" PRESTRESSED GIRDERS



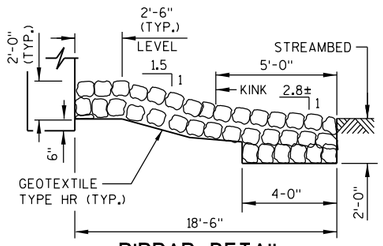
ELEVATION

NORMAL TO PINE RIVER

BENCH MARK TABLE

NO.	STATION	DESCRIPTION	ELEVATION
1	9+60, 18' LT.	BRASS DISK IN NW CRNR. OF EXISTING STRUCTURE.	1300.98
2	8+40, 54' RT.	SPIKE IN POWER POLE #PP3107 13E3, S. SIDE STH 64, WEST OF EXISTING STRUCTURE.	1291.76
3	11+88, 53' RT.	SPIKE IN POWER POLE #PP3107 13E5, S. SIDE STH 64, EAST OF EXISTING STRUCTURE.	1293.00

HORIZ. COORDINATE SYSTEM: WCCS - NAD83/2011 VERTICAL DATUM: NAVD 88 (2012)



RIPRAP DETAIL

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR = 1.15
OPERATING RATING FACTOR = 1.76
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 PSF.

MATERIAL PROPERTIES:

CONCRETE MASONRY
- DECK, PARAPET, DIAPHRAGMS, APPR. SLAB, APPR. SLB FTG. - f'c = 4,000 P.S.I.
- ALL OTHER — f'c = 3,500 P.S.I.

BAR STEEL REINFORCEMENT, GRADE 60 — fy = 60,000 P.S.I.
(INCLUDES STAINLESS STEEL REINFORCEMENT)

54W" PRESTRESSED GIRDER
- CONCRETE MASONRY — f'c = 8,000 P.S.I.
- STRANDS - 0.6" DIA. WITH ULTIMATE TENSILE STRENGTH OF — 270,000 P.S.I.

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON PILING STEEL HP 10-INCH x 42LB. PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 50'-0" LONG FOR THE WEST ABUTMENT AND 55'-0" LONG FOR THE EAST ABUTMENT.

** 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 THE MODIFIED GATE DYNAMIC FORMULA TO DETERMINE DRIVEN PILE CAPACITY.

TRAFFIC VOLUME

STH 64
A.D.T. (2020) = 3300
A.D.T. (2040) = 3800
DESIGN SPEED = 60 MPH

HYDRAULIC DATA

100 YEAR FREQUENCY

Q100	5,700 CFS
VELOCITY	6.4 FPS
HIGH WATER ELEVATION	1293.04
WATERWAY AREA	891 SQ. FT.
DRAINAGE AREA	103 SQ. MI.
ROAD OVERTOPPING	N/A
SCOUR CRITICAL CODE	5

2 YEAR FREQUENCY

Q2	1,335 CFS
VELOCITY	3.4 FPS
HIGH WATER 2 ELEVATION	1287.35

LIST OF DRAWINGS

STRUCTURES DESIGN CONTACTS

BRIDGE OFFICE:
BILL DREHER (608) 266-8489

CONSULTANT:
KEVIN HAGEN (715) 342-3053

AECOM PROJECT No. 60548628

KEVIN R. HAGEN E-38866 STEVENS POINT WI — WISCONSIN — PROFESSIONAL ENGINEER

5/31/2019

NO.	DATE	REVISION	BY

AECOM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 08/19/19
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-35-117

STH 64 OVER PINE RIVER

COUNTY: LINCOLN
TOWN/~~CITY/VILLAGE~~: PINE RIVER

DESIGN SPEC.: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
KB/KRH	AJC	KAM	KRH

GENERAL PLAN

SHEET 1 OF 20
96

8

8

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE TYPE 'HR' WITHIN THE LIMITS SHOWN ON SHEET 1, ON THE ABUTMENT SHEETS OR AS DIRECTED BY THE ENGINEER.

THE FIRST DIGIT OF A THREE DIGIT BAR MARK AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

THE EXISTING STRUCTURE (B-35-278) IS A SINGLE SPAN STEEL TRUSS BRIDGE, 75' LONG × 31' WIDE, TO BE REMOVED.

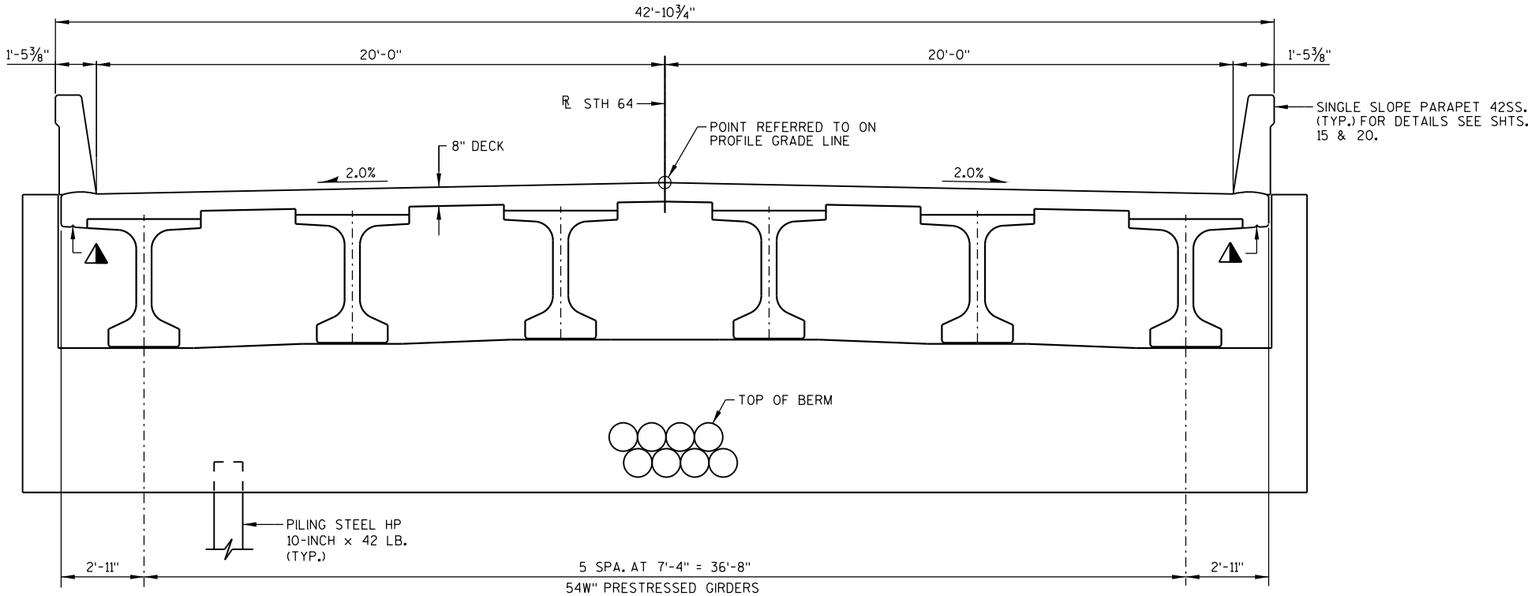
ALL REQUIRED REMOVAL OF THE EXISTING SUBSTRUCTURES IS INCLUDED IN THE BID ITEM "REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS, STATION 10+00."

ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE PRESTRESSED GIRDER DETAIL SHEET.

EXCAVATION REQUIRED UNDER THE BID ITEM "EXCAVATION FOR STRUCTURES BRIDGES B-35-117" IS NOT USED TO BALANCE THE EARTHWORK.

AT THE BACKFACE OF ABUTMENT, ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.

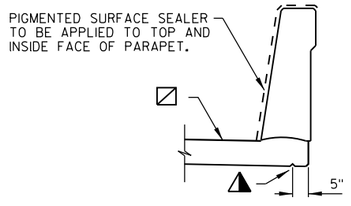


CROSS SECTION THRU ROADWAY

(LOOKING UPSTATION)

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEM	UNIT	WEST APPROACH	WEST ABUTMENT	EAST ABUTMENT	EAST APPROACH	SUPER.	TOTALS
203.0600.S	REMOVING OLD STRUCUTRE OVER WATERWAY WITH MINIMAL DEBRIS STATION 10+00	LS						1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-35-117	LS						1
210.1500	BACKFILL STRUCTURE TYPE A	TON		195	195			390
305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	129			129		258
502.0100	CONCRETE MASONRY BRIDGES	CY	60	50	50	60	228	448
502.3200	PROTECTIVE SURFACE TREATMENT	SY	89			89	521	699
502.3210	PIGMENTED SURFACE SEALER	SY	20			20	112	152
503.0155	PRESTRESSED GIRDER TYPE I 54W-INCH	LF					666	666
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB		2,990	2,990			5,980
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	10,000	1,900	1,900	10,000	36,070	59,870
505.0800.S	BAR STEEL REINFORCEMENT HS STAINLESS STRUCTURES	LB					1,470	1,470
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH		6	6			12
506.4000	STEEL DIAPHRAGMS B-35-117	EACH					10	10
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY		13	13			26
550.0500	PILE POINTS	EACH		13	13			26
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF		650	715			1,365
606.0300	RIPRAP HEAVY	CY		225	225			450
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF		85	85			170
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	2			2		4
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY		65	65			130
645.0120	GEOTEXTILE TYPE HR	SY		390	390			780
	NON-BID ITEMS							
	FILLER	SIZE						1/2" & 3/4"



SURFACE PROTECTION DETAIL

LEGEND

☑ COAT WITH "PROTECTIVE SURFACE TREATMENT" AS PER THE STANDARD SPECIFICATIONS.

▲ ¾" V-GROOVE REQ'D. EXTEND V-GROOVE TO 6" FROM FRONT FACE OF ABUT. DIAPHRAGM.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-35-117

DRAWN BY KAM | PLANS CK'D. KRH

CROSS SECTION & QUANTITIES

SHEET 2 OF 20
97

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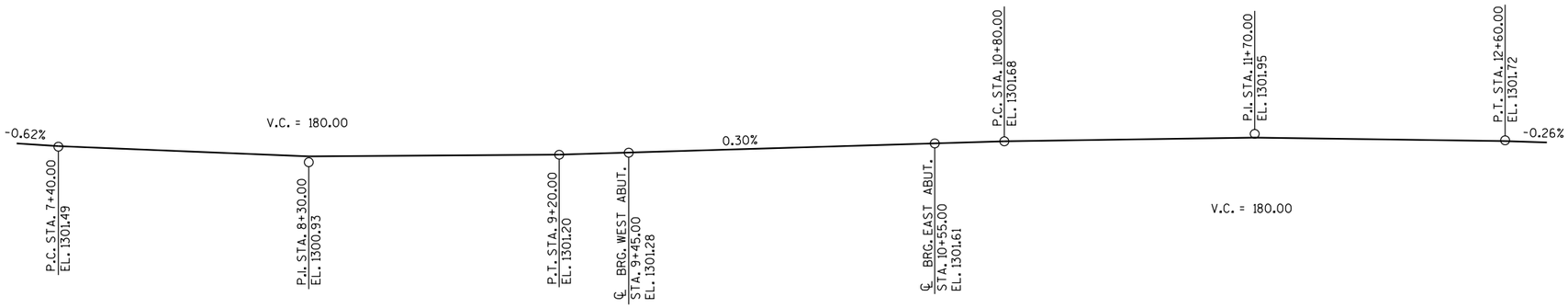
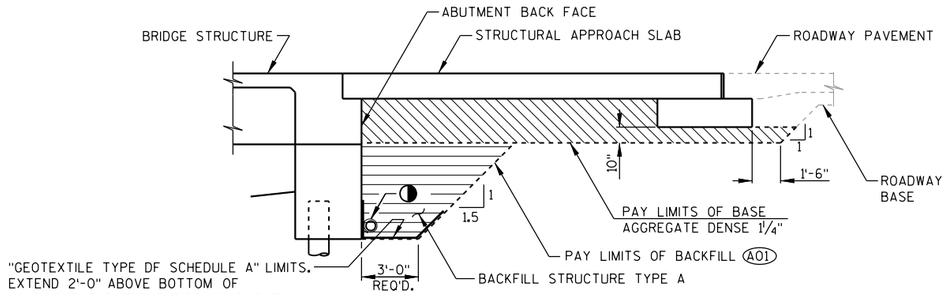
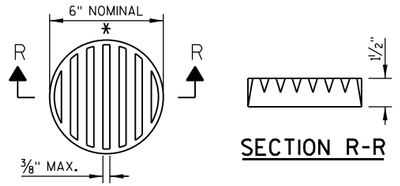


PROPOSED PROFILE GRADE LINE - STH 64





SECTION R-R

RODENT SHIELD DETAIL

* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE 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.

BACKFILL STRUCTURE LIMITS

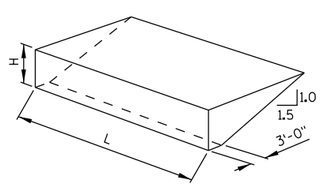
THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-35-117" SHALL BE THE EXISTING GROUNDLINE.

(A01) BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND ABUTMENTS AND ABUTMENT WINGS FOR 3 FEET. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.

EXCAVATION BELOW THE ABUTMENT AND ABUTMENT BEDDING MATERIALS REQUIRES ENGINEER APPROVAL. GEOTEXTILE SHALL BE SET AT THE BOTTOM OF EXCAVATION AND EXTEND 2'-0" ABOVE THE BOTTOM OF THE ABUTMENT.

◑ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.



WINGS PARALLEL TO ROADWAY

ABUTMENT BACKFILL DIAGRAM

L = OUT TO OUT OF ABUTMENT, INCLUDING WINGS (FT)
H = AVERAGE ABUTMENT FILL HEIGHT (FT)
EF = EXPANSION FACTOR (1.20 FOR CY BID ITEMS, AND 1.00 FOR TON BID ITEMS)
V_{CF} = (L)(3.0')(H) + (L)(0.5)(1.5H)(H)
V_{CY} = V_{CF} (EF)/27
V_{TON} = V_{CY} (2.0)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

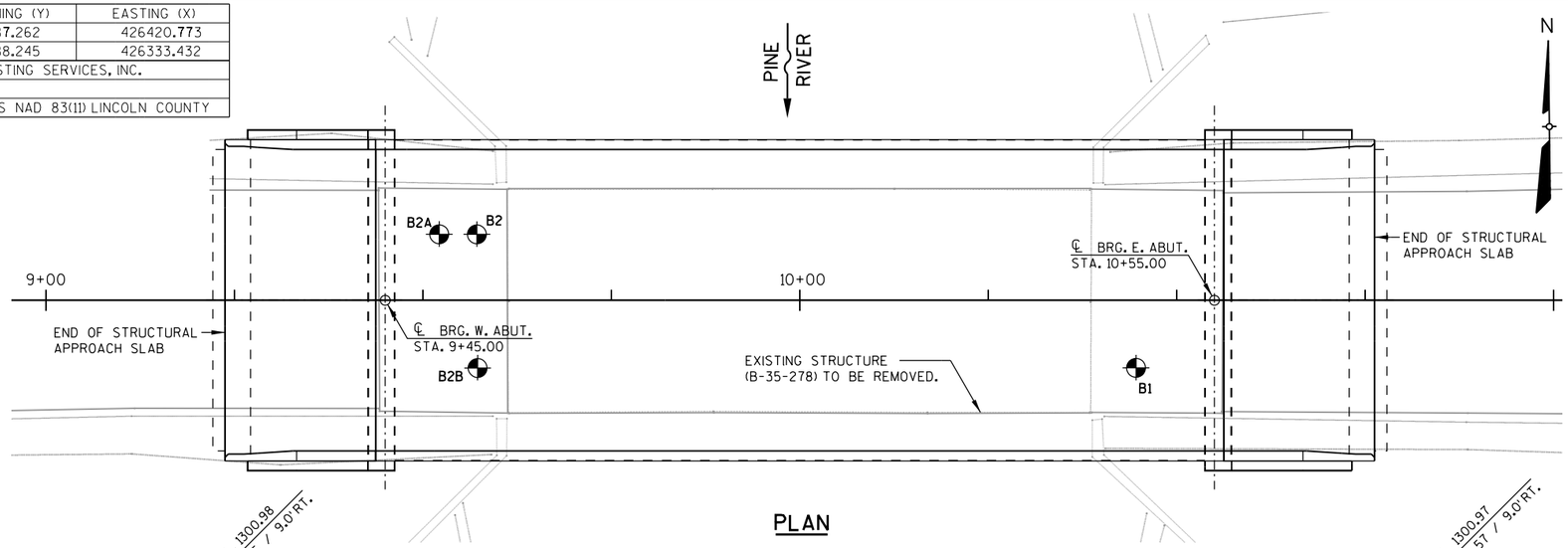
STRUCTURE B-35-117

DRAWN BY KAM | PLANS CK'D. KRH

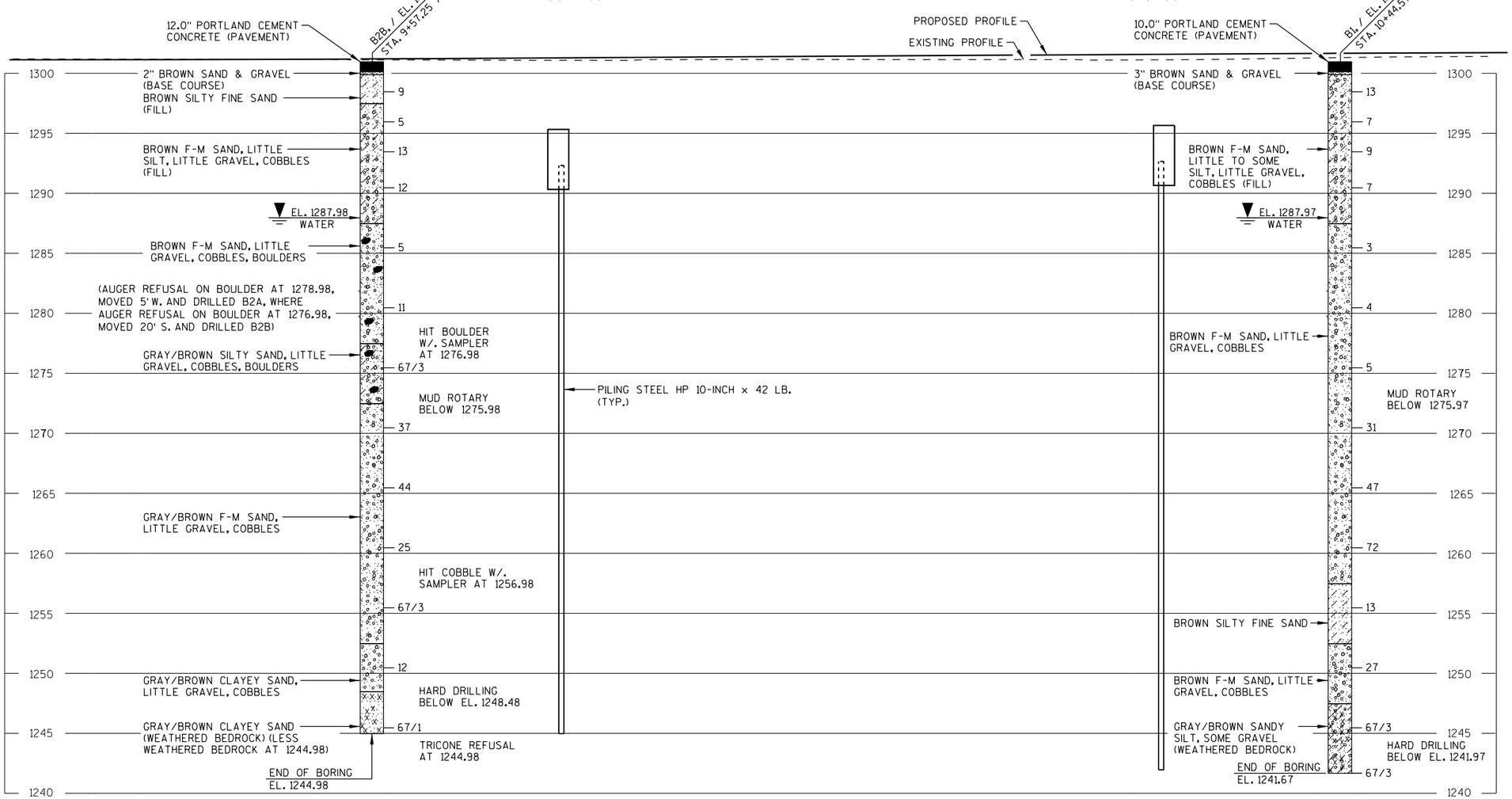
PROFILE & DETAILS

SHEET 3 OF 20
98

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B1	8/24/2017	121587.262	426420.773
B2B	8/24/2017	121588.245	426333.432
BORINGS COMPLETED BY: NUMMELIN TESTING SERVICES, INC.			
REPORT COMPLETED BY: 9/17/2017			
ALL COORDINATES REFERENCED TO WCCS NAD 83(11) LINCOLN COUNTY			



PLAN



STATE PROJECT NUMBER

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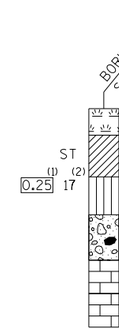
MATERIAL SYMBOLS

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-35-117

DRAWN BY KAM PLANS CK'D. EAN

SUBSURFACE EXPLORATION

SHEET 4 OF 20

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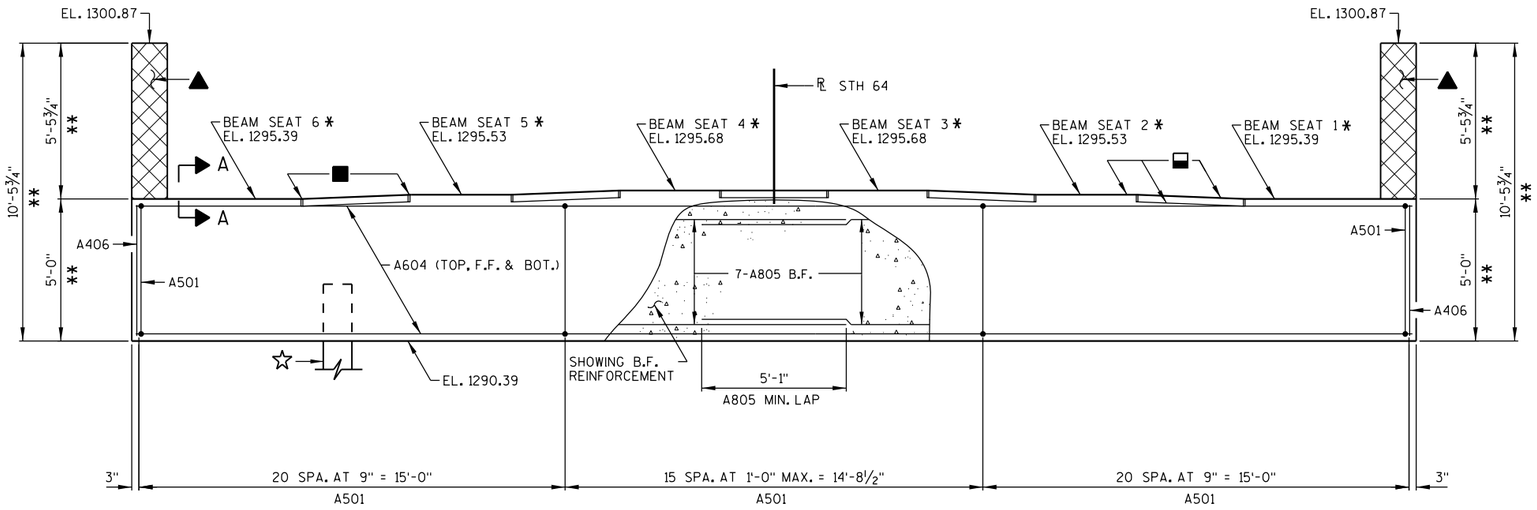
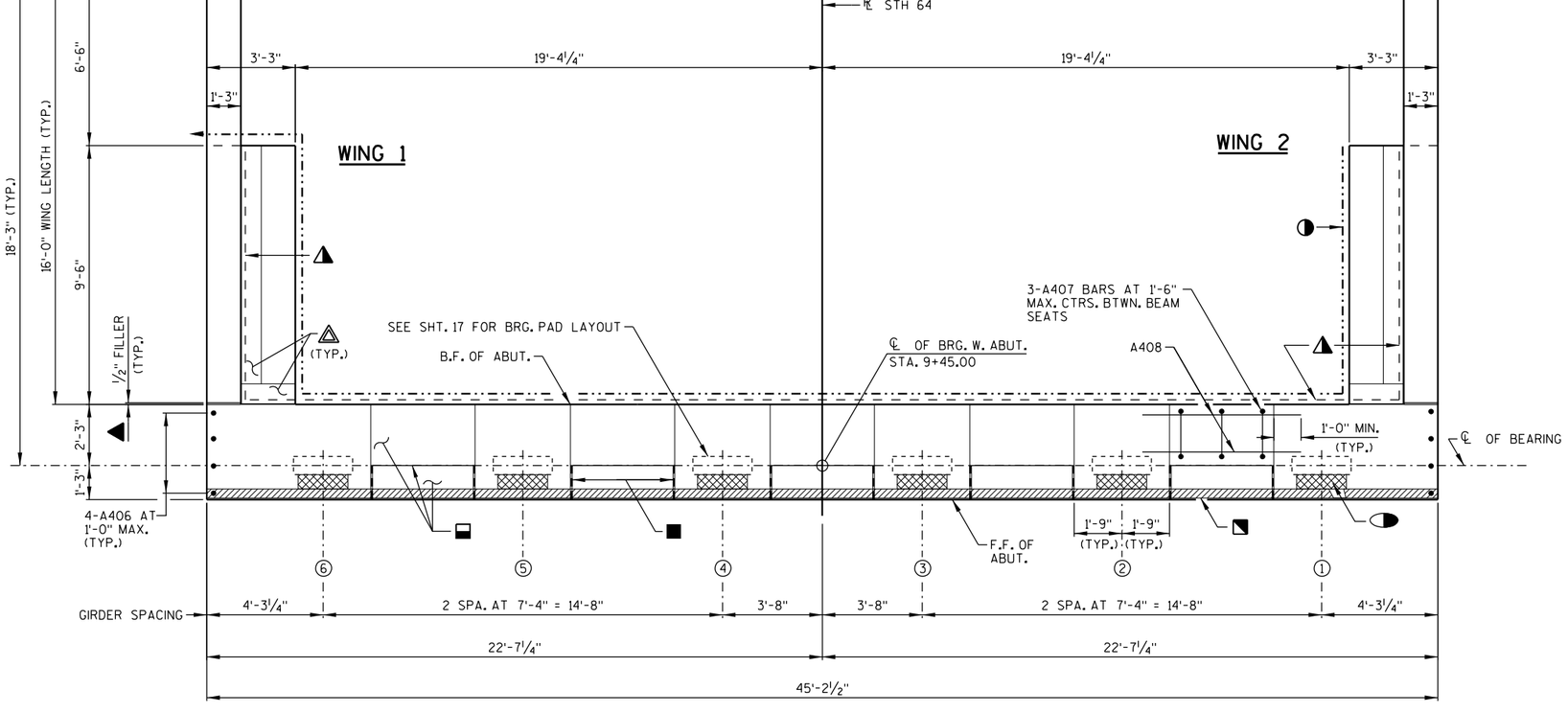


ELEVATION
(LOOKING WEST)

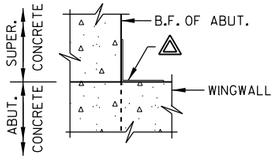
NOTE:
SPACE A501 BARS TO MISS PILING.



PLAN

LEGEND

- ☆ SUPPORT ABUTMENTS ON PILING STEEL HP 10-INCH x 42LB. SEE PILE NOTE ON SHEET 6 AND 9. PILE SPLICE DETAIL ON SHEET 11.
- ◑ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. DRAIN BOTH ABUTMENTS TO DOWNSTREAM SIDE OF BRIDGE. ATTACH RODENT SHIELD AT ENDS OF PIPE. SEE SHT. 3.
- ▲ ½" FILLER TO EXTEND FROM BRIDGE SEAT TO TOP OF WING. 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.)
- ◭ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
- ◹ 4"x½" PREFORMED JT. FILLER - TO EXTEND FULL LENGTH OF ABUTMENT BODY.
- □ OPTIONAL CONSTRUCTION JOINT KEYWAY FORMED BY A BEVELED 2"x6", WITH RUBBERIZED MEMBRANE WATERPROOFING ON BACKFACE. ¾" V-GROOVE REQUIRED ON F.F.
- △ PLACE BOTTOM HALF OF RUBBERIZED MEMBRANE WATERPROOFING, HORIZONTAL IN THIS AREA.
- ■ ¾" CORK FILLER ON VERTICAL BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.
- ▬ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHELENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING THE BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ⓧ INDICATES BEAM NUMBER
- * ELEVATIONS GIVEN ARE AT TOP OF CONCRETE ℄ OF BRG.
- ** DIMENSIONS GIVEN ARE AT THE B.F. OF THE ABUTMENT BODY.
- ◒ ½" PREFORMED JOINT FILLER UNDER GIRDER FLANGE IN FRONT OF BRG. PAD.



