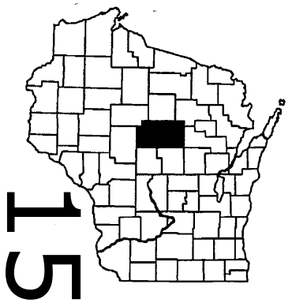
RHI FEB 2014

PROJECT ID: 1053-02-63
WITH: N/A

COUNTY: MARATHON

ORDER OF SHEETS

TOTAL SHEETS = 144



15

N

DESIGN DESIGNATION

A.A.D.T.	(2014)	=	11,600
A.A.D.T.	(2034)	=	15,000
D.H.V.		=	UNKNOWN
D.D.		=	60/40
T.		=	19.1%
DESIGN SPEED		=	70 MPH
ESALS		=	N/A

CONVENTIONAL SYMBOLS

PLAN		PROFILE	
CORPORATE LIMITS		GRADE LINE	
PROPERTY LINE		ORIGINAL GROUND	
LOT LINE		MARSH OR ROCK PROFILE (To be noted as such)	ROCK
LIMITED HIGHWAY EASEMENT		SPECIAL DITCH	LABEL
EXISTING RIGHT OF WAY		GRADE ELEVATION	95.36
PROPOSED OR NEW R/W LINE		CULVERT (Profile View)	
SLOPE INTERCEPT		UTILITIES	
REFERENCE LINE		ELECTRIC	E
EXISTING CULVERT		FIBER OPTIC	FO
PROPOSED CULVERT (Box or Pipe)		GAS	G
COMBUSTIBLE FLUIDS	CAUTION	SANITARY SEWER	SAN
		STORM SEWER	SS
		TELEPHONE	T
MARSH AREA		WATER	W
		UTILITY PEDESTAL	
		POWER POLE	
WOODED OR SHRUB AREA		TELEPHONE POLE	

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

ABBOTSFORD - WAUSAU

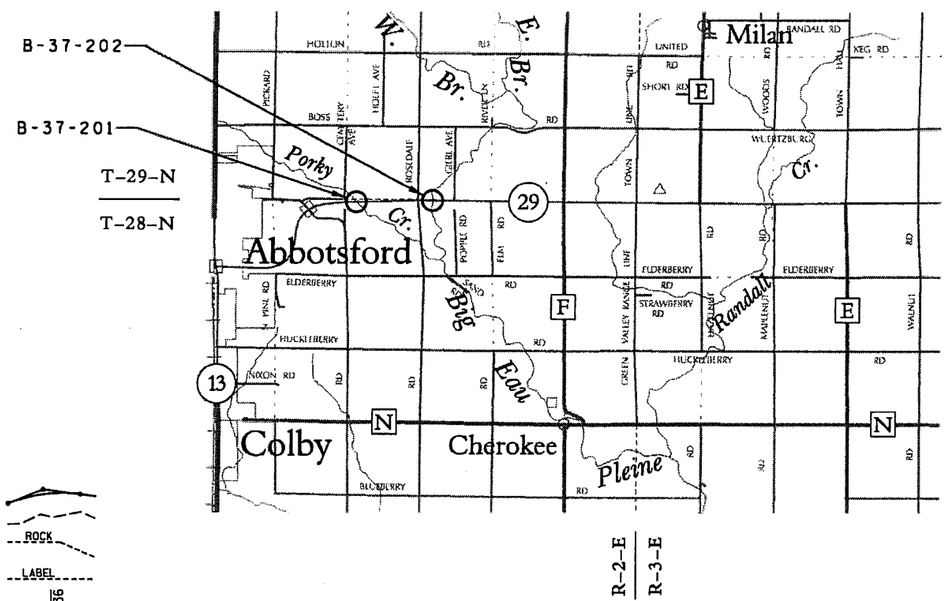
PORKY CRK & B EAU PLEINE, B-37-201, 202

STH 29

MARATHON COUNTY

STATE PROJECT NUMBER
1053-02-63

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1053-02-63	WISC 2014025	1



LAYOUT
SCALE 0 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.000 MI.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), MARATHON COUNTY, HORIZONTAL DATUM NAD 83 (07). ALL DISTANCES ARE GROUND. ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO VERTICAL DATUM NAVD 88.

ORIGINAL PLANS PREPARED BY

EMCS
630 South 36th Avenue
Wausau, WI 54401
715.845.1081 FAX 715.845.1099

WISCONSIN
STEPHANIE G. CHRISTENSEN
E35808
WAUSAU, WI
PROFESSIONAL ENGINEER

7-19-2013 (Date) Stephanie G. Christensen (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	NC REGION/EMCS, INC.
Designer	EMCS, INC.
Project Manager	RICHARD SIMON
Regional Examiner	CHERYL SIMON
Regional Supervisor	ROBIN STAFFORD

APPROVED FOR THE DEPARTMENT
DATE: 7/29/13 (Signature)

E

GENERAL NOTES

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

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

AS-BUILTS USED FOR PLAN DEVELOPMENT

PROJECT NO: 1053-10-73, CONSTRUCTION YEAR: 1999
PROJECT NO: 1053-10-75, CONSTRUCTION YEAR: 1999

OTHER CONTACTS

DNR LIAISON
MARC HERSHFIELD
NORTH CENTRAL REGION
473 GRIFFITH DRIVE
WISCONSIN RAPIDS, WI 54494
(715) 421-7867
marc.hershfield@wisconsin.gov

U.S. ARMY CORPS OF ENGINEERS
ERIC NORTON
STEVENS POINT FIELD OFFICE
1314 CONTRACTORS BLVD
PLOVER, WI 54467
(715) 345-7911

UTILITIES

CITY OF ABBOTSFORD
(WATER AND COMMUNICATIONS)
CRAIG STUTTGEN
203 NORTH FIRST STREET
PO BOX 589
ABBOTSFORD, WI 54405
PHONE: (715) 223-3444 EXT 250
MOBILE: (715) 613-9444
c.stuttgen@ci.abbotsford.wi.us

CLARK ELECTRIC COOPERATIVE
(ELECTRIC)
KEVIN STERLAND
124 NORTH MAIN STREET
PO BOX 190
GREENWOOD, WI 54437-0190
PHONE: (715) 267-6188 EXT 235
MOBILE: (715) 797-2230
ksterland@cecoop.com

FRONTIER COMMUNICATIONS OF WI LLC
(COMMUNICATIONS)
CALVIN KLADE
1851 14TH AVENUE
WAUSAU WI, 54401
PHONE: (715) 847-1525
MOBILE: (715) 573-2110
calvin.klade@ftr.com

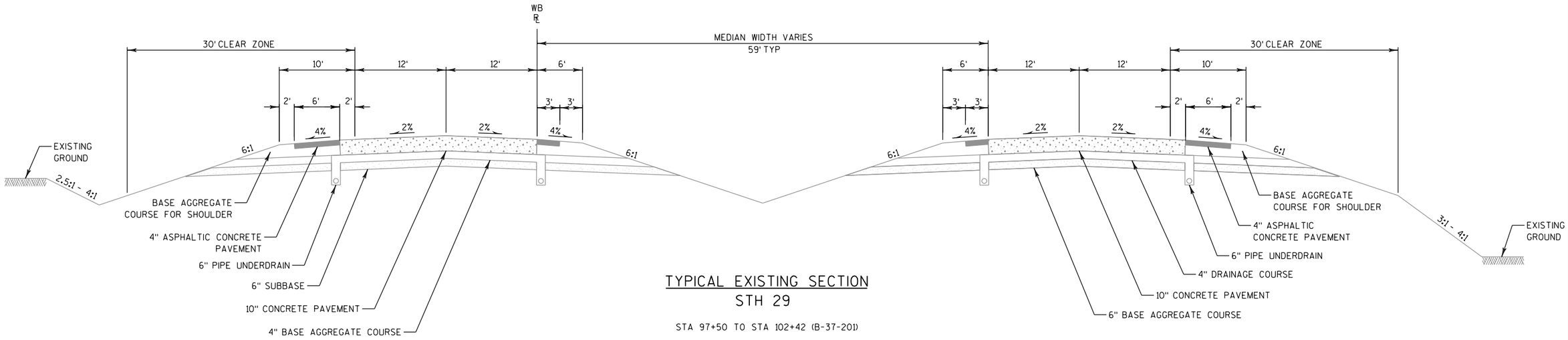
DIGGERS HOTLINE

Call 811 3 Work Days Before You Dig
or Toll Free (800) 242-8511
Hearing Impaired TDD (800) 542-2289
www.DiggersHotline.com

TO OBTAIN LOCATION OF PARTICIPANTS UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN

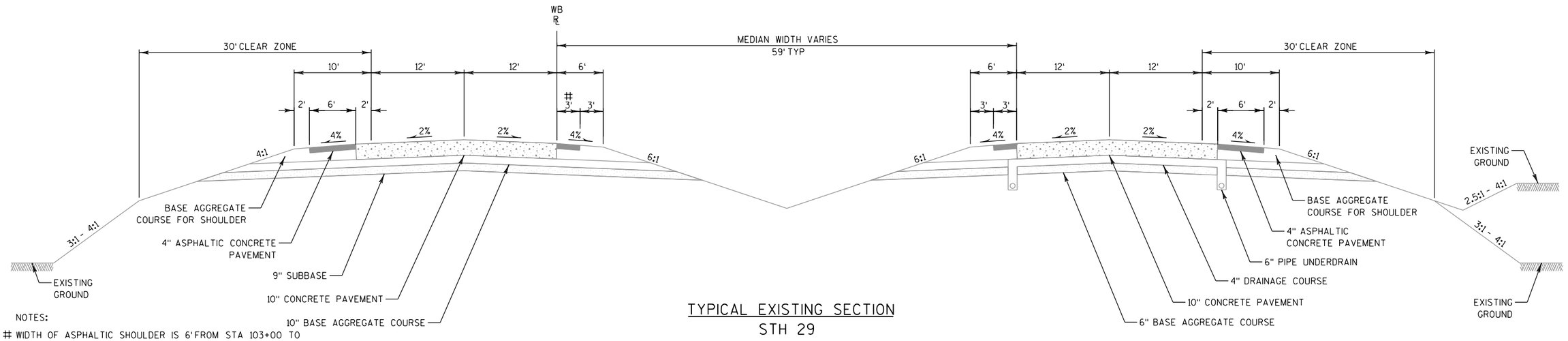
WISCONSIN STATUTE 182.0175 (1974) REQUIRES MINIMUM OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE.

ORDER OF SECTION 2 SHEETS



TYPICAL EXISTING SECTION
STH 29

STA 97+50 TO STA 102+42 (B-37-201)



TYPICAL EXISTING SECTION
STH 29

STA 102+80 (B-37-201) TO STA 109+50
STA 153+65 TO STA 157+48 (B-37-202)
STA 159+10 (B-37-202) TO STA 165+15

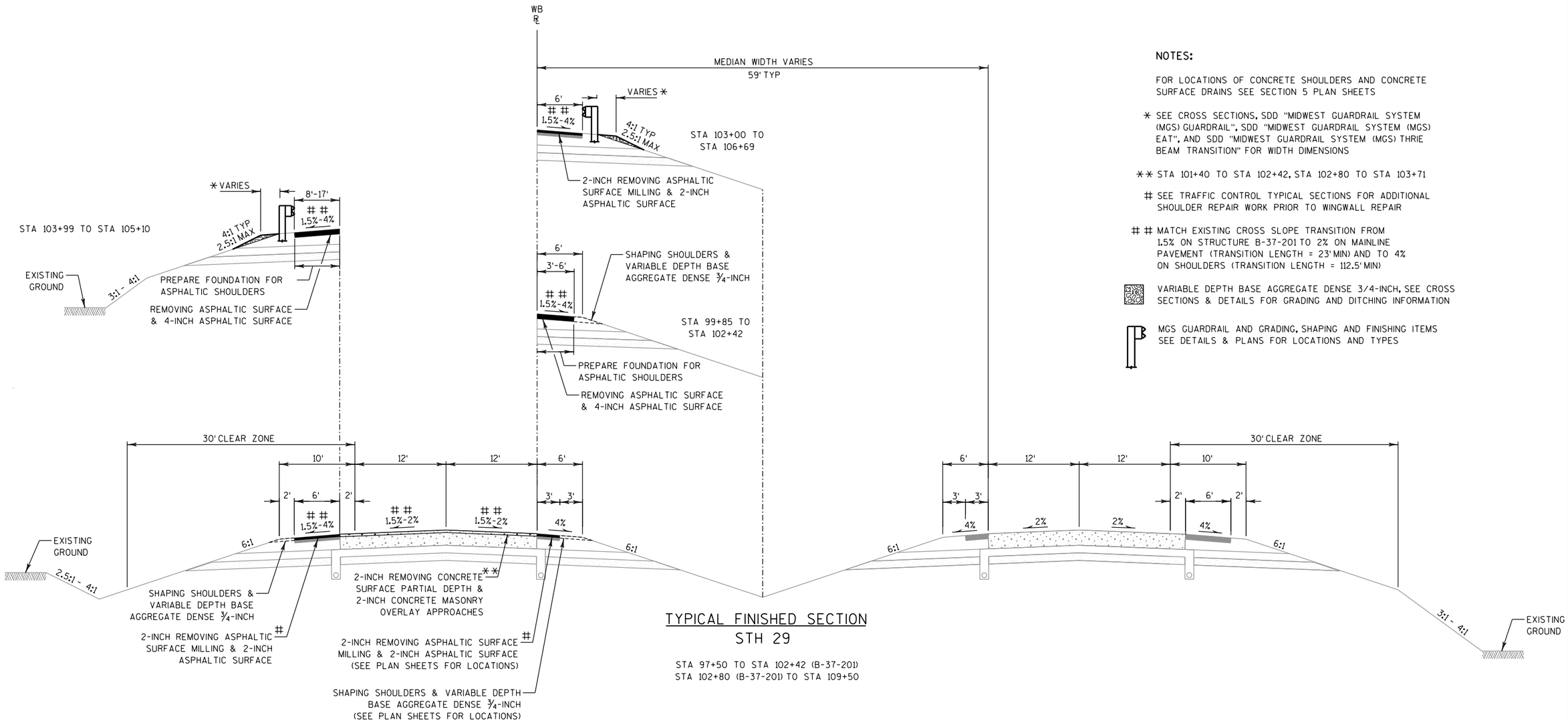
NOTES:

WIDTH OF ASPHALTIC SHOULDER IS 6' FROM STA 103+00 TO STA 106+68 AND 8' FROM STA 159+31 TO 159+61

EXISTING MAINLINE CROSS SLOPE VARIES FROM 2.0% TO 1.5% ON APPROACHES TO STRUCTURES AND EXISTING SHOULDER CROSS SLOPE VARIES FROM 4.0% TO 1.5% ON APPROACHES TO STRUCTURES

SEE PLAN SHEETS FOR LOCATIONS OF EXISTING GUARDRAIL

PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	TYPICAL SECTION	SHEET 3	E



TYPICAL FINISHED SECTION
STH 29

STA 97+50 TO STA 102+42 (B-37-201)
STA 102+80 (B-37-201) TO STA 109+50

NOTES:

FOR LOCATIONS OF CONCRETE SHOULDERS AND CONCRETE SURFACE DRAINS SEE SECTION 5 PLAN SHEETS

* SEE CROSS SECTIONS, SDD "MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL", SDD "MIDWEST GUARDRAIL SYSTEM (MGS) EAT", AND SDD "MIDWEST GUARDRAIL SYSTEM (MGS) THRIE BEAM TRANSITION" FOR WIDTH DIMENSIONS

** STA 101+40 TO STA 102+42, STA 102+80 TO STA 103+71

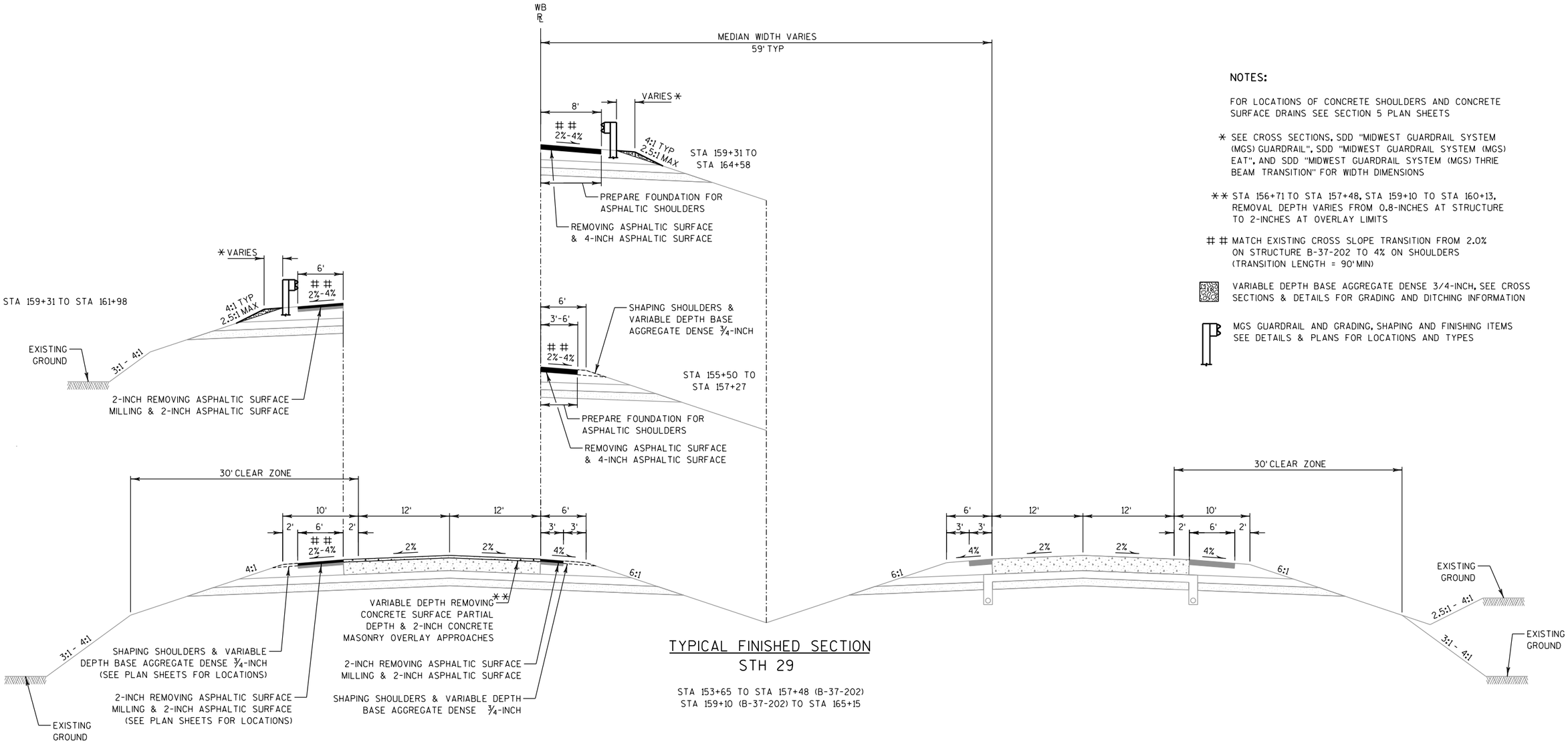
SEE TRAFFIC CONTROL TYPICAL SECTIONS FOR ADDITIONAL SHOULDER REPAIR WORK PRIOR TO WINGWALL REPAIR

MATCH EXISTING CROSS SLOPE TRANSITION FROM 1.5% ON STRUCTURE B-37-201 TO 2% ON MAINLINE PAVEMENT (TRANSITION LENGTH = 23' MIN) AND TO 4% ON SHOULDERS (TRANSITION LENGTH = 112.5' MIN)

VARIABLE DEPTH BASE AGGREGATE DENSE 3/4-INCH, SEE CROSS SECTIONS & DETAILS FOR GRADING AND DITCHING INFORMATION

MGS GUARDRAIL AND GRADING, SHAPING AND FINISHING ITEMS SEE DETAILS & PLANS FOR LOCATIONS AND TYPES

PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	TYPICAL SECTION	SHEET 4	E



TYPICAL FINISHED SECTION
STH 29

STA 153+65 TO STA 157+48 (B-37-202)
STA 159+10 (B-37-202) TO STA 165+15

NOTES:

FOR LOCATIONS OF CONCRETE SHOULDERS AND CONCRETE SURFACE DRAINS SEE SECTION 5 PLAN SHEETS

* SEE CROSS SECTIONS, SDD "MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL", SDD "MIDWEST GUARDRAIL SYSTEM (MGS) EAT", AND SDD "MIDWEST GUARDRAIL SYSTEM (MGS) THRIE BEAM TRANSITION" FOR WIDTH DIMENSIONS

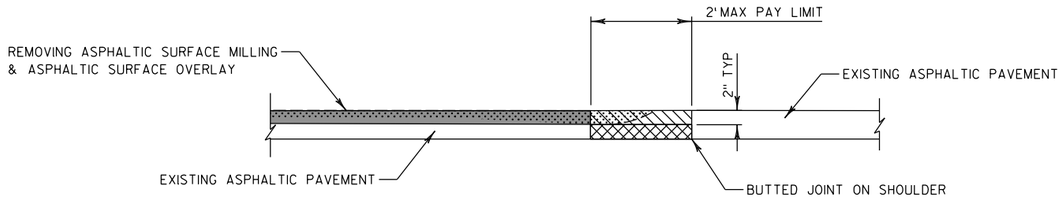
** STA 156+71 TO STA 157+48, STA 159+10 TO STA 160+13, REMOVAL DEPTH VARIES FROM 0.8-INCHES AT STRUCTURE TO 2-INCHES AT OVERLAY LIMITS

MATCH EXISTING CROSS SLOPE TRANSITION FROM 2.0% ON STRUCTURE B-37-202 TO 4% ON SHOULDERS (TRANSITION LENGTH = 90' MIN)

VARIABLE DEPTH BASE AGGREGATE DENSE 3/4-INCH, SEE CROSS SECTIONS & DETAILS FOR GRADING AND DITCHING INFORMATION

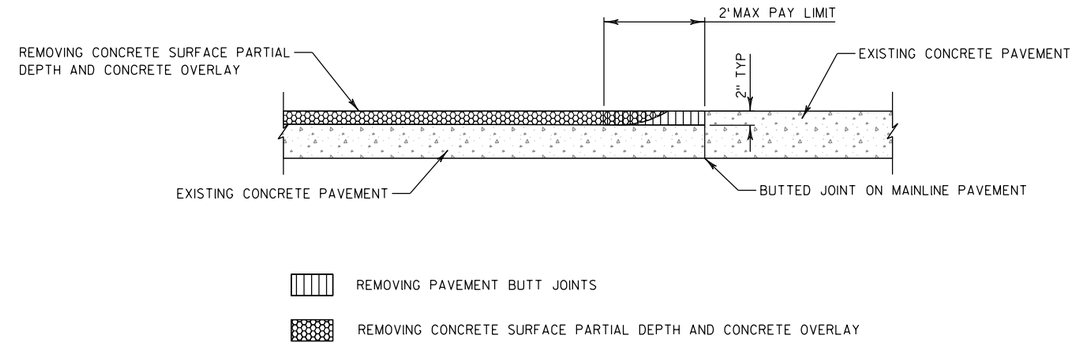
MGS GUARDRAIL AND GRADING, SHAPING AND FINISHING ITEMS SEE DETAILS & PLANS FOR LOCATIONS AND TYPES

PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	TYPICAL SECTION	SHEET 5	E



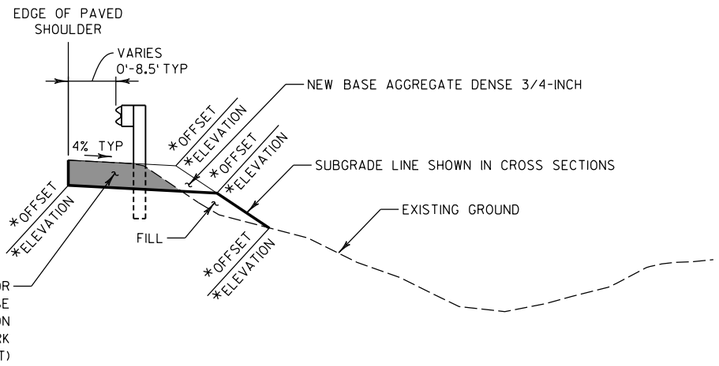
DETAIL OF ASPHALTIC BUTT JOINT ON SHOULDERS

STA 97+50 LT, STA 98+00 RT, STA 102+42 RT, STA 102+80 RT, STA 109+00 RT, STA 109+50 LT, STA 153+65 RT, STA 154+40 LT, STA 164+20 LT, STA 165+15 RT



DETAIL OF PAVEMENT BUTT JOINT ON MAINLINE

STA 101+40 LT, STA 102+42 LT, STA 101+80 LT, STA 103+71 LT
STA 156+71 LT, STA 157+48 LT, STA 159+10 LT, STA 160+13 LT



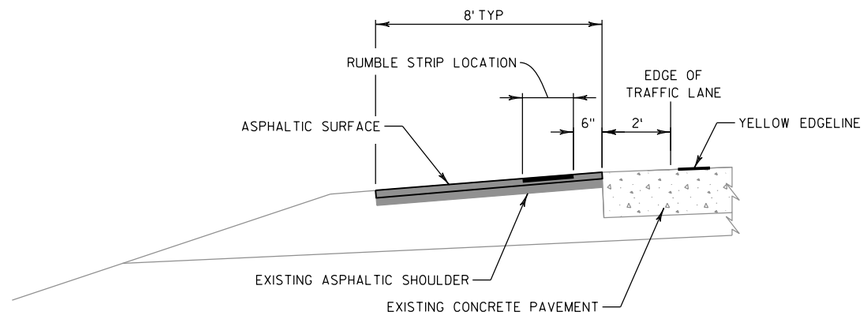
SHOULDER WIDENING EARTHWORK & BASE AGGREGATE FOR GUARDRAIL DETAIL

NOTES:

ANY CUT AND FILL REQUIRED IS INCIDENTAL TO THE BARRIER SYSTEM GRADING SHAPING FINISHING ITEM OR THE GRADING, SHAPING AND FINISHING DRIVEWAY WITH BARRIER SYSTEM ITEM

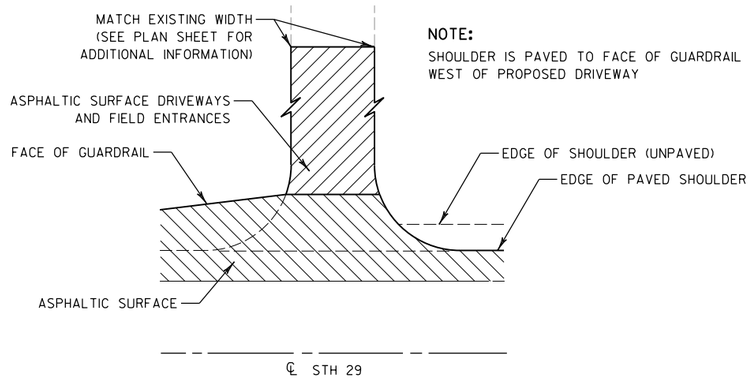
*OFFSET AND ELEVATION PROVIDED TO THESE POINTS ON THE CROSS SECTIONS

FOR FINISHING ITEMS SEE FINISHING ITEMS AT GUARDRAIL DETAIL



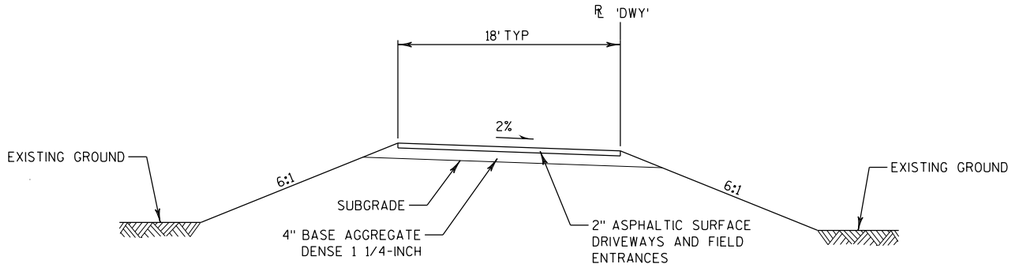
PLACEMENT DETAIL FOR MILLED RUMBLE STRIP ON OUTSIDE SHOULDER

SEE SDD "SHOULDER RUMBLE STRIP, MILLING" FOR ADDITIONAL INFORMATION

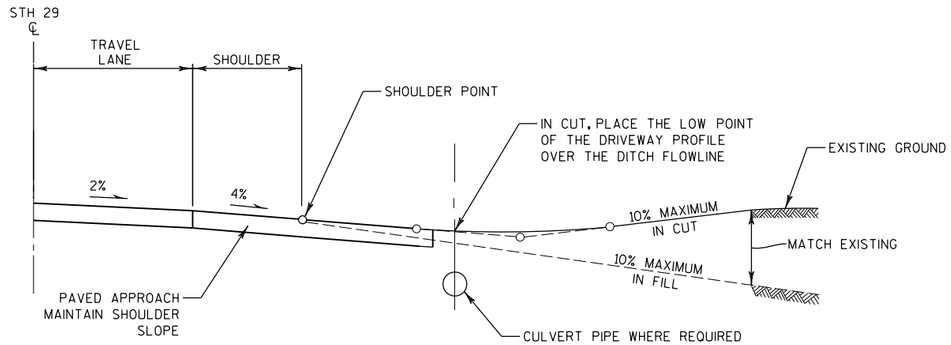


NOTE:
SHOULDER IS PAVED TO FACE OF GUARDRAIL WEST OF PROPOSED DRIVEWAY

RURAL DRIVEWAY INTERSECTION DETAIL
PLAN VIEW

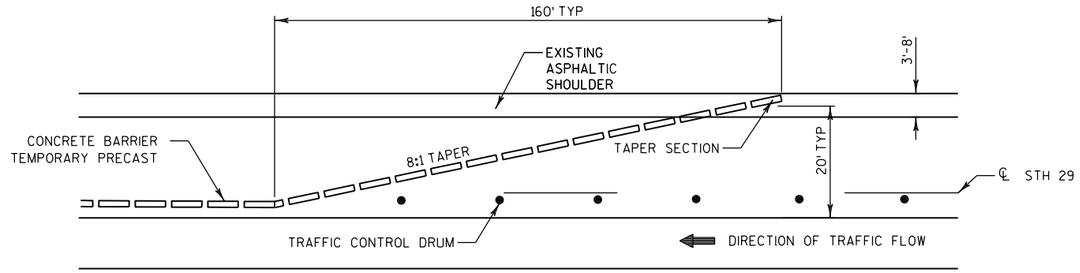


TYPICAL CROSS SECTION FOR PRIVATE DRIVEWAY



TYPICAL RURAL DRIVEWAY DETAIL IN DITCH GRADING

STA 104+70 LT



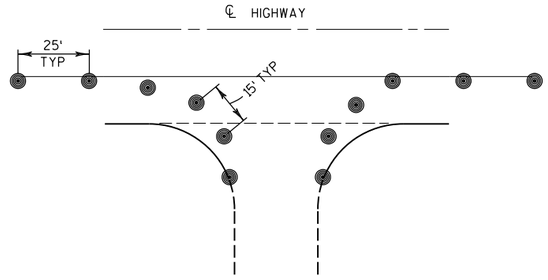
PLAN VIEW OF TEMPORARY PRECAST BARRIER TAPER ON EXISTING PAVEMENT

NOTES:

SEE TRAFFIC CONTROL PLANS FOR TEMPORARY BARRIER LOCATION.