SECTION A-A

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-35-117

DRAWN BY KAM | PLANS CK'D. KRH

WEST ABUTMENT

SHEET 5 OF 20
100

8

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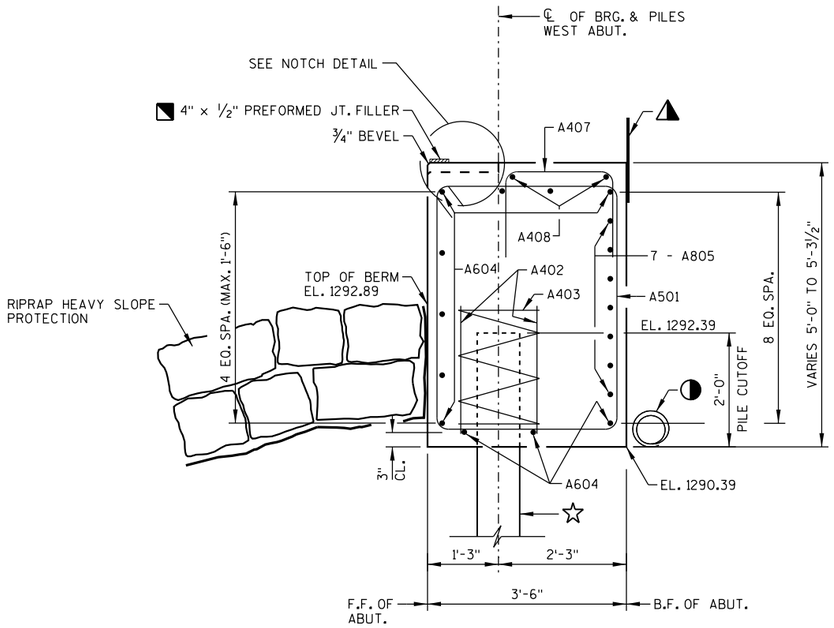
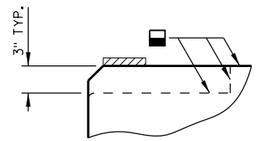
BATCH PRINT SHEET 6 OF 20

STATE PROJECT NUMBER
9000-04-70

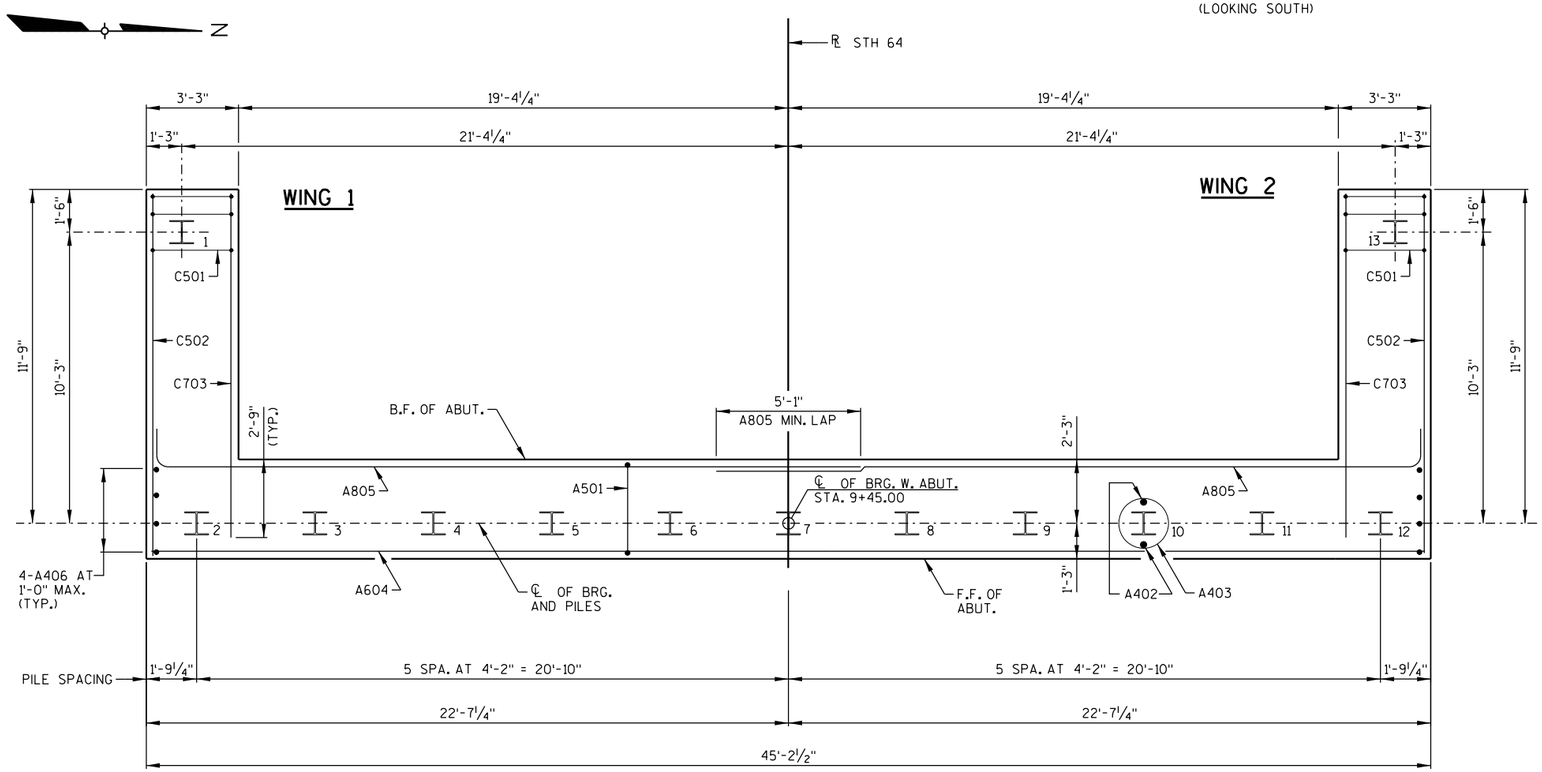


TYP. SECTION THRU BODY

(LOOKING SOUTH)



NOTCH DETAIL



PILE PLAN

LEGEND

FOR SYMBOL DESCRIPTIONS SEE SHT. 5.

PILE NOTE

WEST ABUTMENT TO BE SUPPORTED ON PILING STEEL HP 10-INCH x 42 LB. PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 50'-0" LONG.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-35-117

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WEST ABUTMENT PILE PLAN AND SECTION

SHEET 6 OF 20

101

8

8

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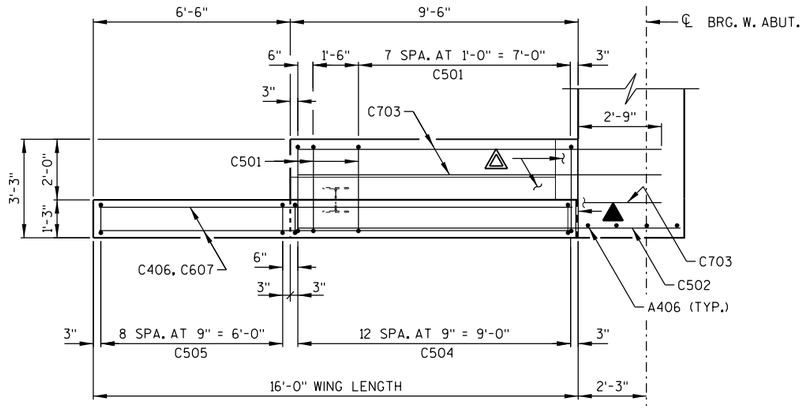
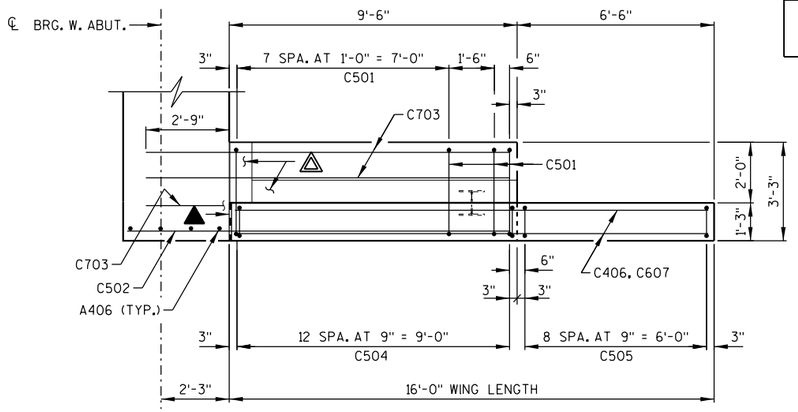
BATCH PRINT SHEET 7 OF 20

STATE PROJECT NUMBER

9000-04-70



PLAN WING 1



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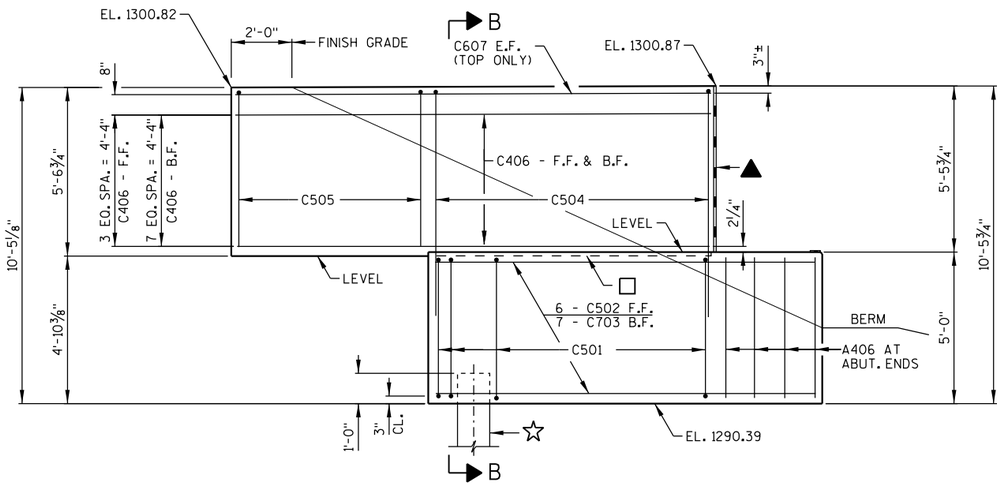
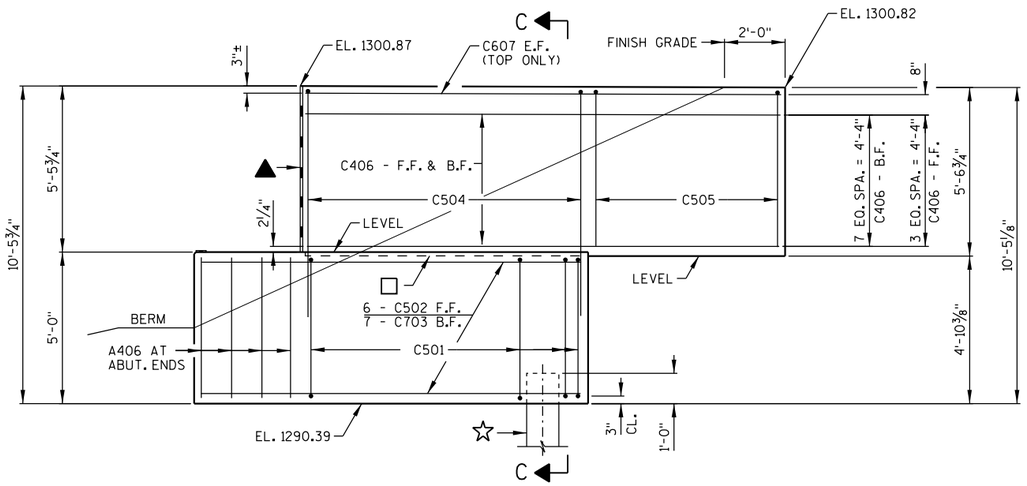


ELEVATION WING 1



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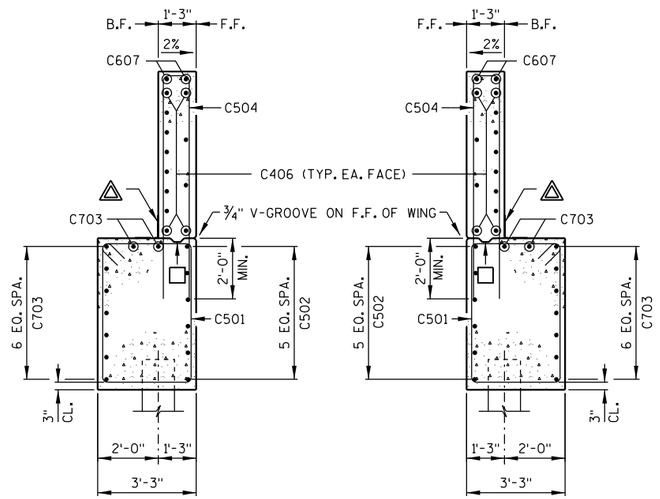
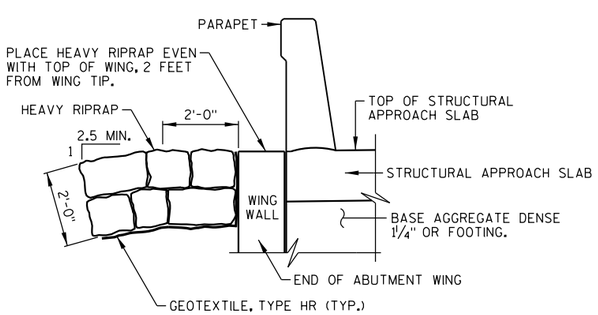


SECTION B-B

SECTION C-C



TYPICAL FILL SECTION AT WING TIPS

LEGEND

FOR SYMBOL DESCRIPTIONS SEE SHT. 5.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-35-117

DRAWN BY KAM | PLANS CK'D. KRH

WINGS 1 AND 2

SHEET 7 OF 20
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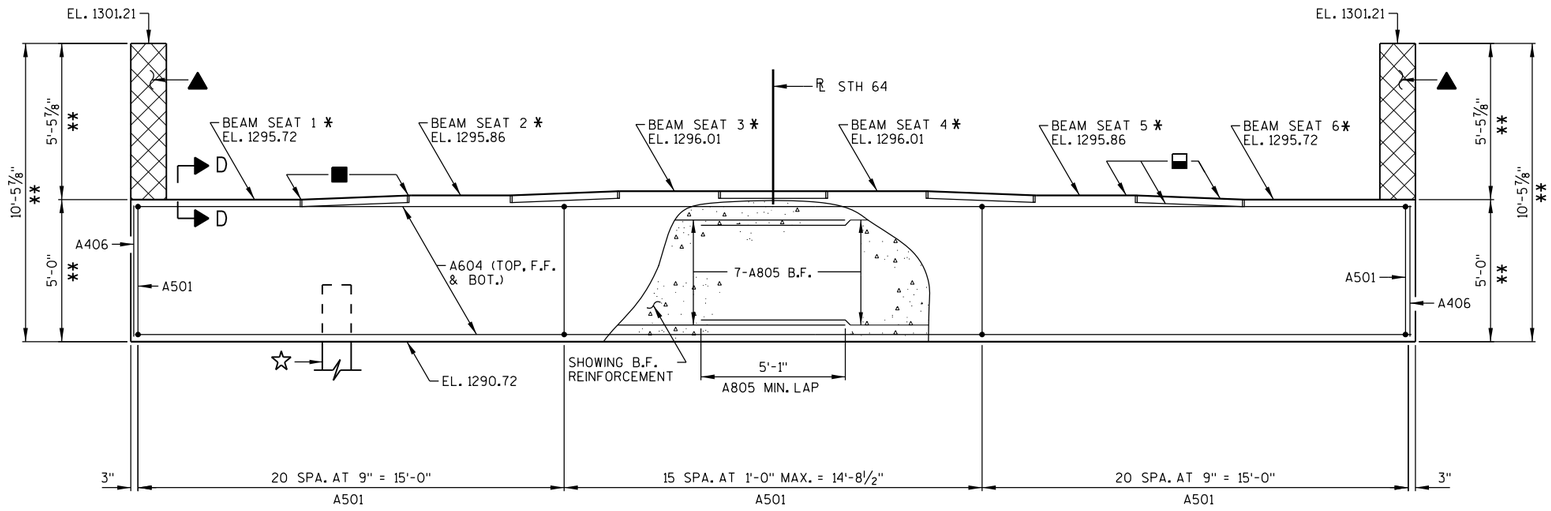
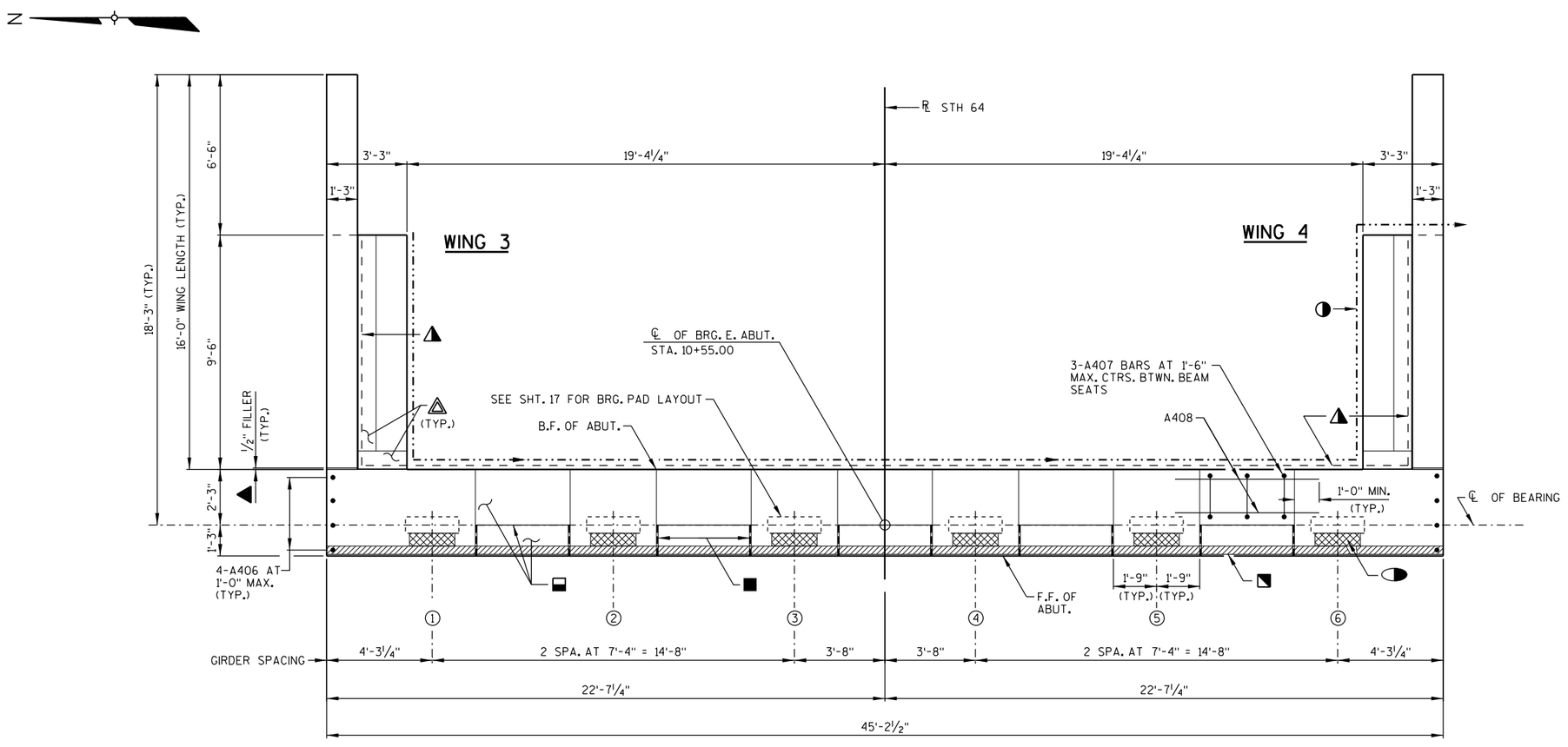
STATE PROJECT NUMBER
9000-04-70



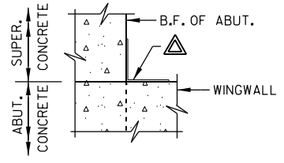
ELEVATION
(LOOKING EAST)

NOTE:
SPACE A501 BARS TO MISS PILING.



PLAN

LEGEND
FOR SYMBOL DESCRIPTIONS SEE SHT. 5.



SECTION D-D

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-35-117

DRAWN BY KAM | PLANS CK'D. KRH

EAST ABUTMENT

SHEET 8 OF 20
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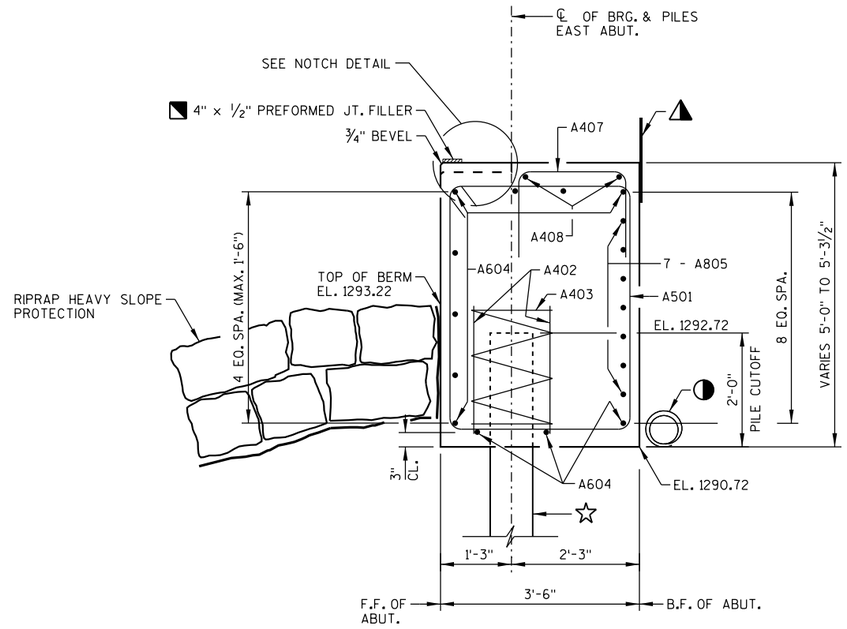
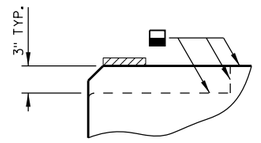
BATCH PRINT SHEET 9 OF 20

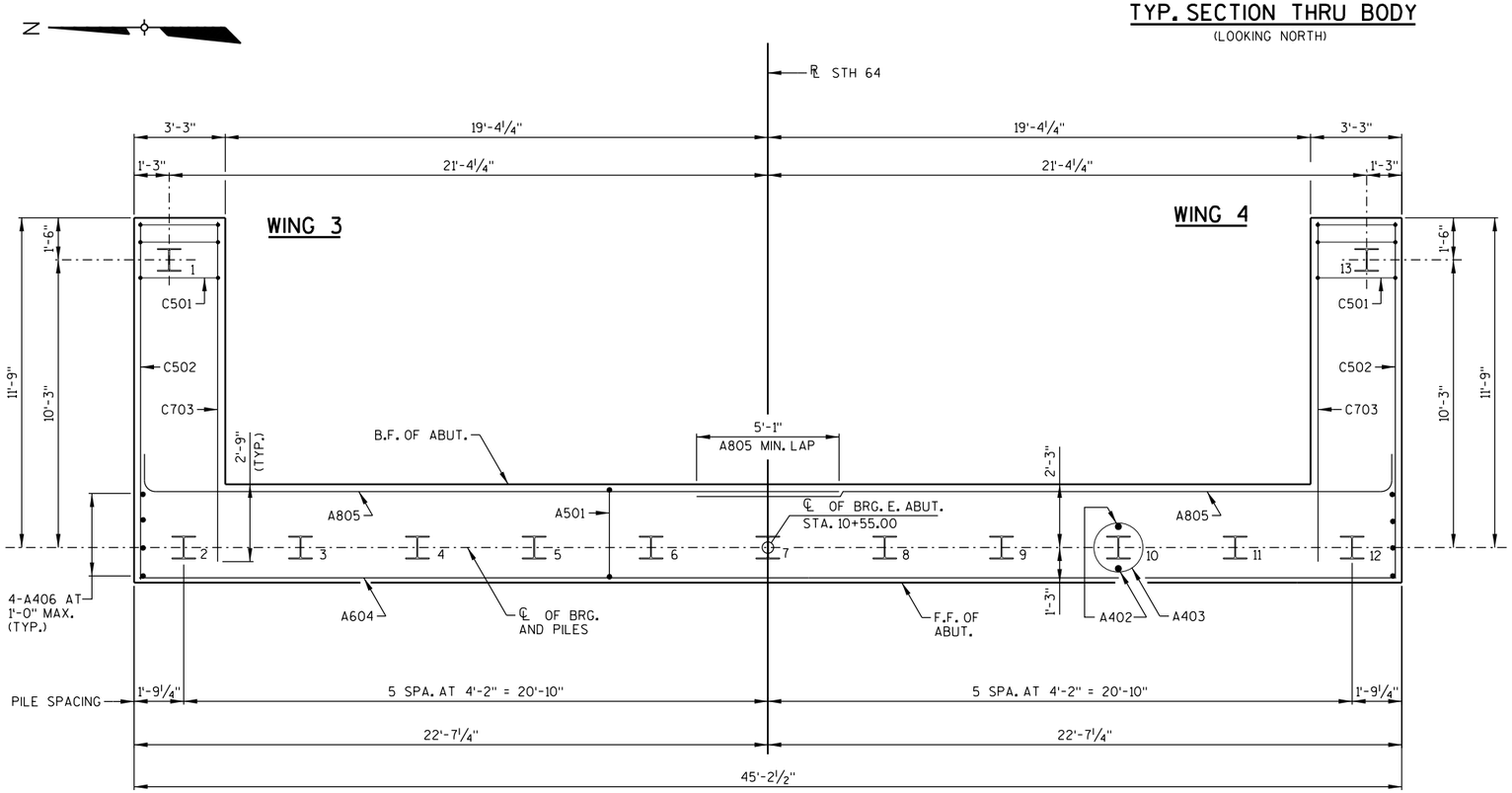
STATE PROJECT NUMBER
9000-04-70



TYP. SECTION THRU BODY
(LOOKING NORTH)



NOTCH DETAIL



PILE PLAN

LEGEND
FOR SYMBOL DESCRIPTIONS SEE SHT. 5.

PILE NOTE
EAST ABUTMENT TO BE SUPPORTED ON PILING STEEL HP 10-INCH x 42 LB. PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 55'-0" LONG.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-35-117

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EAST ABUTMENT PILE PLAN AND SECTION

SHEET 9 OF 20
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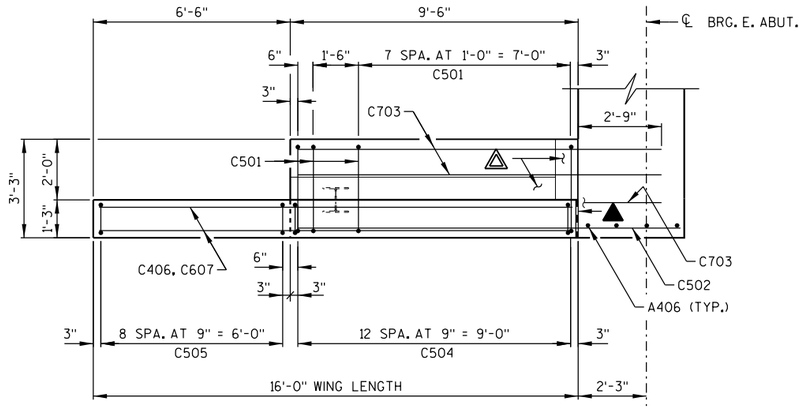
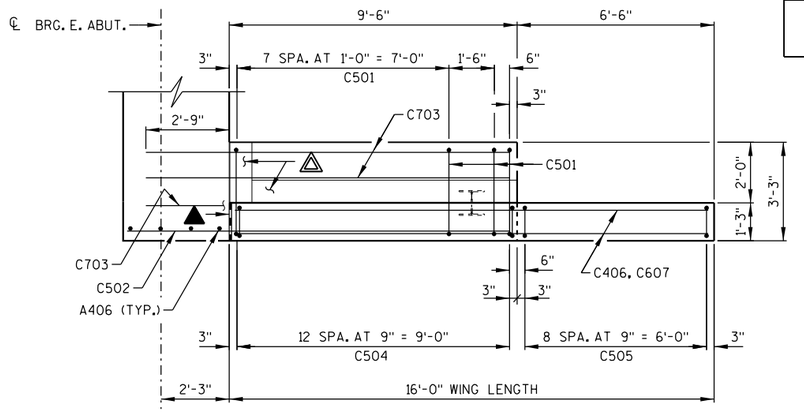
BATCH PRINT SHEET 10 OF 20

STATE PROJECT NUMBER

9000-04-70



PLAN WING 3



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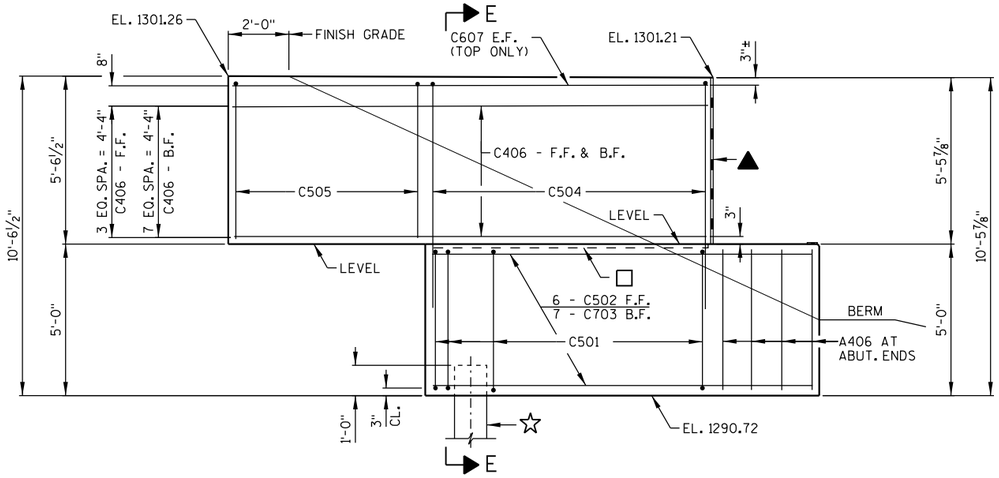
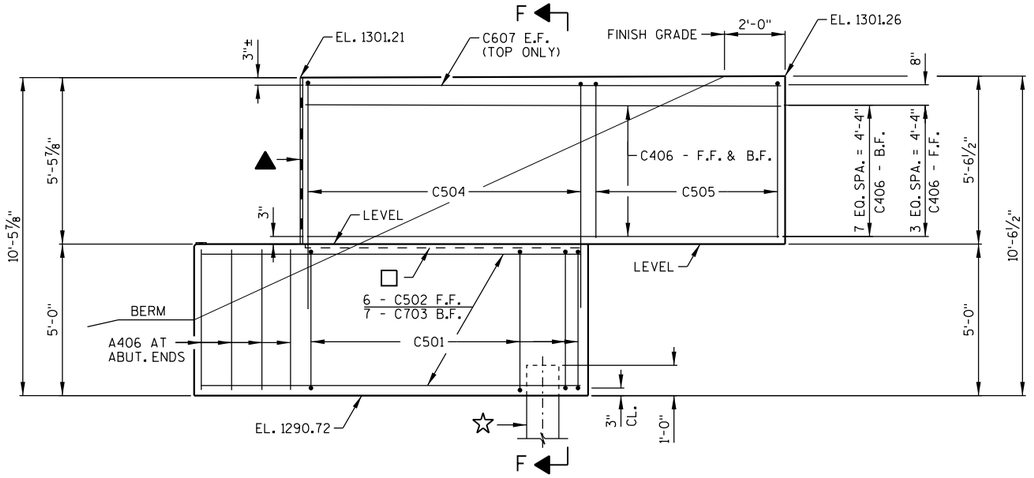
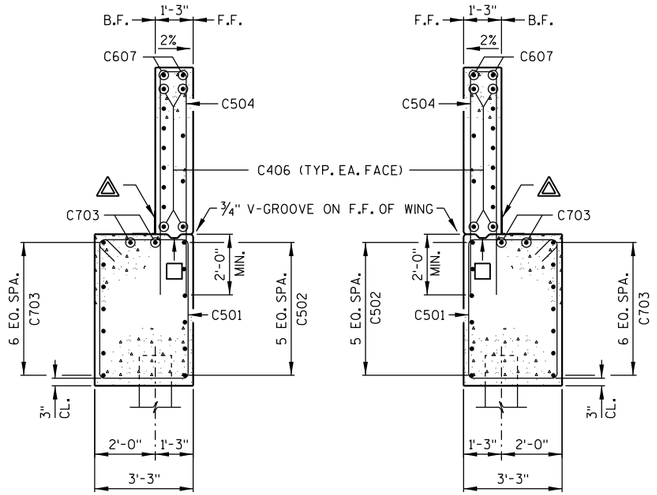


ELEVATION WING 3



ELEVATION WING 4



SECTION E-E

SECTION F-F

LEGEND

FOR SYMBOL DESCRIPTIONS SEE SHT. 5.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-35-117

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WINGS 3 AND 4

SHEET 10 OF 20
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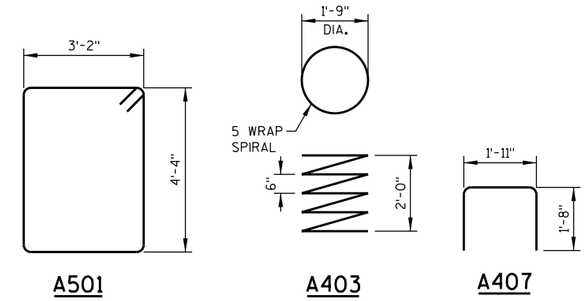
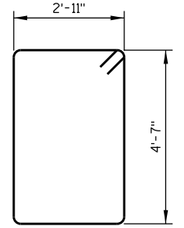


A501 A403 A407

A805



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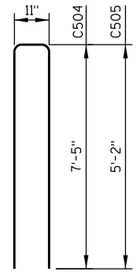
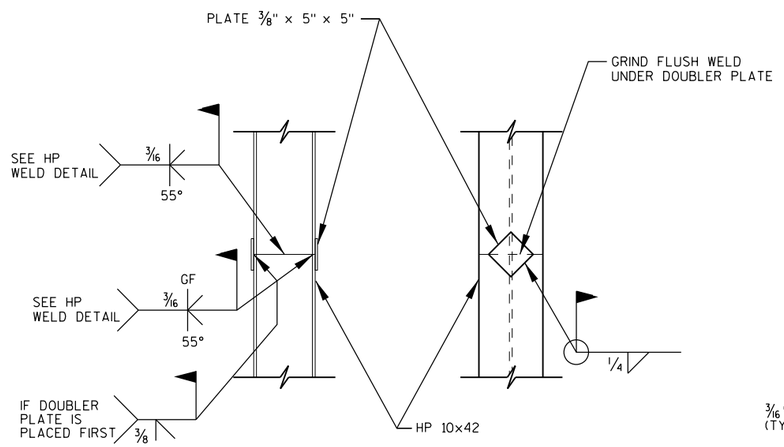


C504, C505

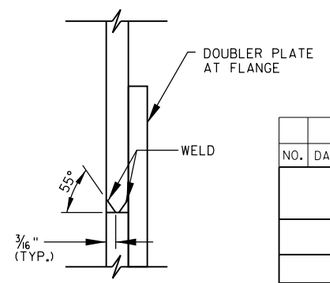
BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
BAR QUANTITIES ARE FOR BOTH ABUTMENTS.

MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
NON-COATED BARS					TOTAL WEIGHT = 5,980 LBS
A501	112	15-8	X		ABUT. - STIRRUP VERT.
A402	44	2-3			ABUT. - PILE VERT.
A403	22	28-0	X		ABUT. - PILE VERT.
A604	22	44-10			ABUT. - TOP, F.F. BOT. HORIZ.
A805	28	26-2	X		ABUT. - B.F. HORIZ.
A406	16	4-6			ABUT. - ENDS VERT.
A407	30	5-1	X		ABUT. - TOP BTWN. BEAM SEATS VERT.
A408	20	6-0			ABUT. - TOP BTWN. BEAM SEATS HORIZ.
COATED BARS					TOTAL WEIGHT = 3,800 LBS
C501	40	15-8	X		WINGS - STIRRUPS VERT.
C502	24	12-6			WINGS - F.F. HORIZ.
C703	36	12-1			WINGS - B.F. & TOP HORIZ.
C504	52	15-6	X		WINGS - TOP VERT.
C505	36	11-0	X		WINGS - TOP VERT.
C406	48	15-6			WINGS - F.F. & B.F. TOP HORIZ.
C607	8	15-6			WINGS - F.F. & B.F. TOP HORIZ.



PILE SPLICE DETAIL



HP WELD DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-35-117

DRAWN BY KAM PLANS CK'D. KRH

ABUTMENT DETAILS

SHEET 11 OF 20
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BATCH PRINT SHEET 12 OF 20

STATE PROJECT NUMBER

9000-04-70

NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 15" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 15" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER OR EPOXY TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS. SEE SECT. 503.3.3 OF 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. FOR GIRDER 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.

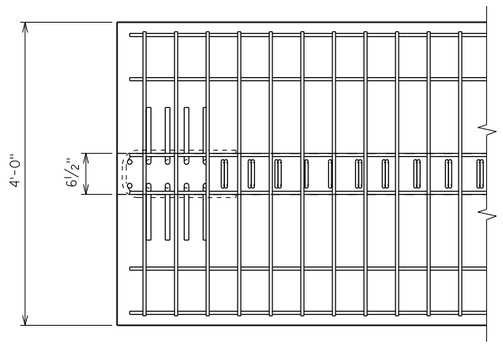
ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

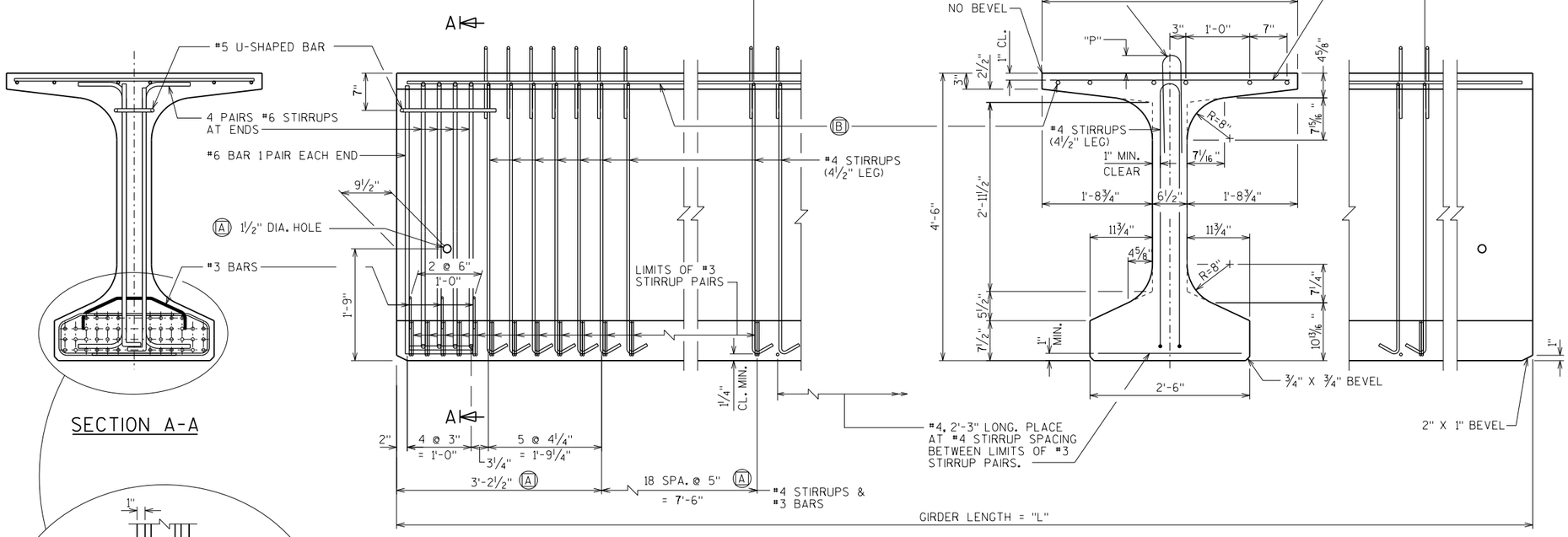
AN EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A1064 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON ACCEPTANCE OF THE STRUCTURES MAINTENANCE SECTION. IF USED, WWF SUBSTITUTION DETAILS SHALL BE SUBMITTED ELECTRONICALLY TO THE WISDOT FABRICATION LIBRARY AND ACCEPTED PRIOR TO SHOP DRAWING SUBMITTAL.

PRESTRESSING STRANDS SHALL BE (0.6" DIA)-7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.



TOP FLANGE

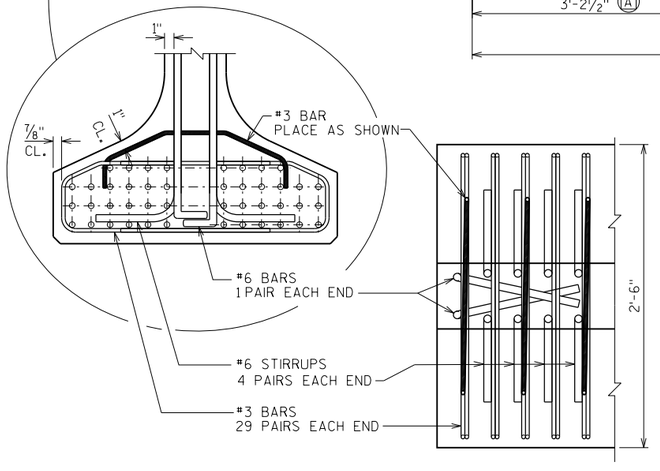


SECTION A-A

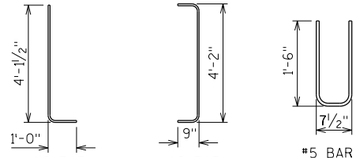
SIDE VIEW & TYP. SECTION IN SPAN

Ⓐ DETAIL TYP. AT EACH END

Ⓑ 6 #4 BARS, FULL LENGTH, MIN. LAP = 2'-4"



BOTTOM FLANGE



✳ MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L" (FEET)	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	MID 1/3 OF GIRDER	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	111'-0"	0.48	0.94	1.29	1.52	1.59	1.52	1.29	0.94	0.48	8,000	7.5	7	7.5	0.6	32	6,800	49	16	19	5		

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-35-117

DRAWN BY KAM | PLANS CK'D. KRH

54W" PRESTRESSED GIRDER

SHEET 12 OF 20
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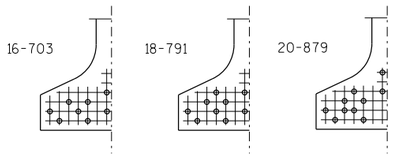
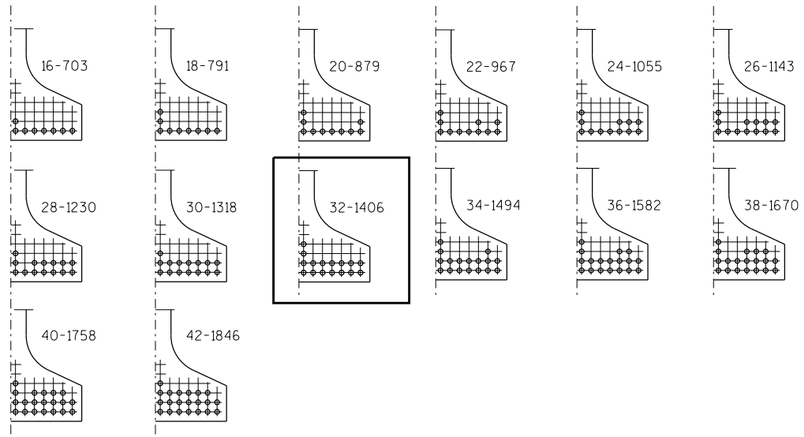


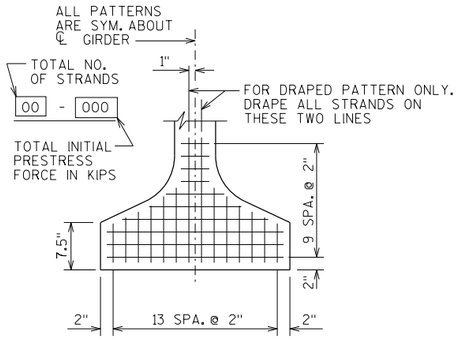
STANDARD ARRANGEMENTS TO RAISE CENTER OF GRAVITY TO AVOID DRAPING OF STRANDS

0.6"Φ STRANDS

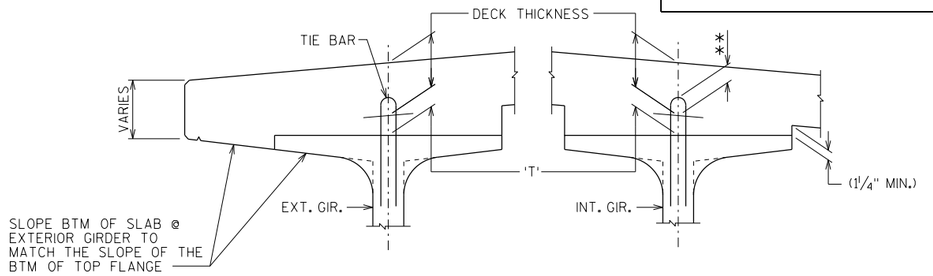


ARRANGEMENT AT ℄ SPAN - FOR GIRDERS WITH DRAPED STRANDS

0.6"Φ STRANDS



TYP. STRAND PATTERN



DECK HAUNCH DETAIL

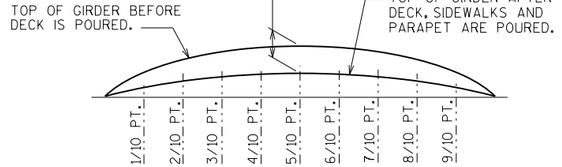
IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR, THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

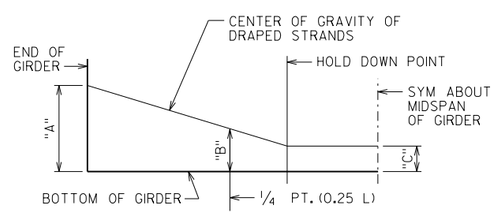
TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

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 3" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



DEAD LOAD DEFLECTION DIAGRAM



DRAPED STRAND PROFILE

*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	1.25

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS.

THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-35-117

DRAWN BY KAM | PLANS CK'D. KRH

54W" PRESTRESSED GIRDER DETAILS

SHEET 13 OF 20
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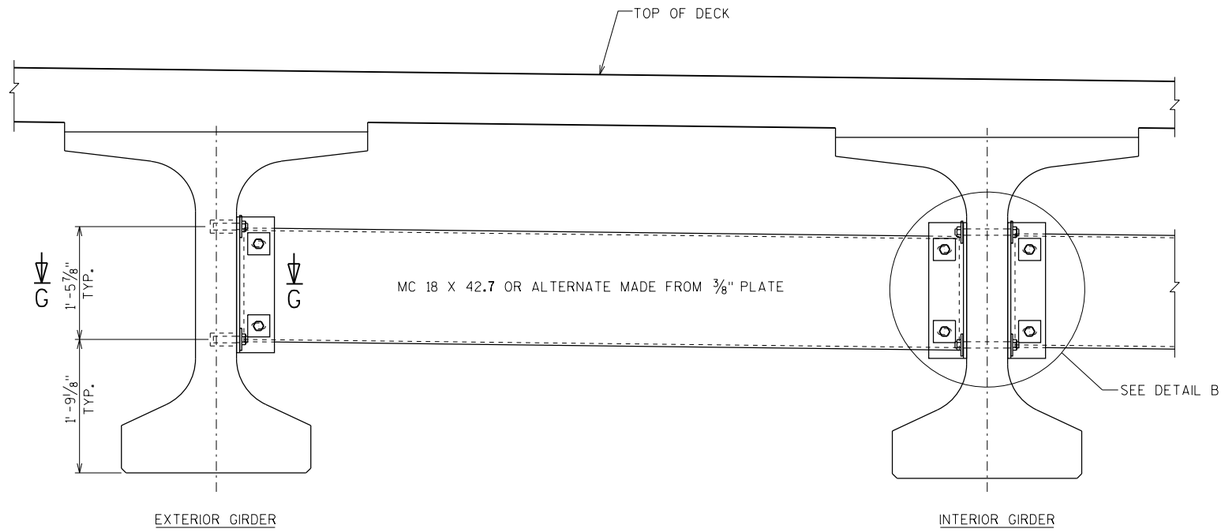
STATE PROJECT NUMBER
9000-04-70



PART TRANSVERSE SECTION AT DIAPHRAGM

NOTES

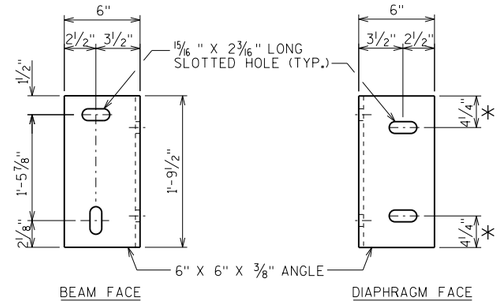
ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-35-117", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

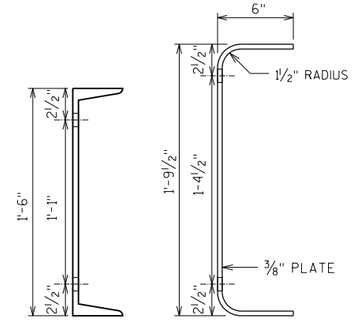
ALL DIAPHRAGM MATERIAL INCLUDING BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AFTER FABRICATION.

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.

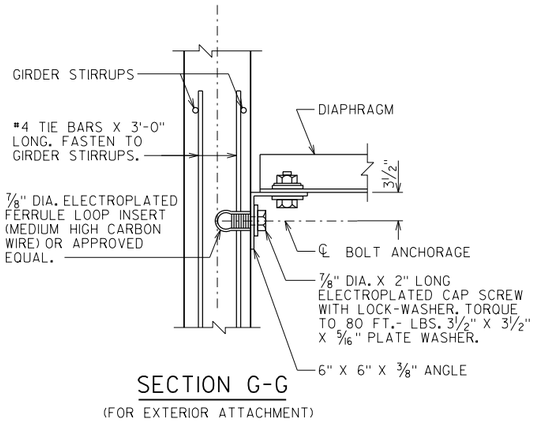


DIAPHRAGM SUPPORT

* 2½" FOR ALTERNATE PLATE DIAPHRAGM

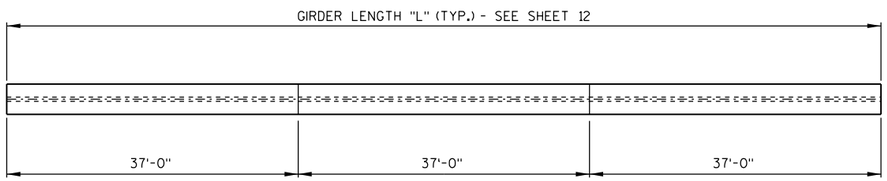


SECTION THRU DIAPHRAGM

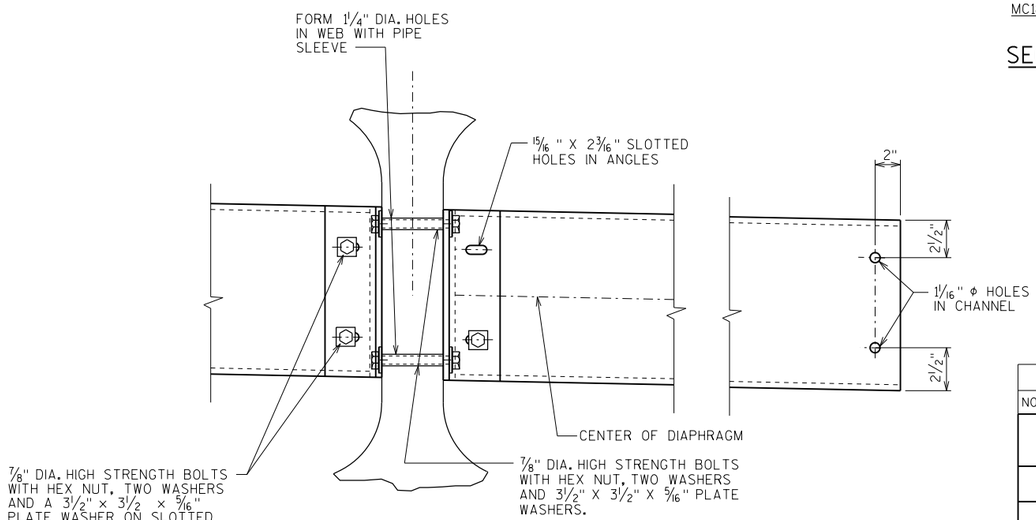


SECTION G-G

(FOR EXTERIOR ATTACHMENT)



DIAPHRAGM CONNECTION SPACING



(FOR CONTINUOUS LINE OF DIAPHRAGMS)

DETAIL B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-35-117

DRAWN BY KAM | PLANS CK'D. KRH

STEEL DIAPHRAGM

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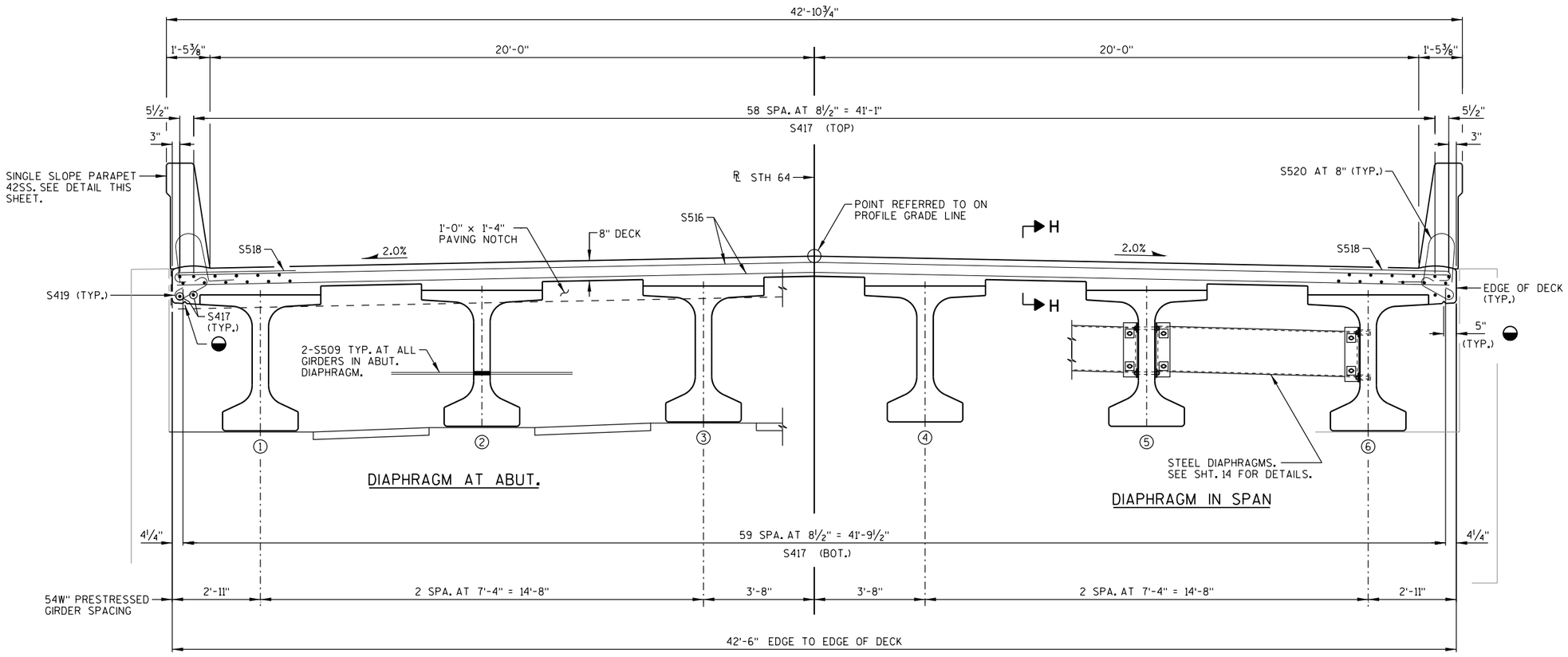
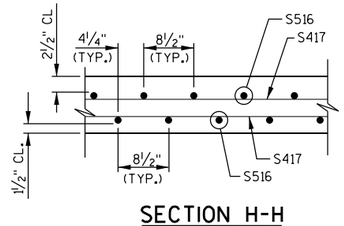
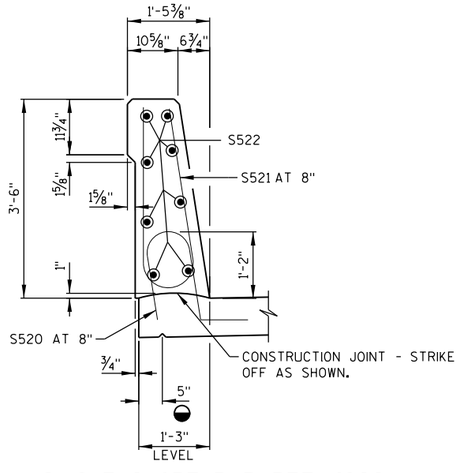


CROSS SECTION THRU ROADWAY
(LOOKING UPSTATION)



SECTION H-H



SINGLE SLOPE PARAPET 42SS ON SUPERSTRUCTURE

LEGEND

- ◒ ¾" V-GROOVE REQ'D. EXTEND V-GROOVE TO 6" FROM FRONT FACE OF ABUT. DIAPHRAGM.
- Ⓧ INDICATES BEAM NUMBER

TOP OF DECK ELEVATIONS

	CL BRG. W. ABUT.	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.	6/10 PT.	7/10 PT.	8/10 PT.	9/10 PT.	CL BRG. E. ABUT.
N. Edge of Deck	1300.86	1300.89	1300.92	1300.95	1300.99	1301.02	1301.05	1301.09	1301.12	1301.15	1301.19
BEAM 1	1300.91	1300.94	1300.97	1301.00	1301.04	1301.07	1301.10	1301.14	1301.17	1301.20	1301.24
BEAM 2	1301.06	1301.09	1301.12	1301.15	1301.19	1301.22	1301.25	1301.29	1301.32	1301.35	1301.39
BEAM 3	1301.21	1301.24	1301.27	1301.30	1301.34	1301.37	1301.40	1301.44	1301.47	1301.50	1301.54
BEAM 4	1301.21	1301.24	1301.27	1301.30	1301.34	1301.37	1301.40	1301.44	1301.47	1301.50	1301.54
BEAM 5	1301.06	1301.09	1301.12	1301.15	1301.19	1301.22	1301.25	1301.29	1301.32	1301.35	1301.39
BEAM 6	1300.91	1300.94	1300.97	1301.00	1301.04	1301.07	1301.10	1301.14	1301.17	1301.20	1301.24
S. Edge of Deck	1300.86	1300.89	1300.92	1300.95	1300.99	1301.02	1301.05	1301.09	1301.12	1301.15	1301.19

NOTE: EDGE OF DECK ELEVATIONS ARE CALCULATED ASSUMING CROSS SLOPE CONTINUES TO EDGE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
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STRUCTURE B-35-117

DRAWN BY KAM | PLANS CK'D. KRH

SUPERSTRUCTURE CROSS SECTION

SHEET 15 OF 20
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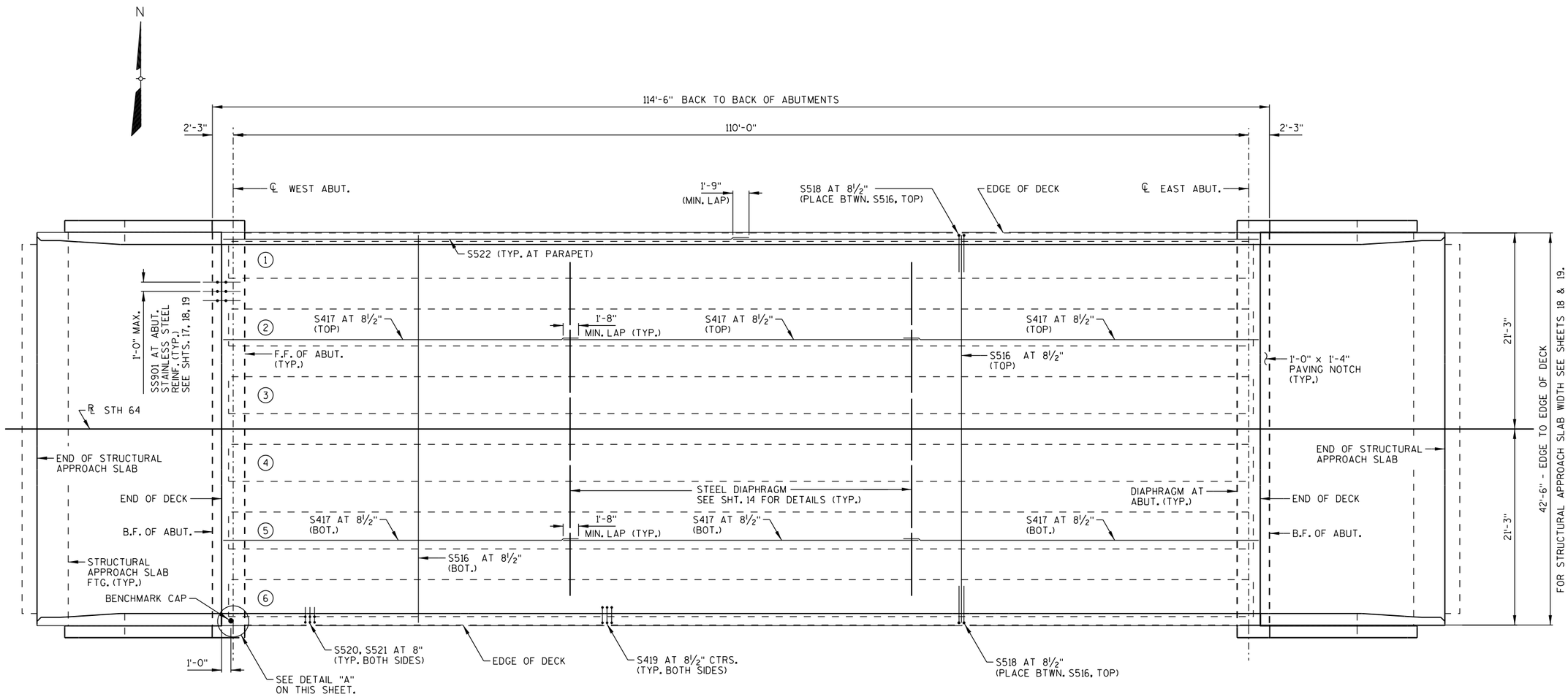


PLAN

NOTES

ALL TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE PLACED PARALLEL TO SUBSTRUCTURE UNITS.

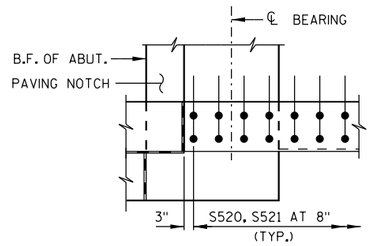
LAP LONGITUDINAL NO. 5 BARS IN PARAPET 1'-9" MIN.

LAP NO. 4 BARS 1'-8" MIN. IN DECK.

SEE SHT. 15 'SUPERSTRUCTURE CROSS SECTION' FOR PARAPET REINFORCEMENT DETAIL.

LEGEND

FOR SYMBOL DESCRIPTIONS SEE SHT. 15.