SEE SDD "TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER" AND SDD "CONCRETE BARRIER TEMPORARY PRECAST" FOR ADDITIONAL INFORMATION.

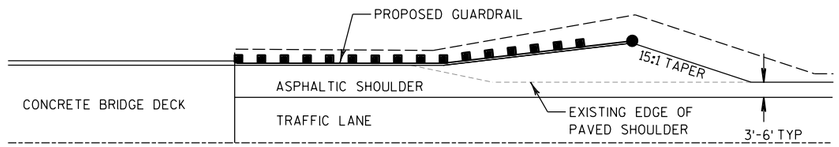
OUTSIDE LANE CLOSURE SHOWN. REVERSE CONCRETE BARRIER TEMPORARY PRECAST LOCATION AND TAPER FOR INSIDE LANE CLOSURE.



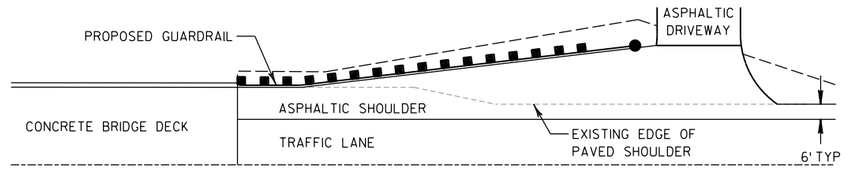
PLAN VIEW
(DRIVEWAYS & INTERSECTIONS)

DRUM OPENING DETAIL

DRUM OPENINGS ARE NOT SHOWN ON PLANS AT ALL LOCATIONS. MAINTAIN OPENING UNLESS OTHERWISE APPROVED BY THE ENGINEER.



STANDARD GUARDRAIL INSTALLATION



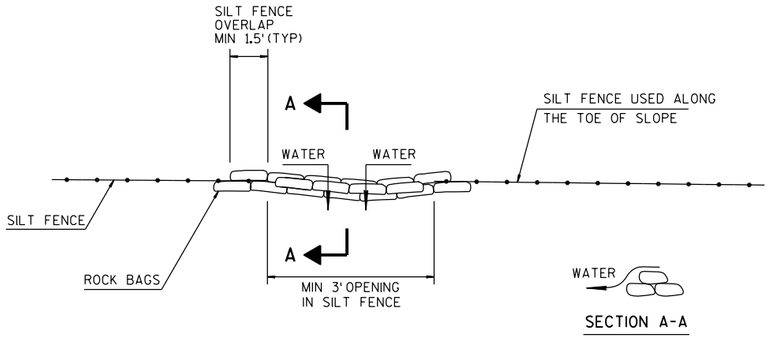
FLARED GUARDRAIL INSTALLATION

DETAIL FOR ASPHALTIC SHOULDER AT GUARDRAIL

NOTES:

APPLY SPRAYED ASPHALTIC SHOULDER TREATMENT PER SPECIAL PROVISIONS.

SEE TYPICAL SECTIONS FOR STATION RANGES FOR THE PROPOSED SHOULDER IMPROVEMENTS IN GUARDRAIL AREAS.



TOP VIEW

ROCK BAGS USED FOR SILT FENCE RELIEF DETAIL

PAID AS ROCK BAGS

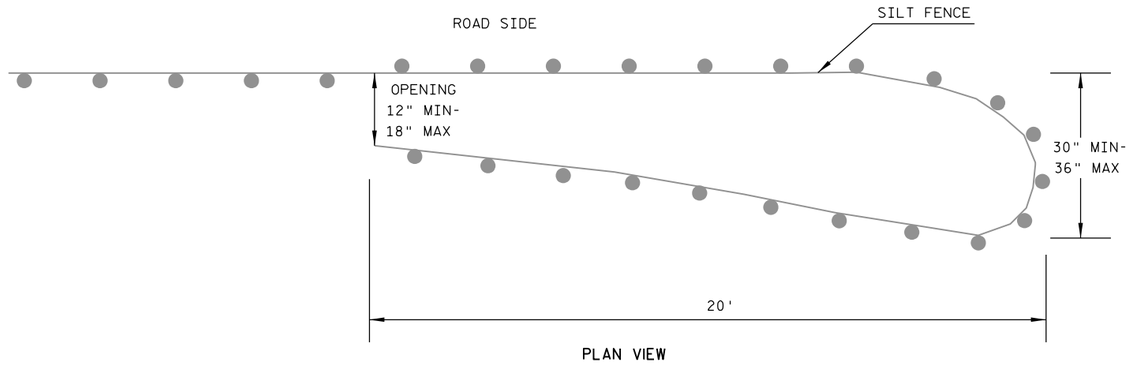
NOTE:

SEE EROSION CONTROL PLANS FOR ADDITIONAL INFORMATION

RUNOFF COEFFICIENT TABLE

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

TOTAL PROJECT AREA = 12.7 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 1.8 ACRES



PLAN VIEW

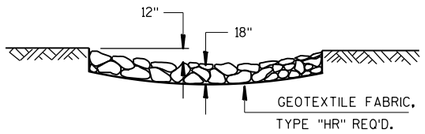
NOTES:

SILT FENCE POSTS FOR THE TURN-AROUND SHOULD BE ON THE OUTSIDE OF THE TURN-AROUND AND TRENCHED IN ACCORDING TO SILT FENCE REQUIREMENTS.

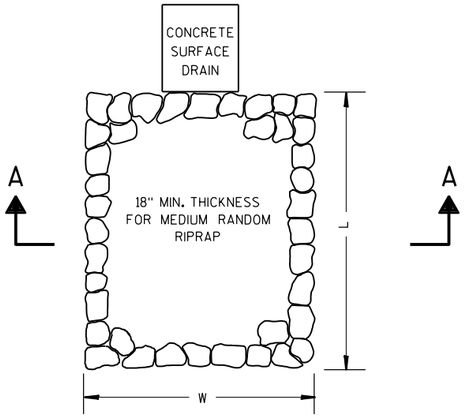
NOTE:

SEE EROSION CONTROL PLANS FOR ADDITIONAL INFORMATION

TEMPORARY SMALL ANIMAL TURN-AROUND



SECTION A-A

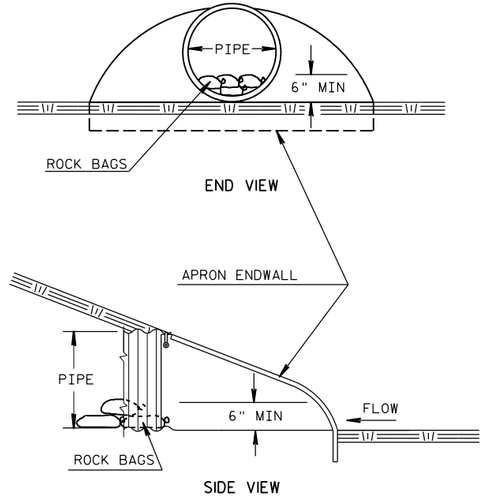


NOTE:

SEE EROSION CONTROL PLANS FOR ADDITIONAL INFORMATION

MEDIUM RANDOM RIPRAP TREATMENT AT COCNRETE SURFACE DRAINS

FOR "L" AND "W" DIMENSIONS SEE EROSION CONTROL PLANS



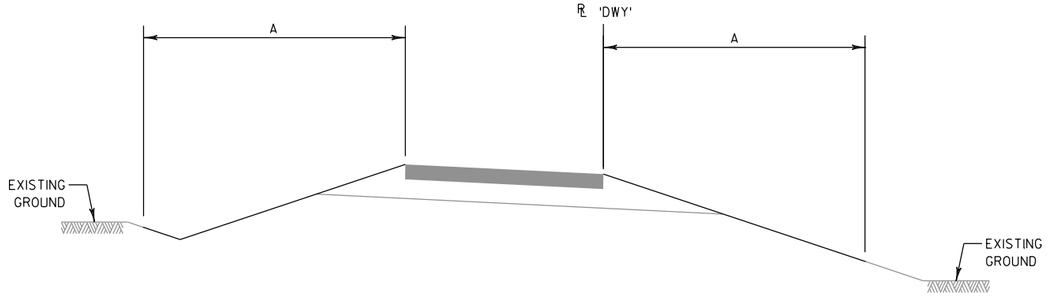
CULVERT PIPE CHECKS

INSTALL ON INLET END

NOTE:

SEE EROSION CONTROL PLANS FOR ADDITIONAL INFORMATION

2



NOTES:

A= TOPSOIL (6-INCH), FERTILIZER FOR LAWN TYPE TURF, SEEDING MIXTURE NO. 40, PREPARE TOPSOIL FOR LAWN TYPE TURF, AND EROSION MAT URBAN CLASS I TYPE B

TOPSOIL, FERTILIZER FOR LAWN TYPE TURF, SEEDING MIXTURE NO. 40, AND PREPARE TOPSOIL FOR LAWN TYPE TURF ARE INCIDENTAL TO GRADING, SHAPING AND FINISHING DRIVEWAY WITH BARRIER SYSTEM BID ITEM

EROSION MAT URBAN CLASS I TYPE B PAID UNDER PROVIDED BID ITEM

FINISHING ITEMS AT DRIVEWAY RELOCATION

STA 104+70 LT

NOTES:

A= FERTILIZER TYPE B AND SEEDING MIXTURE NO. 30

B= TOPSOIL (4-INCH), FERTILIZER TYPE B, SEEDING MIXTURE NO. 30, AND EROSION MAT CLASS I TYPE B

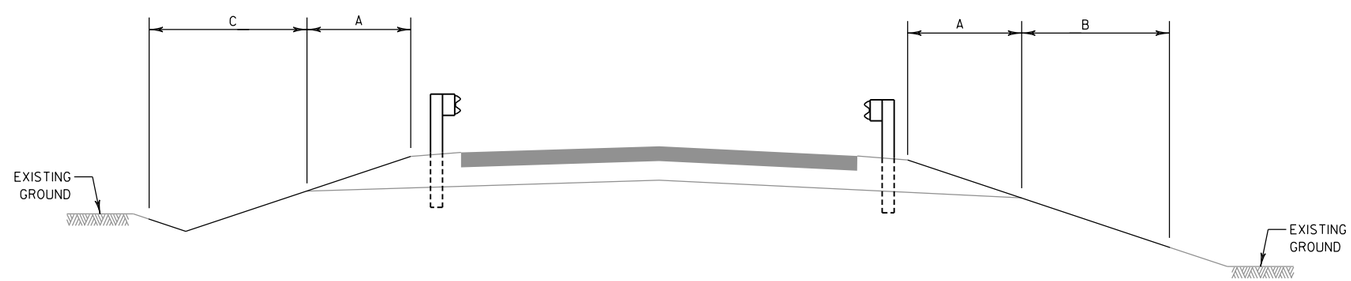
C= TOPSOIL (6-INCH), FERTILIZER FOR LAWN TYPE TURF, SEEDING MIXTURE NO. 30, SEEDING MIXTURE NO. 40, AND EROSION MAT CLASS I TYPE B OR EROSION MAT URBAN CLASS I TYPE B

TOPSOIL, FERTILIZER (TYPE B OR FERTILIZER FOR LAWN TYPE TURF), SEEDING MIXTURE NO. 30, AND SEEDING MIXTURE NO. 40 ARE INCIDENTAL TO BARRIER SYSTEM GRADING SHAPING FINISHING BID ITEM OR GRADING, SHAPING AND FINISHING DRIVEWAY WITH BARRIER SYSTEM BID ITEM

EROSION MAT CLASS I TYPE B AND EROSION MAT URBAN CLASS I TYPE B PAID UNDER PROVIDED BID ITEM

STA 102+76 - STA 105+96, LT

STA 103+04 - STA 107+50, RT
STA 159+23 - STA 163+67, LT
STA 159+23 - STA 164+82, RT



FINISHING ITEMS AT GUARDRAIL INSTALLATIONS

STH 29

2

W

DAM

W

PORKY CREEK

RIPRAP MEDIUM
REPLACE EXISTING

RIPRAP

RIPRAP

B-37-201

102+00

103+00

104+00

105+00

STH 29 WB

106+00

107+00

REHABILITATE WINGWALL,
SEE STRUCTURE PLANS
(EXISTING HEAVY RIPRAP
TO REMAIN)

RIPRAP

RIPRAP

B-37-284

RIPRAP

RIPRAP

SS

STH 29 EB

SIGN

LEGEND

- EROSION MAT CLASS I TYPE B
- EROSION MAT URBAN CLASS I TYPE B
- SILT FENCE
- SMALL ANIMAL TURN-AROUND
- RIPRAP
- SLOPE INTERCEPT
- SILT FENCE RELIEF (ROCK BAGS)
- INLET PROTECTION
- TEMPORARY DITCH CHECKS
- SURFACE WATER FLOW
- DELINEATED WETLAND BOUNDARY
- CULVERT PIPE CHECK
- TURBIDITY BARRIER

N

NOTES:

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE FERTILIZED, SEEDED, TOPSOILED AND COVERED WITH EROSION MAT.

PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	EROSION CONTROL	SHEET 11	E

FILE NAME : P:\47xx\4724_DP.12.STH29.MAR\CADDS\Plan\022001_ec.dgn PLOT DATE : 7/30/2013 PLOT BY : emo PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

NOTE:

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE FERTILIZED, SEEDED, TOPSOILED AND COVERED WITH EROSION MAT.

LEGEND

- EROSION MAT CLASS I TYPE B
- EROSION MAT URBAN CLASS I TYPE B
- SILT FENCE
- SMALL ANIMAL TURN-AROUND
- RIPRAP
- SLOPE INTERCEPT
- SILT FENCE RELIEF (ROCK BAGS)
- INLET PROTECTION
- TEMPORARY DITCH CHECKS
- SURFACE WATER FLOW
- DELINEATED WETLAND BOUNDARY
- CULVERT PIPE CHECK
- TURBIDITY BARRIER

N

BIG EAU PLEINE RIVER

156+00 157+00 158+00 159+00 160+00 161+00

B-37-202

B-37-285

RIPRAP MEDIUM
6' X 16'

RIPRAP HEAVY
SEE STRUCTURE PLANS

RIPRAP

RIPRAP

RIPRAP MEDIUM
8' X 22'

RIPRAP HEAVY
SEE STRUCTURE PLANS

PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	EROSION CONTROL	SHEET 12	E

FILE NAME : P:\47xx\4724_DP.12.STH29.MAR\CADDS\Plan\022002_ec.dgn PLOT DATE : 7/30/2013 PLOT BY : emo PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

NOTE:

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE FERTILIZED, SEEDED, TOPSOILED AND COVERED WITH EROSION MAT.

LEGEND

- EROSION MAT CLASS I TYPE B
- EROSION MAT URBAN CLASS I TYPE B
- SILT FENCE
- SMALL ANIMAL TURN-AROUND
- RIPRAP
- SLOPE INTERCEPT
- SILT FENCE RELIEF (ROCK BAGS)
- INLET PROTECTION
- TEMPORARY DITCH CHECKS
- SURFACE WATER FLOW
- DELINEATED WETLAND BOUNDARY
- CULVERT PIPE CHECK
- TURBIDITY BARRIER

N

161+00 162+00 163+00 STH 29 WB 164+00 165+00 166+00 167+00

STH 29 EB

PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	EROSION CONTROL	SHEET 13	E

FILE NAME : P:\47xx\4724_DP.12.STH29.MAR\CADDS\Plan\022003_ec.dgn PLOT DATE : 7/30/2013 PLOT BY : emo PLOT NAME : PLOT SCALE : 1:40

2

TRAFFIC CONTROL GENERAL NOTES

1) TRAFFIC CONTROL DETAILS ARE PROVIDED NEAR STRUCTURES B-37-201 AND B-37-202 ONLY. SEE STANDARD DETAIL DRAWINGS FOR ALL OTHER LOCATIONS.

2) ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

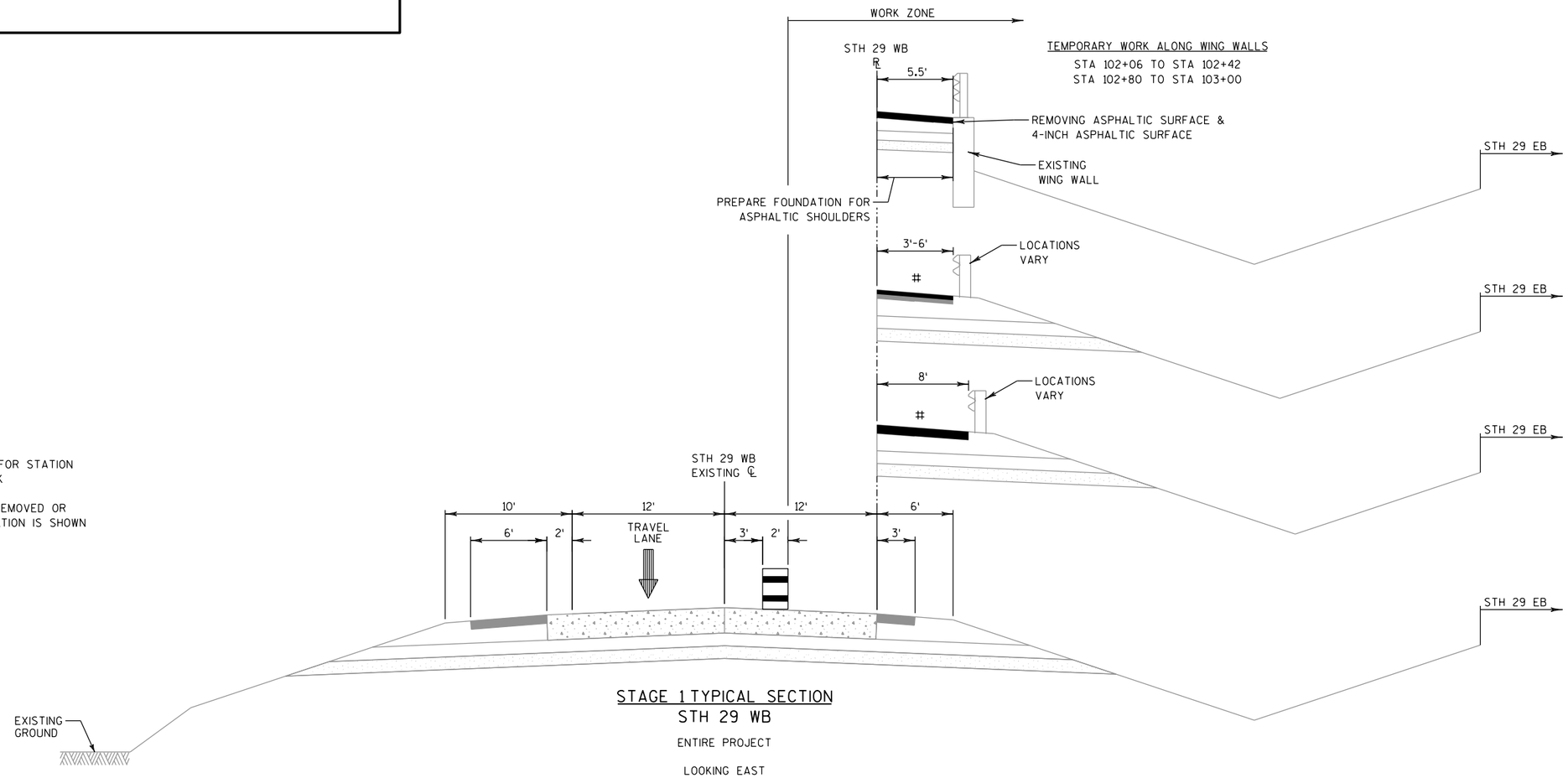
3) "WO" SIGNS ARE THE SAME A "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

4) FOR NIGHTTIME OPERATION ALL DRUMS IN TAPERS SHALL HAVE A TYPE C WARNING LIGHT.

5) ALL TYPE III BARRICADES SHALL BE 8' WIDE, UNLESS OTHERWISE NOTED. EQUIP WITH TYPE "A" (LOW INTENSITY FLASHING) LIGHTS PER SDDS.

PROPOSED WORK STAGE 1

WORK ON STH 29 WB INSIDE SHOULDER:
MILL AND OVERAY OR FULL DEPTH REPLACEMENT



STAGE 1 TYPICAL SECTION
STH 29 WB

ENTIRE PROJECT

LOOKING EAST

NOTES:

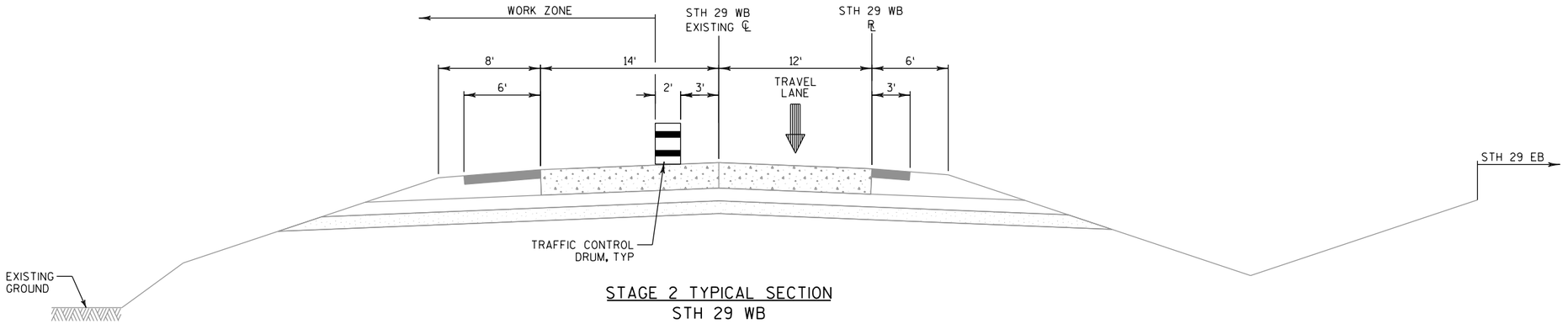
SEE TYPICAL SECTIONS AND PLANS FOR STATION LIMITS OF ULTIMATE PROPOSED WORK

TEMPORARY PAVING THAT WILL BE REMOVED OR RESURFACED IN THE ULTIMATE CONDITION IS SHOWN ON THESE STAGING TYPICALS

2

PROPOSED WORK STAGE 2

WORK ON STH 29 WB DRIVING LANE AND DRIVING LANE SHOULDER:
STRUCTURE AND APPROACH WORK, RELOCATE DRIVEWAY

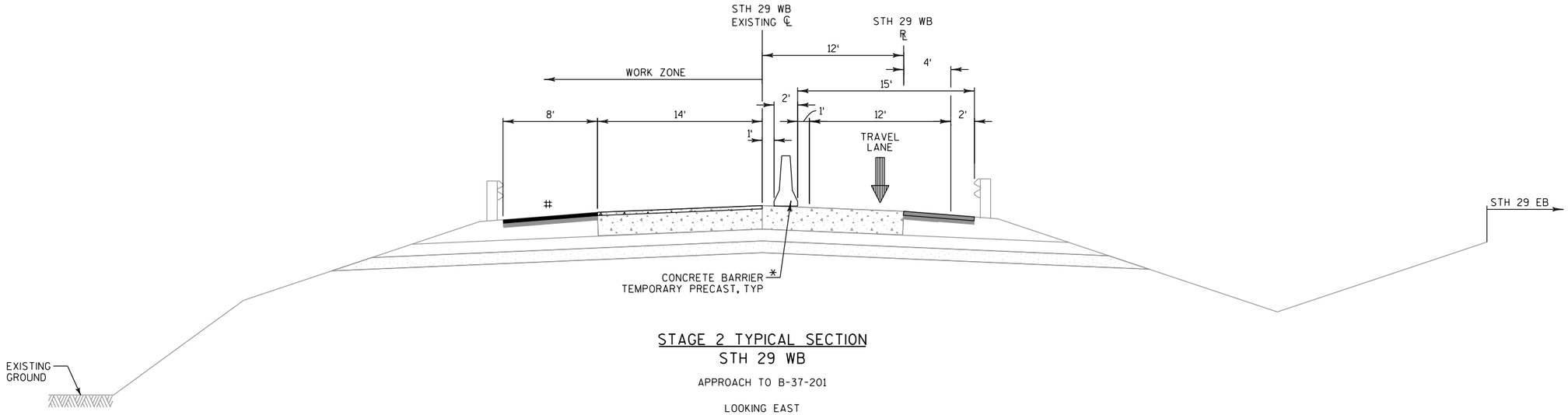


STAGE 2 TYPICAL SECTION
STH 29 WB

OUTSIDE OF STRUCTURE AND APPROACH LIMITS

LOOKING EAST

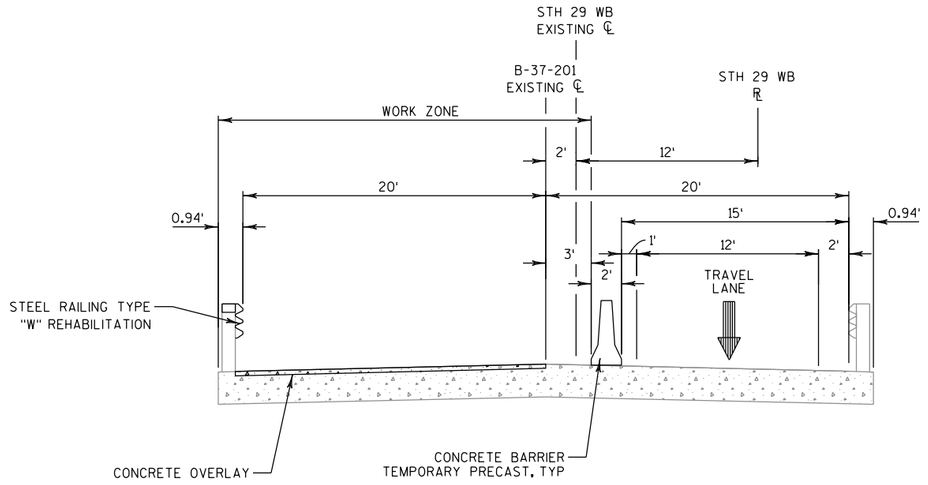
PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	TRAFFIC CONTROL - TYPICAL SECTIONS	SHEET 15	E



STAGE 2 TYPICAL SECTION
STH 29 WB

APPROACH TO B-37-201

LOOKING EAST



STAGE 2 TYPICAL SECTION
STH 29 WB

PORKY CREEK BRIDGE (B-37-201)

LOOKING EAST

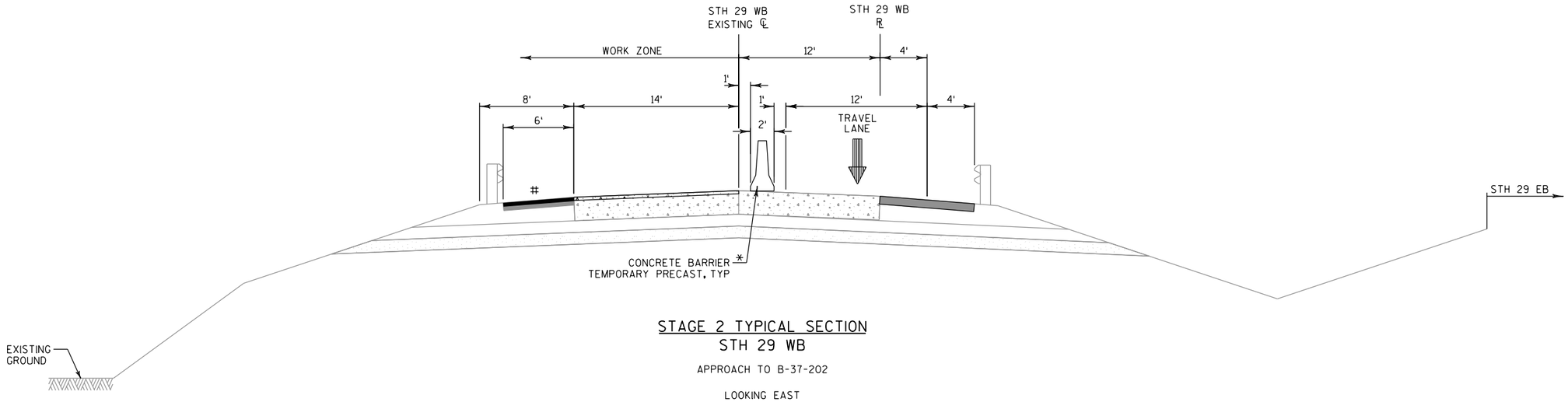
NOTES:

PLACE ADVANCED WARNING WIDTH RESTRICTION SIGNS PER THE TRAFFIC CONTROL WIDTH RESTRICTION PLAN SHEET

\# SEE TYPICAL SECTIONS AND PLANS FOR STATION LIMITS OF ULTIMATE PROPOSED WORK

* OFFSET DISTANCE FROM TEMPORARY CONCRETE BARRIER TO TRAVEL LANE VARIES IN TAPERED SECTION

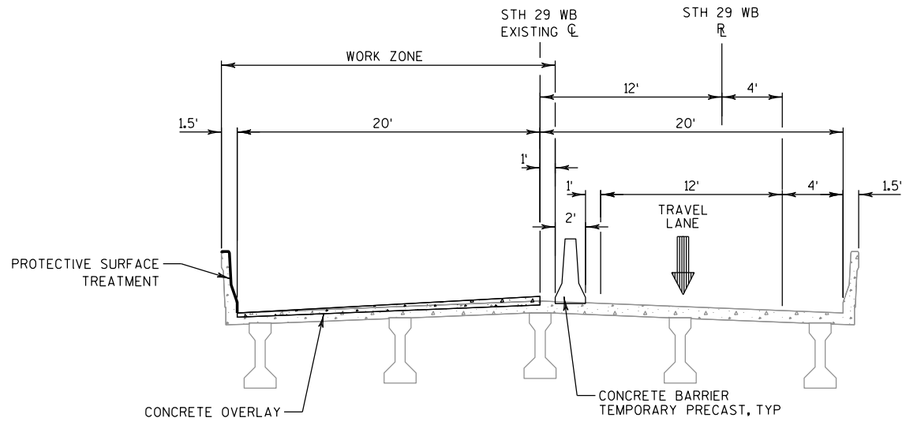
2



STAGE 2 TYPICAL SECTION
STH 29 WB

APPROACH TO B-37-202

LOOKING EAST



STAGE 2 TYPICAL SECTION
STH 29 WB

BIG EAU PLEINE BRIDGE (B-37-202)

LOOKING EAST

NOTES:

\# SEE TYPICAL SECTIONS AND PLANS FOR STATION LIMITS OF ULTIMATE PROPOSED WORK

* OFFSET DISTANCE FROM TEMPORARY CONCRETE BARRIER TO TRAVEL LANE VARIES IN TAPERED SECTION

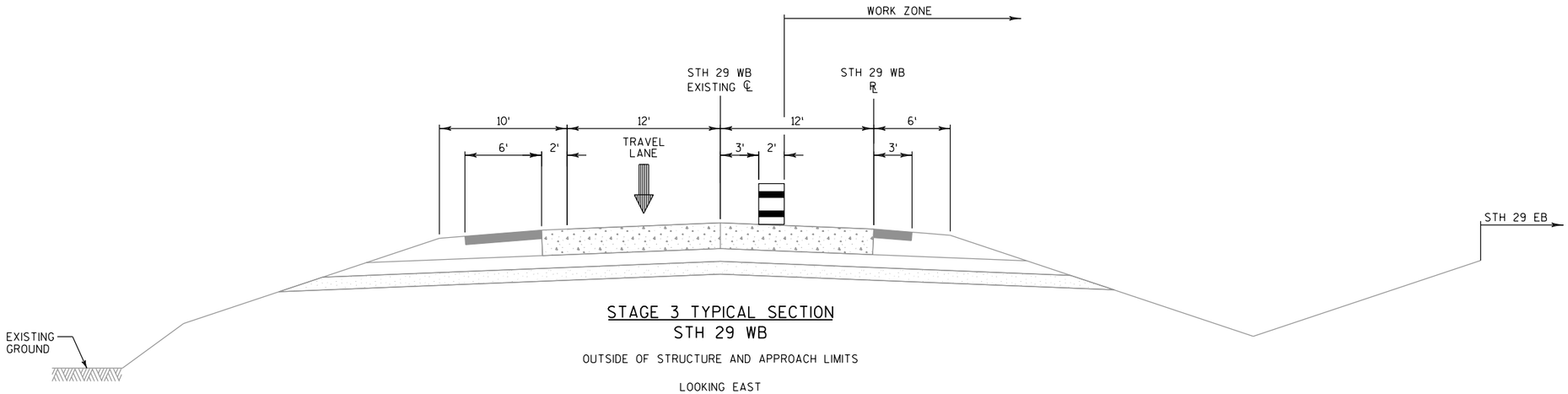
2

NOTE:

SEE TYPICAL SECTIONS AND PLANS FOR STATION LIMITS OF PROPOSED WORK

PROPOSED WORK STAGE 3

WORK ON STH 29 WB PASSING LANE AND PASSING LANE SHOULDER:
STRUCTURE AND APPROACH WORK

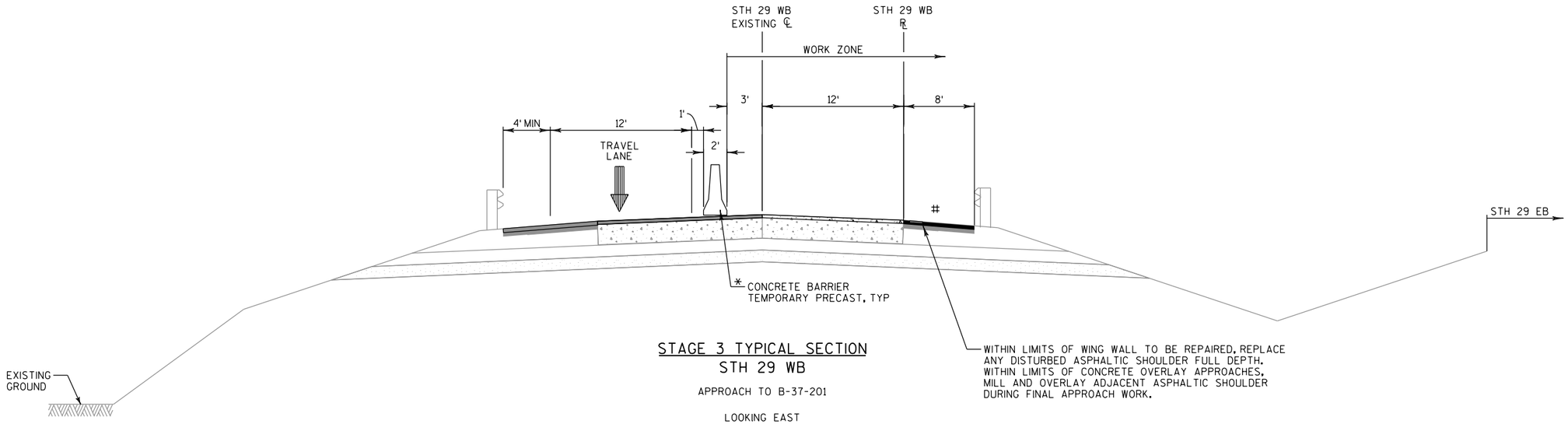


STAGE 3 TYPICAL SECTION
STH 29 WB

OUTSIDE OF STRUCTURE AND APPROACH LIMITS

LOOKING EAST

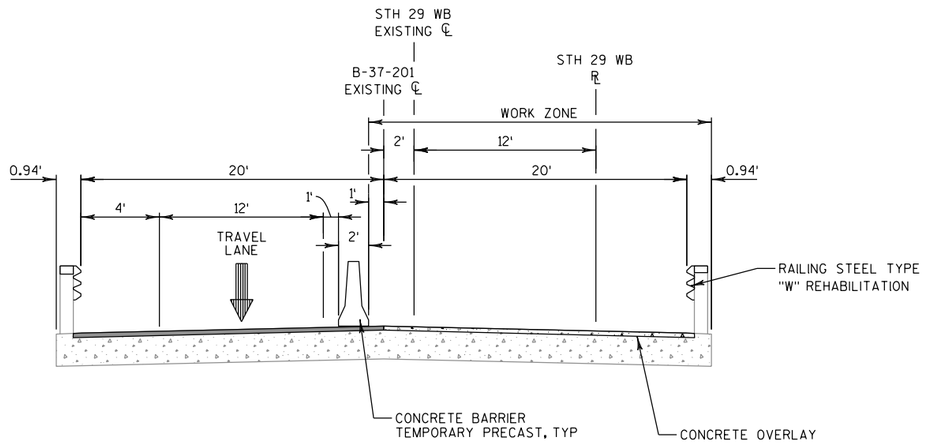
PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	TRAFFIC CONTROL - TYPICAL SECTIONS	SHEET 18	E



STAGE 3 TYPICAL SECTION
STH 29 WB

APPROACH TO B-37-201

LOOKING EAST



STAGE 3 TYPICAL SECTION
STH 29 WB

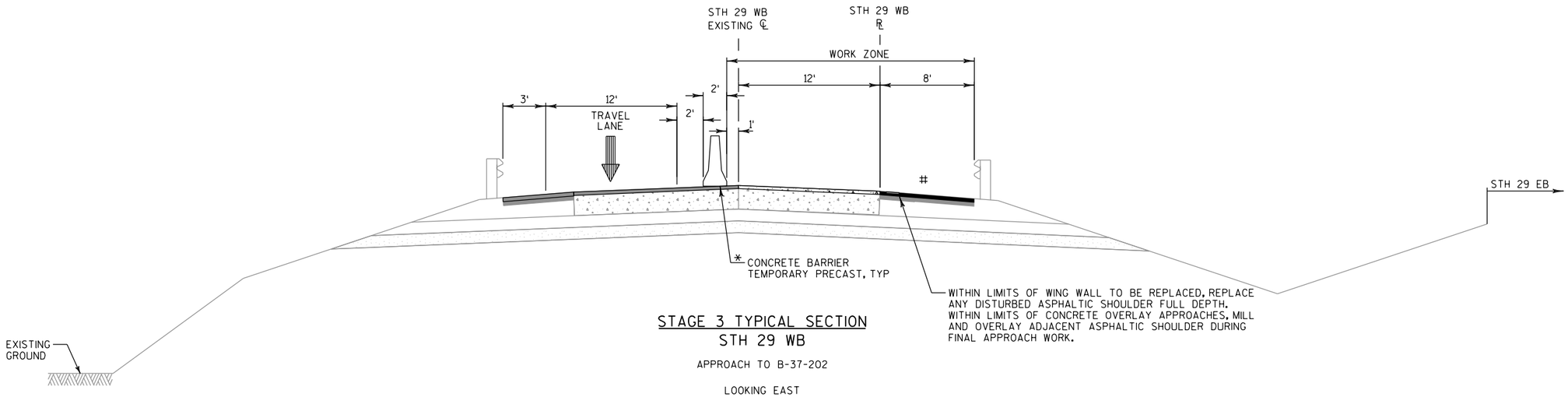
PORKY CREEK BRIDGE (B-37-201)

LOOKING EAST

NOTES:

\# SEE TYPICAL SECTIONS AND PLANS FOR STATION LIMITS OF ULTIMATE PROPOSED WORK

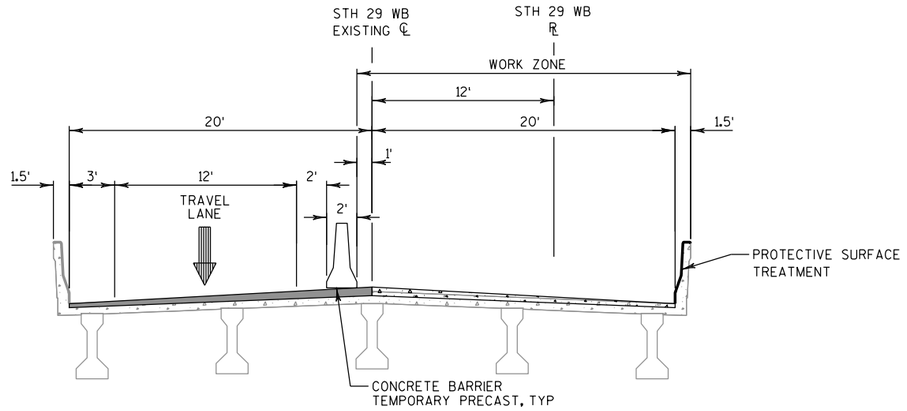
* OFFSET DISTANCE FROM TEMPORARY CONCRETE BARRIER TO TRAVELED LANE VARIES IN TAPERED SECTION



STAGE 3 TYPICAL SECTION
STH 29 WB

APPROACH TO B-37-202

LOOKING EAST



STAGE 3 TYPICAL SECTION
STH 29 WB

BIG EAU PLEINE BRIDGE (B-37-202)

LOOKING EAST

NOTES:

\# SEE TYPICAL SECTIONS AND PLANS FOR STATION LIMITS OF ULTIMATE PROPOSED WORK

* OFFSET DISTANCE FROM TEMPORARY CONCRETE BARRIER TO TRAVELED LANE VARIES IN TAPERED SECTION

PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	TRAFFIC CONTROL - TYPICAL SECTIONS	SHEET 20	E

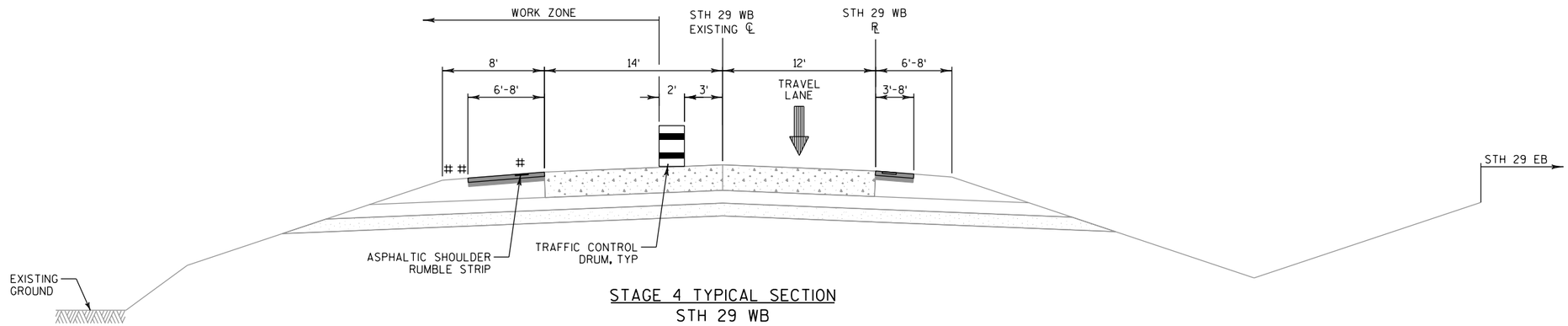
NOTES:

\# SEE TYPICAL SECTIONS AND PLANS FOR STATION LIMITS OF PROPOSED WORK

\# \# PROPOSED GUARDRAIL INSTALLED IN PREVIOUS STAGES IN ALL LOCATIONS

PROPOSED WORK STAGE 4

WORK ON STH 29 WB DRIVING LANE SHOULDER:
INSTALL RUMBLE STRIPS



STAGE 4 TYPICAL SECTION
STH 29 WB

ENTIRE PROJECT

LOOKING EAST

LEGEND

MB — TRAFFIC CONTROL SIGN PCMS WITH CELLULAR COMMUNICATIONS

WORK ZONE

NOTES:

* PLACE SIGN M1-6 AND SIGN M3-4 WHEN ASSEMBLY IS MOUNTED ON ALL ROADWAYS OTHER THAN STH 29.

\# ADJUST TRAFFIC CONTROL PCMS MESSAGE AS NEEDED BASED ON WORK ZONE AREAS AND CONSTRUCTION SCHEDULE.

** THE PCMS WIDTH RESTRICTION MESSAGES FOR THE STH 29 PORKY CREEK BRIDGE (B-37-201) SHOULD BE IMPLEMENTED FOR STAGE 2

CONSIDER GEOMETRICS WHEN LOCATING MESSAGE BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE BOARD FOR A MINIMUM OF 1000 FEET IN FRONT OF THE MESSAGE BOARD.

PLACE MESSAGE BOARDS AS FAR AWAY FROM LIVE TRAFFIC LANES AS POSSIBLE WITHOUT HAMPERING VISIBILITY. IN ADVANCE OF INTERSTATE CONSTRUCTION PROJECTS THE SIGNS SHOULD BE PLACED ON THE BACKSLOPE BEYOND THE DITCH. THE LOCATION SELECTED SHOULD BE AT OR SLIGHTLY ABOVE THE ELEVATION OF THE ROADWAY. FOR INTERMITTENT WORK SUCH AS FREEWAY LANE CLOSURE, OR WHERE SITE CONDITIONS DO NOT ALLOW OTHERWISE, THE SIGNS MAY BE PLACED ON THE SHOULDER. THE SITE SHOULD BE VISITED TO ASSURE VISIBILITY, SAFETY AND MAINTENANCE CONSIDERATIONS. A TAPER OF REFLECTORIZED DRUMS OR BARRICADES SHOULD BE PLACED AHEAD OF PCMS PLACED ON THE SHOULDER IF IT IS NOT SHIELDED BY A BARRIER.

PLACE TRAFFIC CONTROL SIGNS PCMS AND DISPLAY THE "PRIOR TO CONSTRUCTION" MESSAGE 10 DAYS PRIOR TO THE EXPECTED START OF THE PROPOSED WORK THAT WILL REQUIRE LANE CLOSURES. ADJUST THE MESSAGE DATE ACCORDINGLY.

TRAFFIC CONTROL SIGNS PCMS ARE ALSO FOR WORK ZONE INCIDENT MANAGEMENT.

ADVANCED WARNING FOR LANE WIDTH RESTRICTIONS

PLACE THE FOLLOWING ADVANCED WARNING SIGNS AT THE FOLLOWING LOCATIONS DURING STAGE 2 ON THE STH 29 PORKY CREEK BRIDGE (B-37-201)

* WEST — M3-4, 24" X 12"

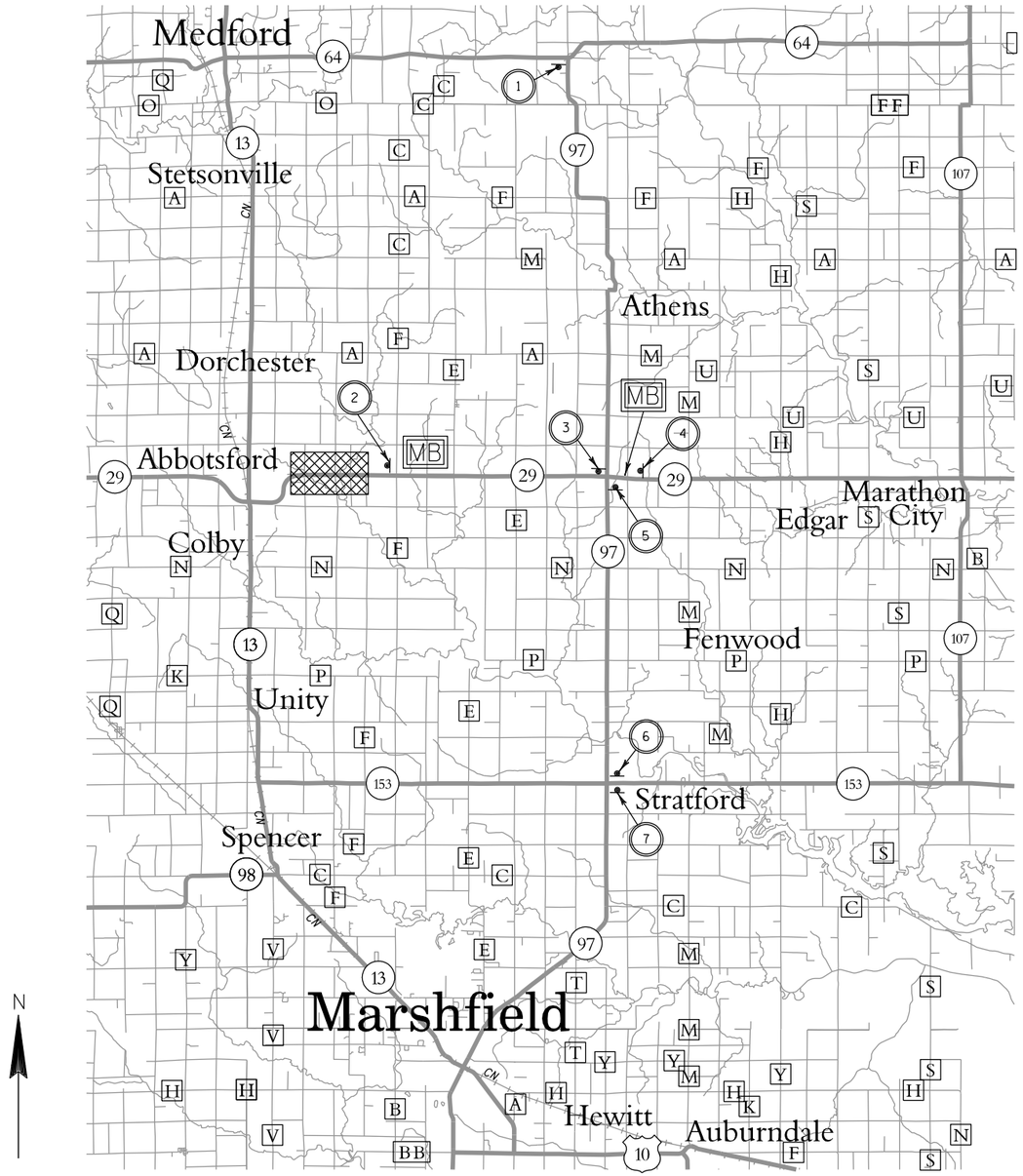
* 29 — M1-6, 24" X 24"

MAX. 14' WIDTH — W12-52, 48" X 48"

XX MILES AHEAD — W057-52, 36" X 24"

1. STH 97/STH 64 - 24½ MILES
2. STH 29 - 2½ MILES
3. STH 97/STH 29 - 10 MILES
4. STH 29/STH 97 - 11 MILES
5. STH 97/STH 29 - 10 MILES
6. STH 97/STH 153 - 19½ MILES
7. STH 97/STH 153 - 20 MILES

TRAFFIC CONTROL SIGNS PCMS MESSAGES										
	PRIOR TO CONSTRUCTION		DURING OUTSIDE LANE CLOSURE		DURING MEDIAN LANE CLOSURE		WIDTH RESTRICTION AT PORKY CREEK **		EMERGENCY MESSAGE	
PCMS SIGN LOCATION	PHASE 1 (2 SEC)	PHASE 2 (2 SEC)	PHASE 1 (2 SEC)	PHASE 2 (2 SEC)	PHASE 1 (2 SEC)	PHASE 2 (2 SEC)	PHASE 1 (2 SEC)	PHASE 2 (2 SEC)	PHASE 1 (2 SEC)	PHASE 2 (2 SEC)
# WB STH 29 0.5 MILES EAST CTH F	BRIDGE WORK STARTS	DATE	RIGHT LANE CLOSED	2 MILES MERGE LEFT	LEFT LANE CLOSED	2 MILES MERGE LEFT	MAX WIDTH 14 FEET	USE ALT ROUTE	TRAFFIC STOPPED AHEAD	WATCH FOR FLAGGER
# WB STH 29 0.5 MILES EAST OF STH 97	BRIDGE WORK STARTS	DATE	RIGHT LANE CLOSED	9 MILES MERGE LEFT	LEFT LANE CLOSED	9 MILES MERGE LEFT	MAX WIDTH 14 FEET	USE ALT ROUTE	TRAFFIC STOPPED AHEAD	ALT ROUTE EXIT 145



2

CEMETARY AVE

SEPTIC

W

W

PORKY CREEK

W

DAM

W

N

W24-1L

1,200'

W5-52R
12" X 36"

SEE SDD "TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H." AND SDD "TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE" FOR ADDITIONAL INFORMATION AND TRAFFIC CONTROL DEVICES BETWEEN BRIDGES

COMPLETE PROPOSED GUARDRAIL GRADING PRIOR TO INSTALLING TEMPORARY BARRIER TO ALLOW ACCESS TO PRIVATE DRIVEWAY

TAPER SECTION

100'

TW

+00

280' SHIFTING TAPER

50'

96+00

STH 29 WB

98+00

100+00

102+00

104+00

106+00

108+00

110+00

280' SHIFTING TAPER

+00

REM

125'

TY

+00

STH 29 EB

SS

W5-52L
12" X 36"

LANE CLOSED
R11-2(MOD)
48" X 30"

MAPLE RD

LEGEND

- TYPE III BARRICADE WITH SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
- WORK ZONE
- DIRECTION OF TRAFFIC
- TRAFFIC CONTROL SIGN
- CONCRETE BARRIER TEMPORARY PRECAST
- EXISTING EDGELINE PAVEMENT MARKING
- FLASHING ARROW BOARD
- REMOVING ASPHALTIC SURFACE, MILLING, AND ASPHALTIC SURFACE COMPLETED IN PREVIOUS STAGES, SEE ROADWAY TYPICAL SECTIONS AND TRAFFIC CONTROL TYPICAL SECTIONS FOR ADDITIONAL INFORMATION
- (REM) REMOVING PAVEMENT MARKINGS
- (TY) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH, YELLOW
- (TW) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH, WHITE

PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	TRAFFIC CONTROL - STAGE 2	SHEET 23	E

2

2

N

ROSEDALE AVE

CONVEY

SLUDGE POND

W

W

T

BEGIN RIGHT TURN LANE
R3-20R
24" X 36"

SEE SDD "TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H." AND SDD "TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE" FOR ADDITIONAL INFORMATION AND TRAFFIC CONTROL DEVICES BETWEEN BRIDGES

25'

148+00

150+00

152+00

STH 29 WB

154+00

156+00

280' SHIFTING TAPER

50'

+50

158+00

160+00

162+00

188'

TAPER SECTION

W5-52R
12" X 36"

TW

TY

REM

+50

T122
I358.650

STH 29 EB

CHESTNUT RD

LANE CLOSED
R11-2(MOD)
48" X 30"

W5-52L
12" X 36"

LANE CLOSED
R11-2(MOD)
48" X 30"

BIG EAU PLEINE RIVER

LEGEND

- TYPE III BARRICADE WITH SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
- WORK ZONE
- DIRECTION OF TRAFFIC
- TRAFFIC CONTROL SIGN
- CONCRETE BARRIER TEMPORARY PRECAST
- EXISTING EDGELINE PAVEMENT MARKING
- FLASHING ARROW BOARD
- REMOVING ASPHALTIC SURFACE, MILLING, AND ASPHALTIC SURFACE COMPLETED IN PREVIOUS STAGES, SEE ROADWAY TYPICAL SECTIONS AND TRAFFIC CONTROL TYPICAL SECTIONS FOR ADDITIONAL INFORMATION
- (REM) REMOVING PAVEMENT MARKINGS
- (TY) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH, YELLOW
- (TW) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH, WHITE

PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	TRAFFIC CONTROL - STAGE 2	SHEET 24	E

FILE NAME : P:\47xx\4724_DP.12.STH29.MAR\CADDS\Plan\026003_tc.dgn PLOT DATE : 7/30/2013 PLOT BY : emo PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

N

SEE SDD "TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H." AND SDD "TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE" FOR ADDITIONAL INFORMATION AND TRAFFIC CONTROL DEVICES

280' SHIFTING TAPER

TAPER SECTION

50'

100'

25'

162+00

164+00

166+00

168+00

STH 29 WB

170+00

172+00

174+00

176+00

+15

TY

REM

TW

LANE CLOSED
R11-2(MOD)
48" X 30"

W24-1L

GIERL AVE

STH 29 EB

POPPLE RD

LEGEND

- TYPE III BARRICADE WITH SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
- WORK ZONE
- DIRECTION OF TRAFFIC
- TRAFFIC CONTROL SIGN
- CONCRETE BARRIER TEMPORARY PRECAST
- EXISTING EDGELINE PAVEMENT MARKING
- FLASHING ARROW BOARD
- REMOVING ASPHALTIC SURFACE, MILLING, AND ASPHALTIC SURFACE COMPLETED IN PREVIOUS STAGES, SEE ROADWAY TYPICAL SECTIONS AND TRAFFIC CONTROL TYPICAL SECTIONS FOR ADDITIONAL INFORMATION
- (REM) REMOVING PAVEMENT MARKINGS
- (TY) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH, YELLOW
- (TW) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH, WHITE

PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	TRAFFIC CONTROL - STAGE 2	SHEET 25	E

FILE NAME : P:\47xx\4724_DP.12.STH29.MAR\CADDS\Plan\026004_tc.dgn PLOT DATE : 7/30/2013 PLOT BY : emo PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

CEMETARY AVE

SEPTIC

W

W

PORKY CREEK

W

DAM

W

N

W24-1R

1,200'

SEE SDD "TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H." AND SDD "TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE" FOR ADDITIONAL INFORMATION AND TRAFFIC CONTROL DEVICES BETWEEN BRIDGES

W5-52R
12" X 36"

W5-52L
12" X 36"

420' SHIFTING TAPER

236' SHIFTING CURVE

225' SHIFTING TAPER

+25

+00

REM

+15

TY

TW

96+00

STH 29 WB

98+00

100+00

102+00

104+00

106+00

108+00

110+00

100'

163'

50'

TAPER
SECTION

STH 29 EB

R 3550'

Y=193882.30
X=113432.61

LANE
CLOSED
R11-2(MOD)
48" X 30"

MAPLE RD

LEGEND

- TYPE III BARRICADE WITH SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
- WORK ZONE
- DIRECTION OF TRAFFIC
- TRAFFIC CONTROL SIGN
- CONCRETE BARRIER TEMPORARY PRECAST
- EXISTING EDGELINE PAVEMENT MARKING
- FLASHING ARROW BOARD
- REMOVING ASPHALTIC SURFACE, MILLING, AND ASPHALTIC SURFACE COMPLETED IN PREVIOUS STAGES. SEE ROADWAY TYPICAL SECTIONS AND TRAFFIC CONTROL TYPICAL SECTIONS FOR ADDITIONAL INFORMATION
- (REM) REMOVING PAVEMENT MARKINGS
- (TY) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH, YELLOW
- (TW) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH, WHITE

PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	TRAFFIC CONTROL - STAGE 3	SHEET 26	E

2

N

ROSEDALE AVE

CONVEY

SLUDGE POND

SEE SDD "TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H." AND SDD "TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE" FOR ADDITIONAL INFORMATION AND TRAFFIC CONTROL DEVICES BETWEEN BRIDGES

350' SHIFTING TAPER

TW

TY

REM

148+00

150+00

STH 29 WB

152+00

154+00

156+00

158+00

160+00

162+00

25'

100'

+50

+50

TAPER SECTION

150'

W5-52R
12" X 36"

W5-52L
12" X 36"

LANE CLOSED
R11-2(MOD)
48" X 30"

STH 29 EB

BEGIN LEFT TURN LANE
R3-20L
24" X 36"

LANE CLOSED
R11-2(MOD)
48" X 30"

CHESTNUT RD

BIG EAU PLEINE RIVER

LEGEND

- TYPE III BARRICADE WITH SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
- WORK ZONE
- DIRECTION OF TRAFFIC
- TRAFFIC CONTROL SIGN
- CONCRETE BARRIER TEMPORARY PRECAST
- EXISTING EDGELINE PAVEMENT MARKING
- FLASHING ARROW BOARD
- REMOVING ASPHALTIC SURFACE, MILLING, AND ASPHALTIC SURFACE COMPLETED IN PREVIOUS STAGES, SEE ROADWAY TYPICAL SECTIONS AND TRAFFIC CONTROL TYPICAL SECTIONS FOR ADDITIONAL INFORMATION
- (REM) REMOVING PAVEMENT MARKINGS
- (TY) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH, YELLOW
- (TW) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH, WHITE

PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	TRAFFIC CONTROL - STAGE 3	SHEET 27	E

2

N

SEE SDD "TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H." AND SDD "TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE" FOR ADDITIONAL INFORMATION AND TRAFFIC CONTROL DEVICES

350' SHIFTING TAPER

REM

TY

TW

162+00

164+00

166+00

168+00

STH 29 WB

170+00

172+00

174+00

176+00

TAPER SECTION

50'

+10

100'

25'

LANE CLOSED
R11-2(MOD)
48" X 30"

GIERL AVE

W24-1R

STA 177+60

STH 29 EB

POPPLE RD

LEGEND

- TYPE III BARRICADE WITH SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C LIGHT
- WORK ZONE
- DIRECTION OF TRAFFIC
- TRAFFIC CONTROL SIGN
- CONCRETE BARRIER TEMPORARY PRECAST
- EXISTING EDGELINE PAVEMENT MARKING
- FLASHING ARROW BOARD
- REMOVING ASPHALTIC SURFACE, MILLING, AND ASPHALTIC SURFACE COMPLETED IN PREVIOUS STAGES, SEE ROADWAY TYPICAL SECTIONS AND TRAFFIC CONTROL TYPICAL SECTIONS FOR ADDITIONAL INFORMATION
- (REM) REMOVING PAVEMENT MARKINGS
- (TY) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH, YELLOW
- (TW) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH, WHITE

PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	TRAFFIC CONTROL - STAGE 3	SHEET 28	E

2

STH 29
CURVE 1 DATA
PI = 97+57.88
Y = 197403.17
X = 113205.71
PC = 96+14.78
Y = 197389.37
X = 113063.28
PT = 99+00.80
Y = 197404.51
X = 113348.81
T = 143.10
L = 286.02
R = 3280.53
DELTA = 04°59'44" RT
D = 01°44'48"
SE = 4.8%

DWY
CURVE 1 DATA
PI = 5+33.79
Y = 197525.07
X = 113790.59
PC = 5+00.00
Y = 197545.69
X = 113763.81
PT = 5+66.07
Y = 197520.36
X = 113824.04
T = 33.79
L = 66.07
R = 128.00
DELTA = 29°34'23" LT
D = 44°45'44"
SE = NC