DETAIL "A"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
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STRUCTURE B-35-117

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SUPERSTRUCTURE

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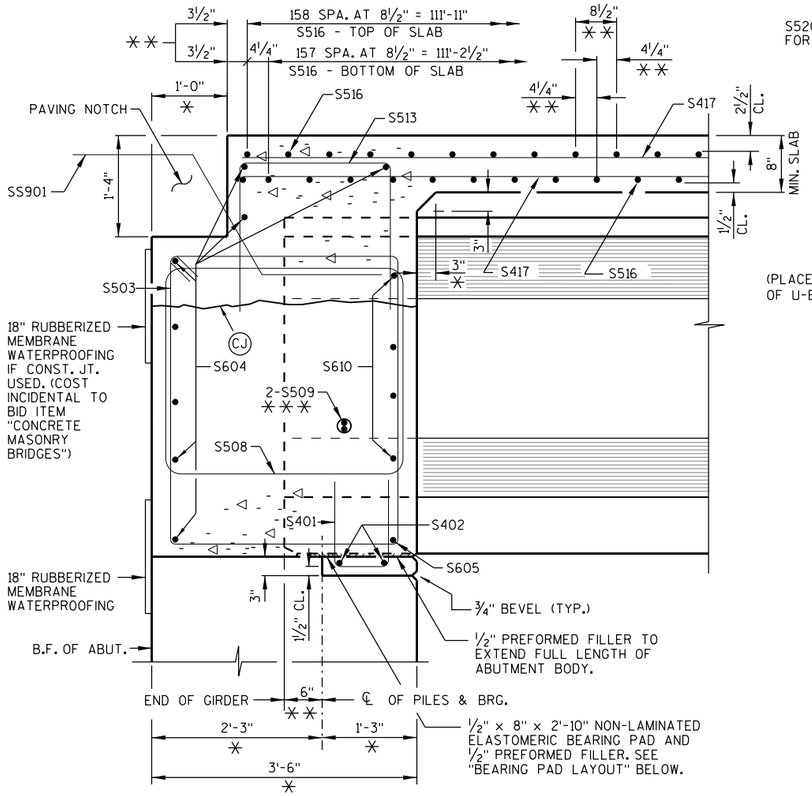
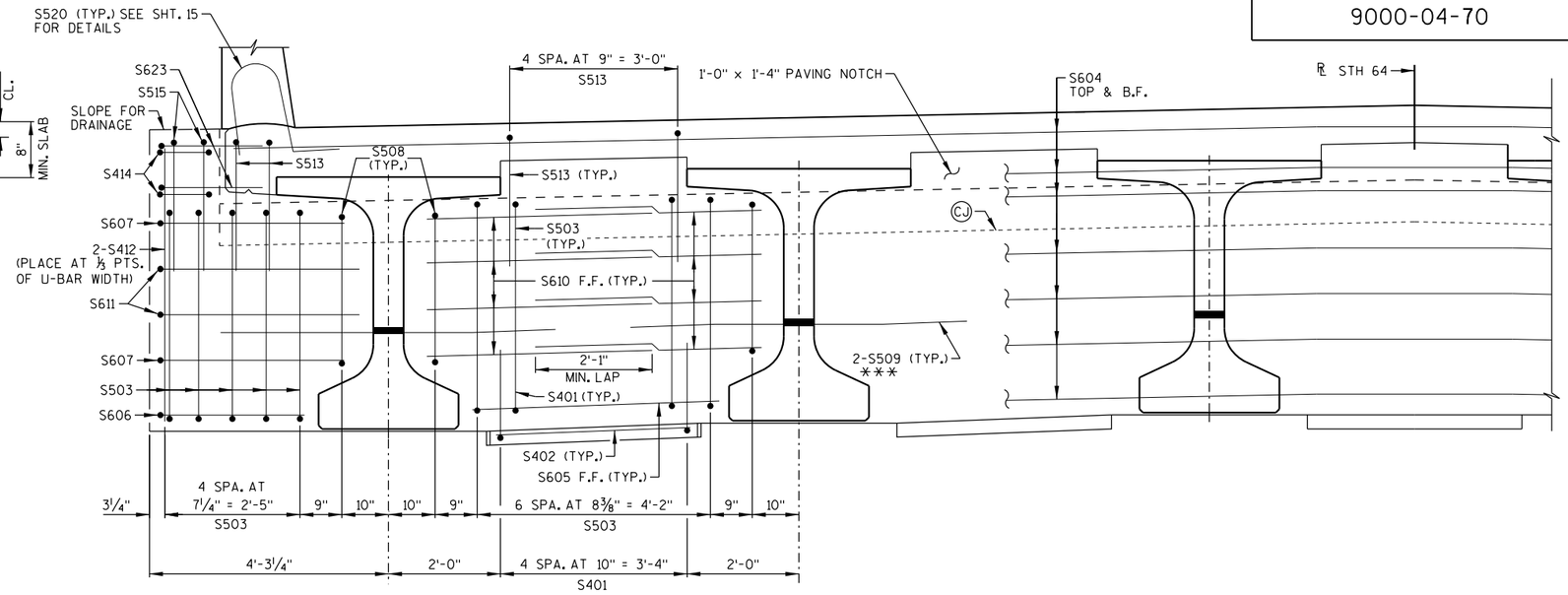


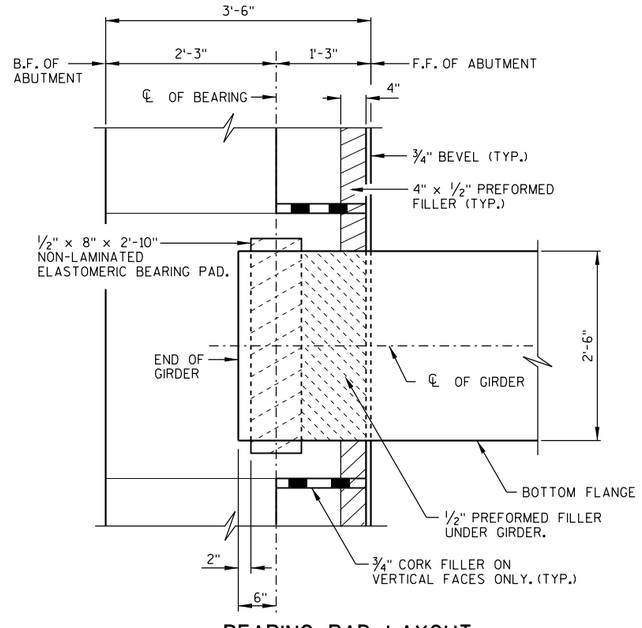
PART LONGITUDINAL SECTION

(AT ABUTMENT)

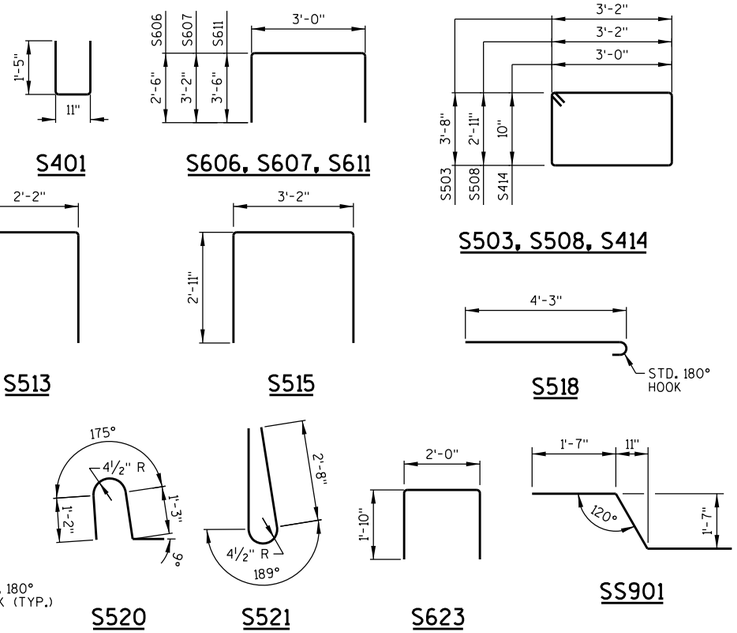


ABUTMENT DIAPHRAGM DETAILS

(LOOKING UPSTATION)
(EAST ABUTMENT SHOWN, WEST ABUT. SIMILIAR)



BEARING PAD LAYOUT



BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

MARK	NO. REQ'D	LENGTH	BENT	LOCATION	
COATED BARS				TOTAL WEIGHT = 36,070 LBS	
S401	50	3 - 7	X	DIAPHRAGM - POCKET	VERT.
S402	20	3 - 4		DIAPHRAGM - POCKET	TRANS.
S503	90	14 - 4	X	DIAPHRAGM	VERT.
S604	16	42 - 2		DIAPHRAGM - B.F. & TOP	TRANS.
S605	10	4 - 6		DIAPHRAGM - F.F.	TRANS.
S606	4	7 - 8	X	DIAPHRAGM - ENDS	TRANS.
S607	8	9 - 0	X	DIAPHRAGM - ENDS	TRANS.
S508	24	12 - 10	X	DIAPHRAGM	VERT.
S509	24	6 - 0		DIAPHRAGM - GIRDER ENDS	TRANS.
S610	80	4 - 4		DIAPHRAGM - F.F.	TRANS.
S611	8	9 - 8	X	DIAPHRAGM - ENDS	TRANS.
S412	8	5 - 1		DIAPHRAGM - ENDS	VERT.
S513	58	7 - 9	X	DIAPHRAGM	VERT.
S414	8	8 - 2	X	DIAPHRAGM - ENDS	LONG.
S515	8	8 - 9	X	DIAPHRAGM - ENDS	VERT.
S516	319	42 - 2		SUPERSTRUCTURE	TRANS.
S417	375	38 - 6		SUPERSTRUCTURE	LONG.
S518	316	4 - 10	X	SUPERSTRUCTURE - EDGE OF DECK	TRANS.
S419	316	2 - 2	X	SUPERSTRUCTURE - EDGE OF DECK	TRANS.
S520	338	4 - 5	X	SUPERSTRUCTURE/PARAPET	VERT.
S521	338	6 - 8	X	PARAPET	VERT.
S522	32	57 - 0		PARAPET	LONG.
S623	8	5 - 4	X	DIAPHRAGM - ENDS	TRANS.
STAINLESS STEEL BARS				TOTAL WEIGHT = 1,470 LBS	
SS901	86	5 - 0	X	APPROACH SLAB - ABUTMENT DIAPHRA	VERT.

LEGEND

- ✳ DIMENSIONS ARE GIVEN NORMAL TO ℄ OF SUBSTRUCTURE UNITS.
- ✳✳ DIMENSIONS ARE GIVEN PARALLEL TO THE GIRDER ℄.
- ✳✳✳ 1½" DIA. HOLE IN WEB FOR S509 BARS. PLACE TWO S509 BARS SYMMETRICAL ABOUT THE ℄ OF EACH GIRDER.
- (CJ) OPTIONAL CONSTRUCTION JOINT 1'-2" BELOW TOP OF GIRDER. IF USED, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR.

NOTES

PLACE AND SPACE VERTICAL REINFORCMENT BARS PARALLEL TO THE GIRDER ℄.

MATCH BOTTOM OF PAVING NOTCH WITH SLOPE OF 'TOP OF DECK'.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-35-117

DRAWN BY KAM | PLANS CK'D. KRH

SUPERSTRUCTURE DETAILS

SHEET 17 OF 20
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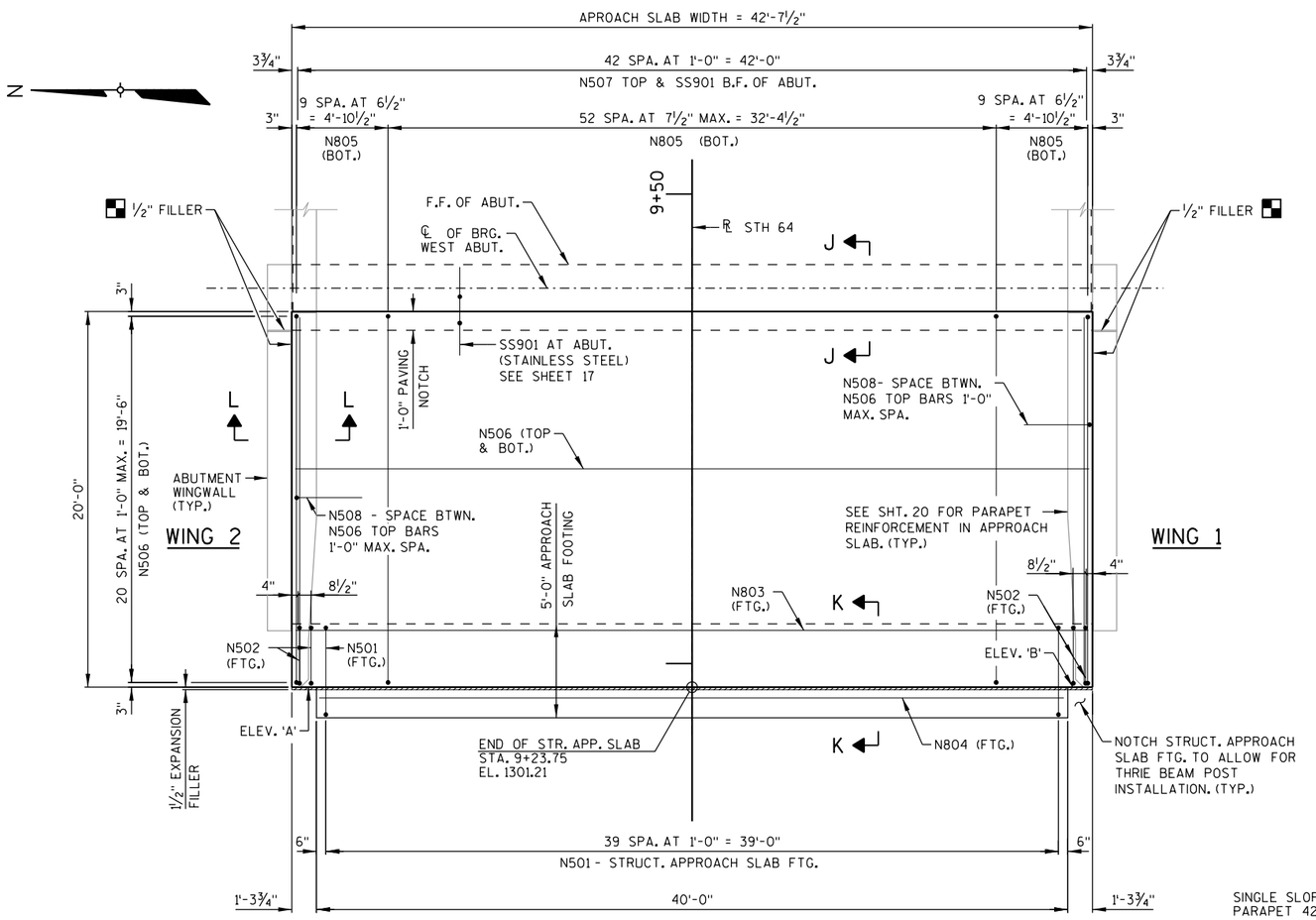


PLAN

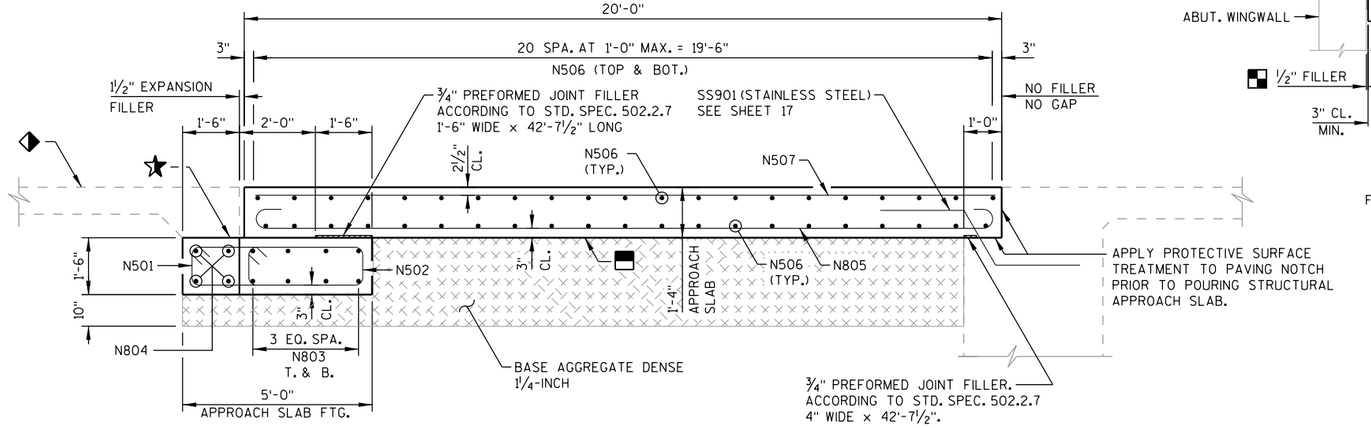
BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

MARK	NO. REQ'D	LENGTH	BENT	LOCATION	
COATED BARS					TOTAL WEIGHT = 8,810 LBS
N501	40	12-2	X	APPROACH SLAB - FTG.	LONGIT.
N502	4	9-2	X	APPROACH SLAB - FTG.	LONGIT.
N803	8	42-1		APPROACH SLAB - FTG.	TRANS.
N804	4	39-6		APPROACH SLAB - FTG.	TRANS.
N805	71	21-4	X	APPROACH SLAB - BOTTOM	LONGIT.
N506	42	42-1		APPROACH SLAB - TOP & BOTTOM	TRANS.
N507	43	19-8		APPROACH SLAB - TOP	LONGIT.
N508	40	4-1	X	APPROACH SLAB - TOP	TRANS.

TOP OF APPROACH SLAB ELEVATIONS

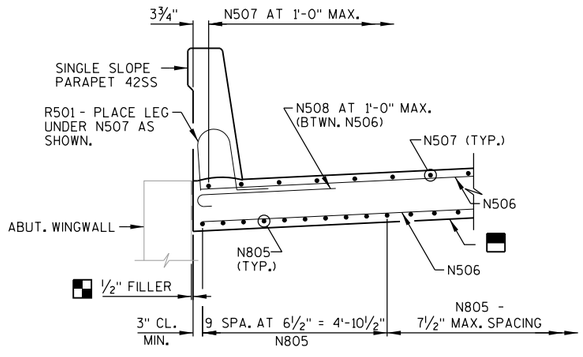
LOCATION	DESCRIPTION	STATION	OFFSET TO ℄ (FEET)	ELEVATION (FEET)
'A'	NORTH FLOW LINE AT END OF APPROACH SLAB	9+23.75	20.42 LT.	1300.80
'B'	SOUTH FLOW LINE AT END OF APPROACH SLAB	9+23.75	20.42 RT.	1300.80



SECTION K - K

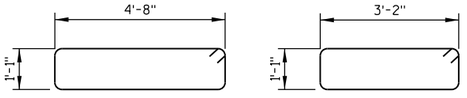
SECTION J - J

SECTION THRU APPROACH SLAB

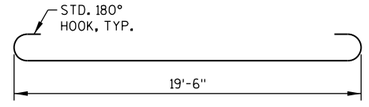


SECTION L - L

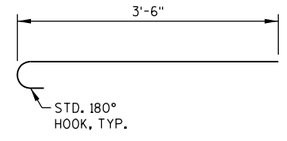
FOR PARAPET BARS AND DETAILS SEE SHEET 20.



N501 N502



N805



N508

LEGEND

- ★ STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHLENE SHEETS OVER THE ENTIRE TOP OF FOOTING.
- ▬ PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHLENE SHEETS OVER THE ENTIRE TOP OF SUBGRADE BENEATH SLAB.
- ▩ SEAL ALL EXPOSED HORIZ. AND VERT. SURFACES OF AS NOTED FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE).
- ◆ SEE ROADWAY PLANS FOR DETAILS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-35-117

DRAWN BY KAM | PLANS CK'D. KRH

WEST STRUCTURAL APPROACH SLAB

SHEET 18 OF 20
113

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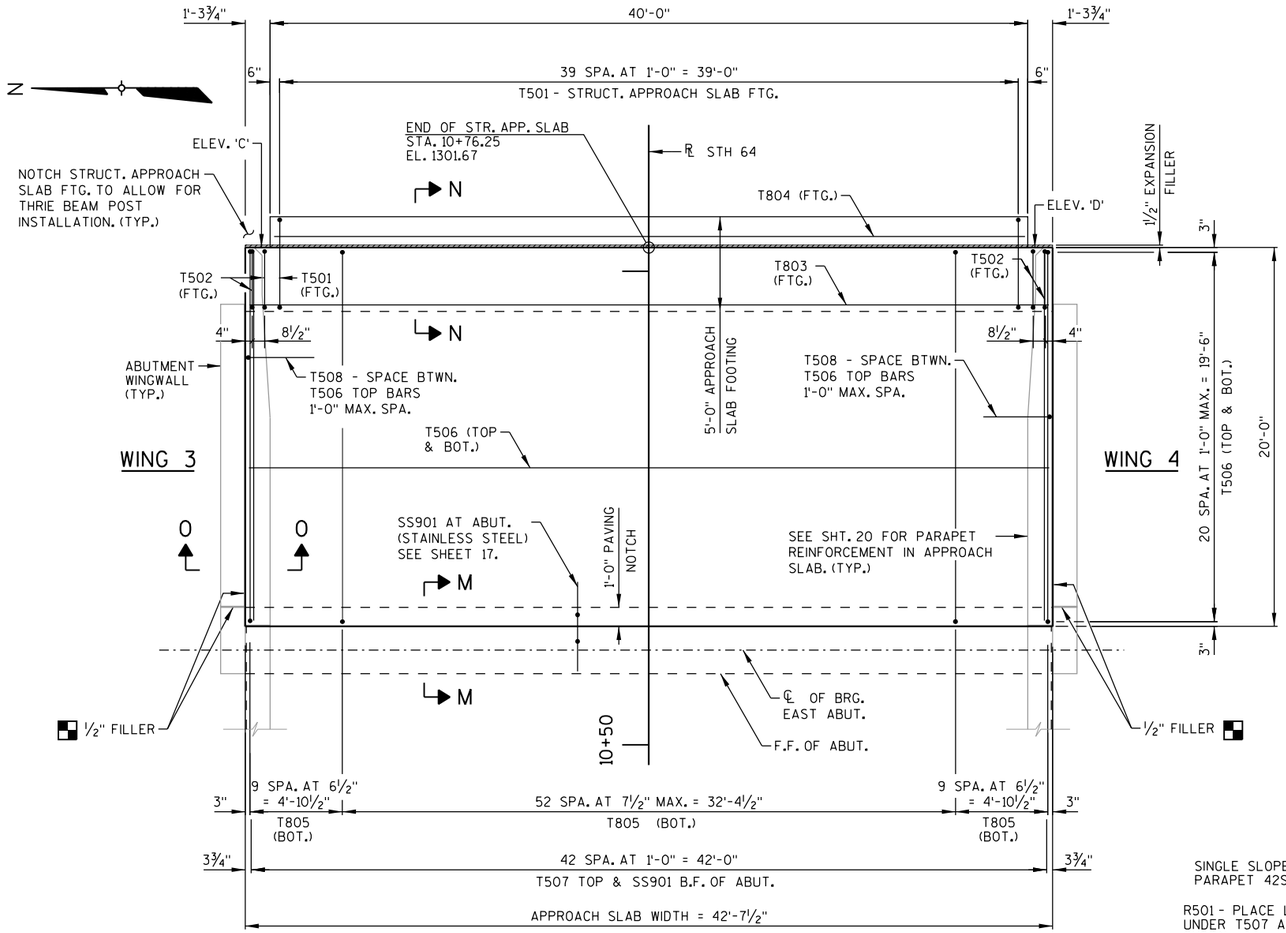
STATE PROJECT NUMBER

9000-04-70



PLAN

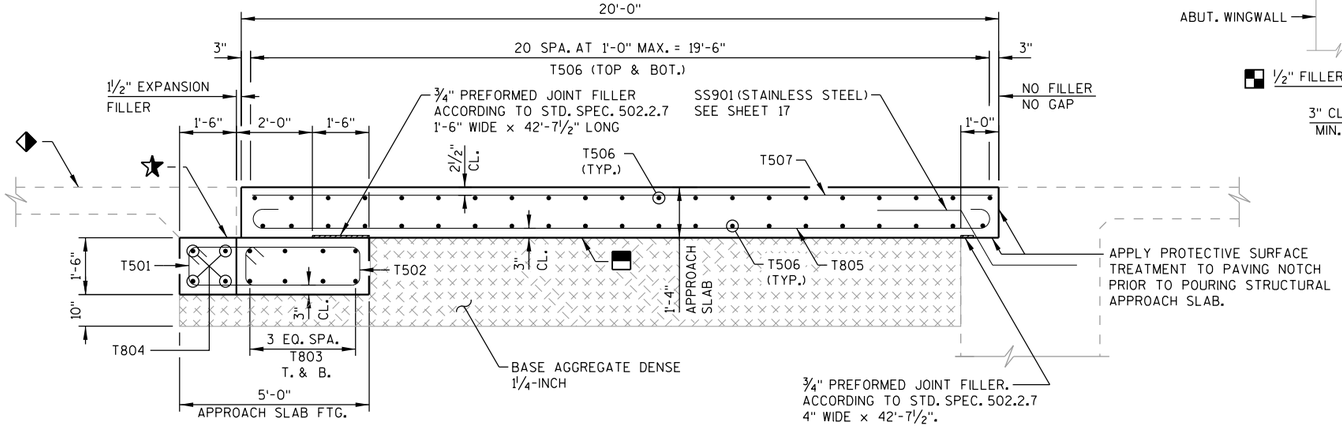
BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

MARK	NO. REQ'D	LENGTH	BENT	LOCATION	
COATED BARS					TOTAL WEIGHT = 8,810 LBS
T501	40	12-2	X	APPROACH SLAB - FTG.	LONGIT.
T502	4	9-2	X	APPROACH SLAB - FTG.	LONGIT.
T803	8	42-1		APPROACH SLAB - FTG.	TRANS.
T804	4	39-6		APPROACH SLAB - FTG.	TRANS.
T805	71	21-4	X	APPROACH SLAB - BOTTOM	LONGIT.
T506	42	42-1		APPROACH SLAB - TOP & BOTTOM	TRANS.
T507	43	19-8		APPROACH SLAB - TOP	LONGIT.
T508	40	4-1	X	APPROACH SLAB - TOP	TRANS.

TOP OF APPROACH SLAB ELEVATIONS

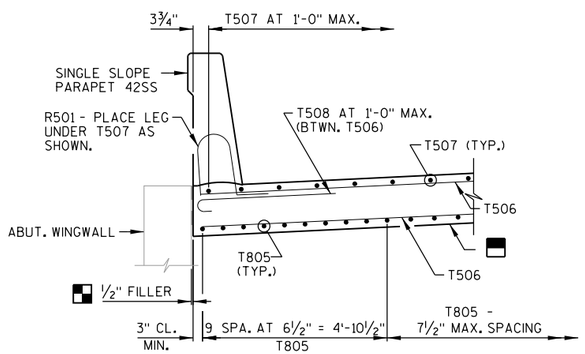
LOCATION	DESCRIPTION	STATION	OFFSET TO ℄ (FEET)	ELEVATION (FEET)
'C'	NORTH FLOW LINE AT END OF APPROACH SLAB	10+76.25	20.42 LT.	1301.26
'D'	SOUTH FLOW LINE AT END OF APPROACH SLAB	10+76.25	20.42 RT.	1301.26



SECTION N - N

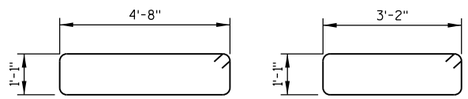
SECTION M - M

SECTION THRU APPROACH SLAB



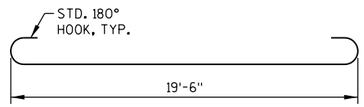
SECTION O - O

FOR PARAPET BARS AND DETAILS SEE SHEET 20.

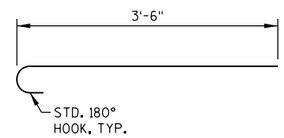


T501

T502



T805



T508

LEGEND

FOR SYMBOL DESCRIPTIONS SEE SHT. 18.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-35-117

DRAWN BY KAM | PLANS CK'D. KRH

EAST STRUCTURAL APPROACH SLAB

SHEET 19 OF 20
114

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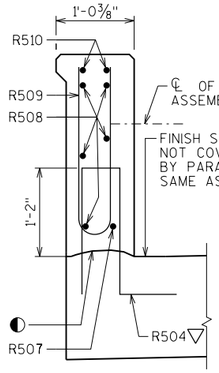
STATE PROJECT NUMBER

9000-04-70



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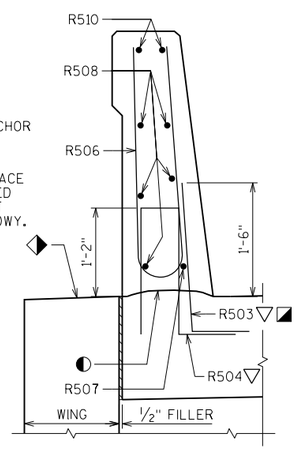

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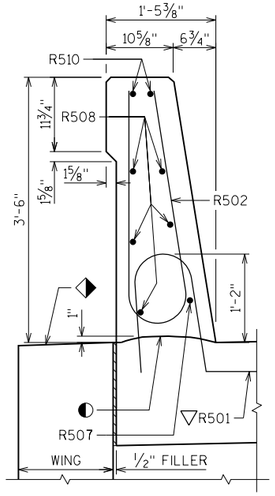

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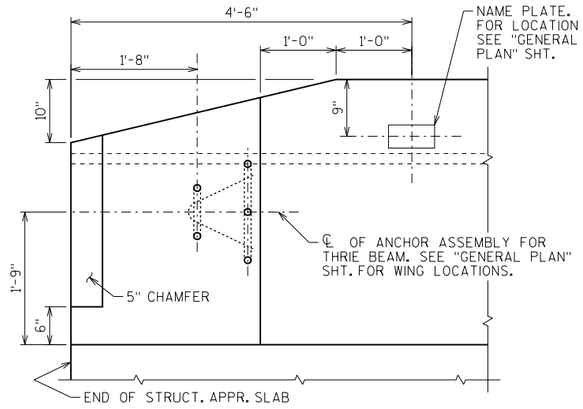


PARAPET END TREATMENT DETAIL

LOOKING AT INSIDE FACE OF PARAPET

BILL OF BARS

FOR STRUCTURAL APPROACH SLAB PARAPETS

BAR MARK	COAT	WEST ABUT.	EAST ABUT.	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	36	36	4'-5"	X		PARAPET VERT.
R502	X	36	36	6'-8"	X		PARAPET VERT.
R503	X	24	24	2'-9"	X		PARAPET VERT.
R504	X	34	34	4'-4"	X		PARAPET VERT.
R505	X	10	10	6'-5"	X		PARAPET VERT.
R506	X	12	12	6'-6"	X		PARAPET VERT.
R507	X	2	2	19'-6"	X		PARAPET HORIZ.
R508	X	10	10	19'-6"			PARAPET HORIZ.
R509	X	12	12	5'-5"	X	⚠	PARAPET VERT.
R510	X	4	4	19'-6"	X		PARAPET HORIZ.