DWY
CURVE 2 DATA
PI = 6+22.95
Y = 197512.42
X = 113880.37
PC = 6+02.72
Y = 197515.25
X = 113860.33
PT = 6+40.42
Y = 197495.00
X = 113890.65
T = 20.23
L = 37.71
R = 42.00
DELTA = 51°26'30" RT
D = 136°25'07"
SE = NC

DWY
CURVE 3 DATA
PI = 6+73.48
Y = 197466.53
X = 113907.44
PC = 6+68.12
Y = 197471.14
X = 113904.72
PT = 6+78.59
Y = 197461.17
X = 113907.49
T = 5.36
L = 10.47
R = 20.00
DELTA = 30°00'00" RT
D = 286°28'44"
SE = NC

N

PC STA96+14.78
PT STA99+00.80
PC STA5'DWY'+00.00
PT STA5'DWY'+66.07
PC STA6'DWY'+02.72
PT STA6'DWY'+40.42
PC STA6'DWY'+68.12
5'DWY'+00
6'DWY'+00
7'DWY'+30
S81°58'48"E
S30°32'18"E
S00°32'18"E
CURVE DWY1
CURVE DWY2
CURVE DWY3
B-37-201
PT STA6'DWY'+78.59
POE STA7'DWY'+30.00
96+00
98+00
100+00
102+00
104+00
106+00
108+00
110+00
CURVE 1
N 84°27'59" E
N 89°27'42" E
STH 29 WB
STA 104+60.00=
STA 7'DWY'+30.00
Y=197409.76
X=113907.98
STA 110+00
Y=197414.84
X=114447.95
BEGIN CONSTRUCTION
STA 97+50
END CONSTRUCTION
STA 109+50

PORKY CREEK BRIDGE

N

PI STA156+02.20
Y=197374.90
X=119049.72
END CONSTRUCTION
STA 165+15
152+00
154+00
156+00
158+00
160+00
162+00
164+00
166+00
B-37-202
S 89°09'06" E
S 89°17'35" E
STH 29 WB
STA 152+00
Y=197380.85
X=118647.57
STA 166+00
Y=197362.59
X=120047.45
BEGIN CONSTRUCTION
STA 153+65

BIG EAU PLEINE RIVER BRIDGE

PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	ALIGNMENT PLAN	SHEET 29	E

FILE NAME : P:\47xx\4724_DP.12.STH29.MAR\CADDS\Plan\027201_ad.dgn PLOT DATE : 7/30/2013 PLOT BY : emo PLOT NAME : PLOT SCALE : 1:100

DATE 10DEC13 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1053-02-63 QUANTITY
0010	203.0100	REMOVING SMALL PIPE CULVERTS	EACH	2.000	2.000
0020	203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS (STATION) 01. STATION 102+53	LS	1.000	1.000
0030	203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS (STATION) 02. STATION 158+29	LS	1.000	1.000
0040	204.0100	REMOVING PAVEMENT	SY	25.000	25.000
0050	204.0105	REMOVING PAVEMENT BUTT JOINTS	SY	50.000	50.000
0060	204.0109.S	REMOVING CONCRETE SURFACE PARTIAL DEPTH	SF	9,500.000	9,500.000
0070	204.0110	REMOVING ASPHALTIC SURFACE	SY	650.000	650.000
0080	204.0115	REMOVING ASPHALTIC SURFACE BUTT JOINTS	SY	30.000	30.000
0090	204.0120	REMOVING ASPHALTIC SURFACE MILLING	SY	1,810.000	1,810.000
0100	204.0165	REMOVING GUARDRAIL	LF	1,000.000	1,000.000
0110	204.0180	REMOVING DELINEATORS AND MARKERS	EACH	4.000	4.000
0120	204.0190	REMOVING SURFACE DRAINS	EACH	2.000	2.000
0130	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 01. B-37-201	LS	1.000	1.000
0140	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 02. B-37-202	LS	1.000	1.000
0150	210.0100	BACKFILL STRUCTURE	CY	90.000	90.000
0160	211.0400	PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS	STA	15.000	15.000
0170	213.0100	FINISHING ROADWAY (PROJECT) 01. 1053-02-63	EACH	1.000	1.000
0180	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	415.000	415.000
0190	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	220.000	220.000
0200	305.0500	SHAPING SHOULDERS	STA	26.000	26.000
0210	415.0070	CONCRETE PAVEMENT 7-INCH	SY	115.000	115.000
0220	416.0610	DRILLED TIE BARS	EACH	170.000	170.000
0230	416.0620	DRILLED DOWEL BARS	EACH	48.000	48.000
0240	416.1010	CONCRETE SURFACE DRAINS	CY	11.000	11.000
0250	416.1720	CONCRETE PAVEMENT REPLACEMENT	SY	65.000	65.000
0260	416.1725	CONCRETE PAVEMENT REPLACEMENT SHES	SY	30.000	30.000
0270	455.0605	TACK COAT	GAL	80.000	80.000
0280	465.0105	ASPHALTIC SURFACE	TON	455.000	455.000
0290	465.0120	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	TON	40.000	40.000
0300	465.0400	ASPHALTIC SHOULDER RUMBLE STRIP	LF	3,840.000	3,840.000
0310	502.0100	CONCRETE MASONRY BRIDGES	CY	19.000	19.000
0320	502.3200	PROTECTIVE SURFACE TREATMENT	SY	1,045.000	1,045.000
0330	502.5002	MASONRY ANCHORS TYPE L NO. 4 BARS	EACH	20.000	20.000
0340	502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	EACH	32.000	32.000
0350	505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	2,525.000	2,525.000
0360	509.0200	PREPARATION APPROACHES	SY	1,060.000	1,060.000
0370	509.0301	PREPARATION DECKS TYPE 1	SY	136.000	136.000
0380	509.0302	PREPARATION DECKS TYPE 2	SY	49.000	49.000
0390	509.0500	CLEANING DECKS	SY	896.000	896.000
0400	509.0600	CLEANING APPROACHES	SY	1,060.000	1,060.000
0410	509.1500	CONCRETE SURFACE REPAIR	SF	40.000	40.000
0420	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	59.000	59.000
0430	509.2600	CONCRETE MASONRY OVERLAY APPROACHES	CY	65.000	65.000
0440	509.9020.S	EPOXY CRACK SEALING	LF	29.000	29.000
0450	509.9050.S	CLEANING PARAPETS	LF	330.000	330.000

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DATE 10DEC13 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1053-02-63 QUANTITY
0460	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	10.000	10.000
0470	521.0124	CULVERT PIPE CORRUGATED STEEL 24-INCH	LF	48.000	48.000
0480	521.0130	CULVERT PIPE CORRUGATED STEEL 30-INCH	LF	42.000	42.000
0490	521.1530	APRON ENDWALLS FOR CULVERT PIPE SLOPED SIDE DRAINS STEEL 30-INCH 6 TO 1	EACH	2.000	2.000
0500	521.1624	APRON ENDWALLS FOR CULVERT PIPE SLOPED SIDE DRAINS STEEL 24-INCH 10 TO 1	EACH	2.000	2.000
0510	603.8000	CONCRETE BARRIER TEMPORARY PRECAST DELIVERED	LF	1,330.000	1,330.000
0520	603.8125	CONCRETE BARRIER TEMPORARY PRECAST INSTALLED	LF	2,005.000	2,005.000
0530	606.0200	RIPRAP MEDIUM	CY	30.000	30.000
0540	606.0300	RIPRAP HEAVY	CY	52.000	52.000
0550	614.0010	BARRIER SYSTEM GRADING SHAPING FINISHING	EACH	3.000	3.000
0560	614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	4.000	4.000
0570	614.2300	MGS GUARDRAIL 3	LF	887.000	887.000
0580	614.2500	MGS THRIE BEAM TRANSITION	LF	153.800	153.800
0590	614.2610	MGS GUARDRAIL TERMINAL EAT	EACH	4.000	4.000
0600	618.0100	MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 01. 1053-02-63	EACH	1.000	1.000
0610	619.1000	MOBILIZATION	EACH	1.000	1.000
0620	624.0100	WATER	MGAL	2.000	2.000
0630	628.1504	SILT FENCE	LF	2,120.000	2,120.000
0640	628.1520	SILT FENCE MAINTENANCE	LF	2,120.000	2,120.000
0650	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	4.000	4.000
0660	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	2.000	2.000
0670	628.2004	EROSION MAT CLASS I TYPE B	SY	1,980.000	1,980.000
0680	628.2008	EROSION MAT URBAN CLASS I TYPE B	SY	1,040.000	1,040.000
0690	628.6005	TURBIDITY BARRIERS	SY	170.000	170.000
0700	628.7005	INLET PROTECTION TYPE A	EACH	3.000	3.000
0710	628.7504	TEMPORARY DITCH CHECKS	LF	150.000	150.000
0720	628.7555	CULVERT PIPE CHECKS	EACH	23.000	23.000
0730	628.7570	ROCK BAGS	EACH	450.000	450.000
0740	633.0100	DELINEATOR POSTS STEEL	EACH	4.000	4.000
0750	633.0500	DELINEATOR REFLECTORS	EACH	4.000	4.000
0760	634.0614	POSTS WOOD 4X6-INCH X 14-FT	EACH	4.000	4.000
0770	634.0616	POSTS WOOD 4X6-INCH X 16-FT	EACH	2.000	2.000
0780	634.0618	POSTS WOOD 4X6-INCH X 18-FT	EACH	2.000	2.000
0790	637.2210	SIGNS TYPE II REFLECTIVE H	SF	45.000	45.000
0800	642.5001	FIELD OFFICE TYPE B	EACH	1.000	1.000
0810	643.0100	TRAFFIC CONTROL (PROJECT) 01. 1053-02-63	EACH	1.000	1.000
0820	643.0300	TRAFFIC CONTROL DRUMS	DAY	10,010.000	10,010.000
0830	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	798.000	798.000
0840	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	1,596.000	1,596.000
0850	643.0715	TRAFFIC CONTROL WARNING LIGHTS TYPE C	DAY	1,672.000	1,672.000
0860	643.0800	TRAFFIC CONTROL ARROW BOARDS	DAY	118.000	118.000
0870	643.0900	TRAFFIC CONTROL SIGNS	DAY	2,272.000	2,272.000
0880	643.1050	TRAFFIC CONTROL SIGNS PCMS	DAY	140.000	140.000
0890	645.0120	GEOTEXTILE FABRIC TYPE HR	SY	124.000	124.000
0900	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	5,830.000	5,830.000
0910	646.0600	REMOVING PAVEMENT MARKINGS	LF	5,830.000	5,830.000
0920	649.0400	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH	LF	12,290.000	12,290.000
0930	650.4500	CONSTRUCTION STAKING SUBGRADE	LF	120.000	120.000

DATE 10DEC13 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1053-02-63 QUANTITY
0940	650.7000	CONSTRUCTION STAKING CONCRETE PAVEMENT	LF	120.000	120.000
0950	650.8000	CONSTRUCTION STAKING RESURFACING REFERENCE	LF	10,250.000	10,250.000
0960	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 1053-02-63	LS	1.000	1.000
0970	690.0150	SAWING ASPHALT	LF	90.000	90.000
0980	690.0250	SAWING CONCRETE	LF	200.000	200.000
0990	SPV.0045	SPECIAL 01. PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) CELLULAR COMMUNICATIONS	DAY	140.000	140.000
1000	SPV.0060	SPECIAL 01. GRADING, SHAPING AND FINISHING DRIVEWAY WITH BARRIER SYSTEM	EACH	1.000	1.000
1010	SPV.0105	SPECIAL 01. SHAPING AND FINISHING STRUCTURES B-37-201	LS	1.000	1.000
1020	SPV.0105	SPECIAL 02. SHAPING AND FINISHING STRUCTURES B-37-202	LS	1.000	1.000
1030	SPV.0105	SPECIAL 03. RAILING STEEL TYPE "W" REHABILITATION	LS	1.000	1.000
1040	SPV.0120	SPECIAL 01. WATER FOR SEEDED AREAS	MGAL	55.000	55.000
1050	SPV.0165	SPECIAL 01. SPRAYED ASPHALTIC SHOULDER TREATMENT	SF	5,785.000	5,785.000

3

REMOVING SMALL PIPE CULVERTS

STATION	LOCATION	203.0100 EACH	FOR INFORMATIONAL USE ONLY SIZE (INCH)	MATERIAL	LENGTH (FT)	COMMENTS
CAT 0010						
104+37	LT	1	30	CMCP	36	DRIVEWAY
105+73	LT	1	24	CMCP	30	DRIVEWAY
TOTAL		2				

REMOVING PAVEMENT AND CONCRETE ITEMS

STATION - STATION	LOCATION	204.0100 PAVEMENT SY	204.0105 PAVEMENT BUTT JOINTS SY	204.0109.S CONCRETE SURFACE PARTIAL DEPTH SF	204.0190 SURFACE DRAINS EACH
CAT 0010					
101+40 - 102+42	LT	--	13	2,414	--
102+66 - 103+71	LT	--	13	2,519	--
156+71 - 157+48	LT & RT	25	12	1,965	--
159+10 - 160+13	LT & RT	--	12	2,602	2
TOTALS		25	50	9,500	2

3

REMOVING ASPHALTIC SURFACE ITEMS

STATION - STATION	LOCATION	204.0110 SY	204.0115 BUTT JOINTS SY	204.0120 MILLING SY	COMMENTS
CAT 0010					
97+50 - 102+06	LT	--	3	310	
98+00 - 99+85	RT	--	1	69	
99+85 - 102+42	RT	97	--	--	
101+40 - 102+06	RT	--	3	38	STAGE 3
102+06 - 102+26	LT	16	--	--	
102+60 - 105+10	LT	186	--	--	
102+82 - 103+00	RT	12	--	--	
103+00 - 109+00	RT	--	1	319	
103+00 - 103+71	RT	--	3	49	STAGE 3
105+10 - 109+50	LT	--	3	282	
153+65 - 155+50	RT	--	1	67	
154+40 - 157+27	LT	--	3	196	
155+50 - 157+35	RT	122	--	--	
156+71 - 157+27	RT	--	4	48	STAGE 3
157+27 - 157+35	LT	7	--	--	
159+31 - 164+20	LT	--	3	333	
159+31 - 164+58	RT	210	--	--	
159+31 - 160+13	RT	--	4	79	STAGE 3
164+58 - 165+15	RT	--	1	20	
TOTALS		650	30	1,810	

NOTE: REMOVING ASPHALTIC SURFACE MILLING IN STAGE 3 IS FOR THE SHOULDER ADJACENT TO THE CONCRETE OVERLAY

REMOVING DELINEATORS AND MARKERS

LOCATION	204.0180 EACH
CAT 0010	
PROJECT	4
TOTAL	4

BASE AGGREGATE DENSE ITEMS

STATION - STATION	LOCATION	305.0110 3/4-INCH TON	305.0120 1 1/4-INCH TON	COMMENTS
CAT 0010				
102+76 - 105+96	LT	123	--	GUARDRAIL
103+05 - 107+50	RT	103	--	GUARDRAIL
159+31 - 163+67	LT	45	--	GUARDRAIL
159+31 - 164+82	RT	105	--	GUARDRAIL
5'DWY'+19 - 6'DWY'+96	LT & RT	--	180	DRIVEWAY
UNDISTRIBUTED	--	39	40	
TOTALS		415	220	

NOTE: UNDISTRIBUTED BASE AGGREGATE DENSE 1 1/4-INCH IS PROVIDED FOR USE UNDER THE PROPOSED CONCRETE PAVEMENT 7-INCH AND CONCRETE SURFACE DRAIN

PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS

STATION - STATION	LOCATION	211.0400 STA
CAT 0010		
99+85 - 102+06	RT	3
102+06 - 105+10	LT	4
155+50 - 157+27	RT	2
159+31 - 164+58	RT	6
TOTAL		15

SHAPING SHOULDERS

STATION - STATION	LOCATION	305.0500 STA
CAT 0010		
97+50 - 102+06	LT	5
98+00 - 102+28	RT	5
105+96 - 109+50	LT	4
107+50 - 109+00	RT	2
153+65 - 157+35	RT	4
154+40 - 157+35	LT	4
163+67- 164+20	LT	1
164+82 - 165+15	RT	1
TOTAL		26

3

CONCRETE ITEMS

STATION - STATION	LOCATION	415.0070 PAVEMENT 7-INCH SY	416.0610 DRILLED TIE BARS EACH	416.0620 DRILLED DOWEL BARS EACH	416.1010 SURFACE DRAINS CY	416.1720 PAVEMENT REPLACEMENT SY	416.1725 PAVEMENT REPLACEMENT SHES SY
CAT 0010							
102+06 - 102+42	LT & RT	38	57	--	--	--	--
102+66 - 103+00	LT & RT	43	57	--	--	--	--
157+08 - 157+48	LT & RT	34	26	16	--	30	--
159+10 - 159+67	LT & RT	--	30	32	11	35	30
TOTALS		115	170	48	11	65	30

PREPARATION, CLEANING AND OVERLAY APPROACH ITEMS

STATION - STATION	LOCATION	509.0200 PREPARATION APPROACHES SY	509.0600 CLEANING APPROACHES SY	509.2600 CONCRETE MASONRY OVERLAY APPROACHES CY
CAT 0010				
101+40 - 102+42	LT	269	269	16
102+66 - 103+71	LT	281	281	17
156+71 - 157+48	LT	219	219	14
159+10 - 160+13	LT	291	291	18
TOTALS		1,060	1,060	65

3

ASPHALTIC PAVEMENT ITEMS

STATION - STATION	LOCATION	455.0605 TACK COAT GAL	465.0105 ASPHALTIC SURFACE TON	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON	465.0400 ASPHALTIC SHOULDER RUMBLE STRIP LF	COMMENTS
CAT 0010						
97+50 - 102+06	LT	8	35	--	460	
98+00 - 102+41	RT	5	35	--	407	
101+40 - 102+06	RT	1	5	--	--	STAGE 3
102+81 - 109+00	RT	10	40	--	600	
103+00 - 103+71	RT	2	10	--	--	STAGE 3
103+00 - 109+50	LT	15	95	--	650	
153+65 - 157+27	RT	5	35	--	362	
156+71 - 157+27	RT	2	10	--	--	STAGE 3
154+40 - 157+27	LT	5	25	--	288	
159+31 - 164+20	LT	10	40	--	489	
159+31 - 165+15	RT	15	115	--	584	
159+31 - 160+13	RT	2	10	--	--	STAGE 3
5'DWY'+19 - 6'DWY'+99	LT & RT	--	--	40	--	
TOTALS		80	455	40	3,840	

NOTE: STAGE 3 ASPHALT ITEMS ARE FOR REPAVING THE SHOULDERS ADJACENT TO THE CONCRETE OVERLAY

CULVERT PIPE ITEMS

STATION	LOCATION	521.0124 CULVERT PIPE CORRUGATED STEEL 24-INCH LF	521.0130 CULVERT PIPE CORRUGATED STEEL 30-INCH LF	MINIMUM STEEL THICKNESS INCHES	521.1530 APRON ENDWALLS FOR CULVERT PIPE SLOPED SIDE DRAINS STEEL 30-INCH 6 TO 1 EACH	521.1624 APRON ENDWALLS FOR CULVERT PIPE SLOPED SIDE DRAINS STEEL 24-INCH 10 TO 1 EACH
CAT 0010						
104+66	LT	--	42	0.079	2	--
105+67	LT	48	--	0.064	--	2
TOTALS		48	42		2	2

CONCRETE BARRIER TEMPORARY PRECAST ITEMS

STATION - STATION	603.8000 DELIVERED LF	603.8125 INSTALLED LF	COMMENTS
CAT 0010			
101+00 - 105+24	425	425	STAGE 2
156+50 - 162+36	590	590	STAGE 2
101+25 - 105+61	165	440	STAGE 3
156+50 - 161+99	150	550	STAGE 3
TOTALS	1,330	2,005	

WATER

LOCATION	624.0100 MGAL
CAT 0010	
PROJECT	2
TOTAL	2

NOTE: WATER PROVIDED FOR COMPACTION OF BASE AGGREGATE

3

MOBILIZATIONS EROSION CONTROL

LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
CAT 0010		
PROJECT	4	2
TOTALS	4	2

DELINEATOR ITEMS

LOCATION	633.0100 DELINEATOR POSTS STEEL EACH	633.0500 DELINEATOR REFLECTORS (WHITE) EACH
CAT 0010		
PROJECT	4	4
TOTALS	4	4

3

EROSION CONTROL ITEMS

STATION - STATION	LOCATION	606.0200 RIPRAP MEDIUM CY	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.2004 EROSION MAT CLASS 1 TYPE B SY	628.2008 EROSION MAT URBAN CLASS 1 TYPE B SY	628.6005 TURBIDITY BARRIERS SY	628.7005 INLET PROTECTION TYPE A EACH	628.7504 TEMPORARY DITCH CHECKS LF	628.7555 CULVERT PIPE CHECKS EACH	628.7570 ROCK BAGS EACH	645.0120 GEOTEXTILE FABRIC TYPE HR SY	COMMENTS
CAT 0010													
102+75 - 106+10	LT	12	160	160	220	800	--	--	90	11	30	30	INCLUDES DRIVEWAY ITEMS
103+00 - 107+50	RT	--	480	480	450	--	--	1	--	--	90	--	
157+10 - 162+75	LT	6	450	450	320	--	80	--	--	--	120	18	
157+10 - 164+75	RT	12	600	600	620	--	50	1	30	7	120	32	
UNDISTRIBUTED	--	--	430	430	370	240	40	1	30	5	90	--	
TOTALS		30	2,120	2,120	1,980	1,040	170	3	150	23	450	80	

NOTES: ROCK BAGS ARE FOR SILT FENCE RELIEF
SEE STRUCTURE PLANS FOR RIPRAP HEAVY AND ADDITIONAL GEOTEXTILE FABRIC TYPE HR

3

TYPE II SIGNS AND SUPPORTS

	SIGN NO.	SIGN CODE	W X H	634.0614 POSTS WOOD 4x6-INCH X 14-FT EACH	634.0616 POSTS WOOD 4x6-INCH X 16-FT EACH	634.0618 POSTS WOOD 4x6-INCH X 18-FT EACH	637.2210 SIGNS TYPE II REFLECTIVE H SF
CAT 0010							
	1-1	I3-1	72 X 15	2	--	--	7.50
	1-2	I3-1	72 X 15	2	--	--	7.50
	2-1	I3-1	60 X 36	--	1	1	15.00
	2-2	I3-1	60 X 36	--	1	1	15.00
TOTALS				4	2	2	45.00

TRAFFIC CONTROL PCMS ITEMS

	LOCATION	DAYS	643.1050 TRAFFIC CONTROL SIGNS PCMS NO.	643.1050 TRAFFIC CONTROL SIGNS PCMS DAYS	SPV.0045.01 PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) CELLULAR COMMUNICATIONS NO.	SPV.0045.01 PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) CELLULAR COMMUNICATIONS DAYS
CAT 0010						
	STH 29 WB	70	2	140	2	140
TOTALS				140		140

3

TRAFFIC CONTROL ITEMS

LOCATION	STAGE	DAYS	643.0300 DRUMS NO.	643.0300 DRUMS DAYS	643.0420 BARRICADES TYPE III NO.	643.0420 BARRICADES TYPE III DAYS	643.0705 WARNING LIGHTS TYPE A NO.	643.0705 WARNING LIGHTS TYPE A DAYS	643.0715 WARNING LIGHTS TYPE C NO.	643.0715 WARNING LIGHTS TYPE C DAYS	643.0800 ARROW BOARDS NO.	643.0800 ARROW BOARDS DAYS	643.0900 SIGNS NO.	643.0900 SIGNS DAYS	COMMENTS
CAT 0010															
STH 29 WB	1	2	164	328	10	20	20	40	16	32	2	4	24	48	
STH 29 WB	2	26	179	4,654	14	364	28	728	28	728	2	52	34	884	
STH 29 WB & STH 97	2	14	--	--	--	--	--	--	--	--	--	--	24	336	WIDTH RESTRICTION SIGNS
STH 29 WB	3	26	158	4,108	14	364	28	728	32	832	2	52	34	884	
STH 29 WB	4	5	184	920	10	50	20	100	16	80	2	10	24	120	
TOTALS				10,010		798		1,596		1,672		118		2,272	

PAVEMENT MARKING ITEMS

STATION - STATION	LOCATION	646.0106 EPOXY 4-INCH (SOLID WHITE) LF	646.0106 EPOXY 4-INCH (WHITE SKIPS) LF	646.0106 EPOXY 4-INCH (SOLID YELLOW) LF	646.0600 REMOVING PAVEMENT MARKING LF	649.0400 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE) LF	649.0400 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW) LF	COMMENTS
CAT 0010								
96+65 - 110+35	LT	1,370	263	1,080	--	--	--	PERMANENT
153+00 - 165+60	LT	1,260	325	1,142	--	--	--	PERMANENT
EAST OF GIERL AVE	LT	--	--	--	--	--	780	STAGE 1 TAPER
98+20 - 109+00	LT & RT	--	--	--	1,312	902	1,080	STAGE 2
153+70 - 165+12	LT & RT	--	--	--	1,436	1,142	1,142	STAGE 2
EAST OF GIERL AVE	LT	--	195	--	195	780	--	STAGE 2 TAPER
96+65 - 110+35	LT	--	--	--	1,401	1,371	1,013	STAGE 3
153+00 - 165+60	LT	--	--	--	1,291	1,260	1,260	STAGE 3
EAST OF GIERL AVE	LT	--	195	--	195	--	780	STAGE 3 TAPER
EAST OF GIERL AVE	LT	--	--	--	--	780	--	STAGE 4 TAPER
TOTALS		2,630	978	2,222	5,830	6,235	6,055	
			5,830			12,290		

CONSTRUCTION STAKING ITEMS

STATION - STATION	LOCATION	650.4500 SUBGRADE LF	650.7000 CONCRETE PAVEMENT LF	650.8000 RESURFACING REFERENCE LF	650.9910 SUPPLEMENTAL CONTROL (1053-02-63) LS
CAT 0010					
96+66 - 110+35	LT & RT	78	78	--	--
153+00 - 165+60	LT & RT	42	42	--	--
PROJECT	--	--	--	10,250	1
TOTALS		120	120	10,250	1

SAWING ITEMS

STATION - STATION	LOCATION	690.0150 ASPHALT LF	690.0250 CONCRETE LF
CAT 0010			
99+85 - 105+10	LT & RT	35	--
155+50 - 164+01	LT & RT	40	200
5'DWY'+19	LT	15	--
TOTALS		90	200

3

SHAPING AND FINISHING STRUCTURES

LOCATION	SPV.0105.01 B-37-201 LS	SPV.0105.02 B-37-202 LS	**TOPSOIL SY	**FERTILIZER TYPE B CWT	**SEEDING MIXTURE NO. 30 LB
CAT 0010					
B-37-201	1	--	5	0.1	1
B-37-202	--	1	30	0.2	2
TOTALS	1	1	35	0.3	3

NOTE: **NON-BID ITEM, ITEMS AND QUANTITIES LISTED FOR BID INFORMATION ONLY, ITEMS INCIDENTAL TO SHAPING AND FINISHING STRUCTURES

WATER FOR SEEDED AREAS

STATION - STATION	LOCATION	SPV.0120.01 MGAL
CAT 0010		
102+76 - 105+96	LT	12
103+04 - 107+50	RT	10
159+23 - 163+67	LT	7
159+23 - 164+82	RT	14
5'DWY+19 - 6'DWY'+96	LT & RT	12
TOTAL		55

3

GRADING, SHAPING AND FINISHING DRIVEWAY WITH BARRIER SYSTEM

STATION - STATION	LOCATION	SPV.0060.01 EACH	**COMMON EXC. CY	**FILL CY	**BORROW EXC. CY	**TOPSOIL SY	**SEEDING MIXTURE NO. 30 LB	**SEEDING MIXTURE NO. 40 LB	**FERTILIZER FOR LAWN TYPE TURF LB	**PREPARING TOPSOIL FOR LAWN TYPE TURF SY
CAT 0010										
102+76 - 105+96	LT	1	290	237	--	1,000	5	15	0.7	750
TOTALS		1	290	237	0	1,000	5	15	0.7	750

**NON-BID ITEM, ITEMS AND QUANTITIES LISTED FOR BID INFORMATION ONLY. ITEMS INCIDENTAL TO GRADING, SHAPING AND FINISHING DRIVEWAY WITH BARRIER SYSTEM

BARRIER SYSTEM GRADING SHAPING FINISHING

STATION - STATION	LOCATION	614.0010 EACH	**COMMON EXC. CY	**FILL CY	**BORROW EXC. CY	**TOPSOIL SY	**FERTILIZER TYPE B CWT	**SEEDING MIXTURE NO. 30 LB
CAT 0040								
103+04 - 107+50	RT	1	--	12	12	441	0.3	8
159+23 - 163+67	LT	1	--	3	3	300	0.2	6
159+23 - 164+82	RT	1	--	7	7	605	0.4	11
TOTALS		3	0	22	22	1,346	0.9	25

**NON-BID ITEM, ITEMS AND QUANTITIES LISTED FOR BID INFORMATION ONLY. ITEMS INCIDENTAL TO BARRIER SYSTEM GRADING SHAPING FINISHING.