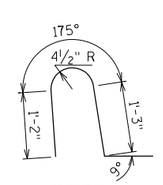
WEST ABUT. WT. = 1,190 LBS.
EAST ABUT. WT. = 1,190 LBS.

⚠ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

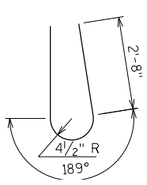
BAR SERIES TABLE

BAR MARK	NO. REQ'D	LENGTH
R509	4 SERIES OF 6	4'-9" TO 6'-1"

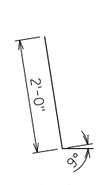
BUNDLE AND TAG EACH SERIES SEPARATELY.



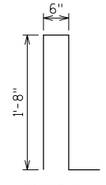
R501



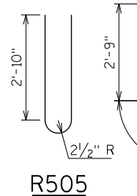
R502



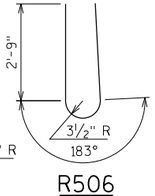
R503



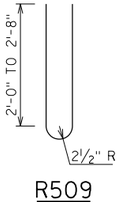
R504



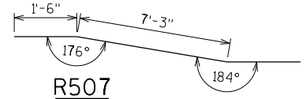
R505



R506



R509



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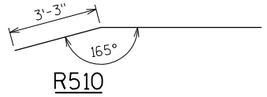
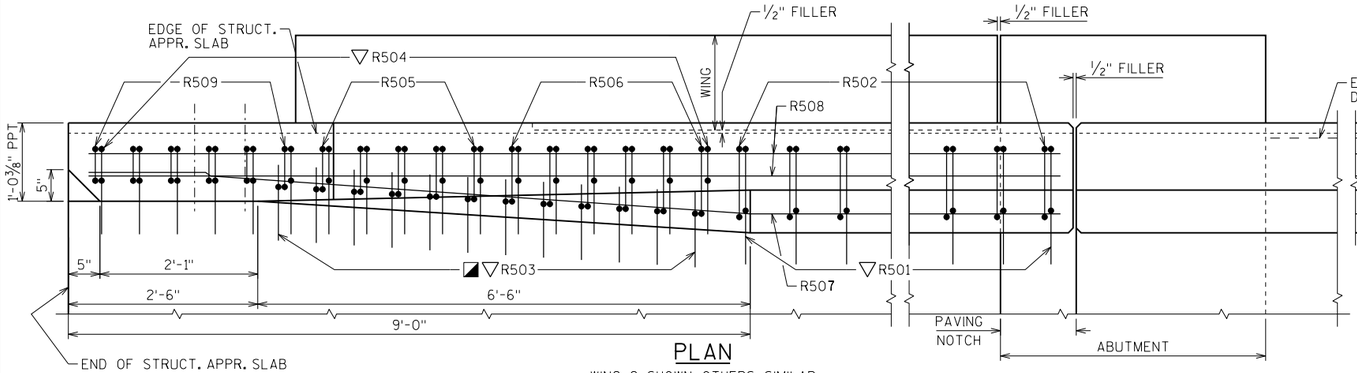
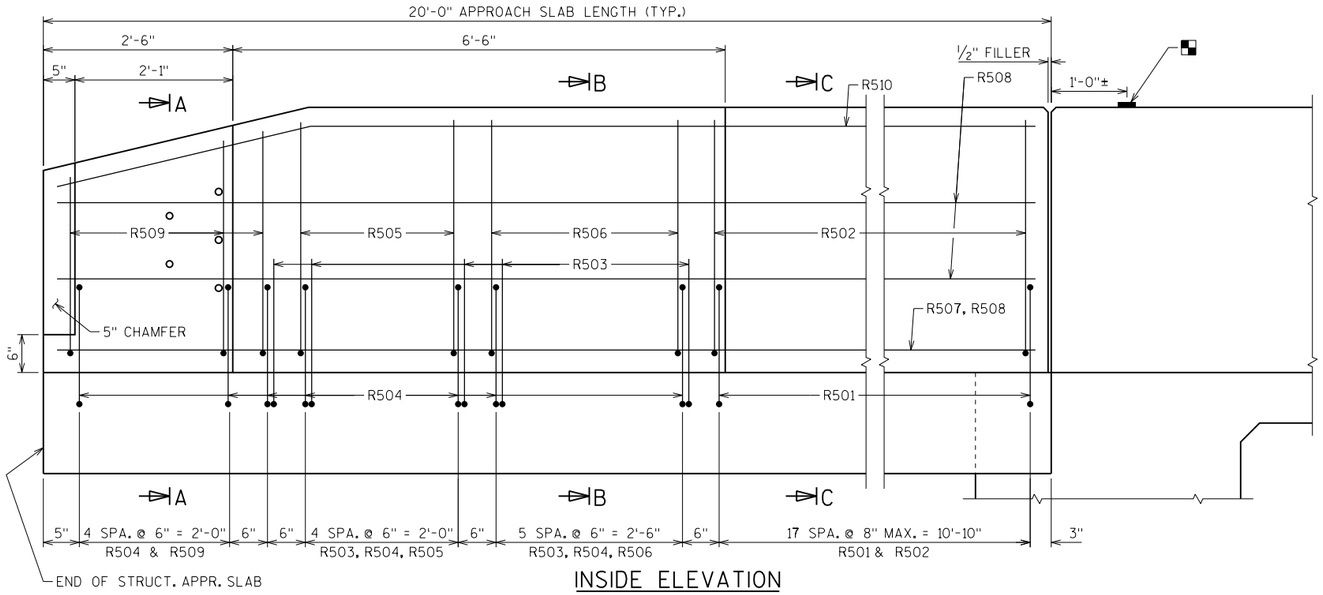


R510



PLAN

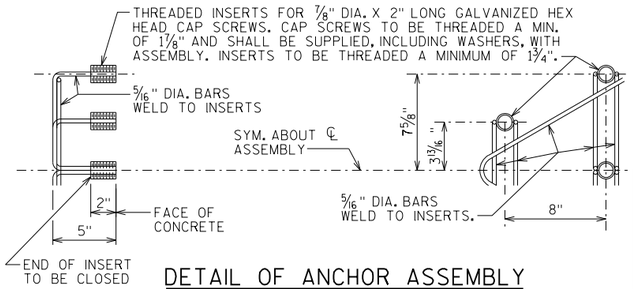
WING 2 SHOWN, OTHERS SIMILAR



INSIDE ELEVATION

WING 2 SHOWN, OTHERS SIMILAR
WING & STRUCTURAL APPROACH SLAB FOOTING NOT SHOWN FOR CLARITY

BENCH MARK CAP (WHEN SUPPLIED). WING 1



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

◐ CONST. JOINT - STRIKE OFF AS SHOWN

◆ SLOPE FOR DRAINAGE

◪ USE CARE TO PLACE R503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

▽ 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-35-117

DRAWN BY KAM | PLANS CK'D. KRH

PARAPET
42SS WITH STRUCTURAL
APPROACH SLAB

SHEET 20 OF 20
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EARTHWORK

STAGE 1 - TEMPORARY BYPASS

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		MASS ORDINATE
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	
									1.00	1.25	
20+00	2000.00	0.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20+17	2016.99	17.0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20+50	2050.00	33.0	5.93	0	2.10	3.62	0.00	1.28	3.62	1.60	5.65
21+00	2100.00	50.0	15.73	0	0.00	20.06	0.00	1.94	23.68	2.43	26.70
21+50	2150.00	50.0	8.95	0	30.63	22.85	0.00	28.36	46.53	35.45	-18.88
22+00	2200.00	50.0	9.17	0	37.57	16.78	0.00	63.15	63.31	78.94	-61.95
22+50	2250.00	50.0	0.00	0	328.82	8.49	0.00	339.25	71.80	424.06	-424.06
23+00	2300.00	50.0	0.00	0	390.12	0.00	0.00	665.69	71.80	832.11	-832.11
23+50	2350.00	50.0	0.00	0	289.15	0.00	0.00	628.95	71.80	786.19	-786.19
24+00	2400.00	50.0	0.00	0	276.74	0.00	0.00	523.97	71.80	654.97	-654.97
24+15	2415.41	15.4	0.00	0	388.64	0.00	0.00	189.90	71.80	237.38	-237.38
25+35	2535.38	0.0	0.00	0	355.73	0.00	0.00	0.00	71.80	0.00	0.00
25+50	2550.00	14.6	0.00	0	261.18	0.00	0.00	167.02	71.80	208.78	-208.78
26+00	2600.00	50.0	0.00	0	269.64	0.00	0.00	491.50	71.80	614.38	-614.38
26+50	2650.00	50.0	0.00	0	379.63	0.00	0.00	601.18	71.80	751.47	-751.47
27+00	2700.00	50.0	0.00	0	310.70	0.00	0.00	639.19	71.80	798.99	-798.99
27+50	2750.00	50.0	0.00	0	213.26	0.00	0.00	485.15	71.80	606.44	-606.44
28+00	2800.00	50.0	5.66	0	95.01	5.24	0.00	285.44	77.04	356.79	-346.31
28+50	2850.00	50.0	5.86	0	6.61	10.67	0.00	94.09	87.71	117.62	-106.76
28+97	2897.19	47.2	6.22	0	0.00	10.56	0.00	5.78	98.26	7.22	3.65
						98.26	0.00	5211.85			

STAGE 1 - TEMPORARY DRIVEWAY

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		MASS ORDINATE
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	
									1.00	1.25	
100+55	10055.00	0.0	2.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100+60	10060.00	5.0	2.30	0.00	4.52	0.40	0.00	0.42	0.40	0.52	-0.10
100+65	10065.00	5.0	1.67	0.00	19.51	0.37	0.00	2.23	0.77	2.78	-2.47
100+70	10070.00	5.0	0.00	0.00	37.63	0.15	0.00	5.29	0.92	6.61	-6.61
100+75	10075.00	5.0	0.00	0.00	43.28	0.00	0.00	7.49	0.92	9.36	-9.36
100+80	10080.00	5.0	0.00	0.00	40.69	0.00	0.00	7.78	0.92	9.72	-9.72
100+85	10085.00	5.0	0.00	0.00	32.75	0.00	0.00	6.80	0.92	8.50	-8.50
100+90	10090.00	5.0	0.00	0.00	21.75	0.00	0.00	5.05	0.92	6.31	-6.31
100+95	10095.00	5.0	0.52	0.00	8.94	0.05	0.00	2.84	0.97	3.55	-3.46
						0.97	0.00	37.89			

EARTHWORK

STAGE 2 - MAINLINE

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		MASS ORDINATE
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	
									1.00	1.25	
07+18	717.55		130.77	8.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07+50	750.00	32.4	146.30	8.75	0.00	166.49	10.52	0.00	166.49	0.00	155.97
07+71	771.34	21.3	239.22	8.75	0.02	152.34	6.92	0.01	318.83	0.01	301.39
08+00	800.00	28.7	174.56	8.75	6.34	219.62	9.29	3.38	538.45	4.23	507.50
08+21	821.19	21.2	174.06	8.75	5.22	136.83	6.87	4.54	675.28	9.90	631.79
08+21	821.30	0.1	174.06	8.75	5.16	0.68	0.03	0.02	675.95	9.93	632.41
08+50	850.00	28.7	170.79	8.75	5.13	183.29	9.30	5.47	859.24	16.76	799.56
08+71	871.23	21.2	164.77	8.75	0.59	131.92	6.88	2.25	991.16	19.57	921.78
08+99	899.05	27.8	157.20	8.75	3.20	165.89	9.02	1.95	1157.05	22.01	1076.22
09+00	900.00	0.9	156.90	8.75	3.52	5.51	0.31	0.12	1162.57	22.16	1081.28
09+24	923.75	23.8	145.53	8.75	10.04	133.01	7.70	5.96	1295.58	29.62	1199.14
09+26	926.25	2.5	0.00	8.75	0.00	6.74	0.81	0.46	1302.32	30.20	1204.49
10+76	1076.25	0.0	122.32	8.75	30.68	0.00	0.00	0.00	1302.32	30.20	1204.49
11+00	1100.00	23.8	134.75	8.75	4.56	113.06	7.70	15.50	1415.38	49.57	1290.48
11+50	1150.00	50.0	142.55	8.75	19.03	256.76	16.20	21.84	1672.14	76.87	1503.73
12+00	1200.00	50.0	148.74	8.75	13.40	269.71	16.20	30.03	1941.85	114.41	1719.71
12+50	1250.00	50.0	141.41	8.75	9.75	268.66	16.20	21.44	2210.51	141.20	1945.37
12+85	1284.96	35.0	122.48	8.75	2.23	170.82	11.33	7.76	2381.34	150.90	2095.17
12+89	1288.57	3.6	0.00	8.75	0.00	8.19	1.17	0.15	2389.53	151.08	2102.01
EARTHWORK						2389.53	136.44	120.87			

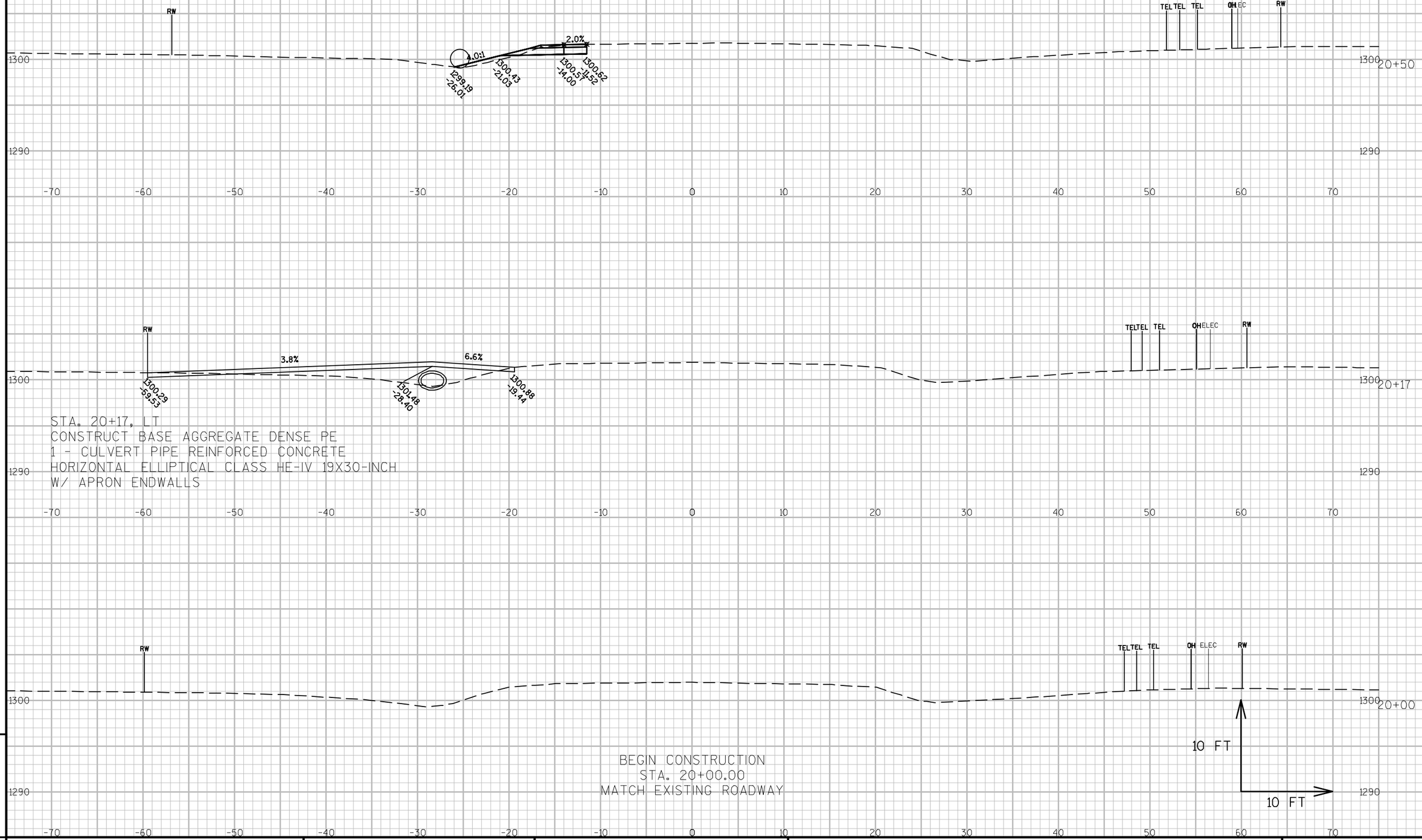
STAGE 3 - TEMPORARY BYPASS REMOVAL

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		MASS ORDINATE
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	
									1.00	1.25	
05+73	572.68		9.40	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00
06+00	600.00	27.3	17.54	2.37	0.00	13.63	1.20	0.03	13.63	0.04	12.40
06+27	627.00	27.0	39.69	4.28	0.00	28.62	3.33	0.00	42.25	0.04	37.69
06+50	650.00	23.0	45.43	6.53	0.00	36.25	4.61	0.00	78.50	0.04	69.33
06+86	686.32	36.3	71.27	10.68	7.69	78.50	11.58	5.17	157.00	6.50	129.79
07+00	700.00	13.7	79.90	12.29	11.57	38.29	5.82	4.88	195.29	12.60	156.16
07+48	748.00	48.0	197.80	9.92	0.03	246.84	19.74	10.31	442.13	25.49	370.38
07+50	750.00	2.0	213.15	9.92	0.00	15.22	0.74	0.00	457.35	25.49	384.86
08+00	800.00	50.0	409.64	9.67	0.00	576.66	18.15	0.00	1034.01	25.49	943.37
08+50	850.00	50.0	354.83	9.57	0.00	707.84	17.82	0.00	1741.85	25.49	1633.39
09+00	900.00	50.0	297.44	7.82	0.00	603.95	16.11	0.00	2345.81	25.49	2221.24
09+50	950.00	50.0	0.00	0.00	0.00	275.41	7.24	0.00	2621.21	25.49	2489.41
10+00	1000.00	50.0	0.00	0.00	0.00	0.00	0.00	0.00	2621.21	25.49	2489.41
10+50	1050.00	50.0	0.00	0.00	0.00	0.00	0.00	0.00	2621.21	25.49	2489.41
11+00	1100.00	50.0	290.45	6.13	0.00	268.94	5.67	0.00	2890.15	25.49	2752.67
11+50	1150.00	50.0	340.15	6.13	0.10	583.89	11.35	0.09	3474.04	25.61	3325.10
12+00	1200.00	50.0	371.62	6.22	0.00	659.05	11.43	0.09	4133.08	25.72	3972.60
12+50	1250.00	50.0	289.93	6.45	0.00	612.55	11.73	0.00	4745.63	25.72	4573.41
13+00	1300.00	50.0	177.43	5.80	0.00	432.74	11.35	0.00	5178.37	25.72	4994.81
13+50	1350.00	50.0	35.14	1.63	0.14	196.82	6.88	0.13	5375.20	25.89	5184.59
14+00	1400.00	50.0	6.77	0.81	10.55	38.81	2.26	9.90	5414.00	38.26	5208.76
14+14	1414.12	14.1	6.81	0.00	10.69	3.55	0.21	5.56	5417.55	45.20	5205.16
						5417.55	167.19	36.16			

9

9

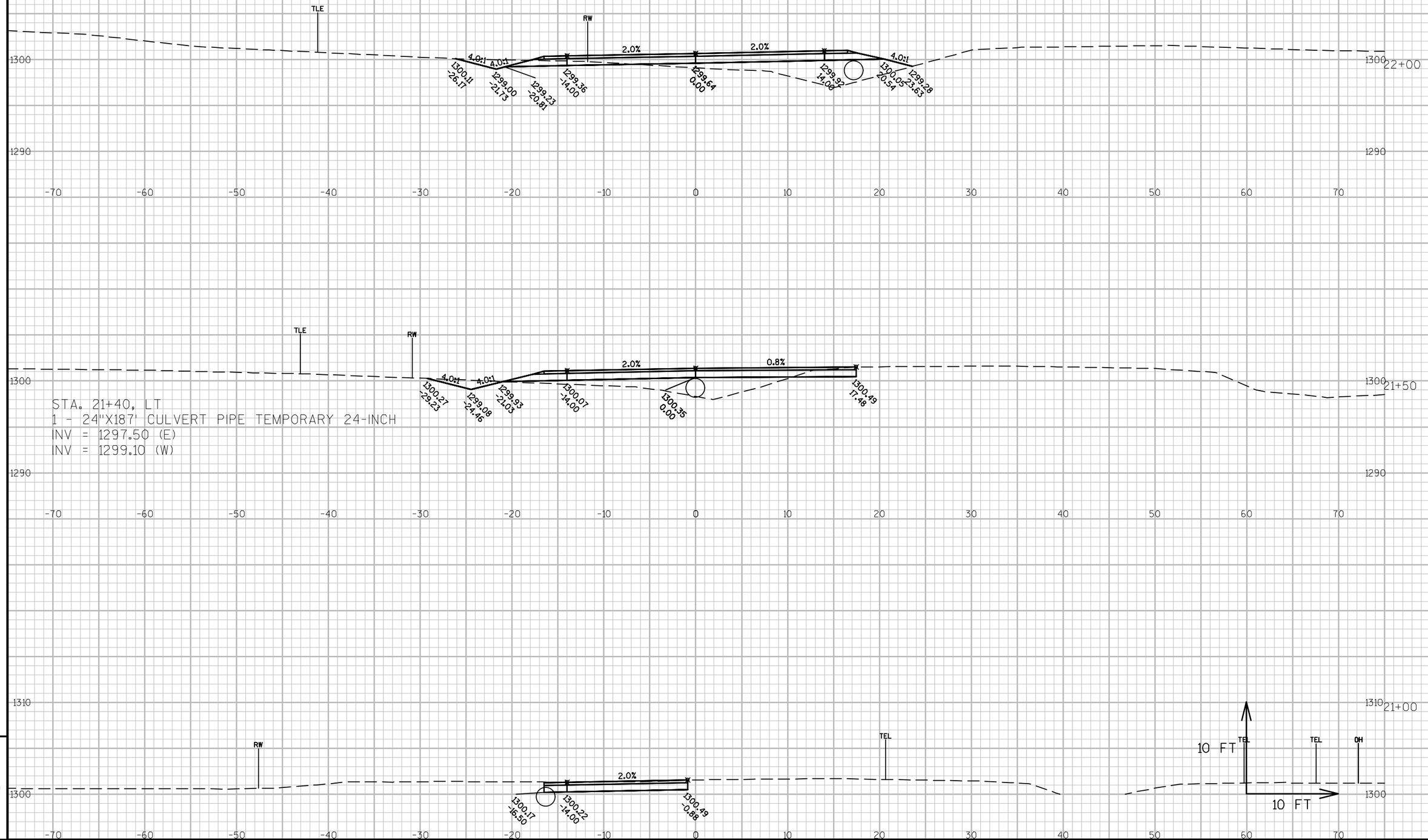
FILE NAME: P:\60548628\900_Work\910_CAD\90000400\SheetsPlan\pdf\030201_MQ.pptx ORIGINATOR: DILLON SCHMENK ORIG. DATE: AUGUST 20, 2018 PLOTTED DATE: 5/29/2019 1:47 PM



9 9

PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	CROSS SECTIONS: STAGE 1 - TEMPORARY BYPASS	SHEET 118	E

FILE NAME : P:\60548628\900_WORK\910_CAD\90000400\DESIGN\CORRIDORS\CRDR-64-STAGE1.DWG
LAYOUT NAME - XS-S1-1
PLOT DATE : 5/24/2019 6:55 AM PLOT BY : DOLAN, ISAAC PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 49



STA. 21+40, LT
1 - 24"X187' CULVERT PIPE TEMPORARY 24-INCH
INV = 1297.50 (E)
INV = 1299.10 (W)

9

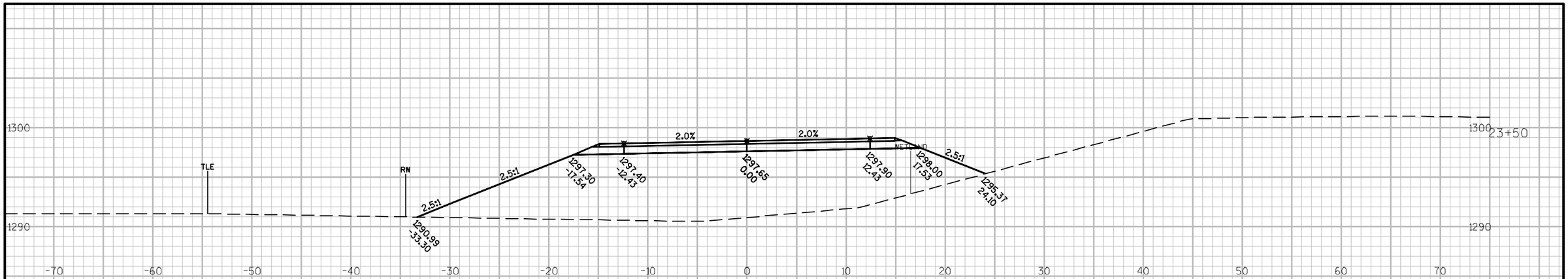
9

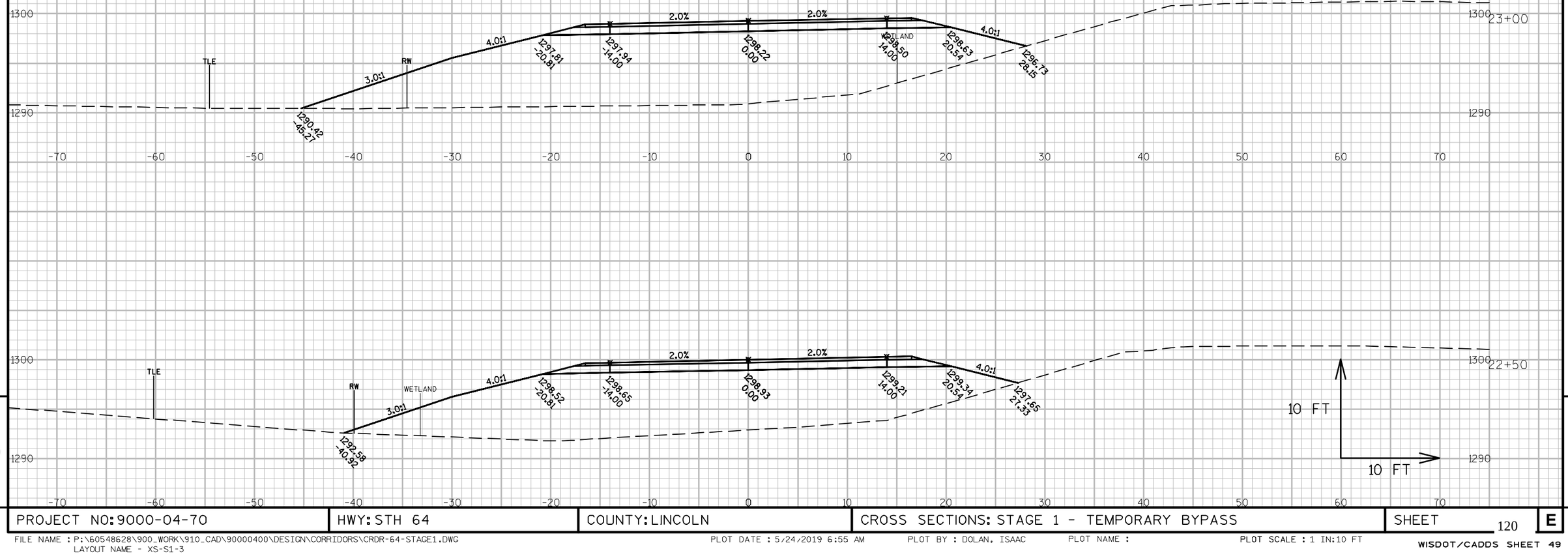
PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	CROSS SECTIONS: STAGE 1 - TEMPORARY BYPASS	SHEET 119	E

FILE NAME : P:\60548628\900_WORK\910_CAD\90000400\DESIGN\CORRIDORS\CRDR-64-STAGE1.DWG
LAYOUT NAME - XS-S1-2

PLOT DATE : 5/24/2019 6:55 AM PLOT BY : DOLAN, ISAAC PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49





PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	CROSS SECTIONS: STAGE 1 - TEMPORARY BYPASS	SHEET 120	E

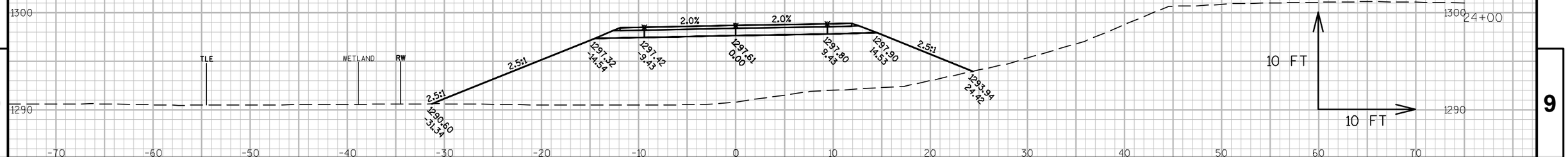
TEMPORARY BYPASS STRUCTURE
FOR B-35-0117
(24+15.41 - 25+35.38)

25+00

24+50

TEMPORARY BYPASS STRUCTURE
FOR B-35-0117
(24+15.41 - 25+35.38)

24+00

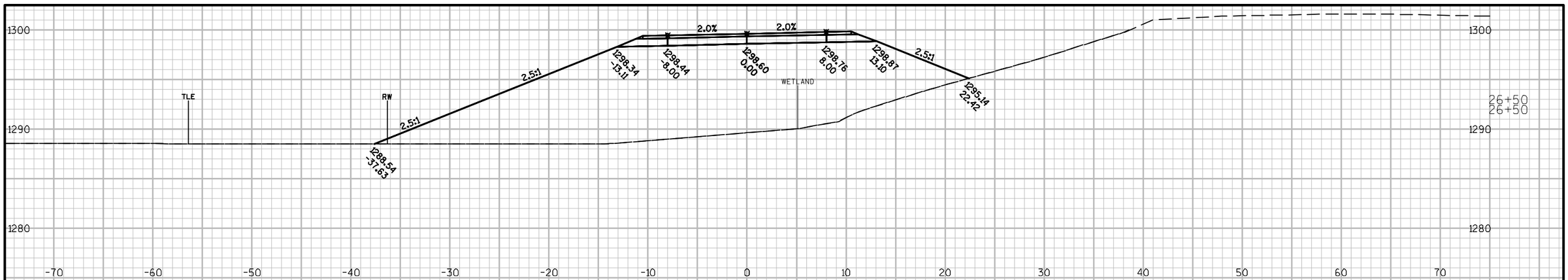


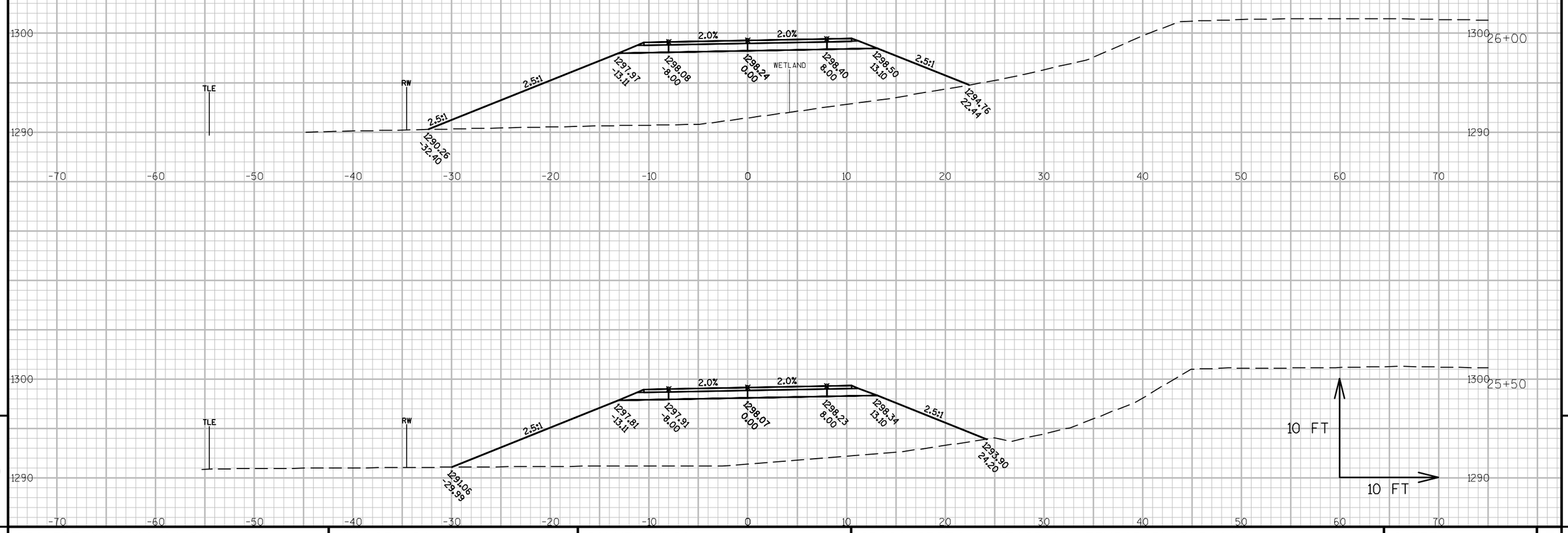
PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	CROSS SECTIONS: STAGE 1 - TEMPORARY BYPASS	SHEET 121	E

FILE NAME : P:\60548628\900_WORK\910_CAD\90000400\DESIGN\CORRIDORS\CRDR-64-STAGE1.DWG
LAYOUT NAME - XS-S1-4

PLOT DATE : 5/24/2019 6:56 AM PLOT BY : DOLAN, ISAAC PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49





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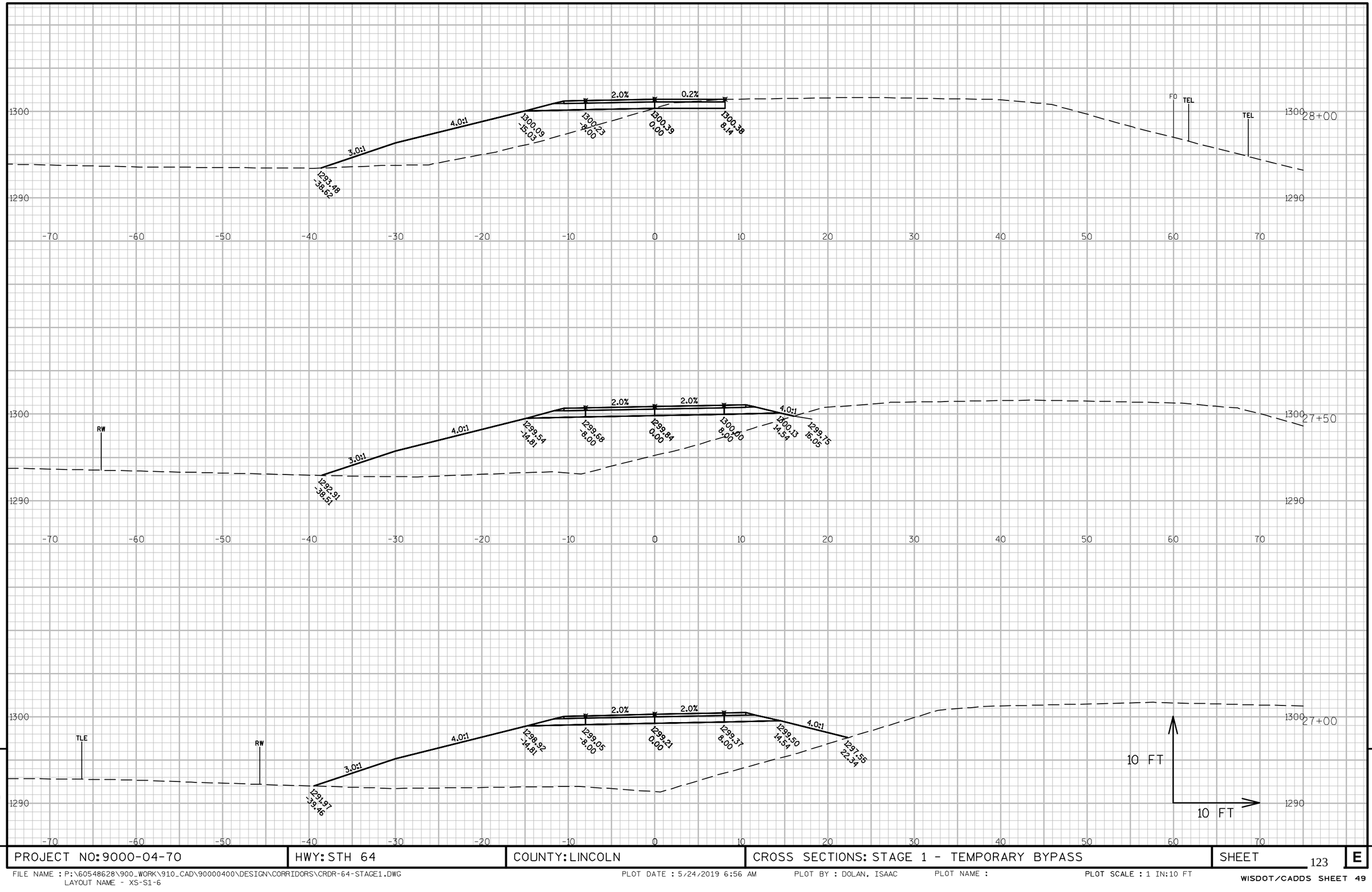
PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	CROSS SECTIONS: STAGE 1 - TEMPORARY BYPASS	SHEET 122	E

FILE NAME : P:\60548628\900_WORK\910_CAD\90000400\DESIGN\CORRIDORS\CRDR-64-STAGE1.DWG
LAYOUT NAME - XS-S1-5

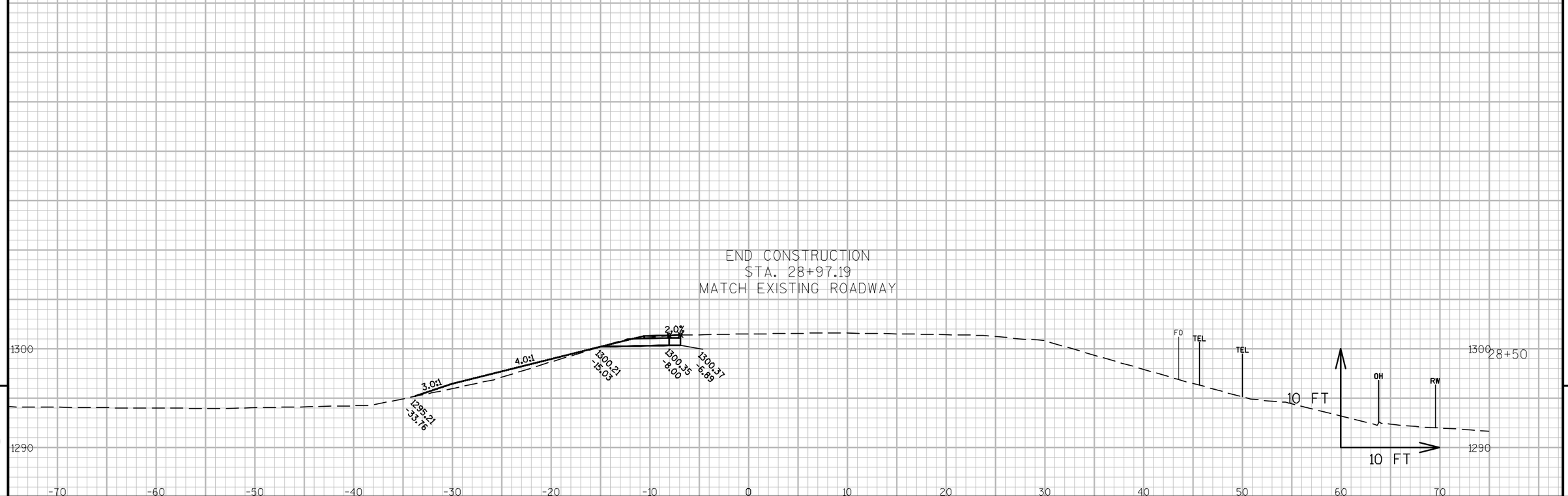
PLOT DATE : 5/24/2019 6:56 AM PLOT BY : DOLAN, ISAAC PLOT NAME : PLOT SCALE : 1 IN:10 FT



PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	CROSS SECTIONS: STAGE 1 - TEMPORARY BYPASS	SHEET 123	E

FILE NAME : P:\60548628\900_WORK\910_CAD\90000400\DESIGN\CORRIDORS\CRDR-64-STAGE1.DWG
LAYOUT NAME - XS-S1-6
PLOT DATE : 5/24/2019 6:56 AM PLOT BY : DOLAN, ISAAC PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 49

END CONSTRUCTION
STA. 28+97.19
MATCH EXISTING ROADWAY



9

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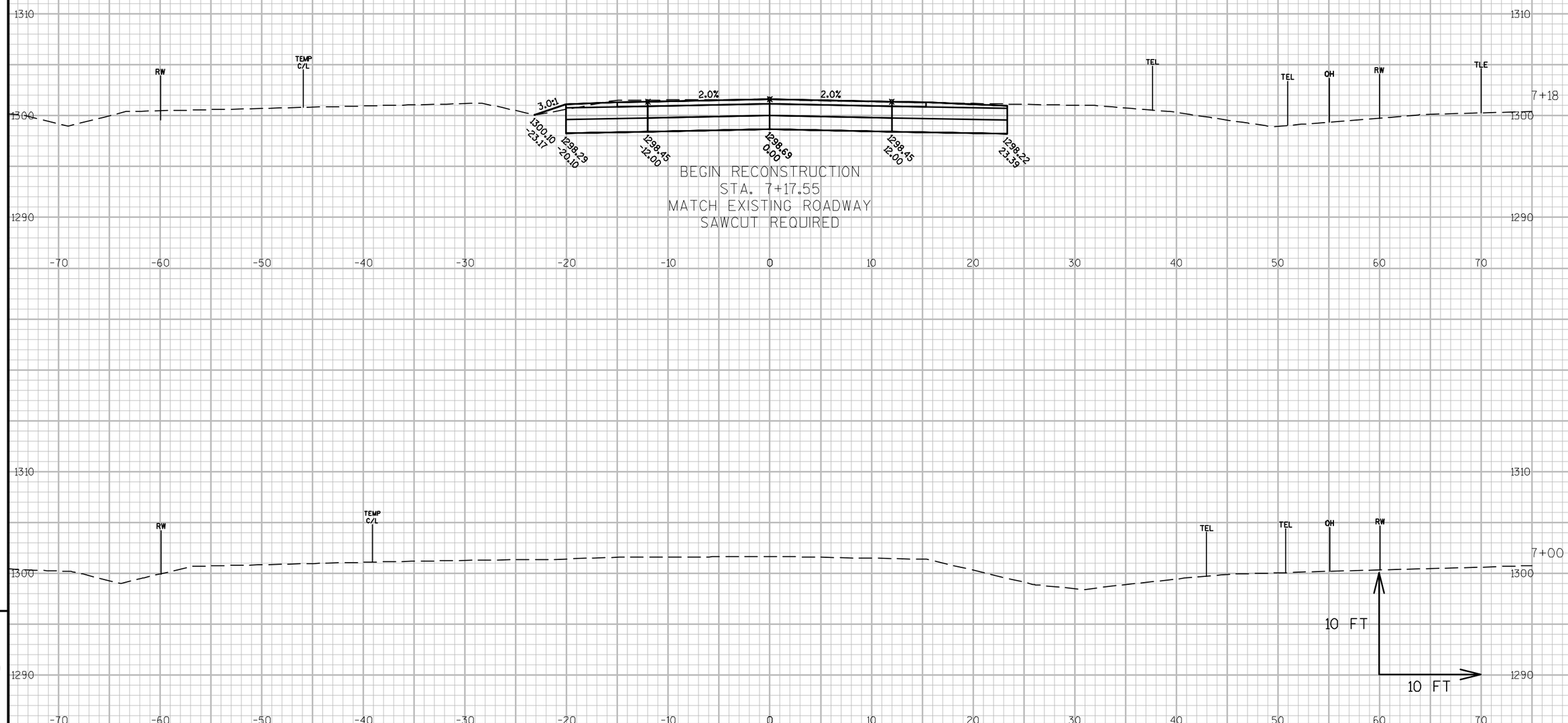
PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	CROSS SECTIONS: STAGE 1 - TEMPORARY BYPASS	SHEET 124	E

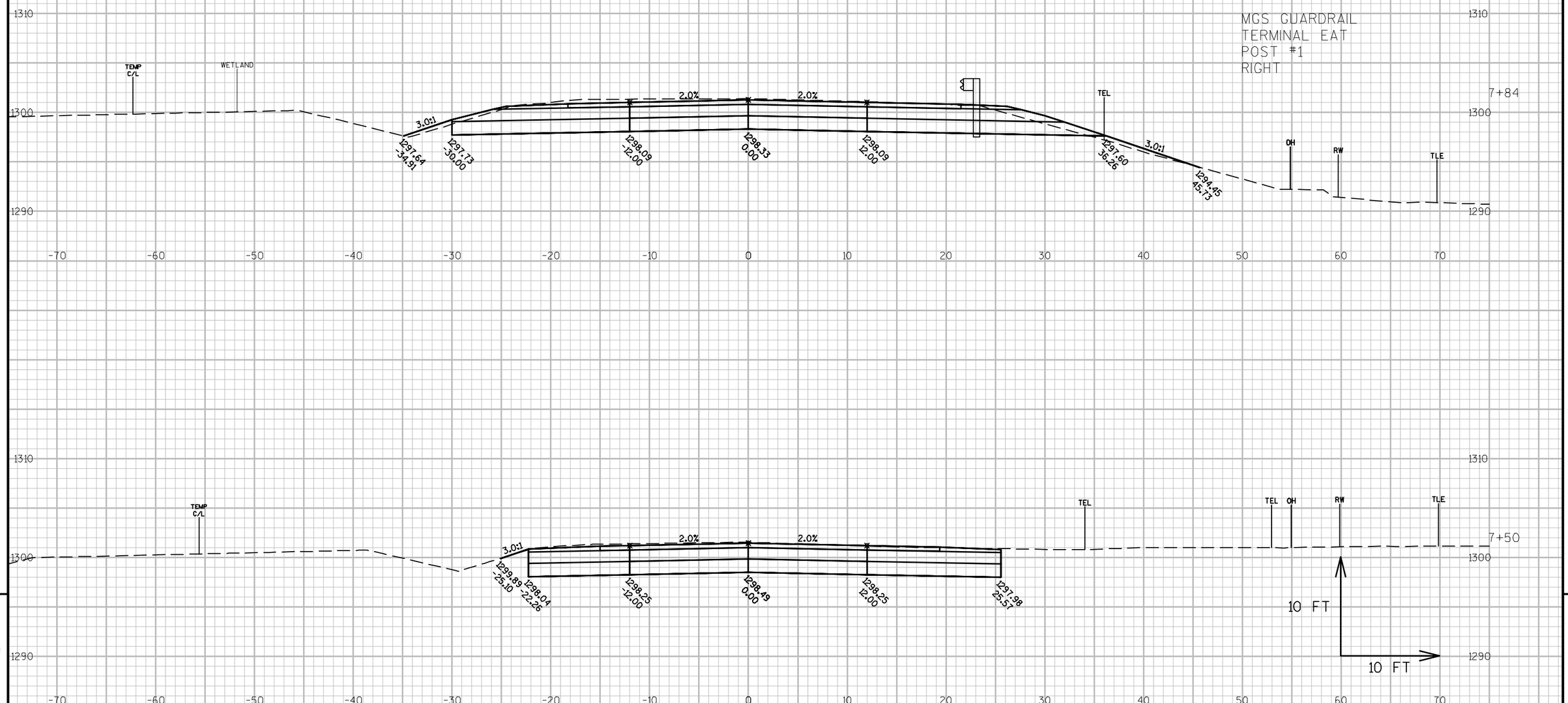
FILE NAME : P:\60548628\900_WORK\910_CAD\90000400\DESIGN\CORRIDORS\CRDR-64-STAGE1.DWG
LAYOUT NAME - XS-S1-7

PLOT DATE : 5/24/2019 6:56 AM PLOT BY : DOLAN, ISAAC PLOT NAME : PLOT SCALE : Custom

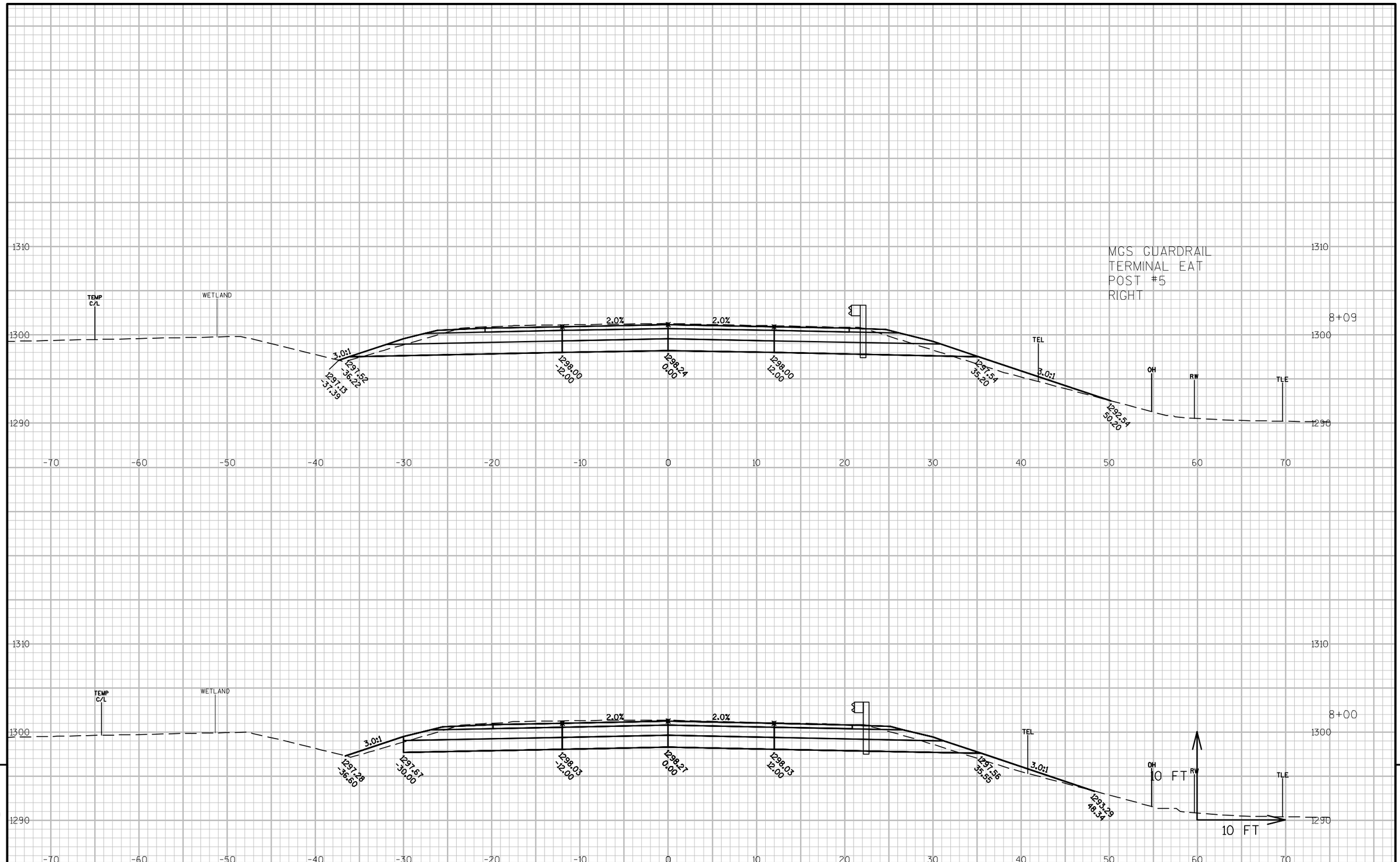


PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	CROSS SECTIONS: STAGE 2 - MAINLINE	SHEET 125 E

FILE NAME : P:\60548628\900_WORK\910_CAD\90000400\DESIGN\CORRIDORS\CRDR-64-STAGE2.DWG
LAYOUT NAME - 090201
PLOT DATE : 5/23/2019 12:52 PM PLOT BY : DOLAN, ISAAC PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 49

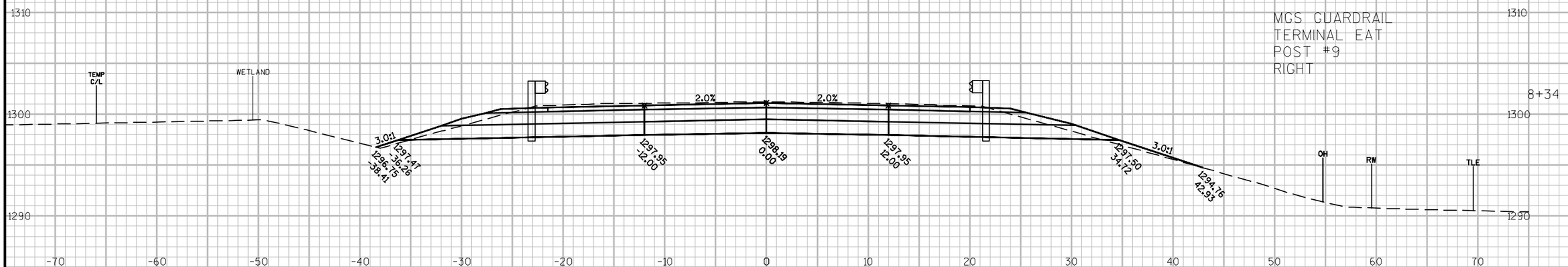


PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	CROSS SECTIONS: STAGE 2 - MAINLINE	SHEET 126	E



9	PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	CROSS SECTIONS: STAGE 2 - MAINLINE	SHEET 127 E

MGS GUARDRAIL
TERMINAL EAT
POST #9
RIGHT



8+34

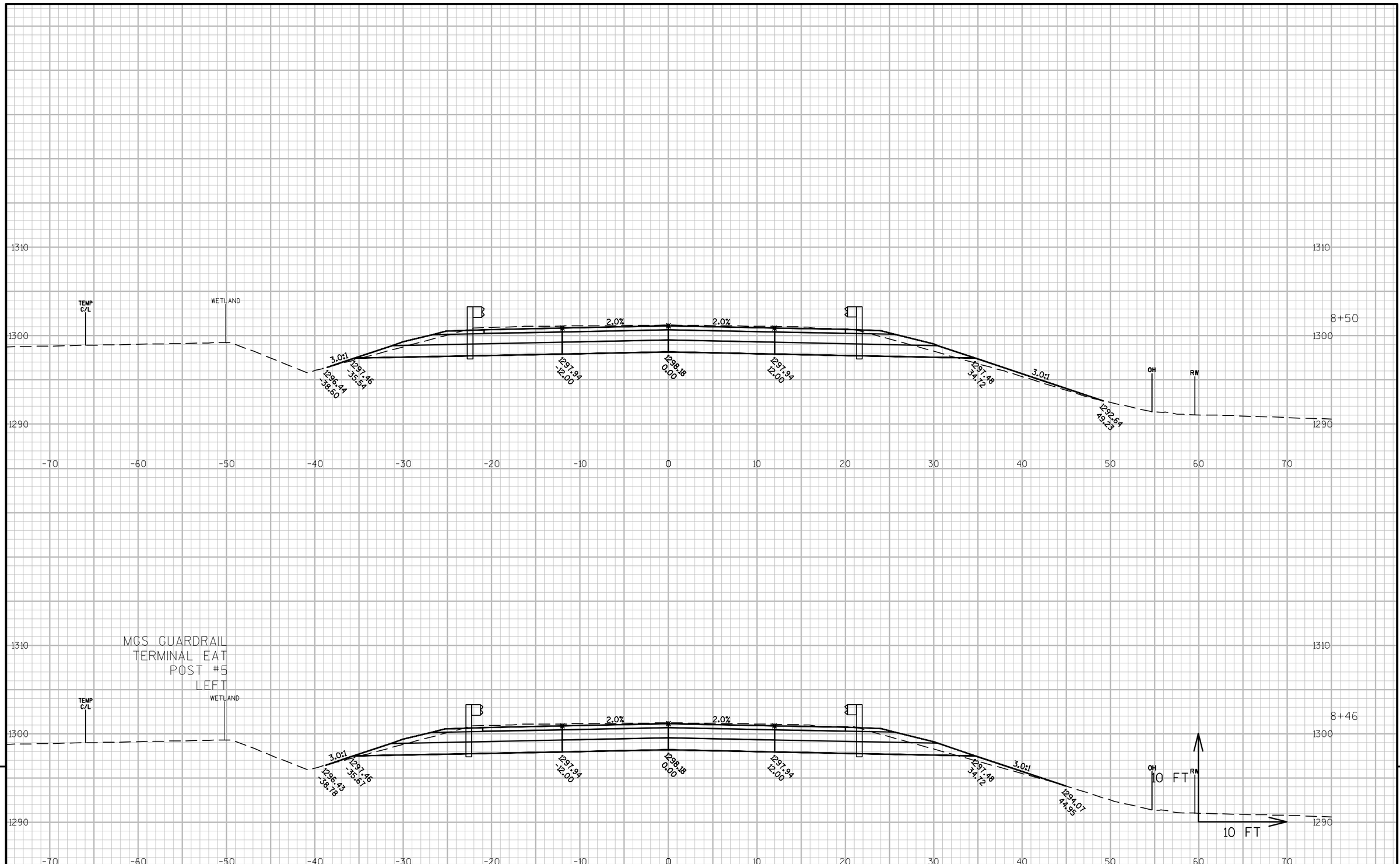
MGS GUARDRAIL
TERMINAL EAT
POST #1
WETLAND LEFT

8+21

9

9

PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	CROSS SECTIONS: STAGE 2 - MAINLINE	SHEET 128	E

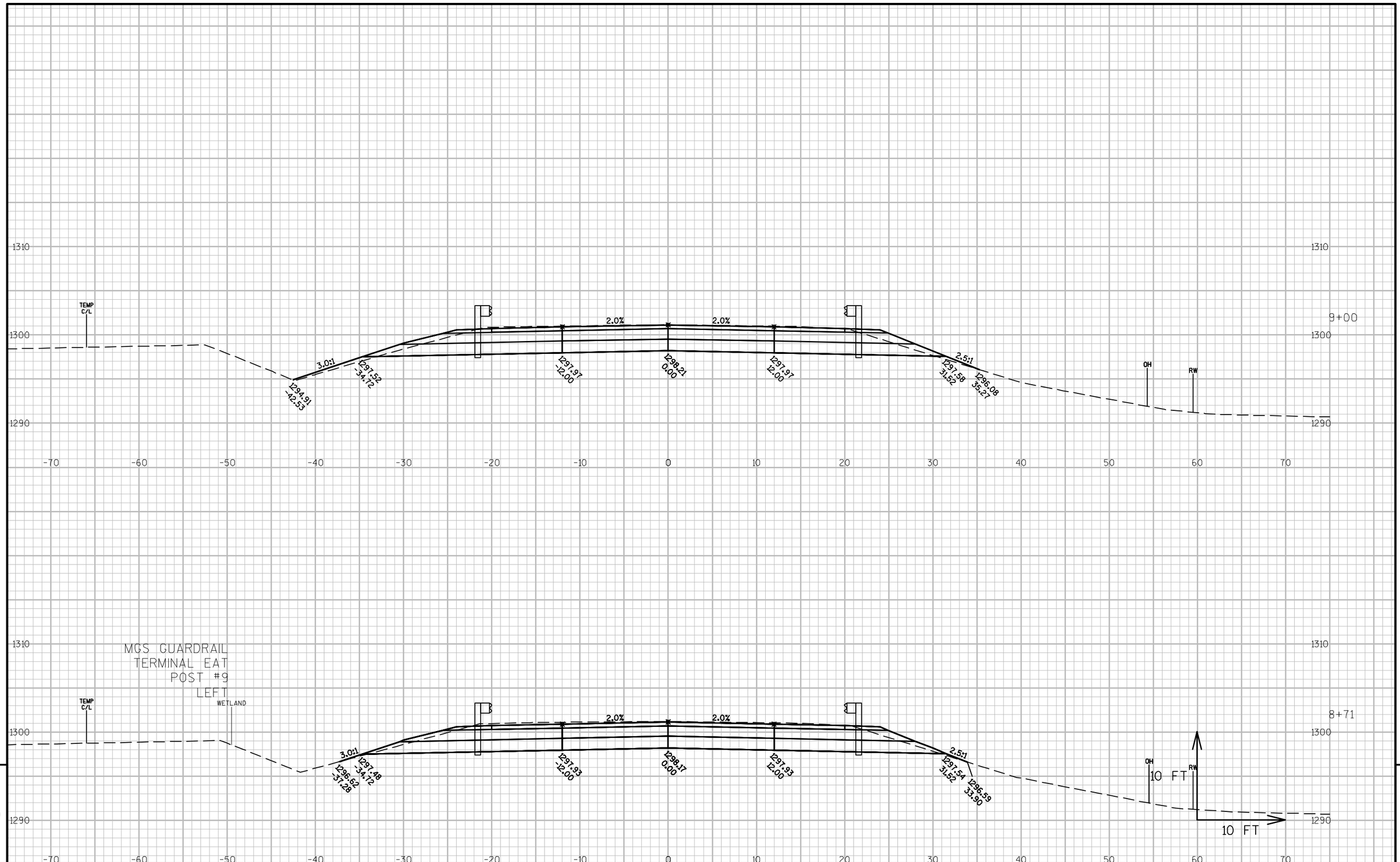


PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	CROSS SECTIONS: STAGE 2 - MAINLINE	SHEET 129 E

FILE NAME : P:\60548628\900_WORK\910_CAD\90000400\DESIGN\CORRIDORS\CRDR-64-STAGE2.DWG
LAYOUT NAME - 090205

PLOT DATE : 5/23/2019 12:53 PM PLOT BY : DOLAN, ISAAC PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