GUARDRAIL ITEMS

STATION - STATION	LOCATION	204.0165 REMOVING GUARDRAIL LF	614.2300 MGS GUARDRAIL 3 LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH
CAT 0040					
102+76 - 104+54	LT	125	87.5	37.5	1
103+04 - 106+69	RT	365	275.0	37.5	1
159+18 - 161+98	LT	86	187.0	39.4	1
159+18 - 163+48	RT	424	337.5	39.4	1
TOTALS		1,000	887.0	153.8	4

SPRAYED ASPHALTIC SHOULDER TREATMENT

STATION - STATION	LOCATION	SPV.0165.01 SF
CAT 0040		
102+76 - 104+54	LT	1,340
103+04 - 106+69	RT	1,525
159+18 - 161+98	LT	1,165
159+18 - 163+48	RT	1,755
TOTAL		5,785

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
BM 2	158+70	CHISELED SQUARE IN SE WING WALL (B-37-201)	1350.26
BM 5	103+04	"X" ON SE BOLT OF SOUTH POST OF EXIT 134 SIGN	1345.78

LEGEND

------- SLOPE INTERCEPT

⊣ SINGLE DELINEATOR

N

SEE PLAN FOR ADDITIONAL DETAILS

REMOVING CONCRETE SURFACE PARTIAL DEPTH, CONCRETE MASORY OVERLAY APPROACHES

CONTROL POINT 3
Y = 197450.16
X = 114301.99
0.75" IRON ROD WITH
SET W/ BLUE CAP

BEGIN MILL AND OVERLAY SHOULDER, ASPHALTIC SHOULDER RUMBLE STRIP STA 97+50, LT BUTT JOINT REQD

CONTROL POINT 4
Y = 197443.53
X = 113526.42
0.75" IRON ROD WITH
SET W/ BLUE CAP

BM 5

5'DWY+00

6'DWY+00

RELOCATE DRIVEWAY

STA 103+00 TO STA 105+10, LT
REMOVE ASPHALTIC SURFACE FULL DEPTH AND 4-INCH ASPHALTIC SURFACE, WIDEN SHOULDER TO FACE OF RAIL

END MILL AND OVERLAY SHOULDER, ASPHALTIC SHOULDER RUMBLE STRIP STA 109+50, LT BUTT JOINT REQD

B-37-201

7'DWY+30

BM 2

B-37-284

STH 29 WB

STH 29 EB

96+00 98+00 100+00 102+00 104+00 106+00 108+00 110+00

STA 99+85 TO STA 102+42, RT
REMOVE ASPHALTIC SURFACE FULL DEPTH AND 4-INCH ASPHALTIC SURFACE, TAPER SHOULDER WIDTH FROM 3' TO 6'

MILL AND OVERLAY SHOULDER, ASPHALTIC SHOULDER RUMBLE STRIP

BEGIN CONSTRUCTION
STA 97+50

BEGIN MILL AND OVERLAY SHOULDER, ASPHALTIC SHOULDER RUMBLE STRIP STA 98+00, RT
BUTT JOINT REQD

END MILL AND OVERLAY SHOULDER, ASPHALTIC SHOULDER RUMBLE STRIP STA 109+00, RT
BUTT JOINT REQD

END CONSTRUCTION
STA 109+50

PORKY CREEK

PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	PLAN OVERVIEW - PORKY CREEK	SHEET 42	E

FILE NAME : P:\47xx\4724_DP.12.STH29.MAR\CADDS\Plan\050201_pn.dgn PLOT DATE : 7/30/2013 PLOT BY : emo PLOT NAME : PLOT SCALE : 1:100

DATA TABLE

POINT NO.	STATION	OFFSET	RADIUS
1	6'DWY'+68.12	20.0'RT	20'R
2	6'DWY'+75.77	51.1'LT	30'R

LEGEND

- SLOPE INTERCEPT
- PROPOSED SIGN MOUNTED ON DOUBLE SUPPORT
- X — SIGN PLACE NEW

N

NOTES:

FOR ADDITIONAL INFORMATION ABOUT THE PAVED SHOULDERS AND DRIVEWAY, SEE THE TYPICAL SECTIONS AND CONSTRUCTION DETAILS

FOR BARRIER SYSTEM GRADING SHAPING FINISHING LIMITS AND GRADING, SHAPING AND FINISHING DRIVEWAY WITH BARRIER SYSTEM LIMITS, SEE THE CROSS SECTIONS AND MISCELLANEOUS QUANTITIES

CLARK ELECTRIC COOPERATIVE (ELECTRIC)

DAM

PORKY CREEK

STA 102+76 TO STA 104+54, LT
MGS GUARDRAIL 3, MGS THRIE BEAM TRANSITION & MGS GUARDRAIL TERMINAL EAT

PORKY CREEK
13-1
72" X 15"
1-2

SAWCUT REQD +19

5'DWY'+00

ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES

6'DWY'+00

STA 104+66
1-30" CPCS REQD
2-AEW REQD
INVERT UP: 1348.53
INVERT DOWN: 1347.97

STA 105+67
1-24" CPCS REQD
2-AEW REQD (10:1)
INVERT UP: 1350.26
INVERT DOWN: 1349.56

CLARK ELECTRIC COOPERATIVE (ELECTRIC)

CITY OF ABBOTSFORD (COMMUNICATIONS)

CITY OF ABBOTSFORD (WATER)

FRONTIER COMMUNICATIONS OF WILLC (COMMUNICATIONS)

CONRETE PAVEMENT 7-INCH

WETLAND BOUNDARY

ASPHALTIC SHOULDER RUMBLE STRIP

ASPHALTIC SURFACE

CONRETE PAVEMENT 7-INCH

SAWCUT REQD

STA 104+37
REMOVE 1-30" CPCS

ASP PE

1

20'R

30'R

2

BASE AGG FE

STA 105+73
REMOVE 1-24" CPCS

B-37-201

BUTT JOINT REQD +80

102+00

103+00

104+00

105+00

STH 29 WB

106+00

107+00

15:1 TAPER

+26

+19

7'DWY'+00

6'DWY'+30

SAWCUT REQD

ASPHALTIC SURFACE

ASPHALTIC SHOULDER RUMBLE STRIP

WETLAND BOUNDARY

BUTT JOINT REQD +42

CONRETE PAVEMENT 7-INCH

SAWCUT REQD

REMOVING GUARDRAIL

BUTT JOINT REQD +71

ASPHALTIC SHOULDER RUMBLE STRIP

REMOVING CONCRETE SURFACE PARTIAL DEPTH AND CONCRETE MASONRY OVERLAY APPROACHES

BUTT JOINT REQD +40

B-37-284

REMOVING CONCRETE SURFACE PARTIAL DEPTH AND CONCRETE MASONRY OVERLAY APPROACHES

STH 29 EB

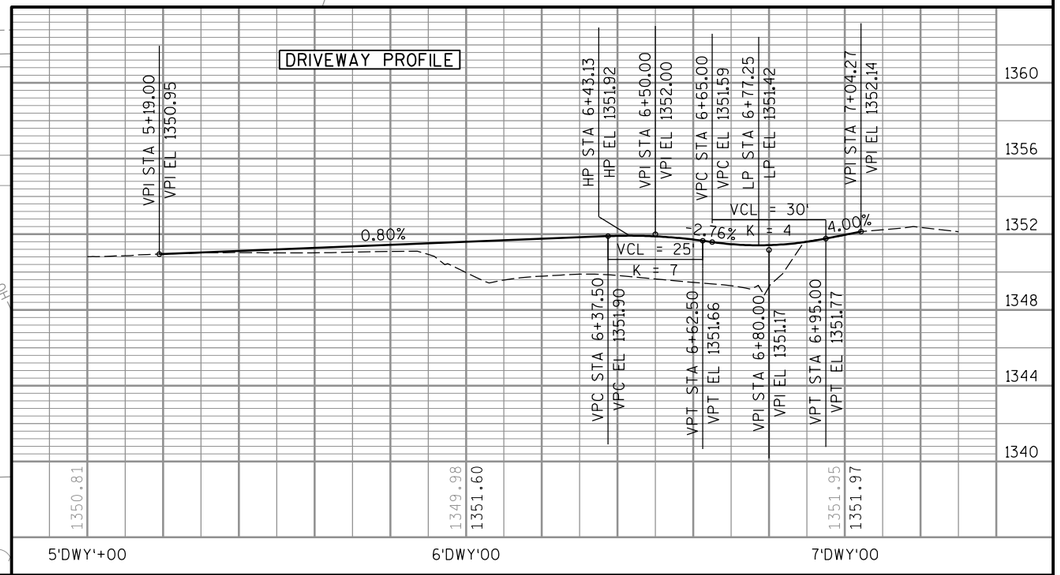
PORKY CREEK
13-1
72" X 15"
1-1

STA 103+04 TO STA 106+69, RT
MGS GUARDRAIL 3, MGS THRIE BEAM TRANSITION & MGS GUARDRAIL TERMINAL EAT

CLARK ELECTRIC COOPERATIVE (ELECTRIC)

CLARK ELECTRIC COOPERATIVE (ELECTRIC)

DRIVEWAY PROFILE



PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	PLAN - PORKY CREEK	SHEET 43	E

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
BM 1	159+09	CHISELED SQUARE IN NE WING WALL (B-37-202)	1336.43
BM 7	157+40	ALUMINUM CAP ON SW WING WALL (B-37-202)	1337.20

LEGEND

------- SLOPE INTERCEPT

⊣ SINGLE DELINEATOR

N

BIG EAU PLEINE RIVER

SEE PLAN FOR ADDITIONAL DETAILS

BEGIN MILL AND OVERLAY SHOULDER, ASPHALTIC SHOULDER RUMBLE STRIP STA 154+40, LT BUTT JOINT REQD

CONTROL POINT 2
Y = 197411.51
X = 119080.68
0.75" IRON ROD WITH SET W/ BLUE CAP

REMOVING CONCRETE SURFACE PARTIAL DEPTH, CONCRETE MASORY OVERLAY APPROACHES

CONTROL POINT 1
Y = 197401.52
X = 119888.56
0.75" IRON ROD WITH SET W/ BLUE CAP

END MILL AND OVERLAY SHOULDER, ASPHALTIC SHOULDER RUMBLE STRIP STA 164+20, LT BUTT JOINT REQD

END CONSTRUCTION
STA 165+15
MATCH EXISTING

ANT.

I SIGN

BM 1

152+00 154+00 156+00 158+00 160+00 162+00 164+00 166+00

B-37-202

STH 29 WB

BM 7

B-37-285

STH 29 EB

STA 155+50 TO STA 157+27, RT
REMOVE ASPHALTIC SURFACE FULL DEPTH AND 4-INCH ASPHALTIC SURFACE, TAPER SHOULDER WIDTH FROM 3' TO 8'

WETLAND IMPACT AREA, RIP RAP SCOUR REPAIR

STA 159+31 TO STA 164+58, RT
REMOVE ASPHALTIC SURFACE FULL DEPTH AND 4-INCH ASPHALTIC SURFACE, WIDEN SHOULDER TO 8' TYP

GUY OH OH OH GUY

END MILL AND OVERLAY SHOULDER, ASPHALTIC SHOULDER RUMBLE STRIP STA 165+15, RT BUTT JOINT REQD

BEGIN CONSTRUCTION
STA 153+65
BEGIN MILL AND OVERLAY SHOULDER, ASPHALTIC SHOULDER RUMBLE STRIP STA 153+65, RT BUTT JOINT REQD

5

5

PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	PLAN OVERVIEW - BIG EAU PLEINE RIVER	SHEET 44	E

N

LEGEND

------- SLOPE INTERCEPT

NOTES:

SEE THE TYPICAL SECTIONS FOR ADDITIONAL PAVED SHOULDER INFORMATION

FOR BARRIER SYSTEM GRADING SHAPING FINISHING LIMITS, SEE THE CROSS SECTIONS AND MISCELLANEOUS QUANTITIES

5

5

BIG EAU PLEINE RIVER

WETLAND BOUNDARY

BUTT JOINT REQD +40

SIGN

ASPHALTIC SHOULDER RUMBLE STRIP

ASPHALTIC SURFACE

6"

14'

12'

3"

REMOVING CONCRETE SURFACE PARTIAL DEPTH AND CONCRETE MASORY OVERLAY APPROACHES

BUTT JOINT REQD +71

CONRETE PAVEMENT 7-INCH

SAWCUT REQD

19'

BUTT JOINT REQD +48

SAWCUT REQD

153+00

154+00

155+00

156+00

157+00

158+00

159+00

STH 29 WB

B-37-202

BUTT JOINT REQD +65

SAWCUT REQD +50

MATCH EXISTING TAPER

CONCRETE PAVEMENT REPLACEMENT

SAWCUT REQD

WETLAND BOUNDARY

CONRETE PAVEMENT 7-INCH

STH 29 EB

B-37-285

BIG EAU PLEINE RIVER

13-1

60" X 36"

2-1

CLARK ELECTRIC COOPERATIVE (ELECTRIC)

OH OH OH OH OH

PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	PLAN - BIG EAU PLEINE RIVER	SHEET 45	E

BIG EAU PLEINE RIVER

BIG EAU PLEINE RIVER
13-1
60" X 36"

2-2

REMOVING CONCRETE SURFACE DRAIN AND CONRETE SURFACE DRAIN 7-INCH

STA 159+18 TO STA 161+98, LT
MGS GUARDRAIL 3, MGS THRIE BEAM TRANSITION & MGS GUARDRAIL TERMINAL EAT

WETLAND BOUNDARY

ASPHALTIC SURFACE

CONCRETE PAVEMENT REPLACEMENT

SURFACE DRAIN WITHOUT PIPE

REMOVING GUARDRAIL

SAWCUT REQD

BUTT JOINT REQD +10

SAWCUT REQD

BUTT JOINT REQD +13

+48

15:1 TAPER

ASPHALTIC SHOULDER RUMBLE STRIP

BUTT JOINT REQD +20

REMOVING CONCRETE SURFACE PARTIAL DEPTH AND CONCRETE MASORY OVERLAY APPROACHES

22'
21'
14'
12'

B-37-202

159+00 160+00 161+00 162+00 163+00 164+00

STH 29 WB

SAWCUT REQD +58

15:1 TAPER

+98

CONRETE SURFACE DRAIN 7-INCH

SAWCUT REQD

SAWCUT REQD

CONCRETE PAVEMENT REPLACEMENT SHES

SAWCUT REQD

REMOVING CONCRETE SURFACE PARTIAL DEPTH AND CONCRETE MASORY OVERLAY APPROACHES

SURFACE DRAIN WITHOUT PIPE

REMOVING SURFACE DRAIN

WETLAND BOUNDARY

STA 159+18 TO STA 163+48, RT
MGS GUARDRAIL 3, MGS THRIE BEAM TRANSITION & MGS GUARDRAIL TERMINAL EAT

REMOVING GUARDRAIL

B-37-285

STH 29 EB

BASE AGG PE

CLARK ELECTRIC COOPERATIVE (ELECTRIC)

OH OH

LEGEND

------- SLOPE INTERCEPT

PROPOSED SIGN MOUNTED ON DOUBLE SUPPORT

X SIGN PLACE NEW

N

NOTES:

SEE THE TYPICAL SECTIONS FOR ADDITIONAL PAVED SHOULDER INFORMATION

FOR BARRIER SYSTEM GRADING SHAPING FINISHING LIMITS, SEE THE CROSS SECTIONS AND MISCELLANEOUS QUANTITIES

PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	PLAN - BIG EAU PLEINE RIVER	SHEET 46	E

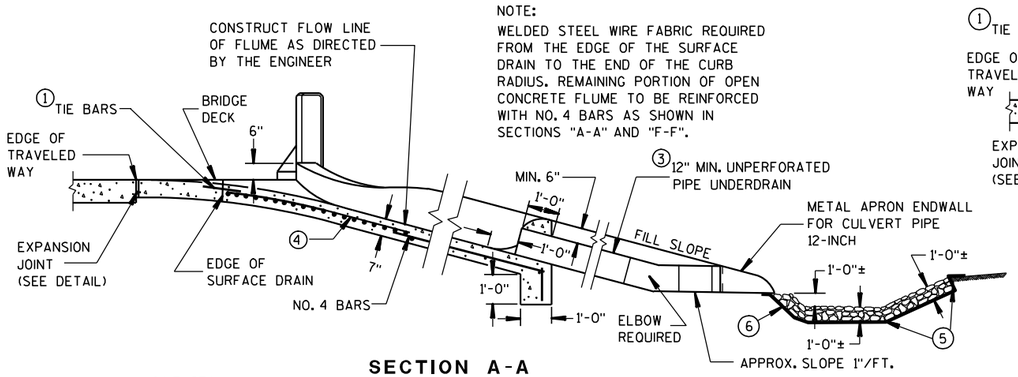
FILE NAME : P:\47xx\4724_DP.12.STH29.MAR\CADDS\Plan\050205_pn.dgn PLOT DATE : 7/30/2013 PLOT BY : emo PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 44

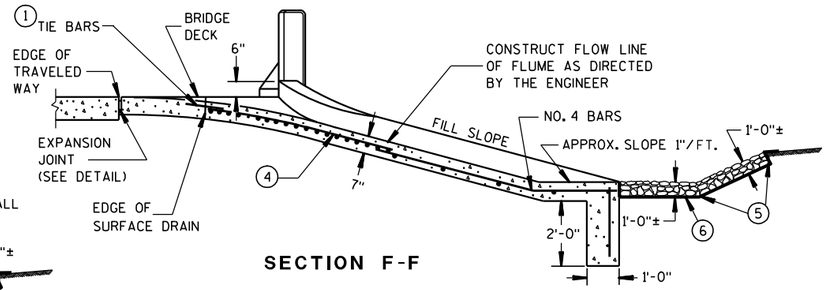
Standard Detail Drawing List

08D02-06	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E11-02	TURBIDITY BARRIER
08F07-05	STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED SIDE FRAINS
12A03-10	NAME PLATE (STRUCTURES)
13A03-05	CONCRETE PAVEMENT SHOULDERS
13A05-05A	SHOULDER RUMBLE STRIP, MILLING
13A05-05B	SHOULDER RUMBLE STRIP, MILLING
13C09-10A	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-10B	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-10C	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
14B07-13A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B08-01A	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01B	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01C	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01D	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01E	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B42-02A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-01A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-03A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15A02-08	DELINEATOR POST, DELINEATOR BRACKET AND DELINEATOR
15A06-02	DELINEATOR LAYOUT
15C08-15A	PAVEMENT MARKING (MAINLINE)
15D03-02	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER
15D12-03	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H.
15D20-02	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D21-02	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D27-02	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH

6



SECTION A-A



SECTION F-F

GENERAL NOTES

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

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

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

(2) NO. 4 X 2'-0" TIE BARS SPACED AT 12" CENTERS TO BE PLACED BY BRIDGE CONTRACTOR, OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

(3) PIPE UNDERDRAIN MAY BE ANY OF THE MATERIALS LISTED IN SECTION 612.2 OF THE STANDARD SPECIFICATIONS EXCEPT DRAIN TILE.

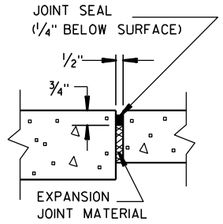
(4) MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.

(5) LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.

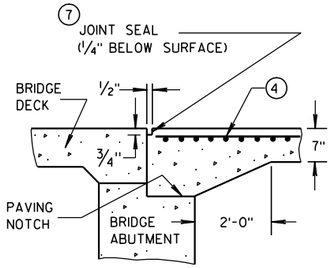
(6) GEOTEXTILE FABRIC, TYPE 'R"

(7) HOT POURED SEALANT UNLESS OTHERWISE SPECIFIED.

(8) THIS DIMENSION MAY VARY DEPENDING ON THE SPACING OF POSTS FOR THE STEEL PLATE BEAM GUARD. THE TYPICAL LOCATION FOR THE SURFACE DRAIN IS WHERE THE POST SPACING WIDENS TO 3'-1½".



EXPANSION JOINT DETAIL



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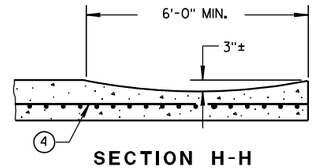

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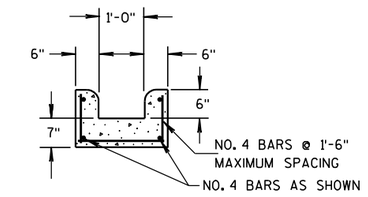
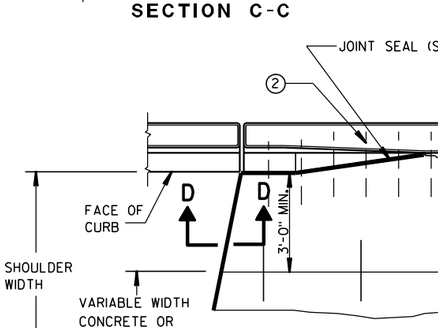
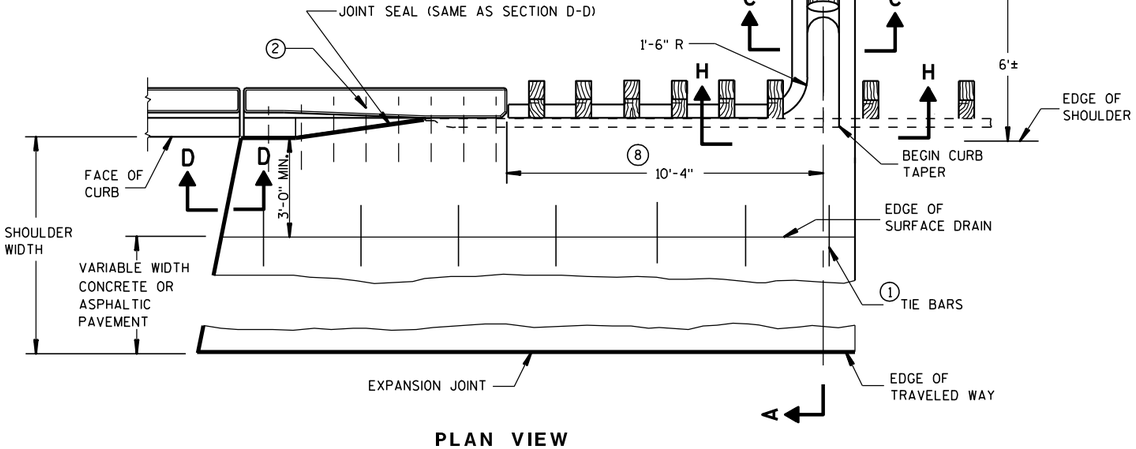


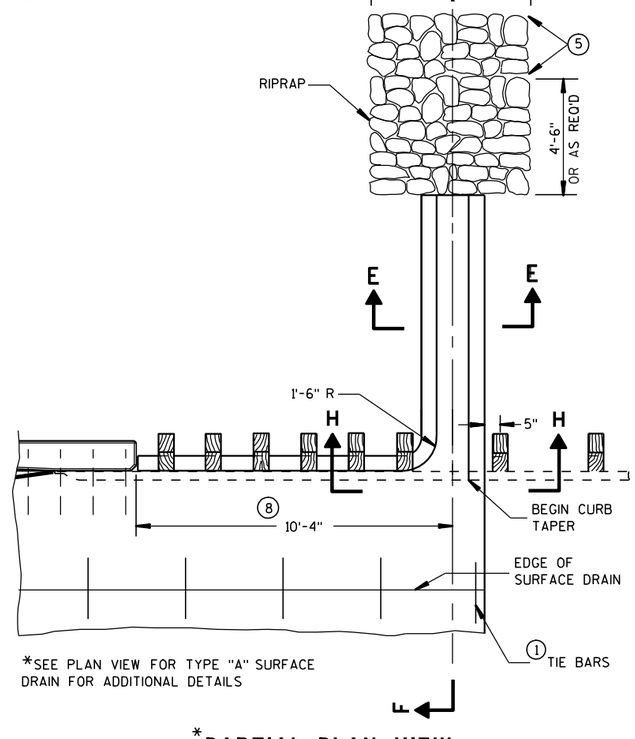
SECTION E-E



SECTION C-C

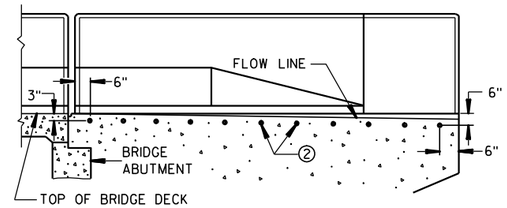


PLAN VIEW
SURFACE DRAIN WITH PIPE
TYPE "A"



*SEE PLAN VIEW FOR TYPE "A" SURFACE DRAIN FOR ADDITIONAL DETAILS

*PARTIAL PLAN VIEW
SURFACE DRAIN WITHOUT PIPE
TYPE "B"



LOCATION OF
TIE BARS IN WINGWALL

CONCRETE SURFACE DRAINS
FLUME TYPE
AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/4/08
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
FHWA

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S.D.D. 8 D 2-6

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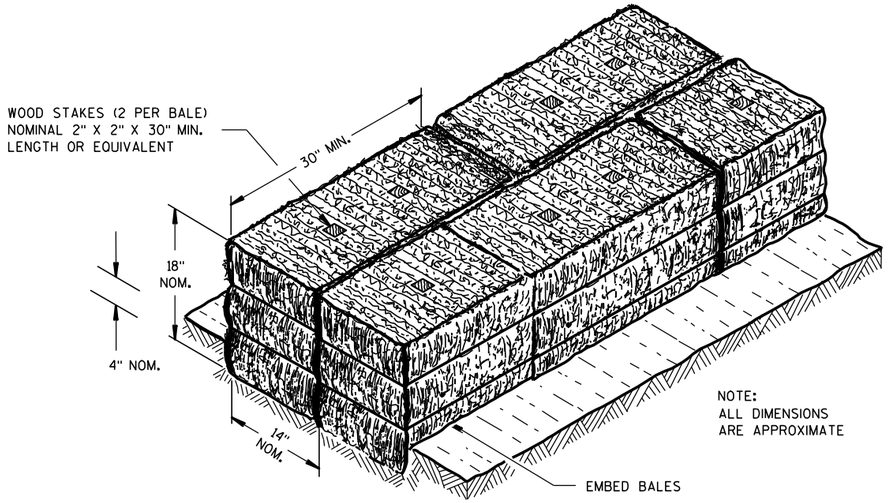
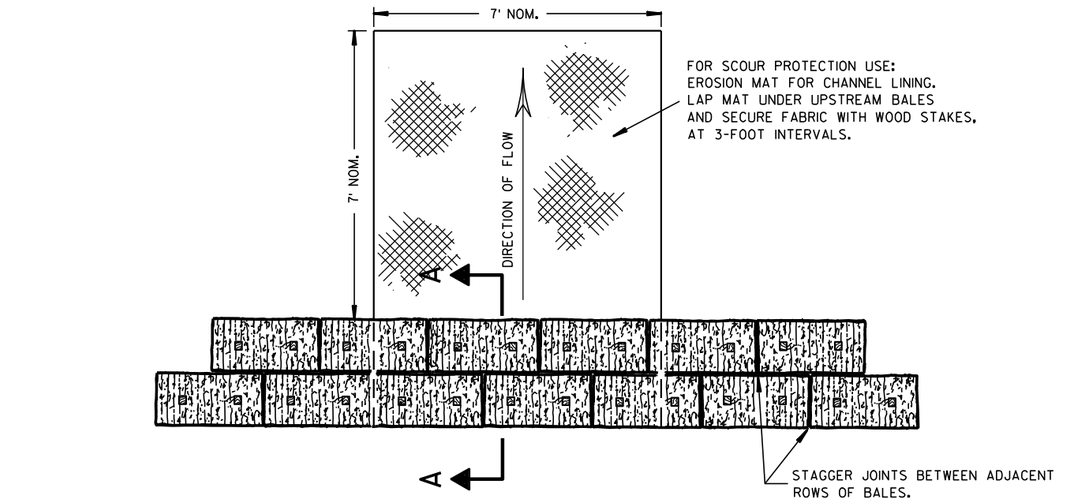
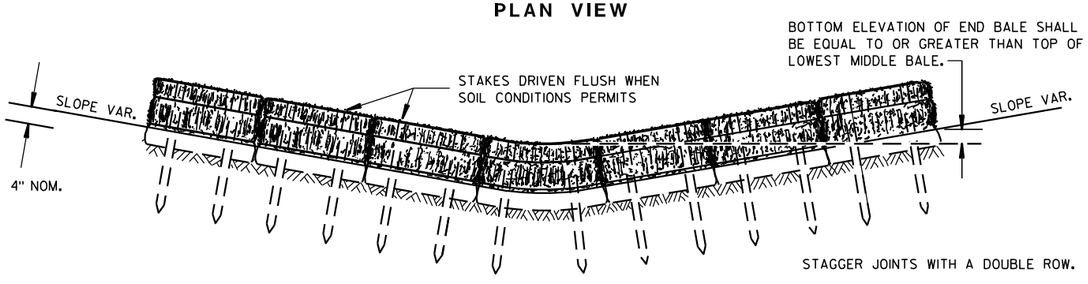
S.D.D. 8 D 2-6



SECTION A-A



PLAN VIEW



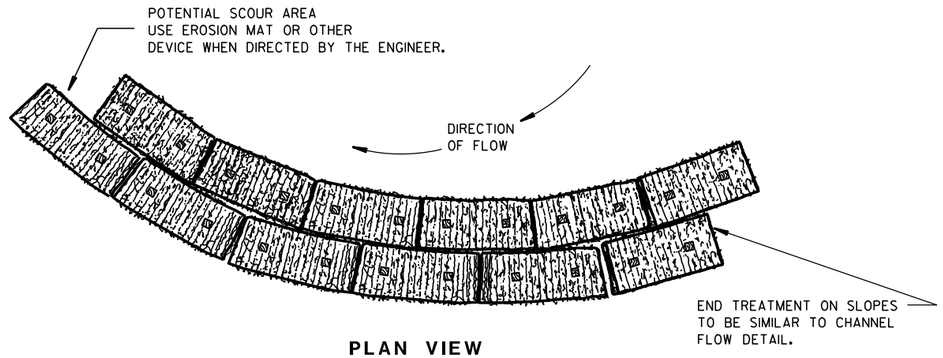
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

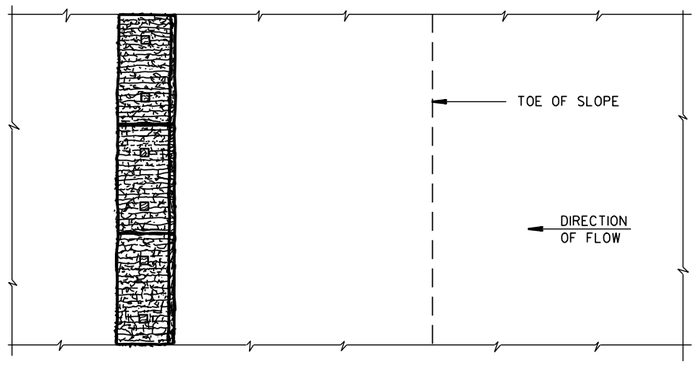
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

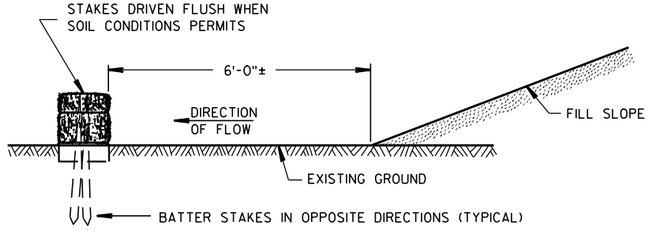


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

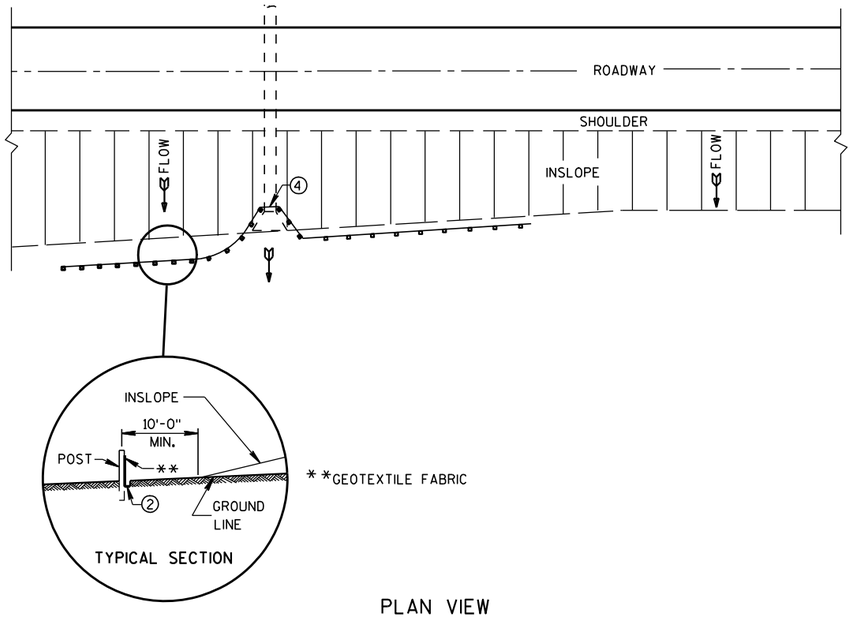
WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

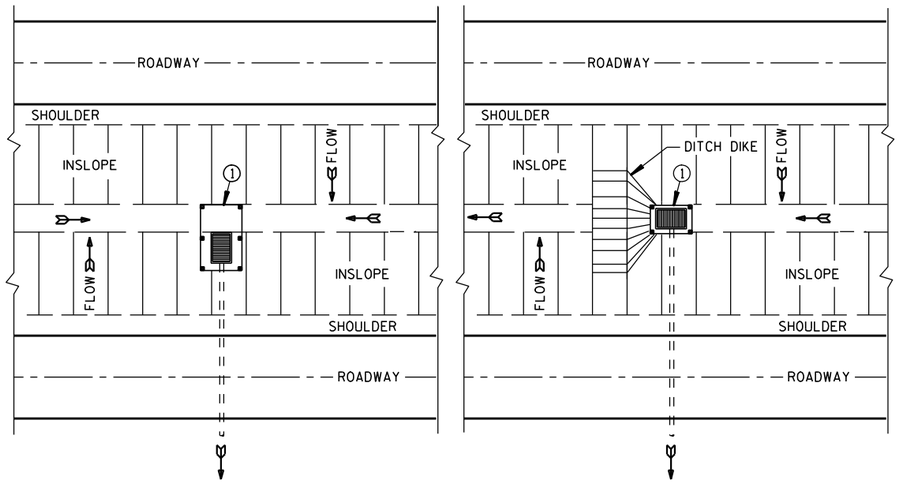
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



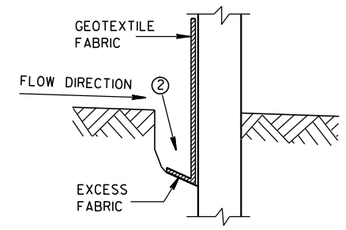
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

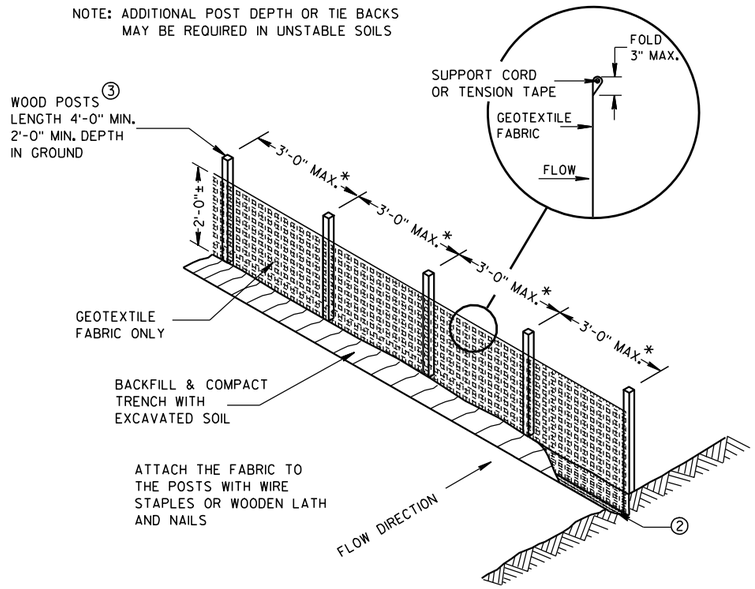
GENERAL NOTES

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

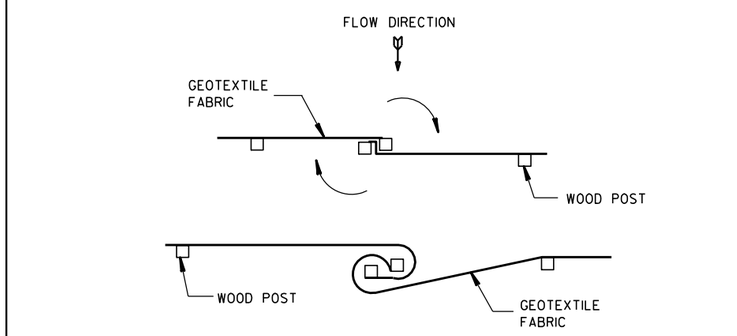
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL 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.