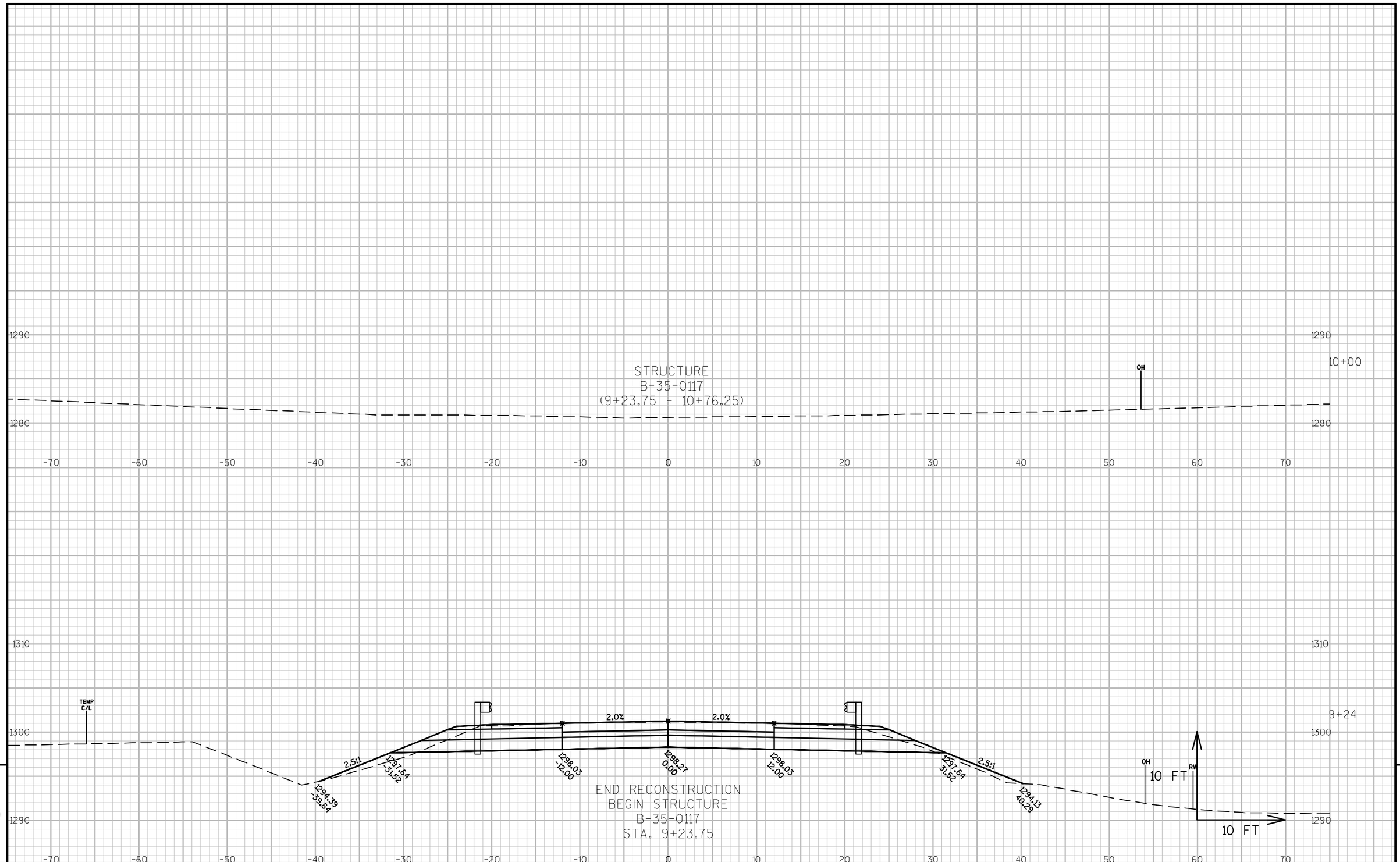
9

9

PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	CROSS SECTIONS: STAGE 2 - MAINLINE	SHEET 130	E

FILE NAME : P:\60548628\900_WORK\910_CAD\90000400\DESIGN\CORRIDORS\CRDR-64-STAGE2.DWG
LAYOUT NAME - 090206

PLOT DATE : 5/23/2019 12:53 PM PLOT BY : DOLAN, ISAAC PLOT NAME : PLOT SCALE : 1 IN:10 FT

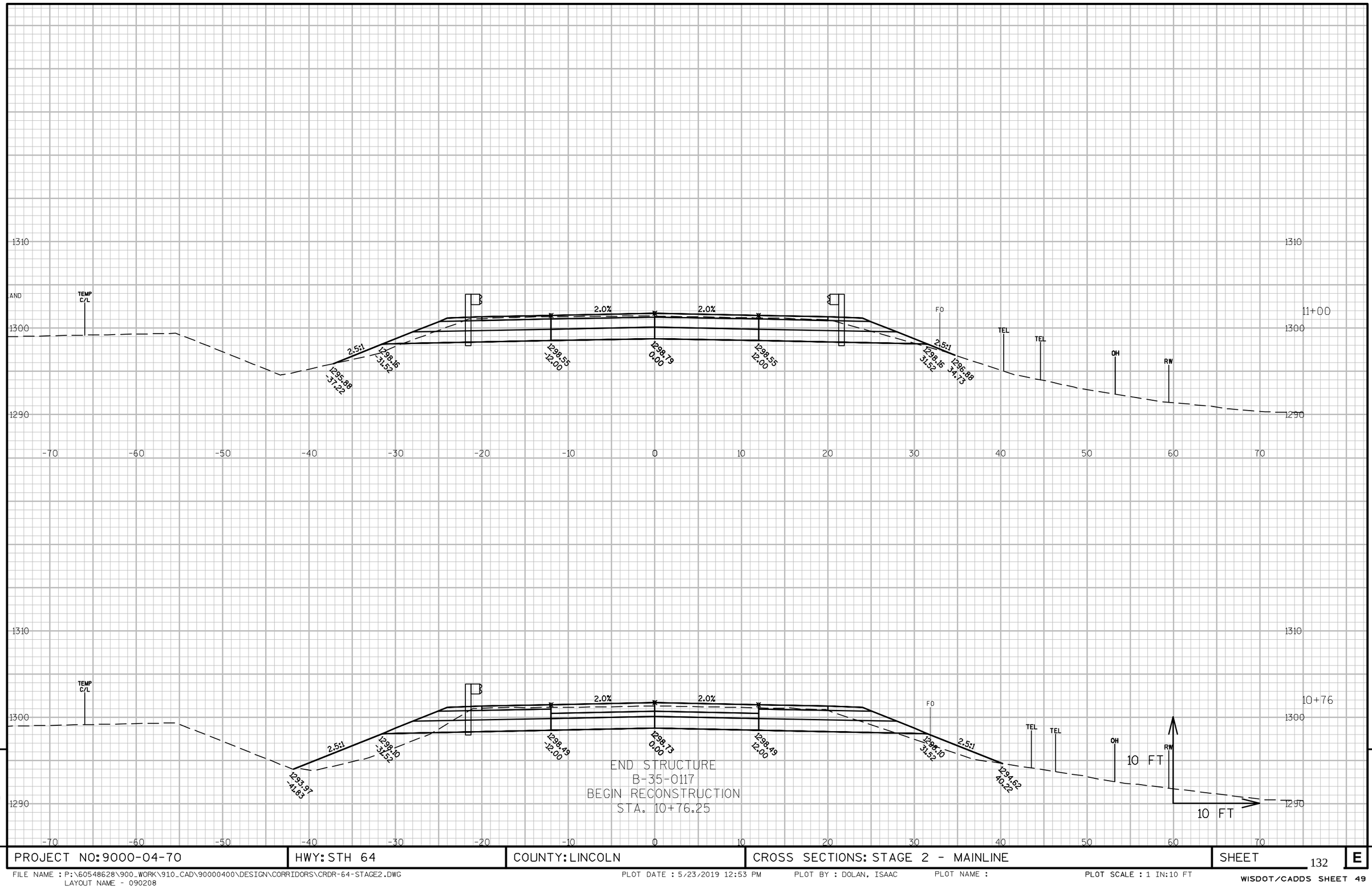


9

9

PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	CROSS SECTIONS: STAGE 2 - MAINLINE	SHEET 131	E

FILE NAME : P:\60548628\900_WORK\910_CAD\90000400\DESIGN\CORRIDORS\CRDR-64-STAGE2.DWG
LAYOUT NAME - 090207
PLOT DATE : 5/23/2019 12:53 PM PLOT BY : DOLAN, ISAAC PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 49



9

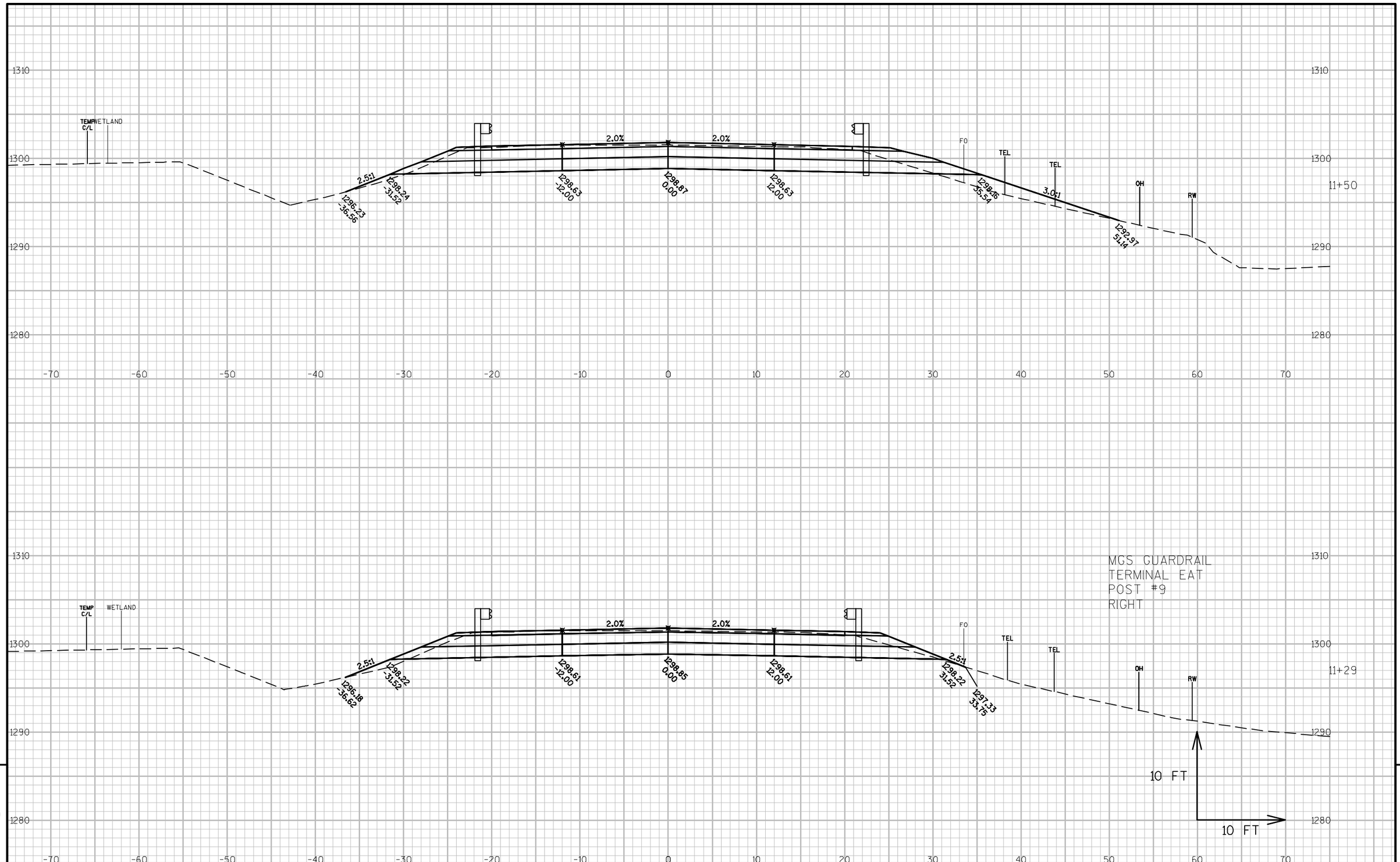
9

PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	CROSS SECTIONS: STAGE 2 - MAINLINE	SHEET 132	E

FILE NAME : P:\60548628\900_WORK\910_CAD\90000400\DESIGN\CORRIDORS\CRDR-64-STAGE2.DWG
LAYOUT NAME - 090208

PLOT DATE : 5/23/2019 12:53 PM PLOT BY : DOLAN, ISAAC PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



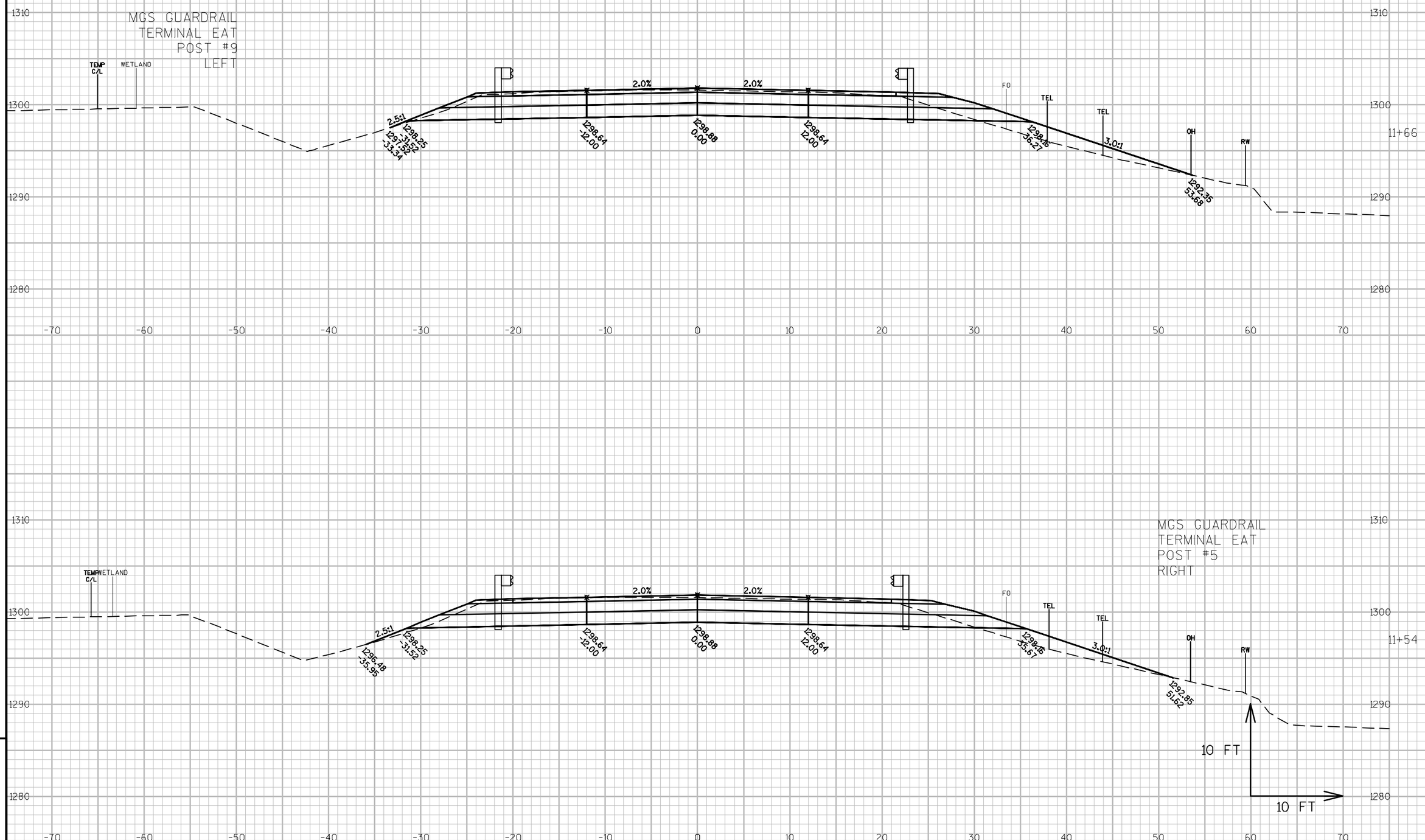
PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	CROSS SECTIONS: STAGE 2 - MAINLINE	SHEET 133 E

FILE NAME : P:\60548628\900_WORK\910_CAD\90000400\DESIGN\CORRIDORS\CRDR-64-STAGE2.DWG
LAYOUT NAME - 090209

PLOT DATE : 5/23/2019 12:53 PM PLOT BY : DOLAN, ISAAC PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

MGS GUARDRAIL
TERMINAL EAT
POST #9
LEFT



11+66

MGS GUARDRAIL
TERMINAL EAT
POST #5
RIGHT

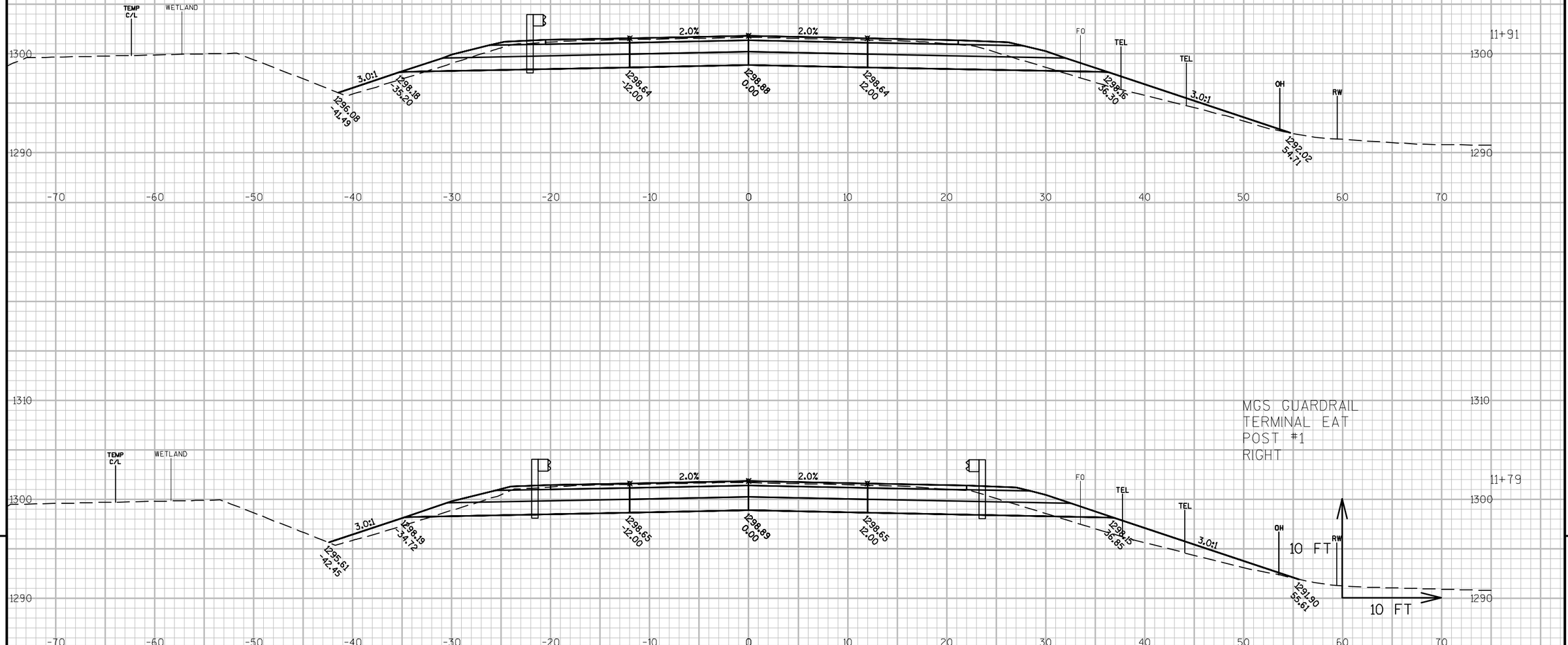
11+54

9

9

PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	CROSS SECTIONS: STAGE 2 - MAINLINE	SHEET 134	E

MGS GUARDRAIL
TERMINAL EAT
POST #5
LEFT



MGS GUARDRAIL
TERMINAL EAT
POST #1
RIGHT

9

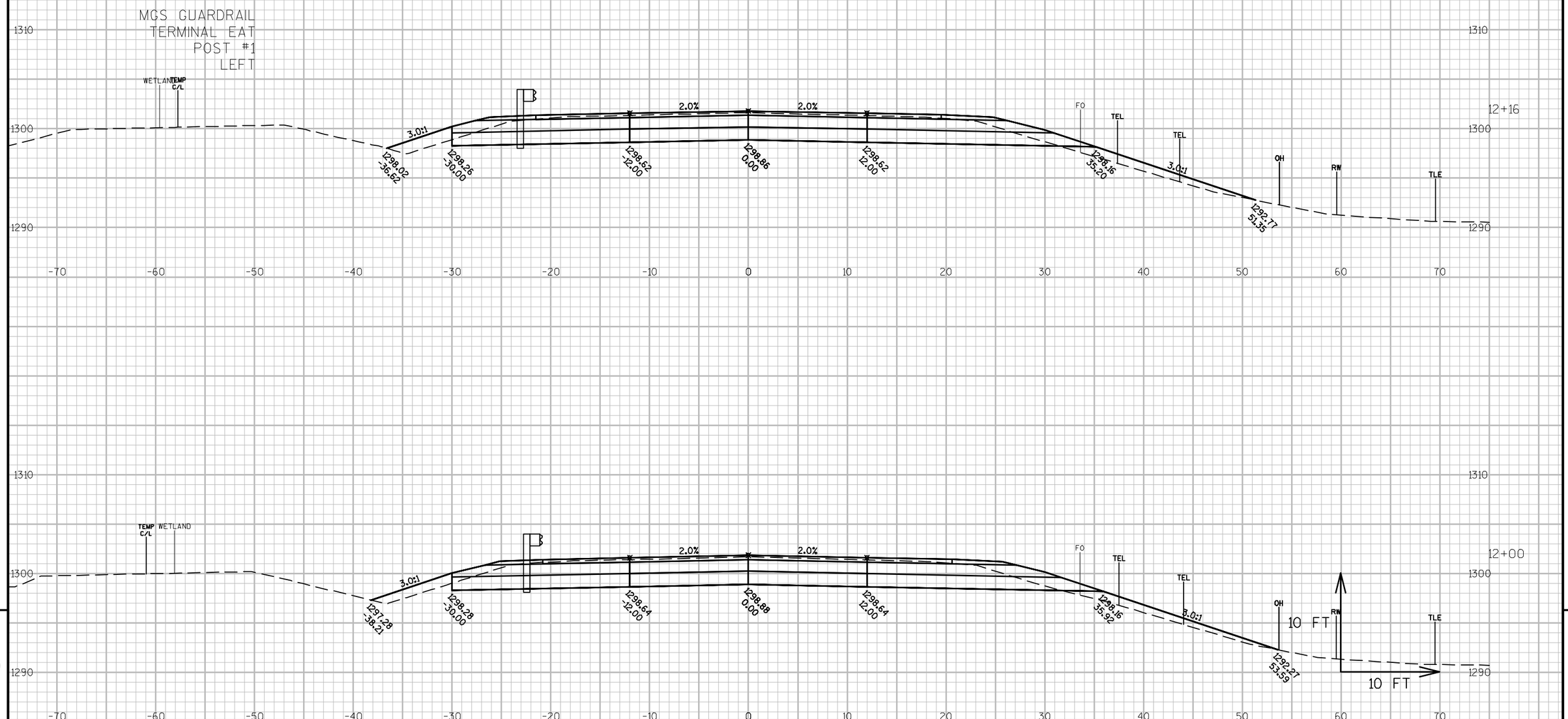
9

PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	CROSS SECTIONS: STAGE 2 - MAINLINE	SHEET 135	E

FILE NAME : P:\60548628\900_WORK\910_CAD\90000400\DESIGN\CORRIDORS\CRDR-64-STAGE2.DWG
LAYOUT NAME - 090211

PLOT DATE : 5/23/2019 12:53 PM PLOT BY : DOLAN, ISAAC PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



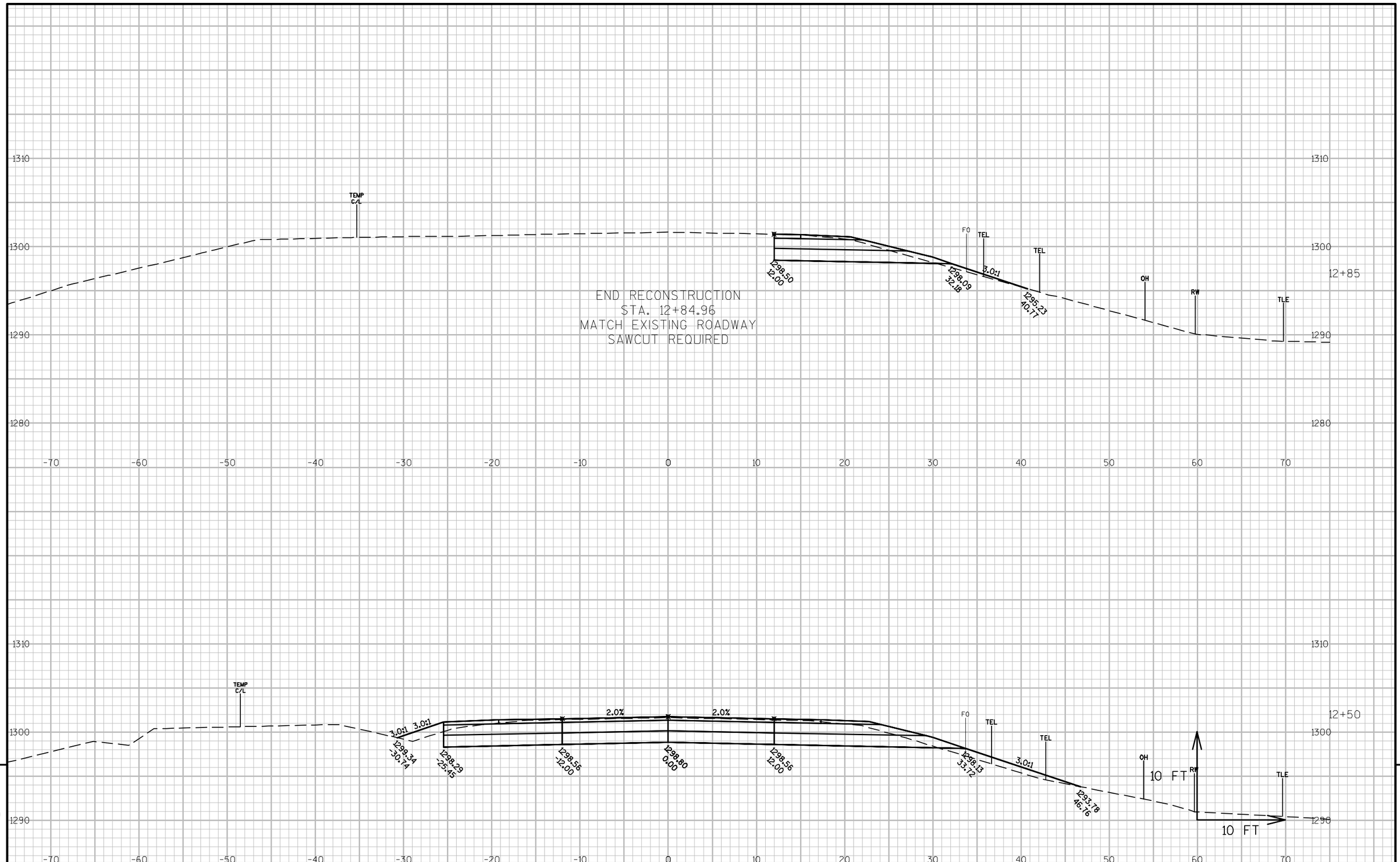
9

9

PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	CROSS SECTIONS: STAGE 2 - MAINLINE	SHEET 136	E

FILE NAME : P:\60548628\900_WORK\910_CAD\90000400\DESIGN\CORRIDORS\CRDR-64-STAGE2.DWG
LAYOUT NAME - 090212

PLOT DATE : 5/23/2019 12:53 PM PLOT BY : DOLAN, ISAAC PLOT NAME : PLOT SCALE : 1 IN:10 FT



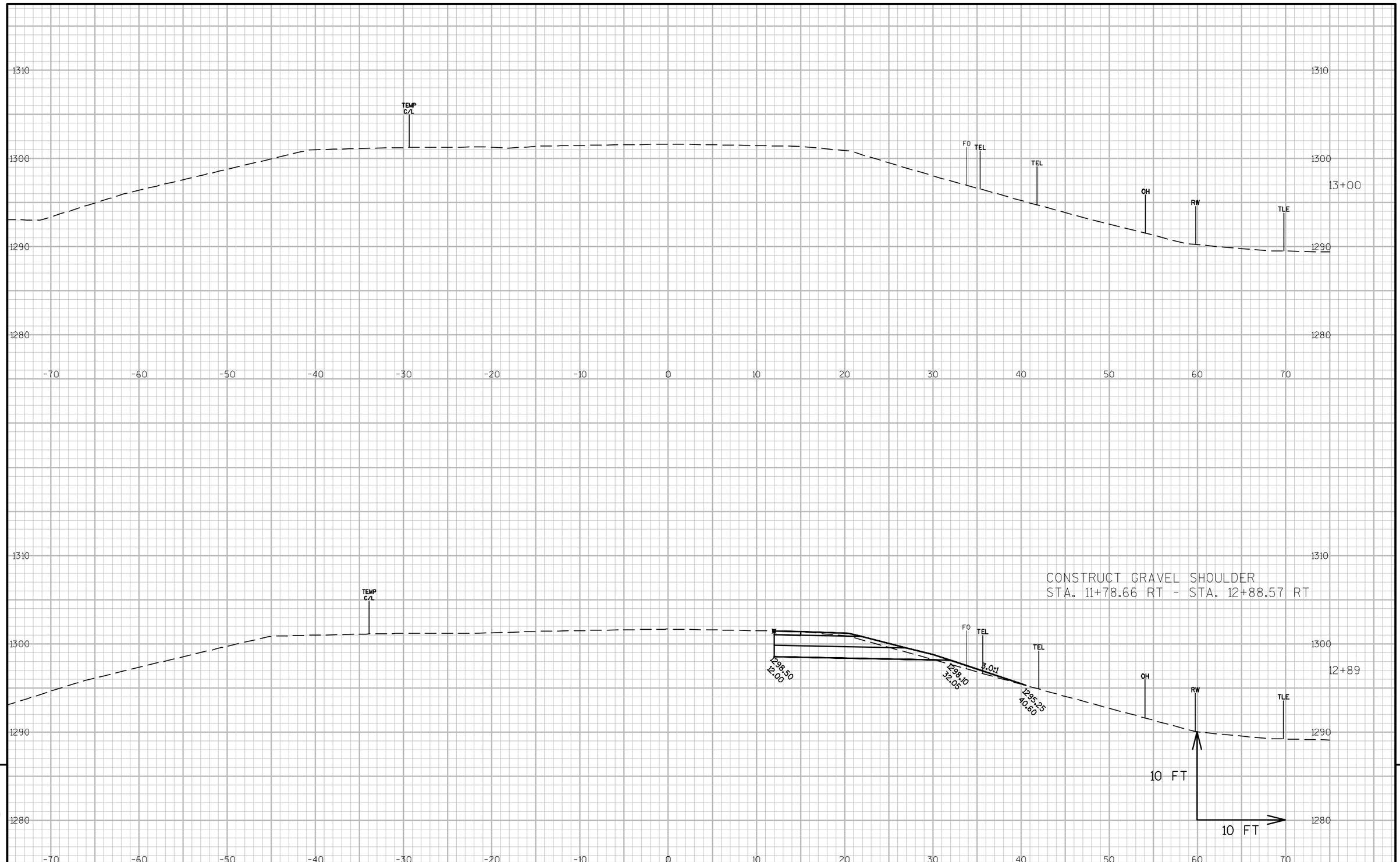
9

9

PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	CROSS SECTIONS: STAGE 2 - MAINLINE	SHEET 137	E

FILE NAME : P:\60548628\900_WORK\910_CAD\90000400\DESIGN\CORRIDORS\CRDR-64-STAGE2.DWG
LAYOUT NAME - 090213

PLOT DATE : 5/23/2019 12:53 PM PLOT BY : DOLAN, ISAAC PLOT NAME : PLOT SCALE : 1 IN:10 FT



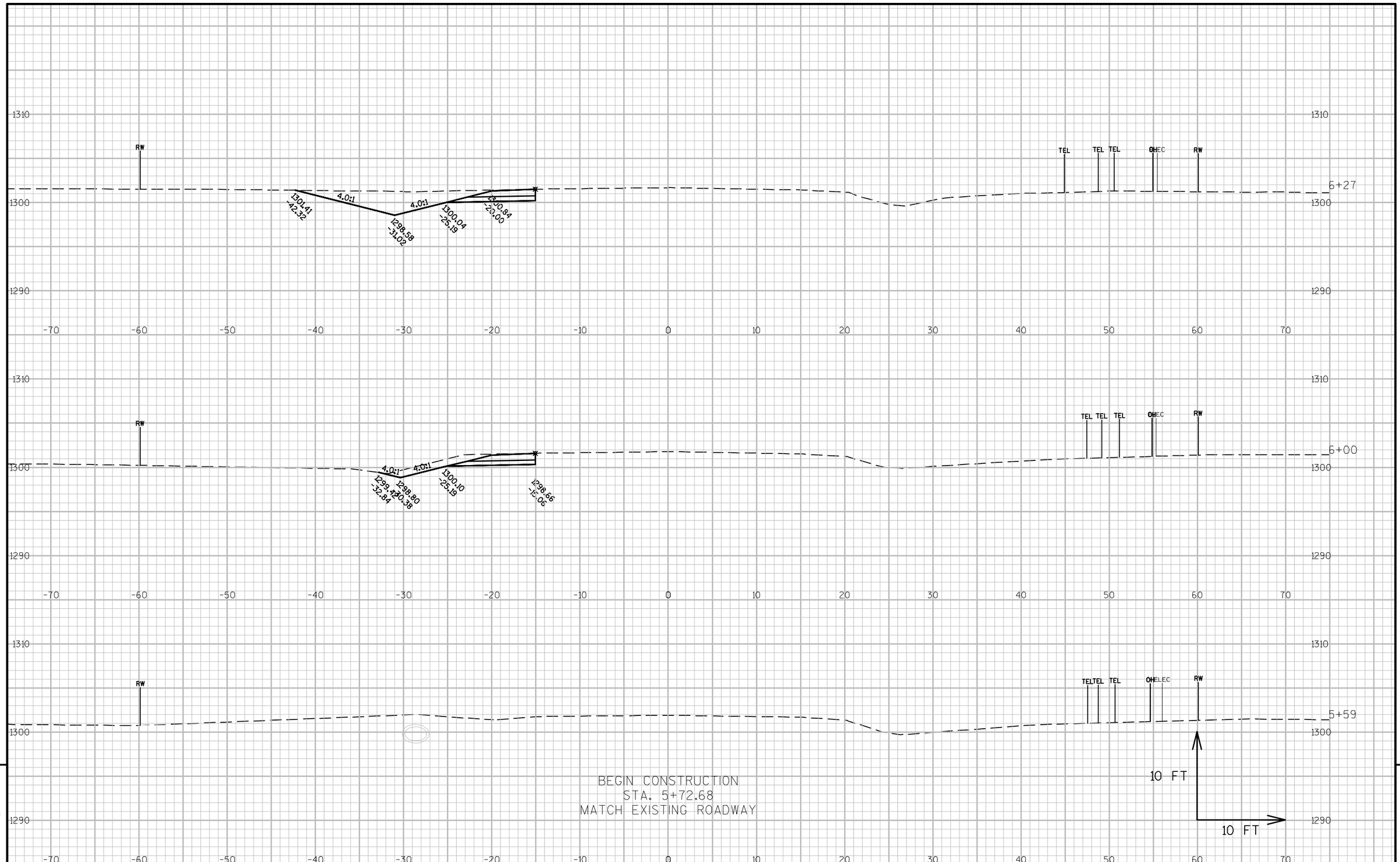
9

9

PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	CROSS SECTIONS: STAGE 2 - MAINLINE	SHEET 138	E

FILE NAME : P:\60548628\900_WORK\910_CAD\90000400\DESIGN\CORRIDORS\CRDR-64-STAGE2.DWG
LAYOUT NAME - 090214

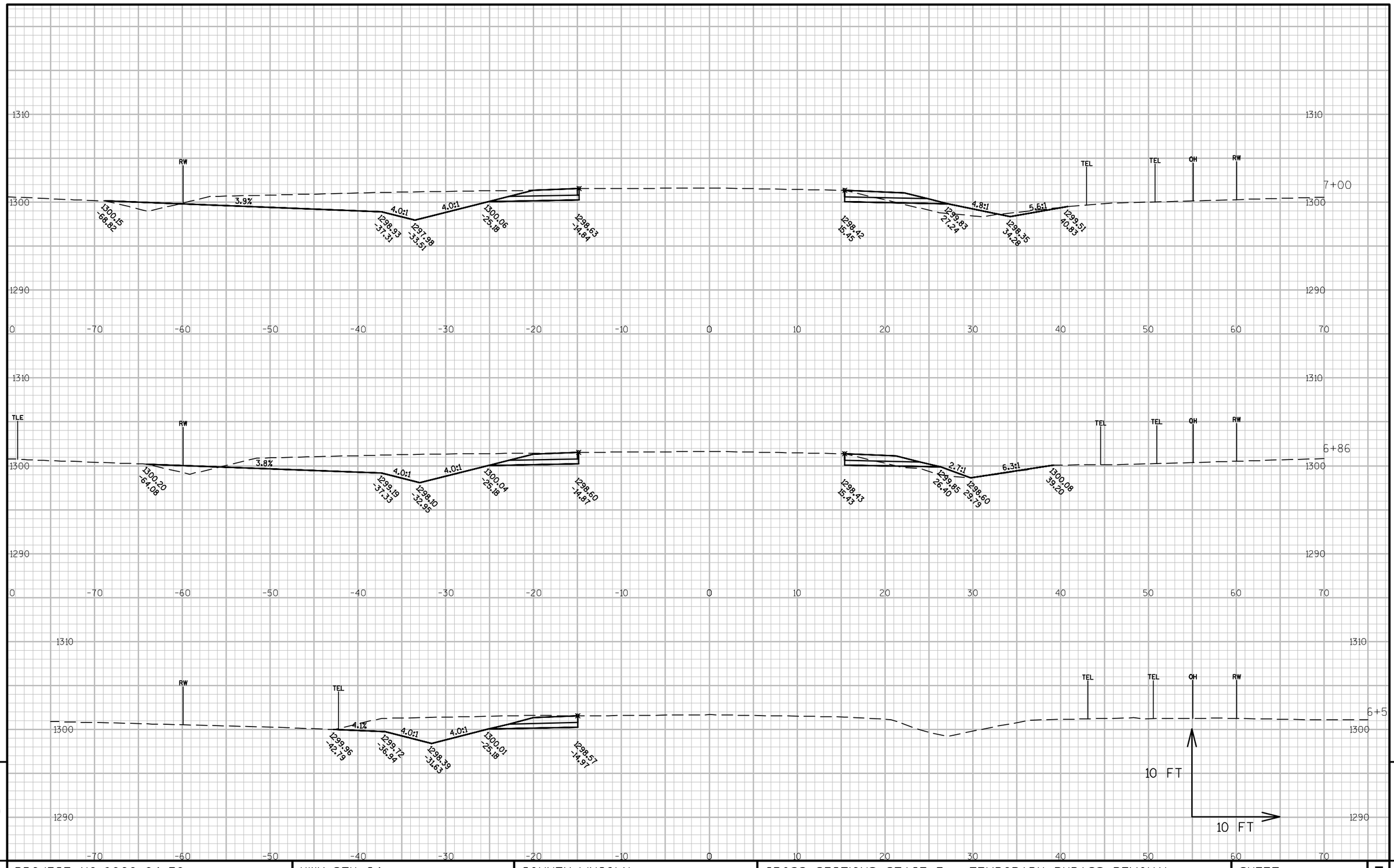
PLOT DATE : 5/23/2019 12:53 PM PLOT BY : DOLAN, ISAAC PLOT NAME : PLOT SCALE : 1 IN:10 FT



9 9

PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	CROSS SECTIONS: STAGE 3 - TEMPORARY BYPASS REMOVAL	SHEET 139 E

FILE NAME : P:\60548628\900_WORK\910_CAD\90000400\DESIGN\CORRIDORS\CRDR-64-STAGE3.DWG
LAYOUT NAME - XS-S3-1
PLOT DATE : 5/24/2019 8:55 AM PLOT BY : DOLAN, ISAAC PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 49



9

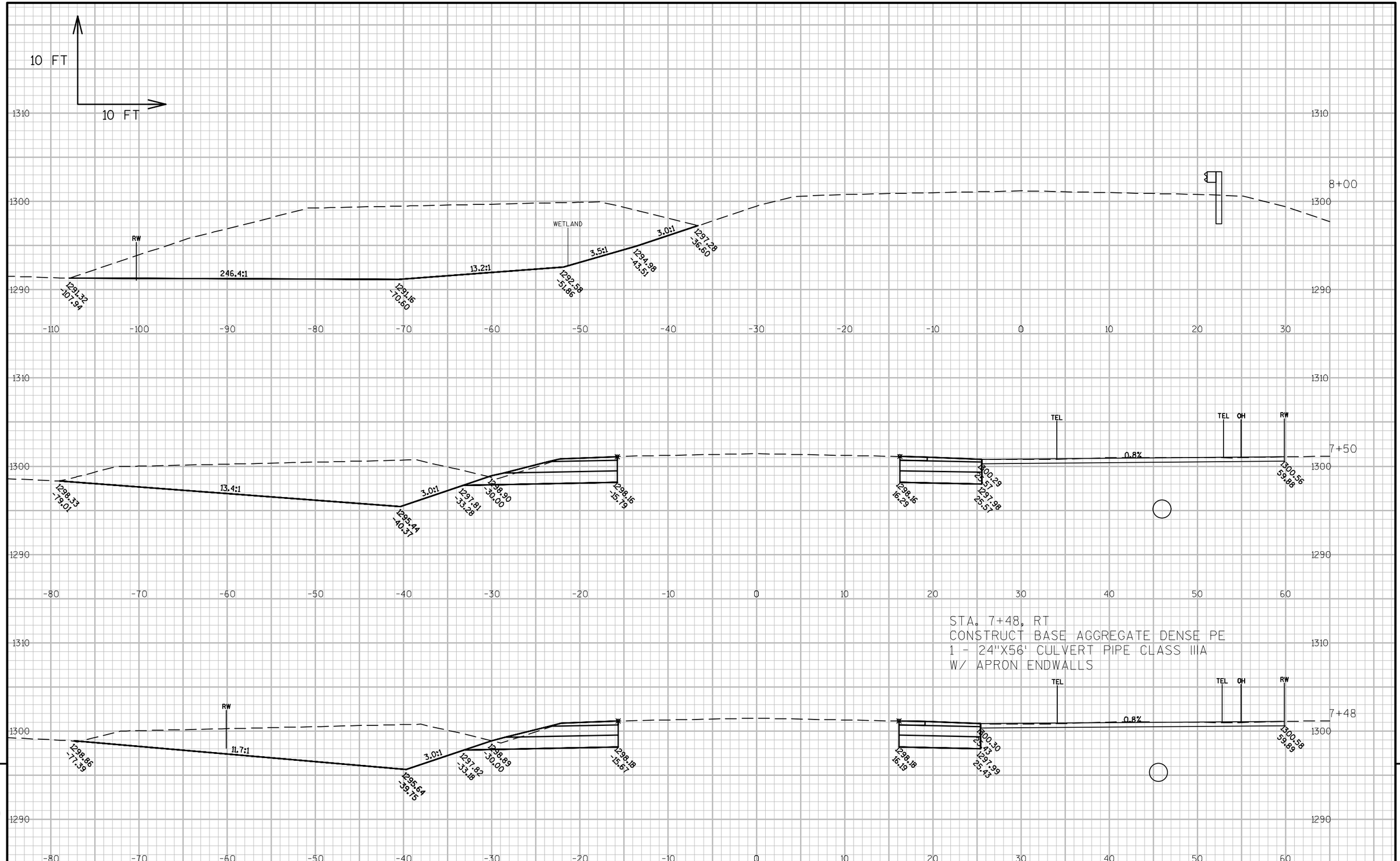
9

PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	CROSS SECTIONS: STAGE 3 - TEMPORARY BYPASS REMOVAL	SHEET 140	E

FILE NAME : P:\60548628\900_WORK\910_CAD\90000400\DESIGN\CORRIDORS\CRDR-64-STAGE3.DWG
LAYOUT NAME - XS-S3-2

PLOT DATE : 5/24/2019 8:55 AM PLOT BY : DOLAN, ISAAC PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

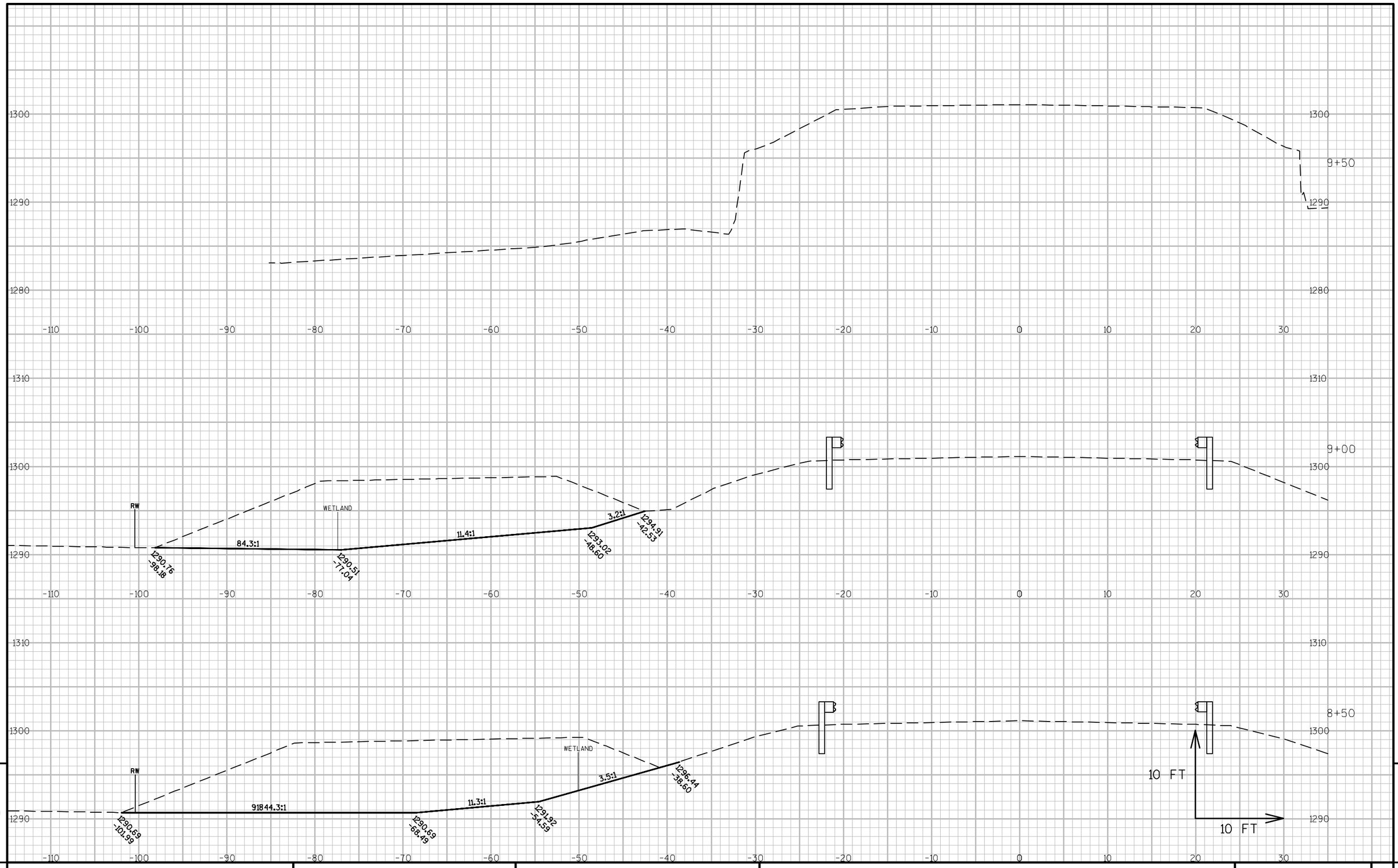


PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	CROSS SECTIONS: STAGE 3 - TEMPORARY BYPASS REMOVAL	SHEET 141 E

FILE NAME : P:\60548628\900_WORK\910_CAD\90000400\DESIGN\CORRIDORS\CRDR-64-STAGE3.DWG
LAYOUT NAME - XS-S3-3

PLOT DATE : 5/24/2019 8:55 AM PLOT BY : DOLAN, ISAAC PLOT NAME : PLOT SCALE : 1 IN:10 FT

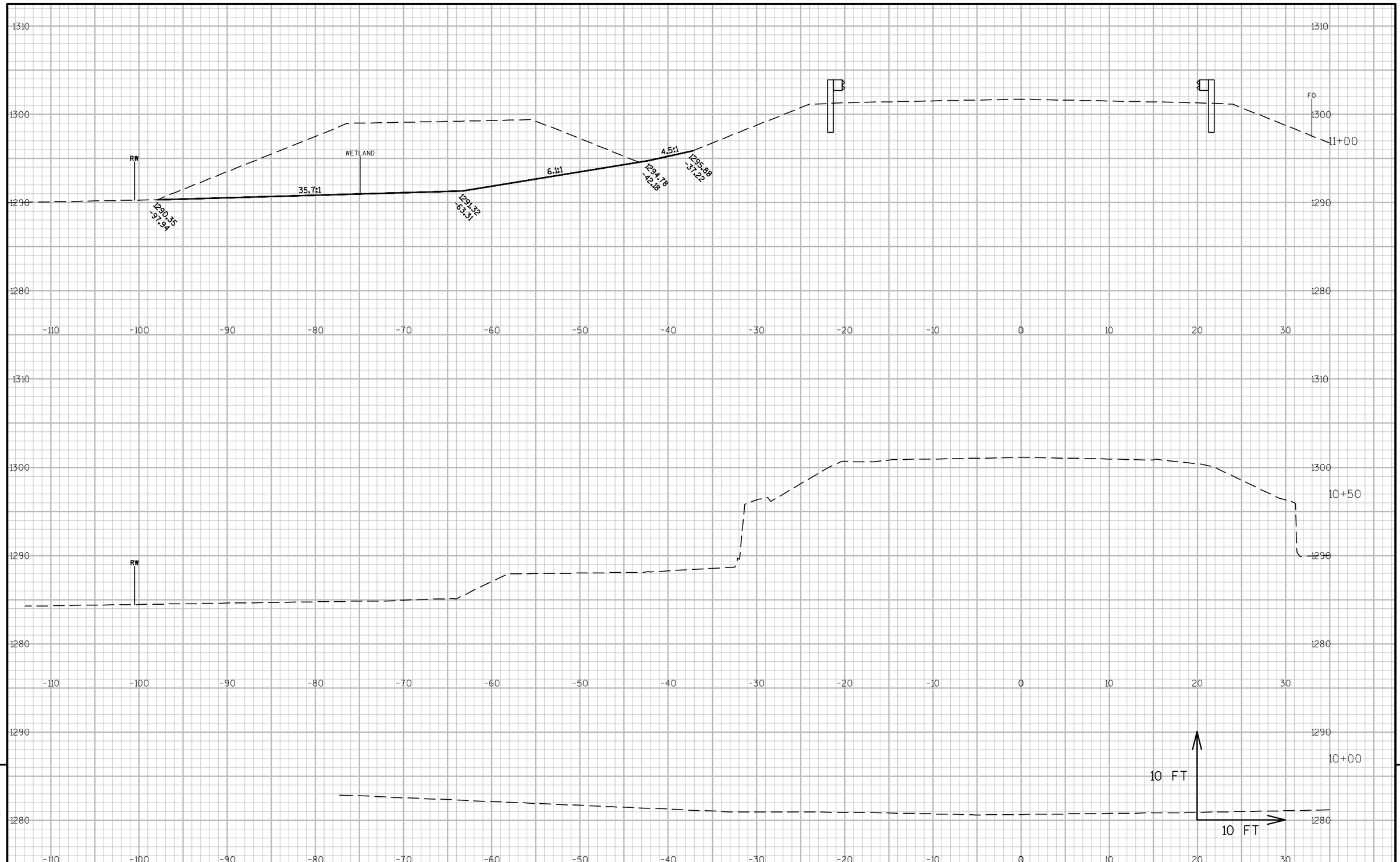
WISDOT/CADDS SHEET 49



9 9

PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	CROSS SECTIONS: STAGE 3 - TEMPORARY BYPASS REMOVAL	SHEET 142	E

FILE NAME : P:\60548628\900_WORK\910_CAD\90000400\DESIGN\CORRIDORS\CRDR-64-STAGE3.DWG
LAYOUT NAME - XS-S3-4
PLOT DATE : 5/24/2019 8:55 AM PLOT BY : DOLAN, ISAAC PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 49



9

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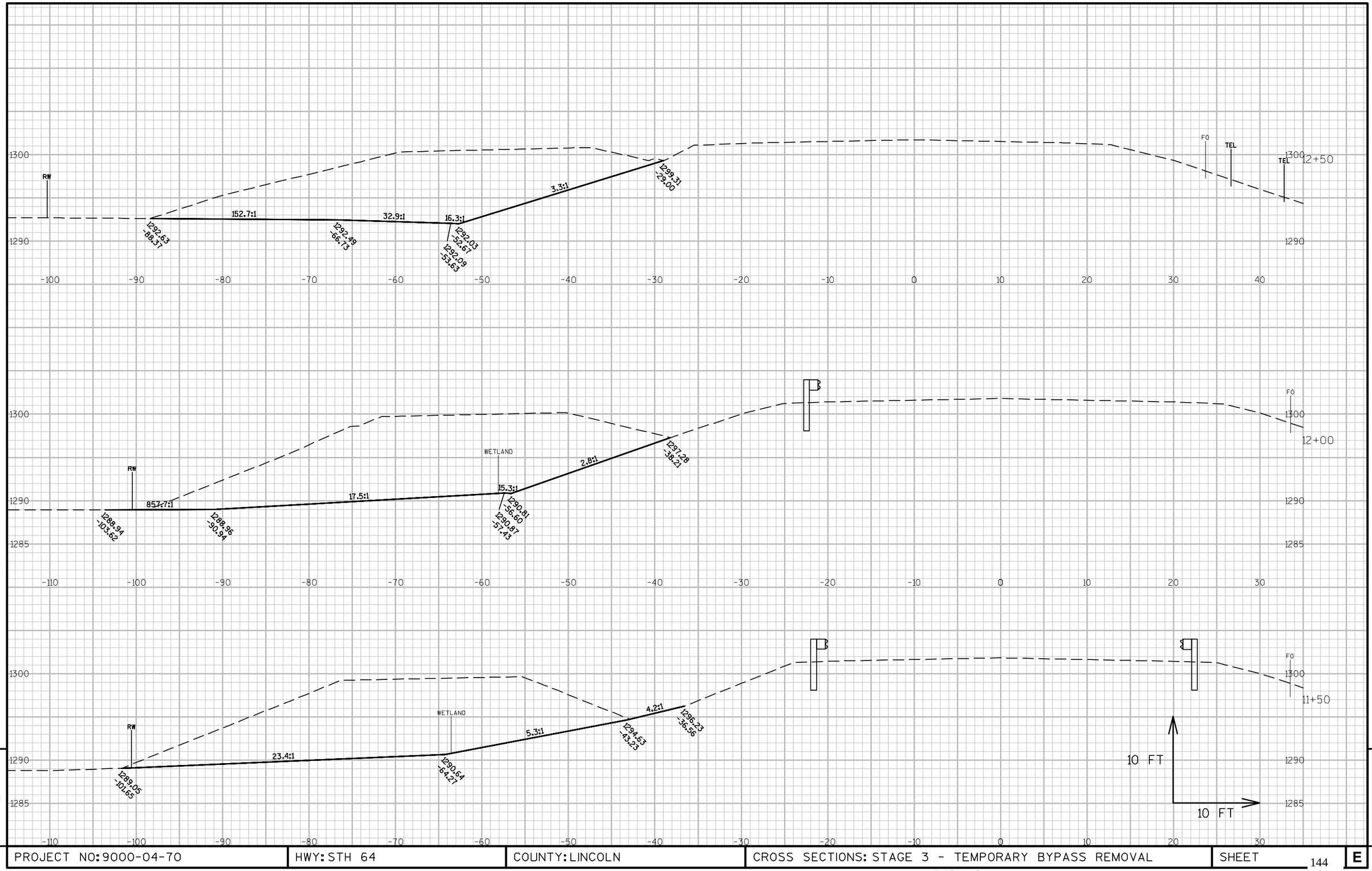
PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	CROSS SECTIONS: STAGE 3 - TEMPORARY BYPASS REMOVAL	SHEET 143	E

FILE NAME : P:\60548628\900_WORK\910_CAD\90000400\DESIGN\CORRIDORS\CRDR-64-STAGE3.DWG
LAYOUT NAME - XS-S3-5

PLOT DATE : 5/24/2019 8:55 AM PLOT BY : DOLAN, ISAAC PLOT NAME : PLOT SCALE : 1 IN:10 FT



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9

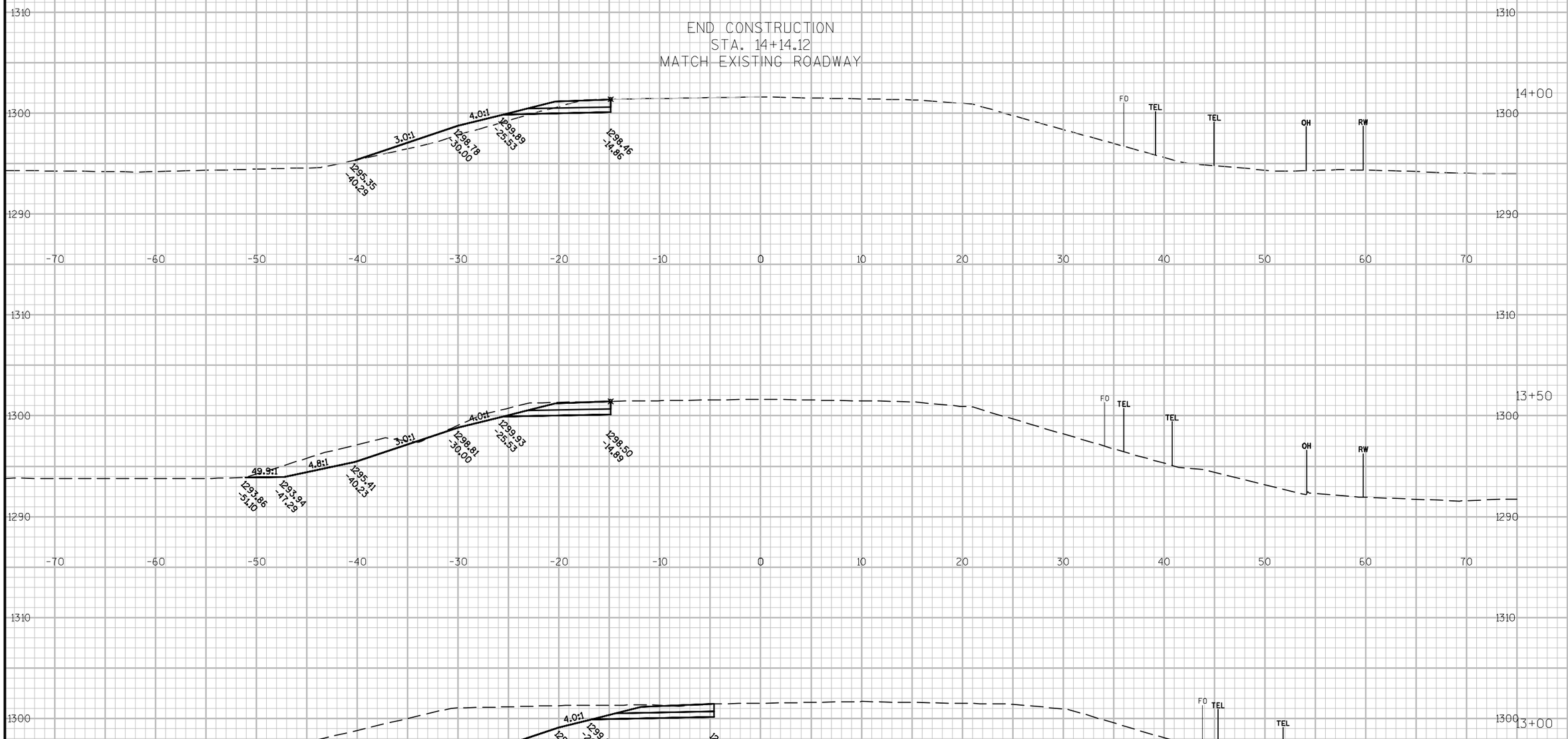
PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	CROSS SECTIONS: STAGE 3 - TEMPORARY BYPASS REMOVAL	SHEET 144	E

FILE NAME : P:\60548628\900_WORK\910_CAD\90000400\DESIGN\CORRIDORS\CRDR-64-STAGE3.DWG
LAYOUT NAME - XS-S3-6

PLOT DATE : 5/24/2019 8:55 AM PLOT BY : DOLAN, ISAAC PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

END CONSTRUCTION
STA. 14+14.12
MATCH EXISTING ROADWAY



PROJECT NO: 9000-04-70	HWY: STH 64	COUNTY: LINCOLN	CROSS SECTIONS: STAGE 3 - TEMPORARY BYPASS REMOVAL	SHEET 145	E

FILE NAME : P:\60548628\900_WORK\910_CAD\90000400\DESIGN\CORRIDORS\CRDR-64-STAGE3.DWG
LAYOUT NAME - XS-S3-7

PLOT DATE : 5/24/2019 8:55 AM PLOT BY : DOLAN, ISAAC PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

Wisconsin Department of Transportation

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