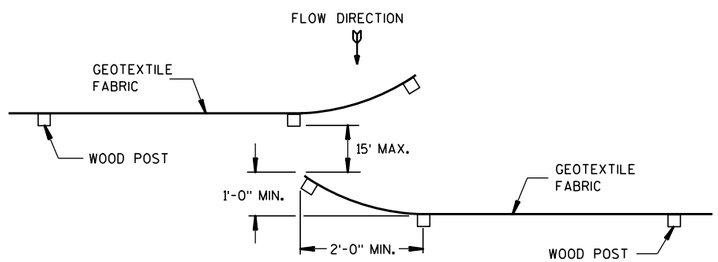
TRENCH DETAIL



SILT FENCE

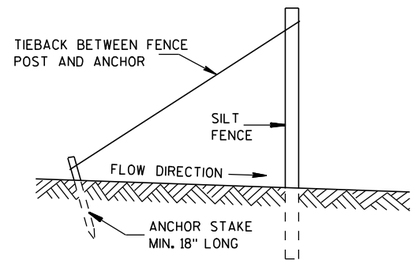


TWIST METHOD



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

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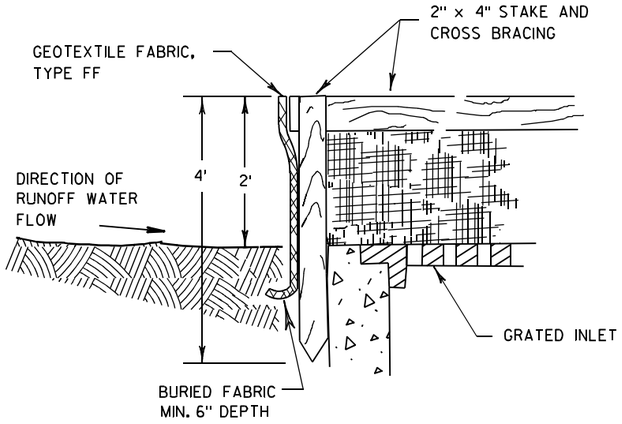
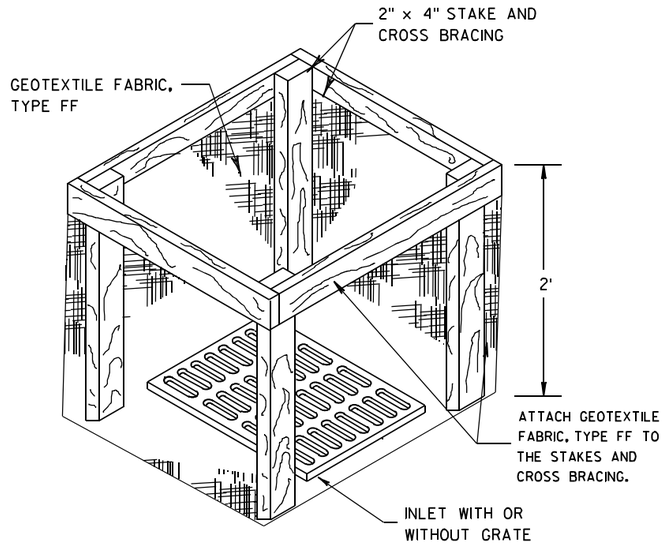
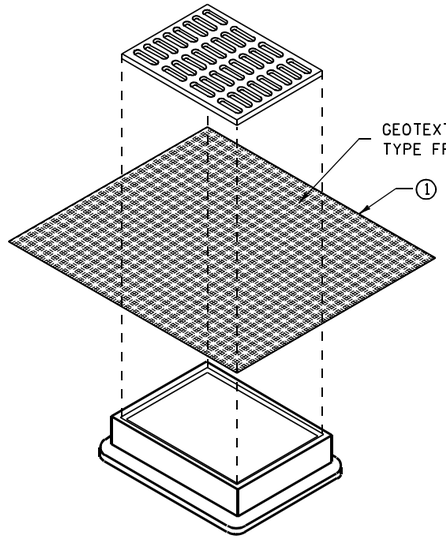
S.D.D. 8 E 9-6



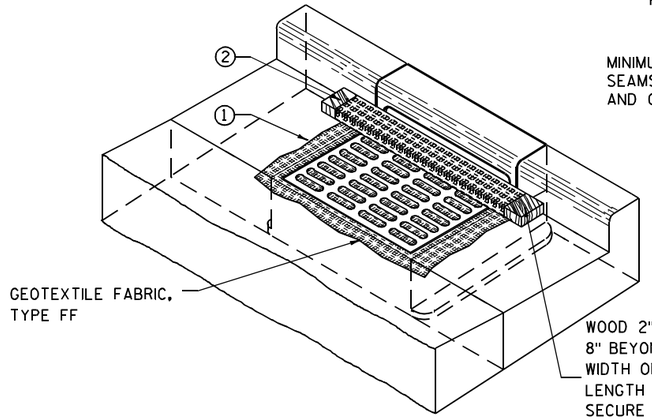


INLET PROTECTION, TYPE A

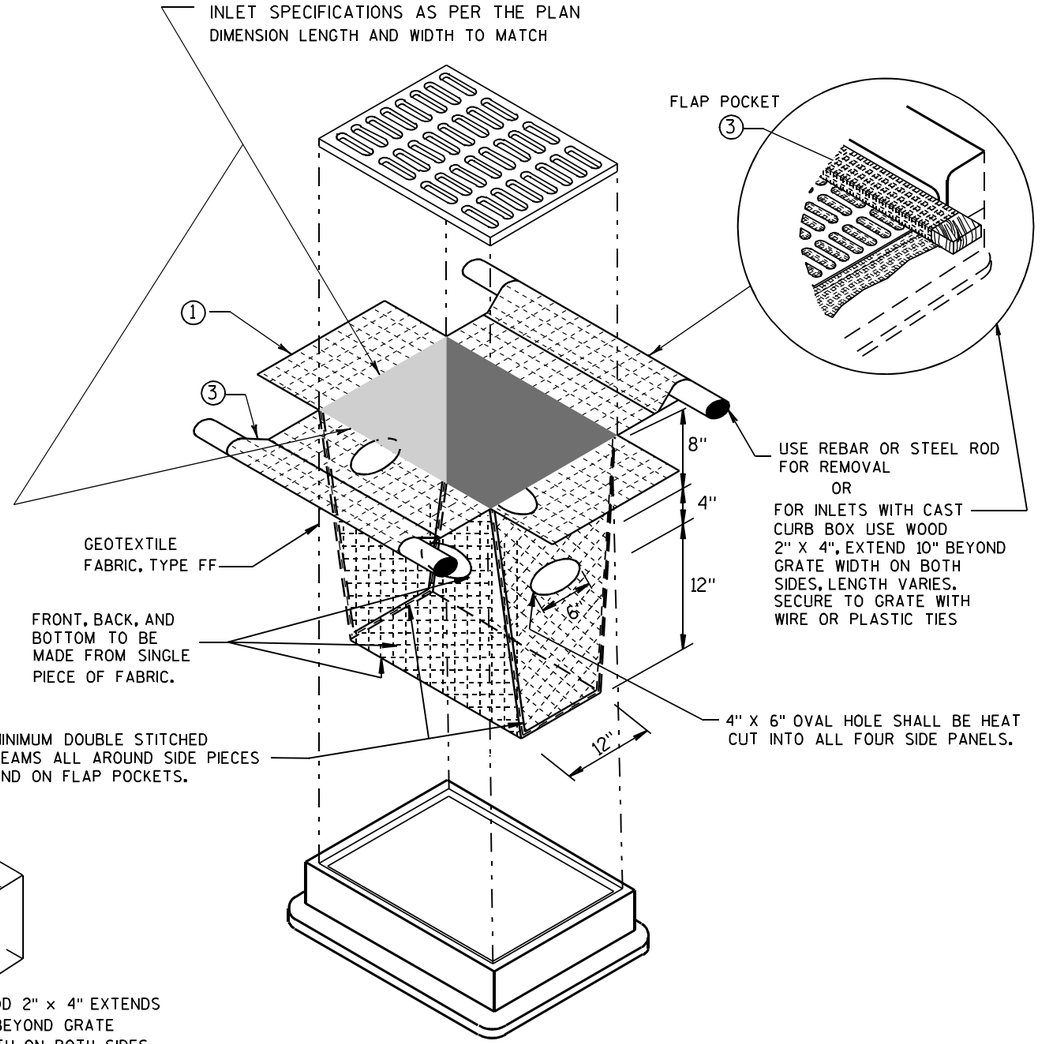


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

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

GENERAL NOTES

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

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

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

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

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

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

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

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

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

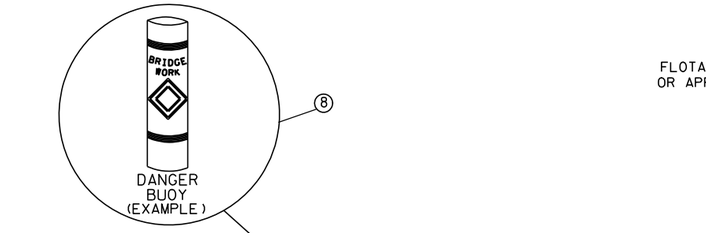
APPROVED

10/16/02
DATE

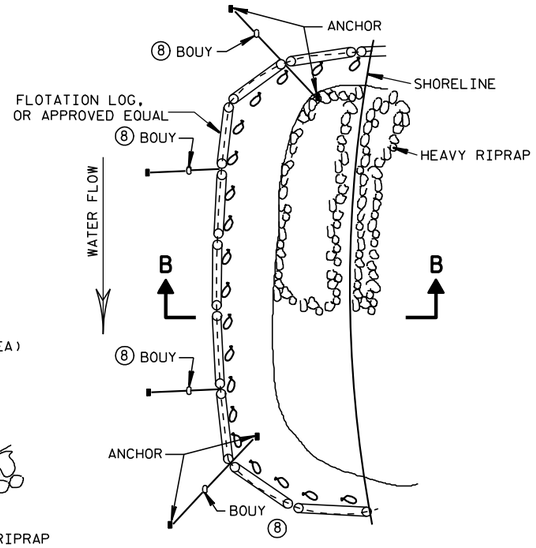
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

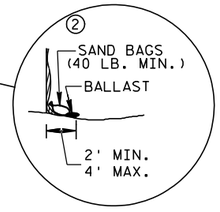
FHWA

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

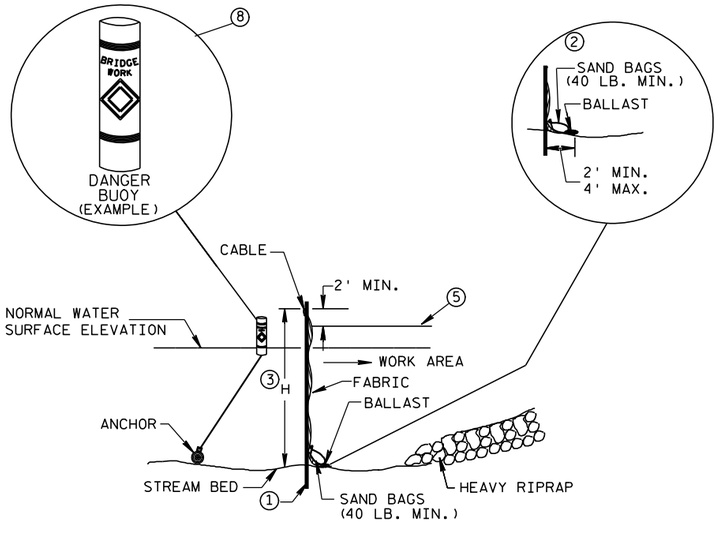


SECTION B-B

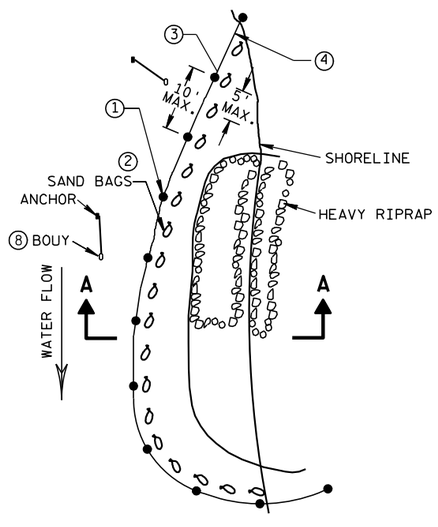




TURBIDITY BARRIER FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A-A



PLAN VIEW

TURBIDITY BARRIER STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

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

TURBIDITY BARRIER MAY BE REMOVED AT THE ENGINEERS DISCRETION, WHEN PERMANENT EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED.

① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.

② SANDBAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.

③ WHEN BARRIER HEIGHT, H, EXCEEDS 8 FT., POST SPACING MAY NEED TO BE DECREASED.

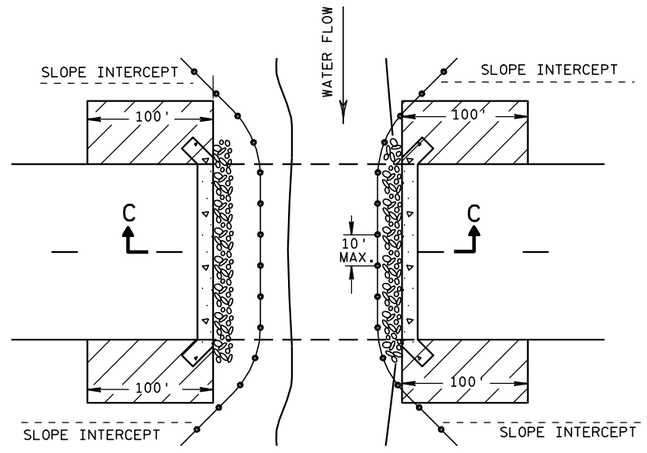
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MIMIMUM BARRIER HEIGHT SHALL BE 2'GREATER THAN EITHER THE O2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WICHEVER IS GREATER.

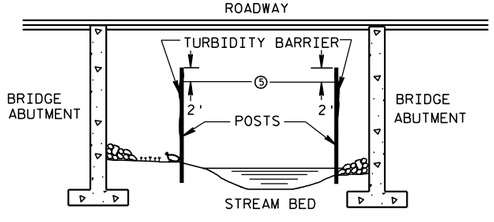
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

⑦ ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.

⑧ USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



PLAN VIEW



SECTION C-C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
6/04/02 DATE	/S/ Beth Cannestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	

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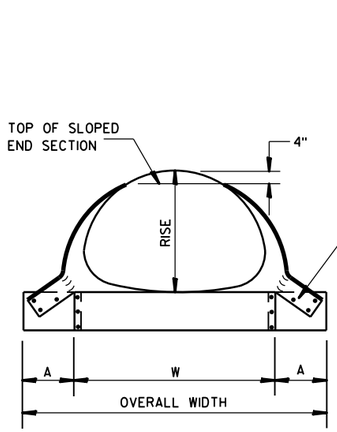
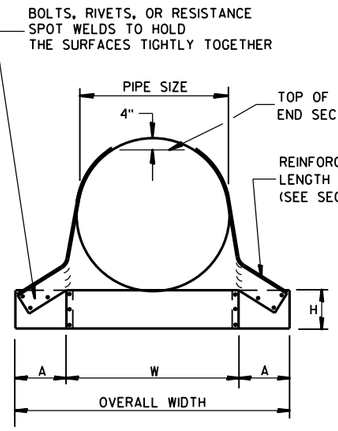
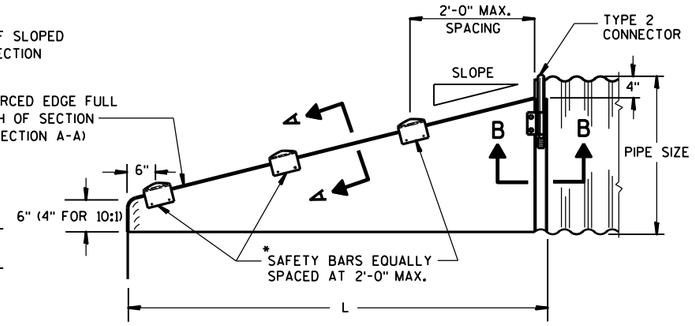
S.D.D. 8 E 11-2



FRONT VIEW



FRONT VIEW



SIDE VIEW

GENERAL NOTES

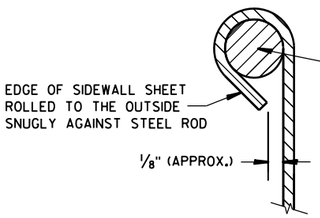
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

SLOPED END SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS, SECTION 521 FOR STEEL APRON ENDWALLS.

SAFETY BARS SHALL BE FABRICATED FROM GALVANIZED STEEL PIPE MEETING THE REQUIREMENTS OF ASTM A-53, GRADE B, SCHEDULE 40 OR APPROVED EQUAL.

STEEL APRON ENDWALLS FOR CULVERT PIPE
SLOPED SIDE DRAINS

PIPE DIA. (IN.)	MIN. THICK. (Inches)	DIMENSIONS (Inches)				L DIMENSIONS					
		A	H	W	OVERALL WIDTH	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES
15	.064	8	6	21	37	4:1	20	6:1	30	10:1	70
18	.064	8	6	24	40	4:1	32	6:1	48	10:1	100
21	.064	8	6	27	43	4:1	44	6:1	66	10:1	130
24	.064	8	6	30	46	4:1	56	6:1	84	10:1	160
30	.109	12	9	36	60	4:1	80	6:1	120	10:1	220
36	.109	12	9	42	66	4:1	104	6:1	156	10:1	280
42	.109	16	12	48	80	4:1	128	6:1	192	——	——
48	.109	16	12	54	86	4:1	152	6:1	228	——	——
54	.109	16	12	60	92	4:1	176	6:1	264	——	——
60	.109	16	12	66	98	4:1	200	6:1	300	——	——



SECTION A-A

*NOTE:
THREE SAFETY BARS ARE SHOWN. ACTUAL NUMBER OF BARS REQUIRED AT A 2'-0" C-C MAX. SPACING WILL VARY DEPENDING ON THE LENGTH OF THE END SECTION.

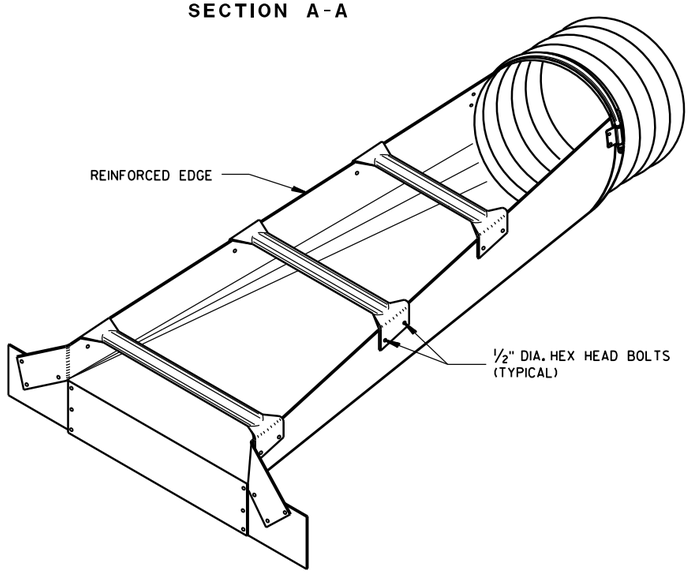
3" GALVANIZED PIPE. FLATTEN ENDS, THEN BEND OUTSIDE 4" TO MATCH END SECTION SIDES.

DETAIL OF SAFETY BAR

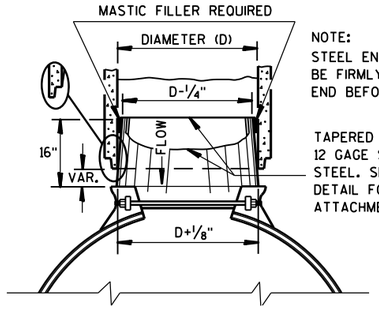
STEEL APRON ENDWALLS FOR PIPE ARCH
SLOPED SIDE DRAINS

EQUIV. DIA. (Inches)	(Inches) SPAN	(Inches) RISE	MIN. THICK. (Inches) ①	DIMENSIONS (Inches) A	H	W	OVERALL WIDTH	L DIMENSIONS SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES
15	17	13	.064 *	7	6	30	44	4:1	19	6:1	30	10:1 ②	70
18	21	15	.064 *	8	6	27	43	4:1	20	6:1	30	10:1	70
21	24	18	.064 *	8	6	30	46	4:1	32	6:1	48	10:1	100
24	28	20	.064 *	8	6	34	50	4:1	40	6:1	60	10:1	120
30	35	24	.079 *	12	9	41	65	4:1	56	6:1	84	10:1	160
36	42	29	.109 *	12	9	48	72	4:1	76	6:1	114	10:1	210
42	49	33	.109	16	12	55	87	4:1	92	6:1	138	——	——
48	57	38	.109	16	12	63	95	4:1	112	6:1	168	——	——
54	64	43	.109	16	12	70	102	4:1	132	6:1	198	——	——

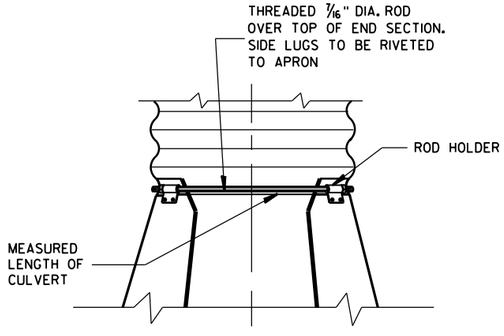
① * MINIMUM THICKNESS OF ALL 10:1 SLOPED SIDE DRAINS IS 0.109".
② ACTUAL SLOPE GREATER THAN 10:1.



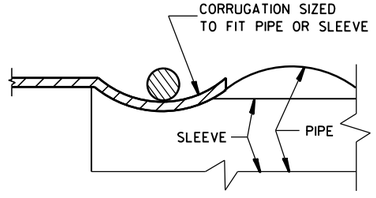
ISOMETRIC VIEW



STEEL ADAPTER SLEEVE FOR CONCRETE PIPE



TYPE 2
CONNECTION DETAIL



SECTION B-B

STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED SIDE DRAINS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

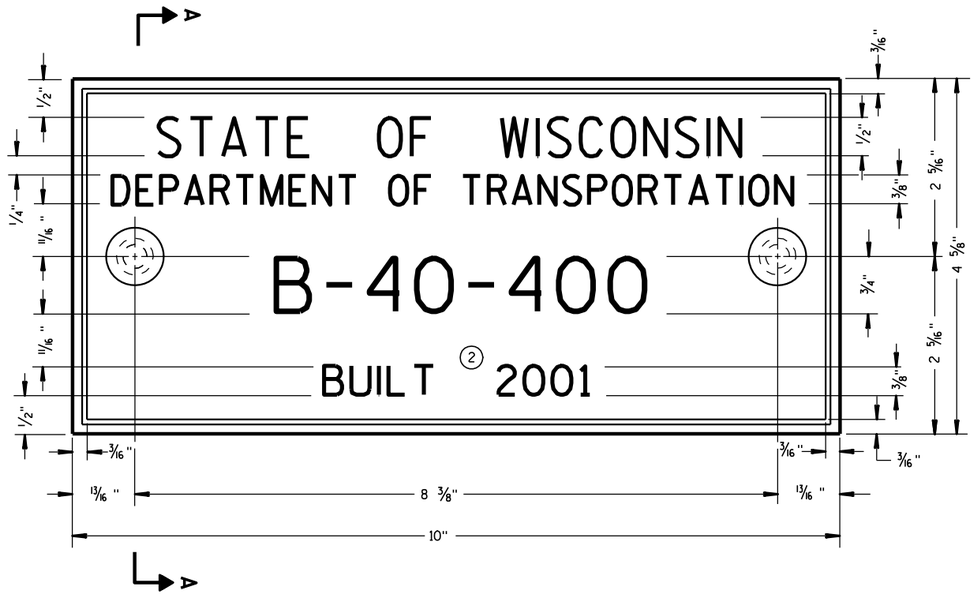
APPROVED
9/14/2012 — DATE
/S/ Jerry H. Zoda — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 F 7-5

6

S.D.D. 8 F 7-5



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

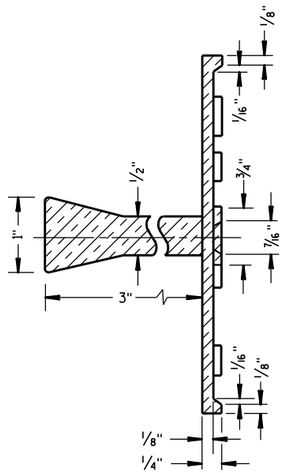
GENERAL NOTES

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.

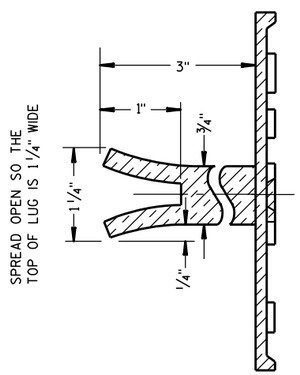
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

(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

FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

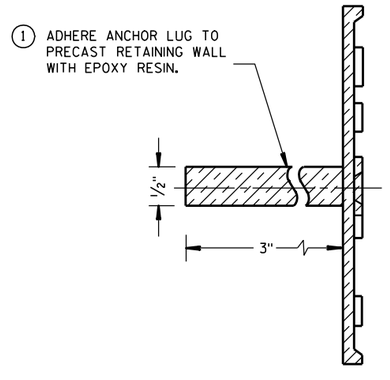
COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES



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 DEVELOPMENT ENGINEER

FHWA

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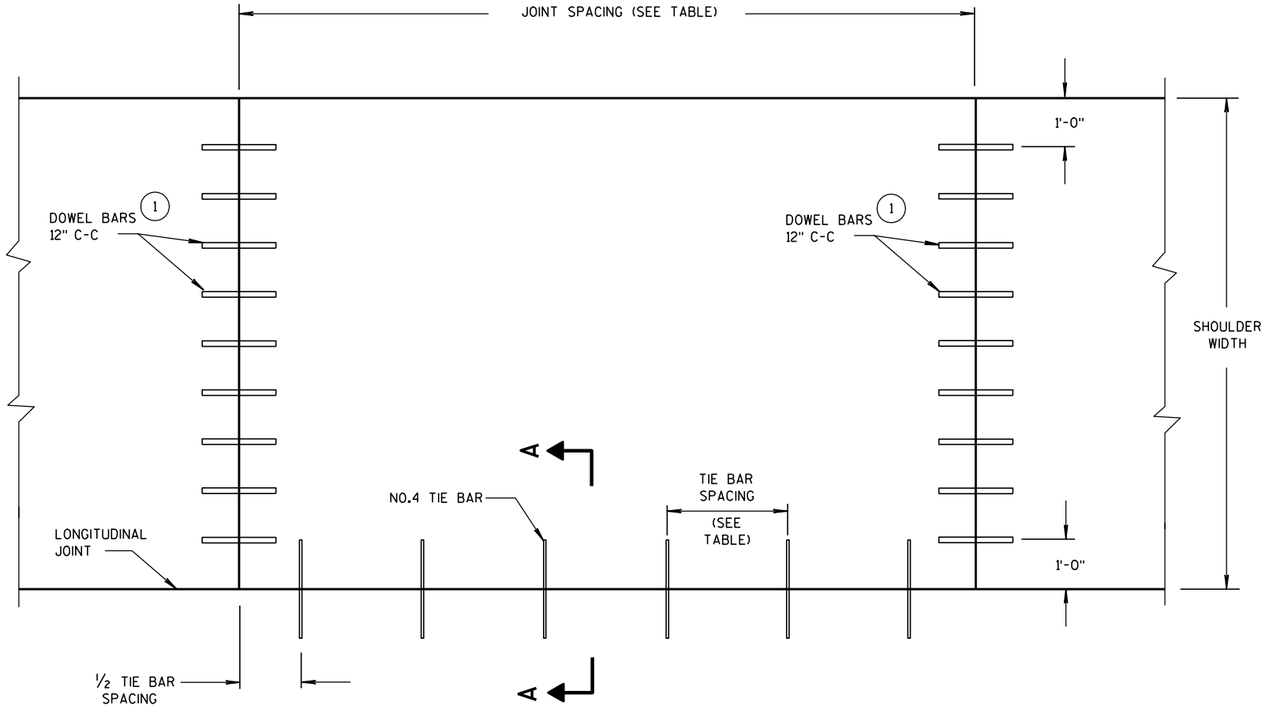
S.D.D. 12 A 3-10



PLAN VIEW

CONCRETE PAVEMENT SHOULDER

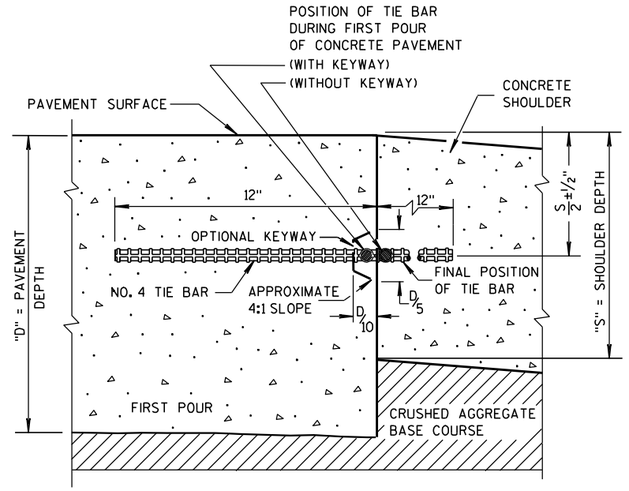
GENERAL NOTES

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

TRANSVERSE JOINT DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

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

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



SECTION A-A

LONGITUDINAL CONSTRUCTION JOINT

PAVEMENT TYPE OF TRAFFIC LANES	TIE BAR SPACING	SHOULDER JOINT SPACING
NON-REINFORCED	30"	MATCH JOINT SPACING OF ADJACENT TRAFFIC LANE
CONTINUOUSLY REINFORCED	30"	15' FOR 6' TO 10' WIDE SHOULDERS
CONTINUOUSLY REINFORCED	36"	12' FOR 3' WIDE SHOULDERS

(1)

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
8/15/2011 — DATE
/S/ Deb Bischoff — PAVEMENT POLICY & D — INEER
FHWA

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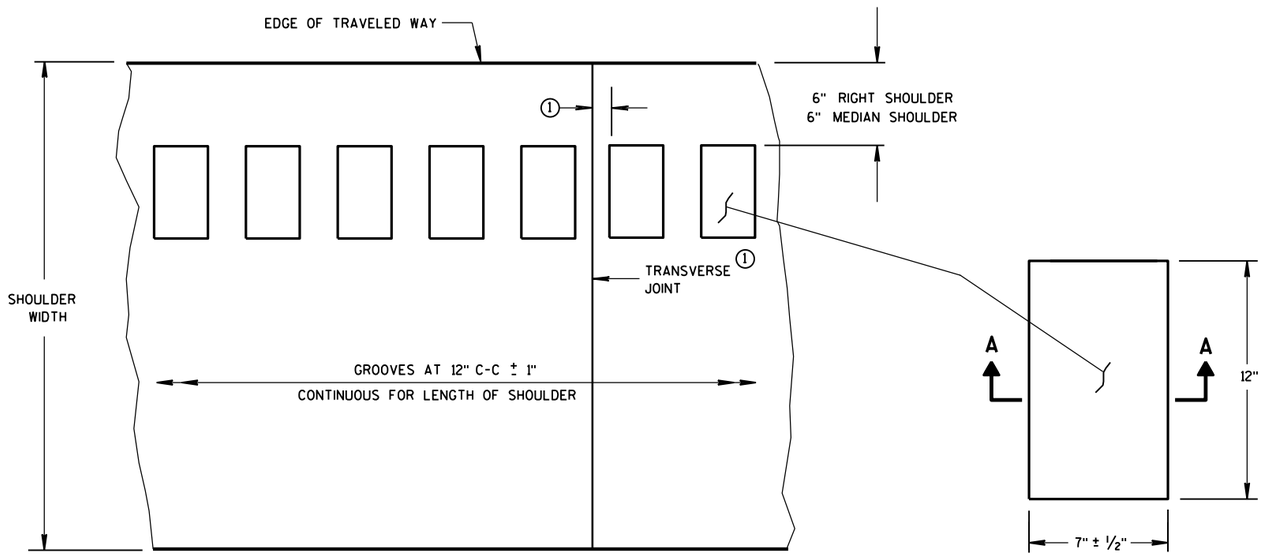
S.D.D. 13 A 3-5



PLAN VIEW
SHOULDER WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

PLACEMENT DETAIL FOR MILLED RUMBLE STRIP

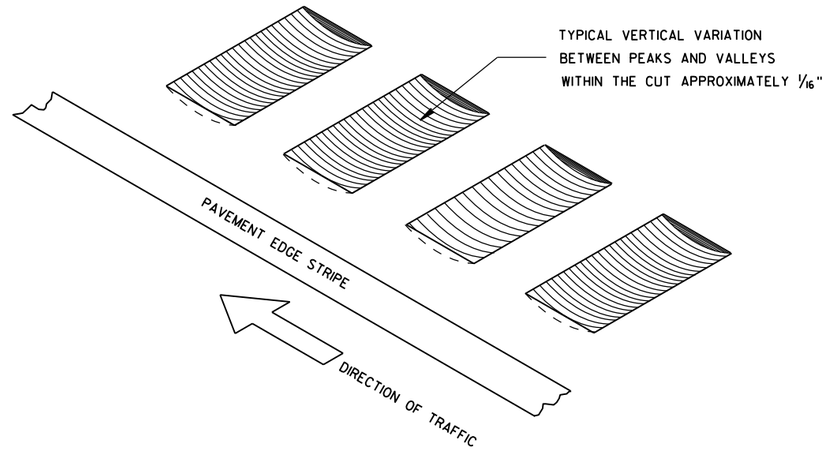
GENERAL NOTES

DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

RUMBLE STRIPS ON EXPRESSWAYS

DO NOT INSTALL RUMBLE STRIPS ACROSS SIDE ROAD INTERSECTIONS, COMMERCIAL DRIVEWAYS, PRIVATE DRIVEWAYS OR ADJACENT TO RIGHT TURN LANES, LEFT TURN LANES, TURN LANE TAPERS, BRIDGE DECKS, BRIDGE APPROACHES, OR 100 FEET IN ADVANCE OF RAILROAD CROSSING. THE ATTACHED STANDARD DETAIL DRAWING SHOWS THE LOCATION OF THE RUMBLE STRIPS AT INTERCHANGE AREAS.

(1) CONCRETE PAVEMENT - RUMBLE STRIPS SHALL BE A MINIMUM OF 6" AWAY FROM TRANSVERSE JOINTS.



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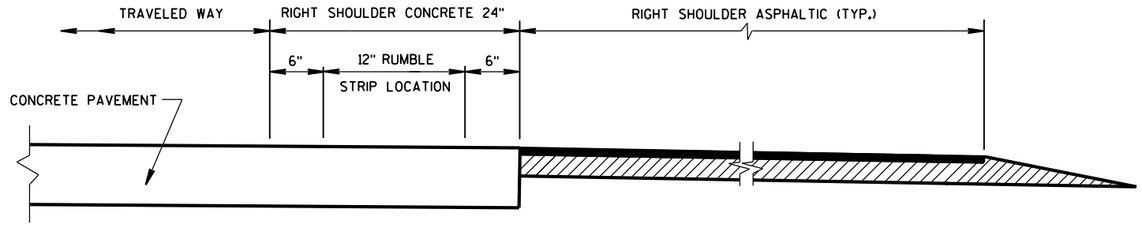
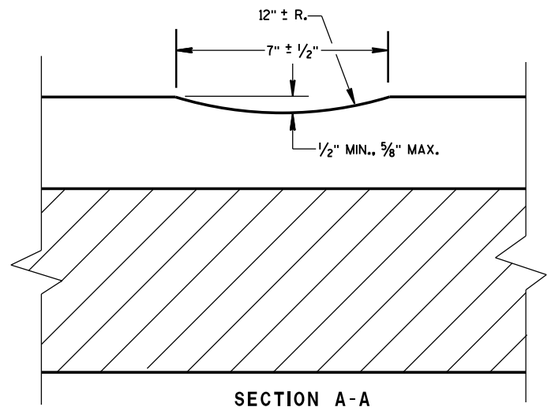
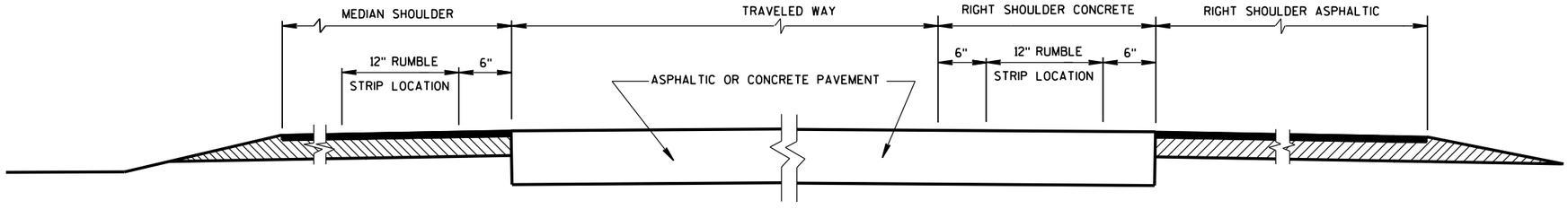


SECTION VIEW
CONCRETE PAVEMENT EXTENDS INTO RIGHT SHOULDER)



SECTION A-A



SECTION VIEW

TYPICAL LOCATIONS OF SHOULDER RUMBLE STRIPS IN RURAL DIVIDED HIGHWAYS

(ONE ROADWAY IS SHOWN)

SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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S.D.D. 13 A 5-5a

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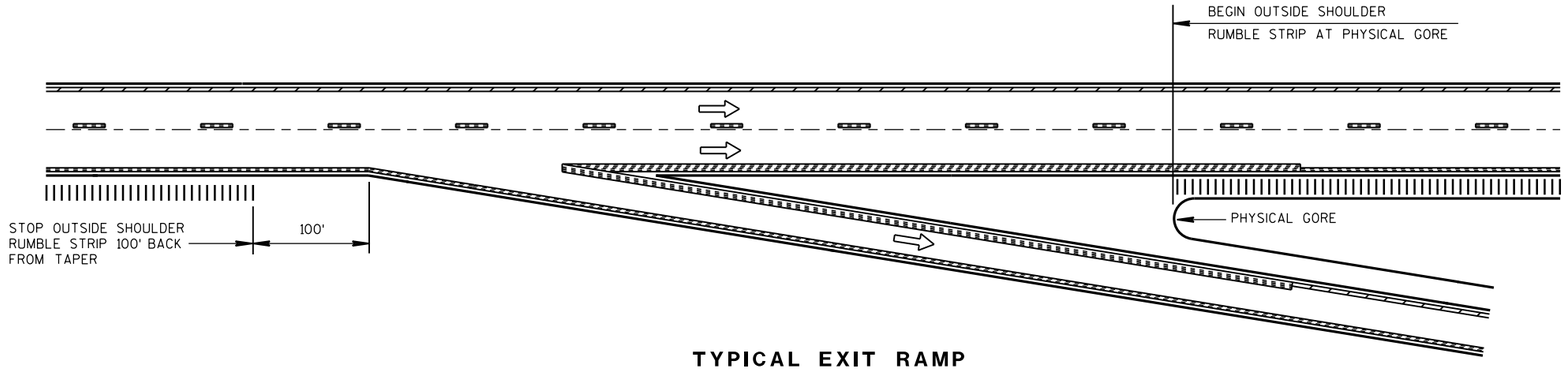
S.D.D. 13 A 5-5a



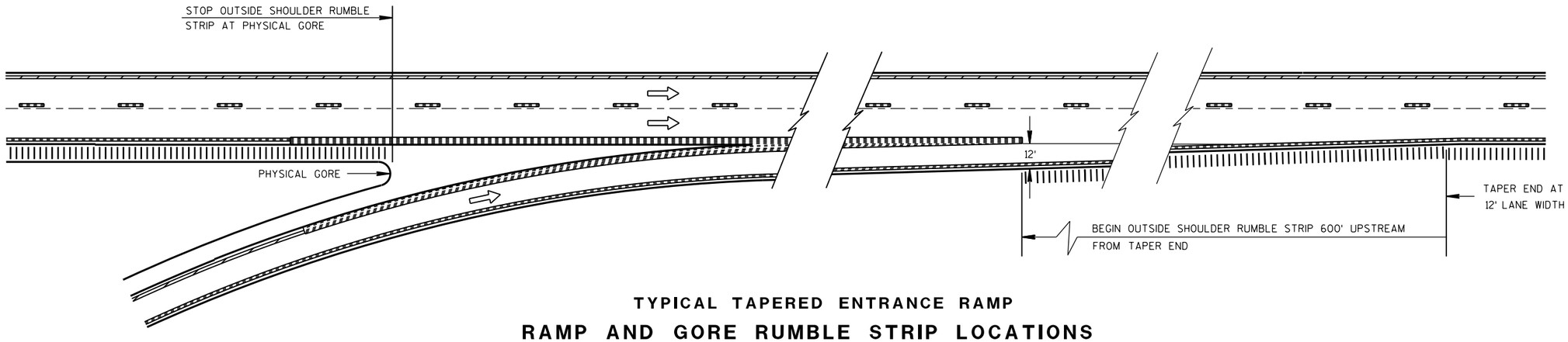
TYPICAL EXIT RAMP

NOTES:

NO RUMBLE STRIP ON EXIT, DIRECTIONAL, OR ENTRANCE RAMPS, EXCEPT NEAR THE ENTRANCE TAPER END AND ALONG THE PARALLEL RAMP AREA AS SHOWN.

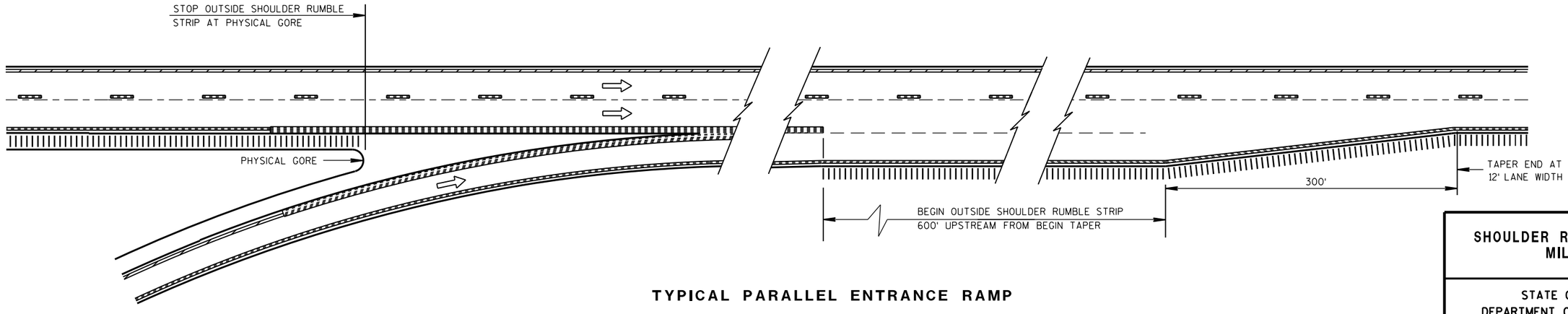
PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL



TYPICAL TAPERED ENTRANCE RAMP

RAMP AND GORE RUMBLE STRIP LOCATIONS



TYPICAL PARALLEL ENTRANCE RAMP

RAMP AND GORE RUMBLE STRIP LOCATIONS

SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12/17/2012 — DATE
/S/ Jerry H. Zoga — ROADWAY STANDARDS ENGINEER
FHWA

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S.D.D. 13 A 5-5b

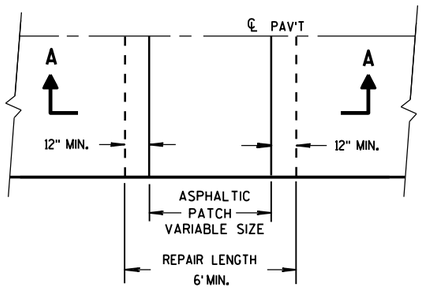
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES. ADDITIONAL SAW CUTS ARE NOT PAID FOR BY THE DEPARTMENT.

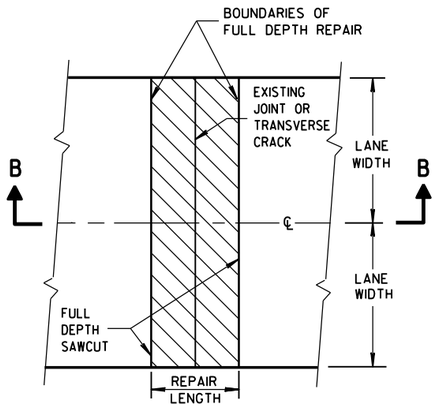
PROVIDE A 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK IN THE SAME LANE.

THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NONDOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

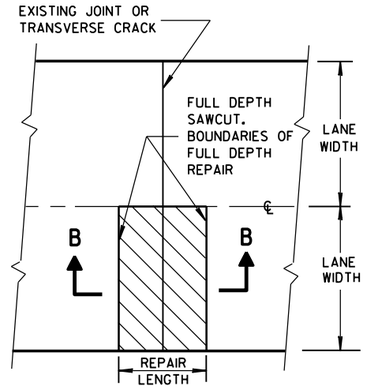
(1) DOWEL BARS MIGHT NOT EXIST.



PLAN VIEW



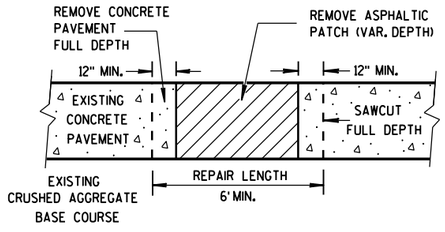
PLAN VIEW
(DOUBLE LANE REPAIR)



PLAN VIEW
(SINGLE LANE REPAIR)

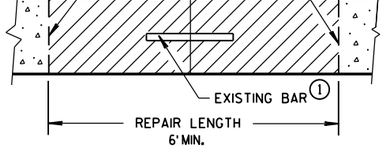
FULL DEPTH CONCRETE PAVEMENT REMOVAL

(SEE NOTE)



SECTION A-A

HMA PATCH REMOVAL



SECTION B-B

CONCRETE REMOVAL

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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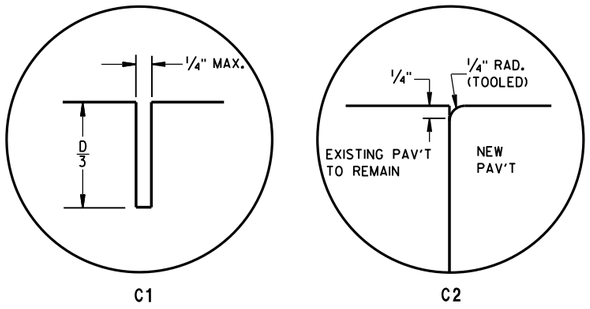
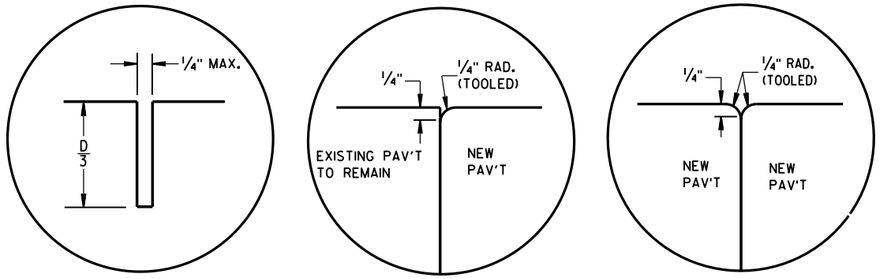


C1 C2

TRANSVERSE JOINTS

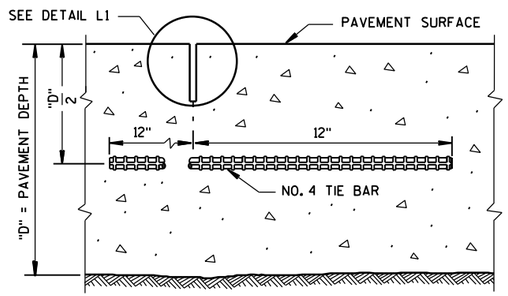
TIE BAR TABLE

PAVEMENT DEPTH "D"	CLEAR COVER "C"	MAXIMUM TIE BAR SPACING "S"	
		PAVEMENT WIDTH	
		24' OR 26'	≥ 30'
6, 6 1/2"	3"±1/2"	48"	42"
7, 7 1/2"	3 1/4"±1"	45"	36"
8, 8 1/2"	3 3/4"±1"	39"	30"
9, 9 1/2"	4 1/4"±1"	33"	27"
10, 10 1/2"	4 3/4"±1"	30"	24"
11, 11 1/2"	5 1/4"±1"	27"	21"
12"	5 3/4"±1"	24"	21"



L1 L2 L3

LONGITUDINAL JOINTS



SECTION C-C

SAWED LONGITUDINAL JOINT

GENERAL NOTES

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

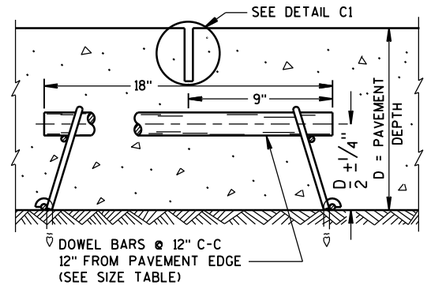
CONCRETE PAVEMENT REPAIRS OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

DO NOT SEAL OR FILL JOINTS.

ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

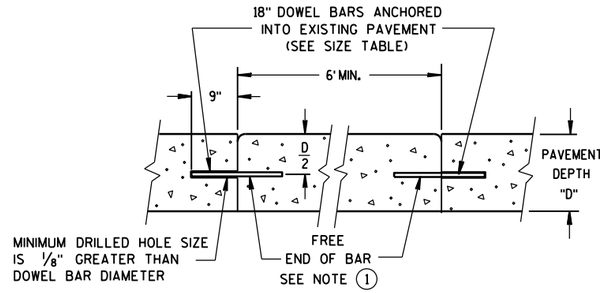
FOR MULTI-LANE CONCRETE PAVEMENT REPLACEMENTS, PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM ALL TRANSVERSE JOINTS OR EDGES OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

(1) APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

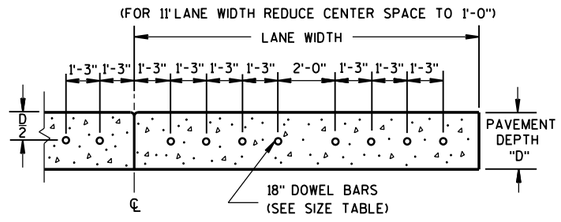


SECTION F-F

CONTRACTION JOINT



SECTION D-D

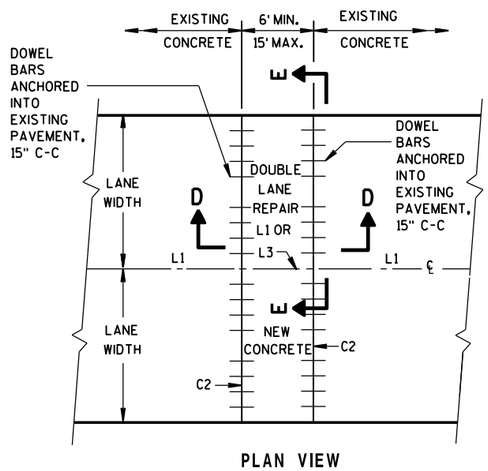


SECTION E-E

DRILLED DOWEL BAR CONSTRUCTION JOINT

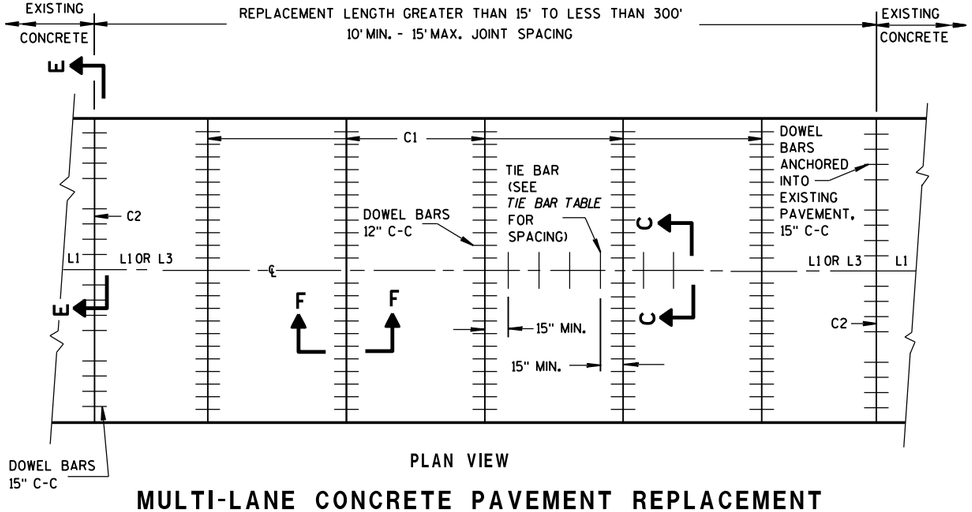
PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 1/2", 6",6 1/2"	NONE	12'
7",7 1/2"	1"	14'
8",8 1/2"	1 1/4"	15'
9",9 1/2"	1 1/4"	15'
10" & ABOVE	1 1/2"	15'



PLAN VIEW

MULTI-LANE CONCRETE PAVEMENT REPAIR



PLAN VIEW

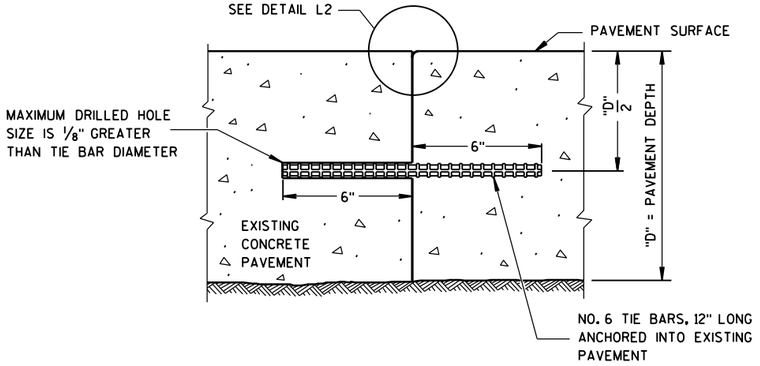
MULTI-LANE CONCRETE PAVEMENT REPLACEMENT

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 13 C 9-10b



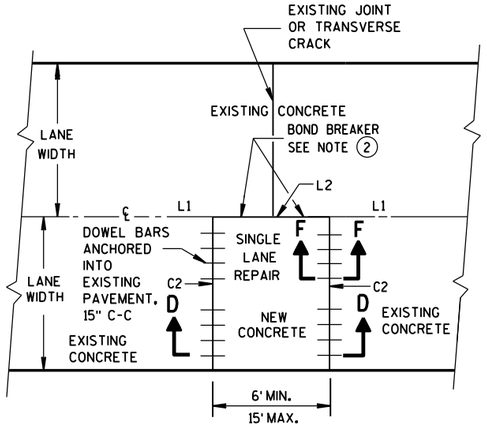
SECTION G-G

TIE BARS ANCHORED INTO EXISTING PAVEMENT

GENERAL NOTES

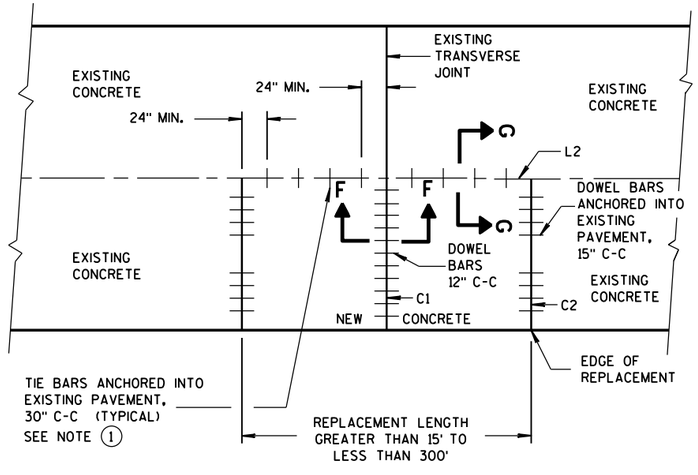
(1) WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, THE CONTRACTOR MAY INSTALL DRILLED TIE BARS ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES AND TO SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.

(2) USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE REPAIRS UP TO 15 FEET IN LENGTH.



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPAIR



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPLACEMENT

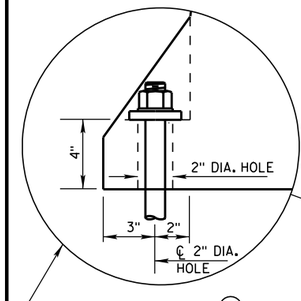
CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

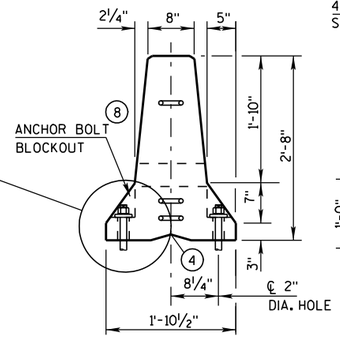
APPROVED
5-3-2013 DATE
/S/ Deb Bischoff PAVEMENT POLICY & DE
FHWA

6

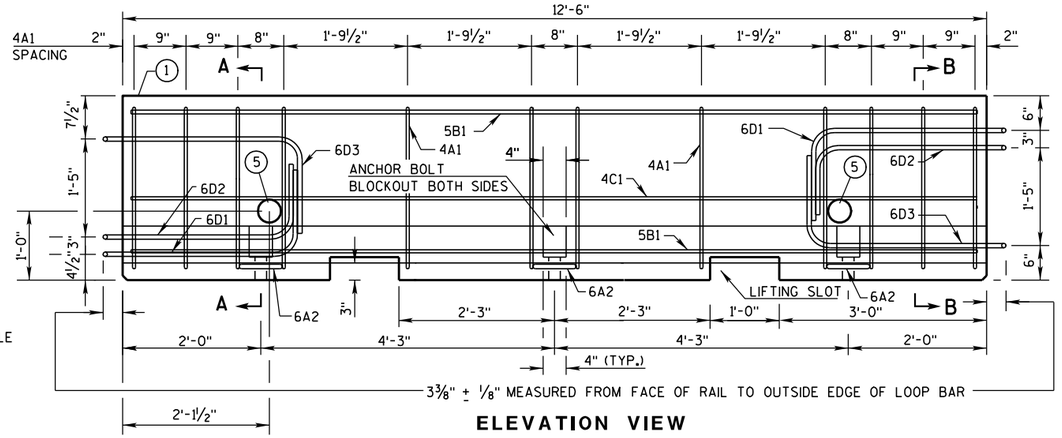
S.D.D. 13 C 9-10c



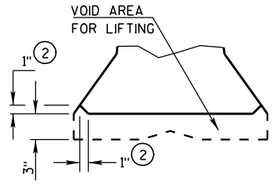
ANCHOR ON TRAFFIC SIDE (8) ONLY WHEN REQUIRED (SEE SHEET D FOR ADDITIONAL ANCHOR DETAIL)



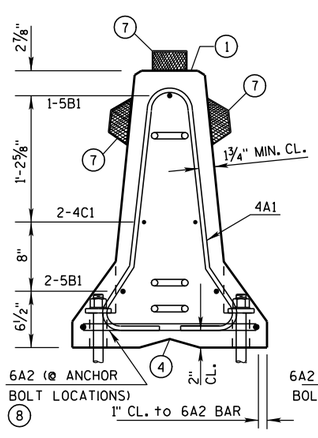
END VIEW



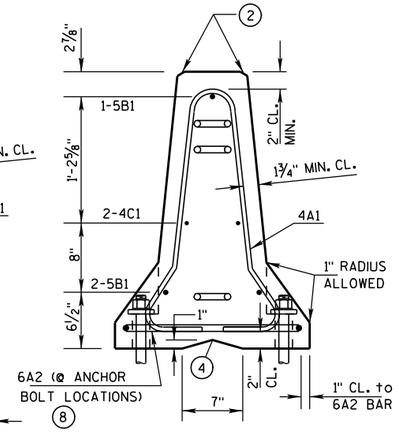
ELEVATION VIEW



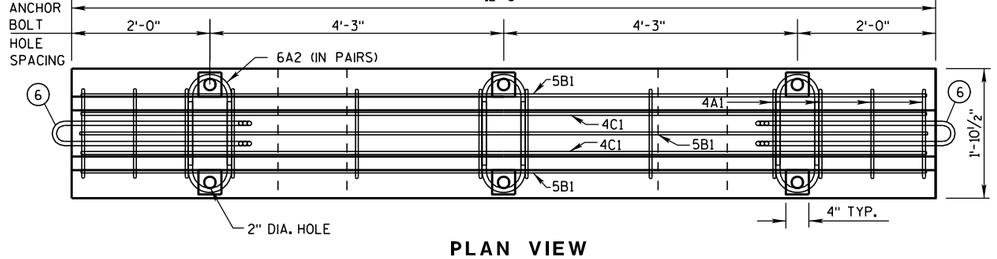
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)

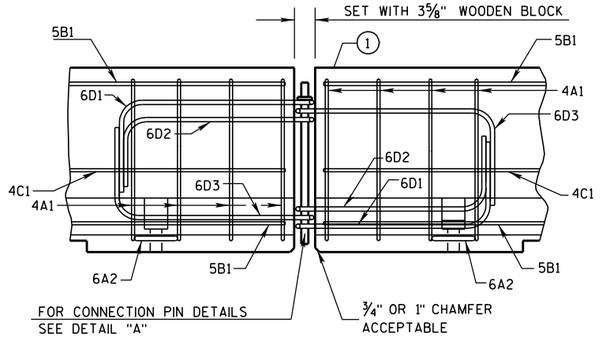


SECTION B-B
(STIRRUP PLACEMENT)

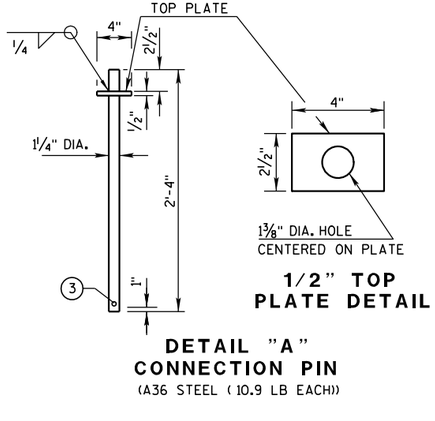


PLAN VIEW

DETAILS OF BARRIER SECTION

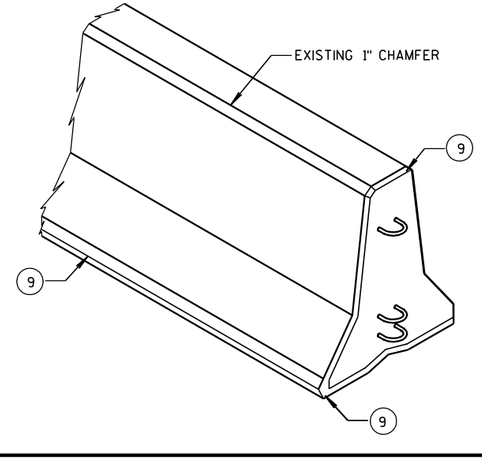


DETAILS OF BARRIER CONNECTION



1/2" TOP PLATE DETAIL

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



GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-13(a) THRU 14B7-13(h).

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 EPOXY 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: WICBTP
- 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 ANCHORING CRITERIA.

(9) 1" CHAMFER OPTIONAL.

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO.....

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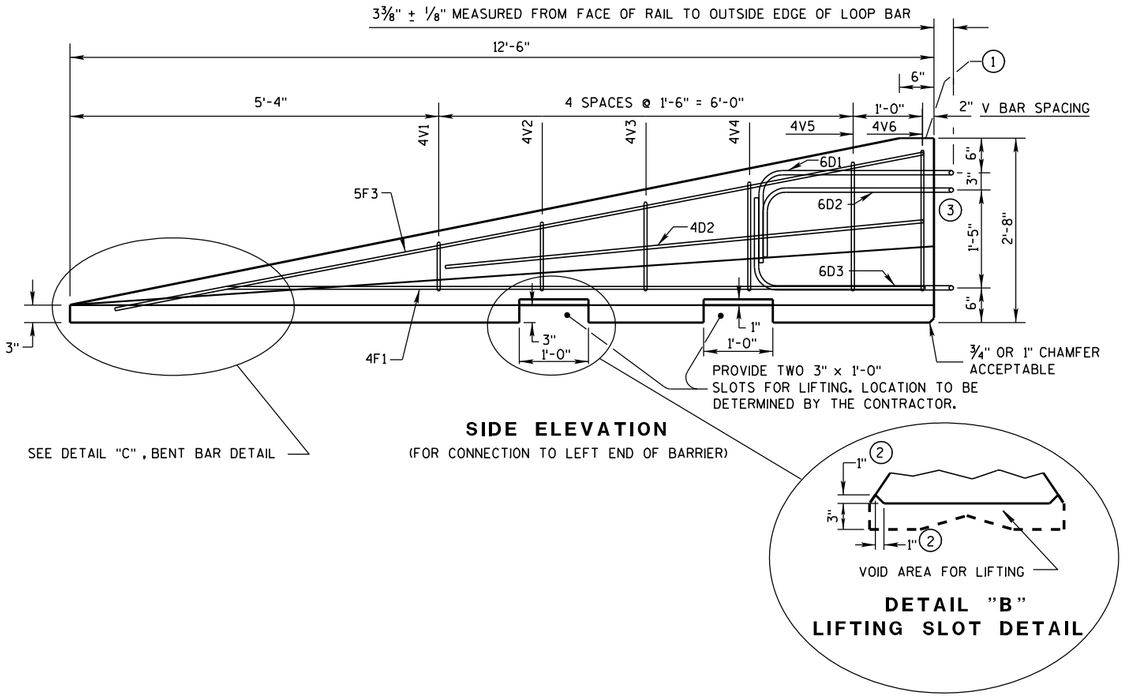
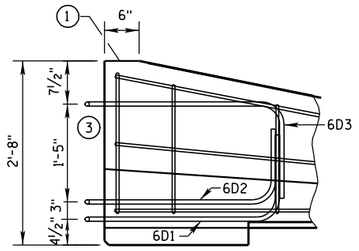
S.D.D. 14 B 7-13a



SIDE ELEVATION

(FOR CONNECTION TO LEFT END OF BARRIER)

DETAIL "B"
LIFTING SLOT DETAIL

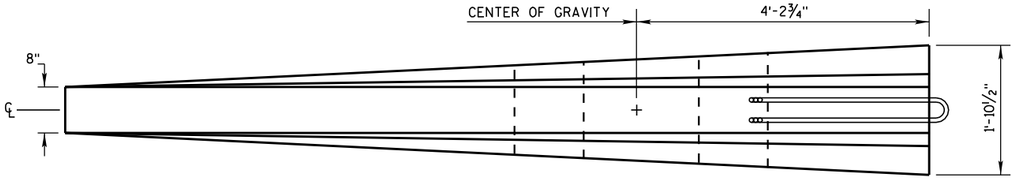


SIDE ELEVATION

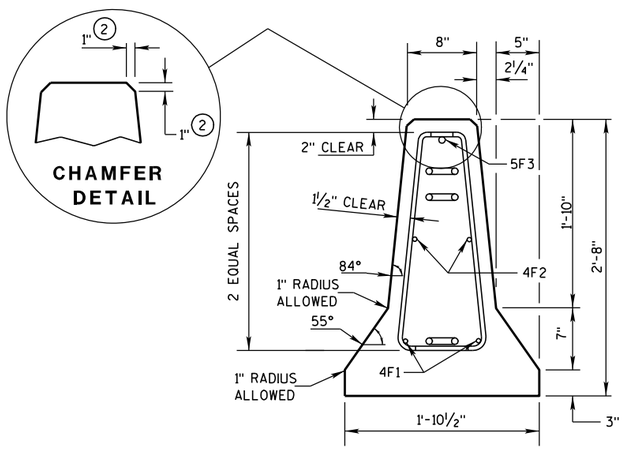
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

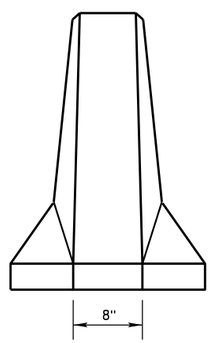
1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



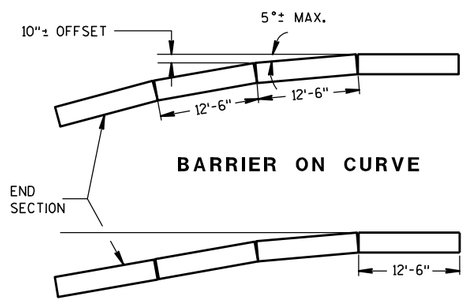
PLAN VIEW



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 TRANSPORTATION

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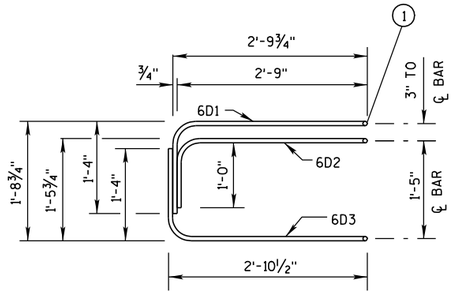
S.D.D. 14 B 7-13b

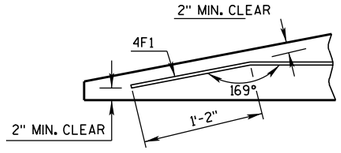
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

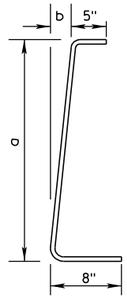
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



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

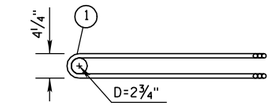
GENERAL NOTES

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

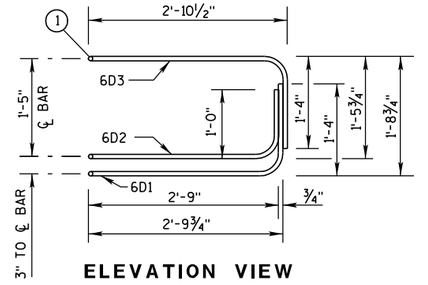
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

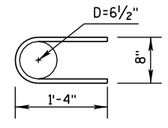
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



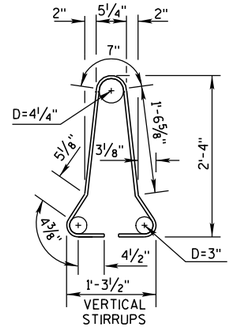
PLAN VIEW
LOOP BAR ASSEMBLY
(MARKED END SHOWN, INVERT FOR OTHER END)



ELEVATION VIEW



6A2



4A1

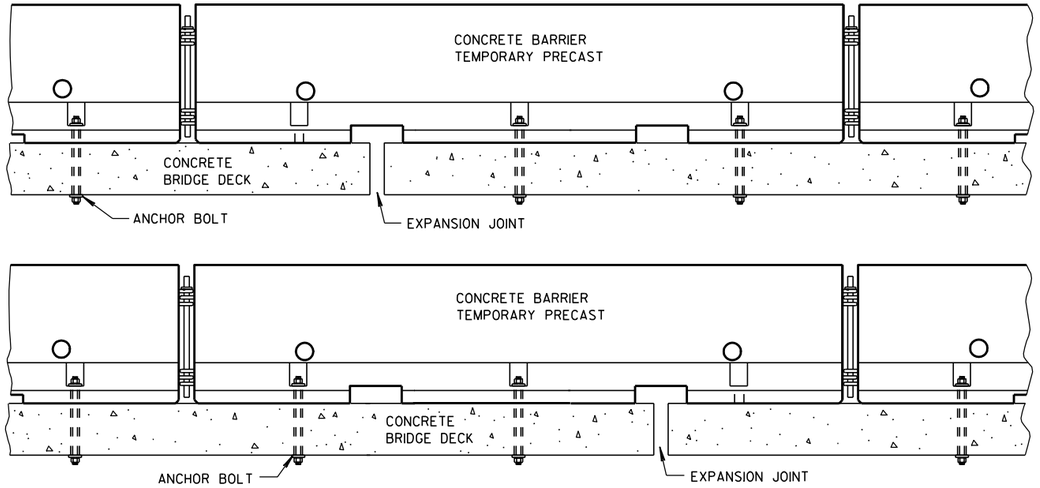
BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

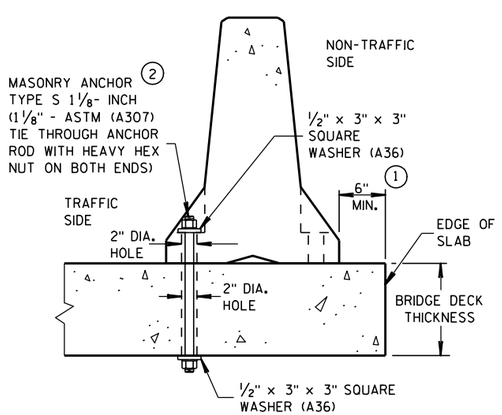
6

S.D.D. 14 B 7-13c



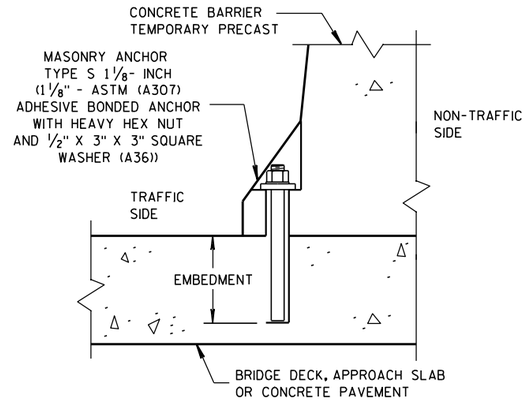
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(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.)



THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



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

2

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

GENERAL NOTES

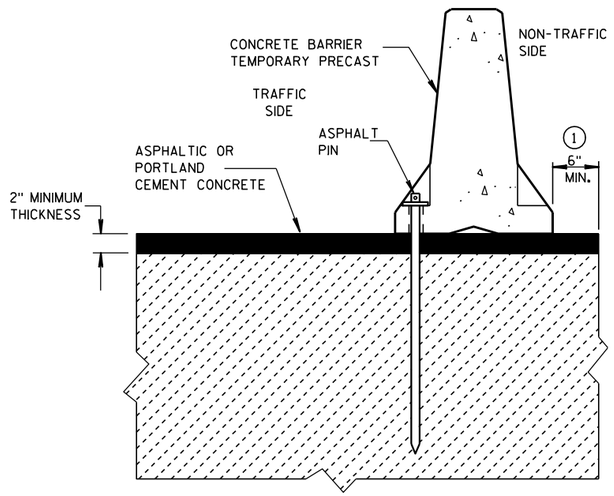
1. CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" SHALL BE ANCHORED IF:
   THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 4 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 45 MPH OR GREATER, OR

   THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT. IS LESS THAN 2 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 40 MPH OR LESS.

2. ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

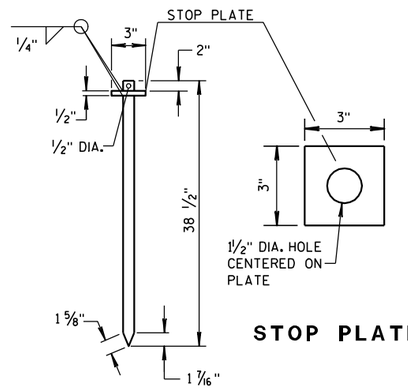
   WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED (EPOXY) ANCHOR BOLT INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE S 1⅛-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE CAPACITY OF THE ANCHOR BOLT AND PROVIDE DOCUMENTATION TO CONFIRM THIS.

   UPON REMOVAL OR RELOCATION OF THE BARRIER UNITS, REMOVE ALLANCHOR BOLTS AND COMPLETELY FILL IN THE REMAINING HOLES IN CONCRETE BRIDGE DECKS, CONCRETE APPROACH SLABS AND CONCRETE PAVEMENTS THAT ARE TO REMAIN, WITH A NON-SHRINK COMMERICAL GROUT OR EPOXY MATERIAL IDENTIFIED ON THE CURRENT WISDOT APPROVED PRODUCTS LIST.



STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

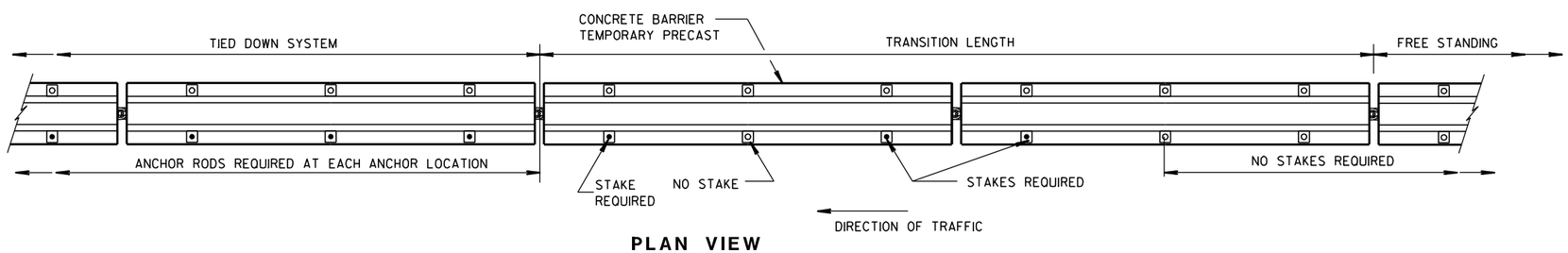
(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



STOP PLATE

ASPHALT PIN

(ASTM A36 STEEL)



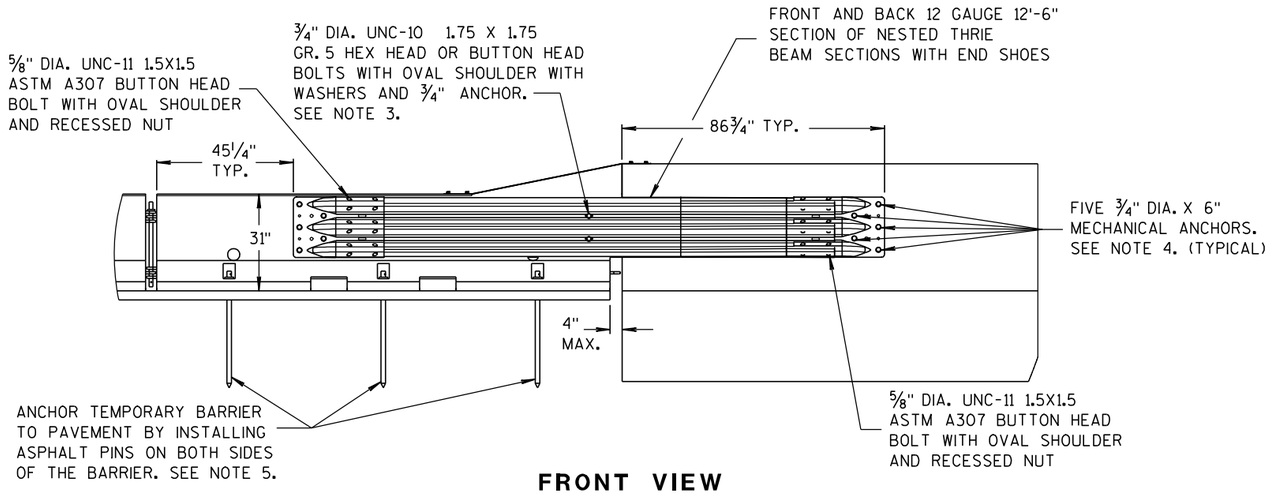
PLAN VIEW

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"

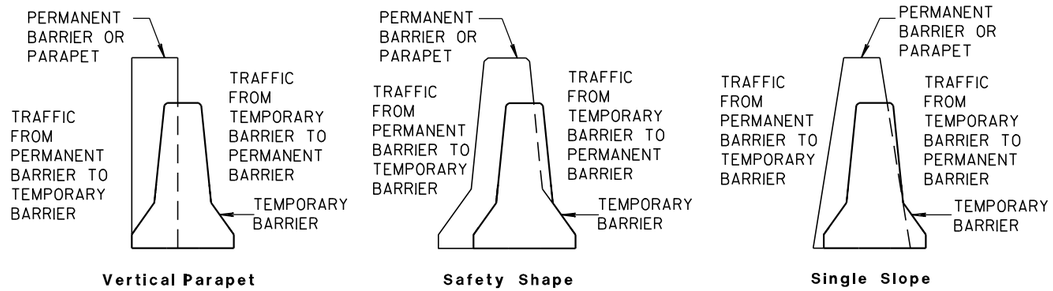
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

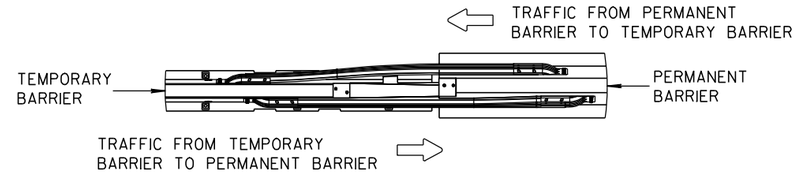


FRONT VIEW

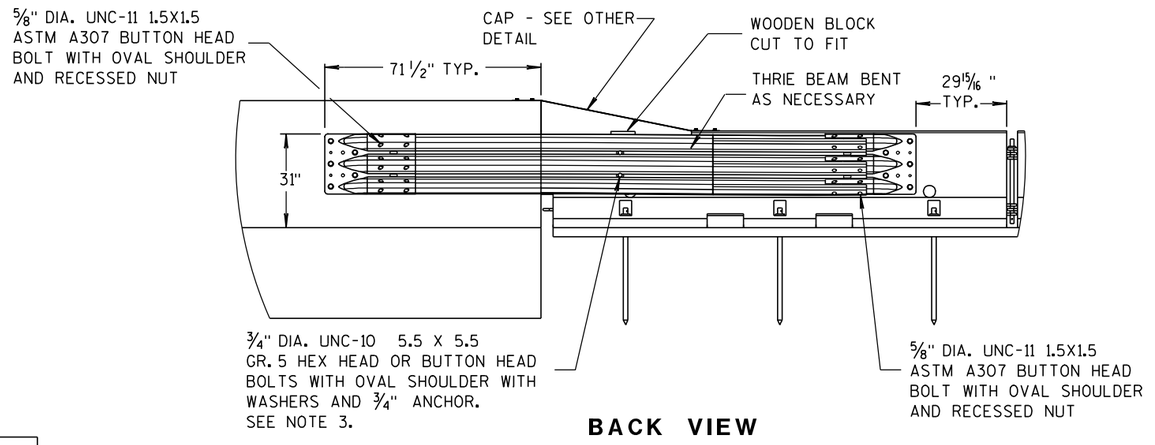
NOTES

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 EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS.
4. MINIMUM MECHANICAL OR EPOXY 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 EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.

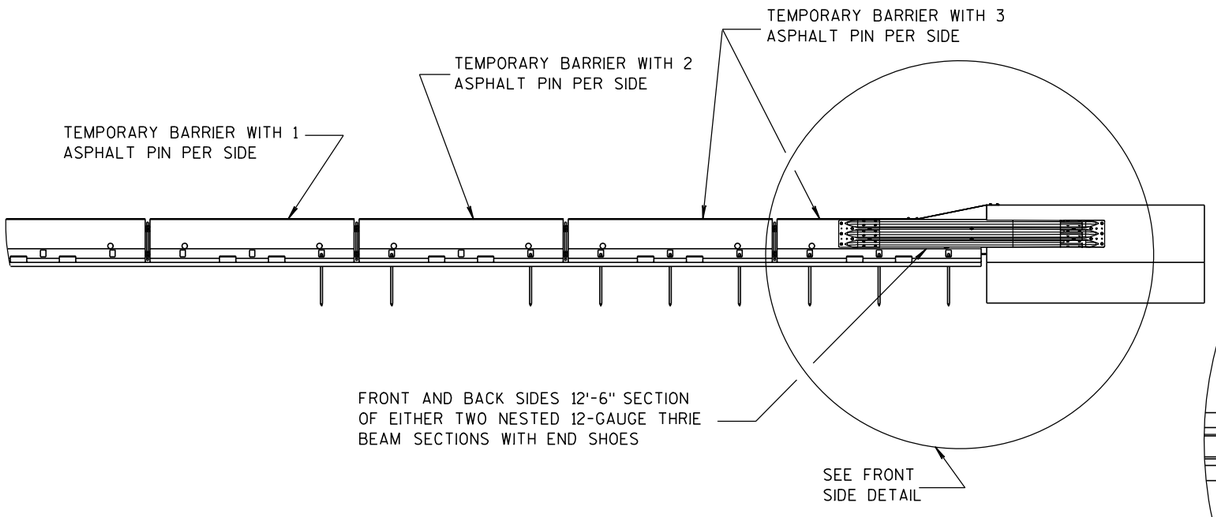




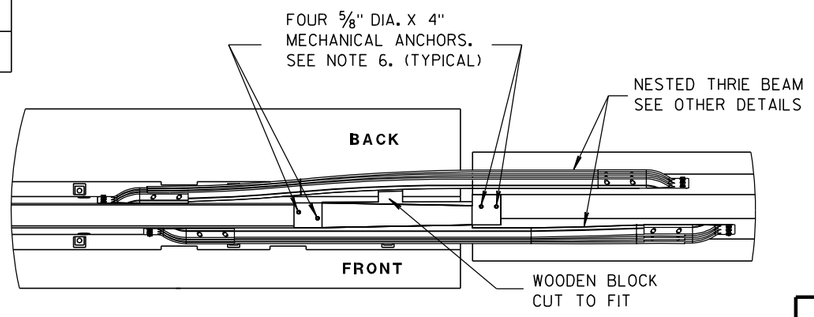
TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM



BACK VIEW



FRONT VIEW



PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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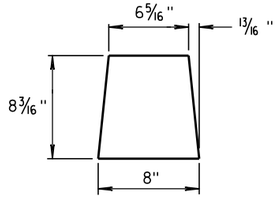
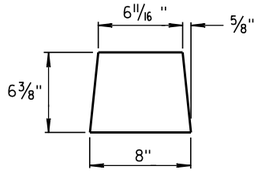
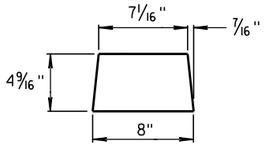
S.D.D. 14 B 7-13e



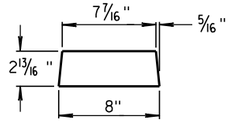
GUSSET 1



GUSSET 2

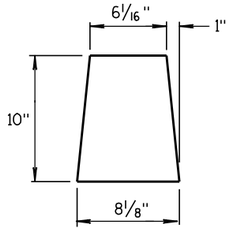


GUSSET 3

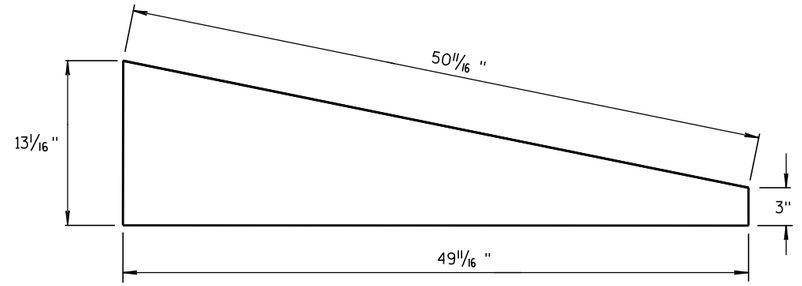


GUSSET 4

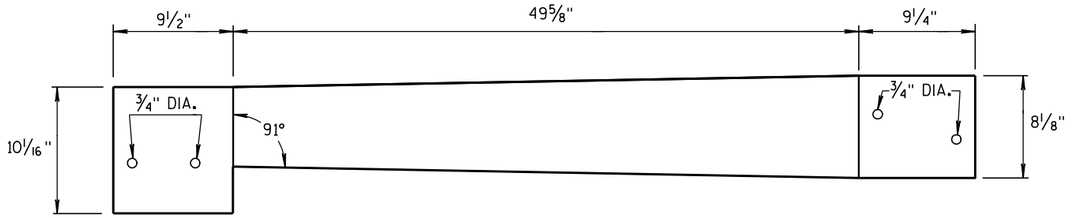
GUSSETS

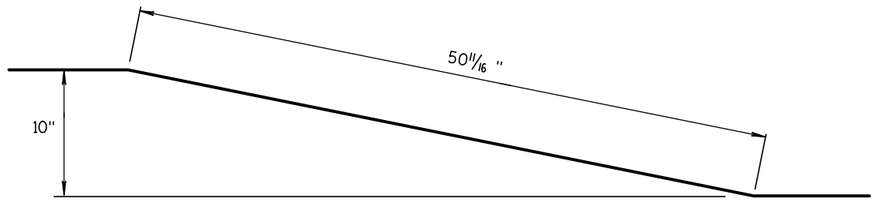


END PLATE

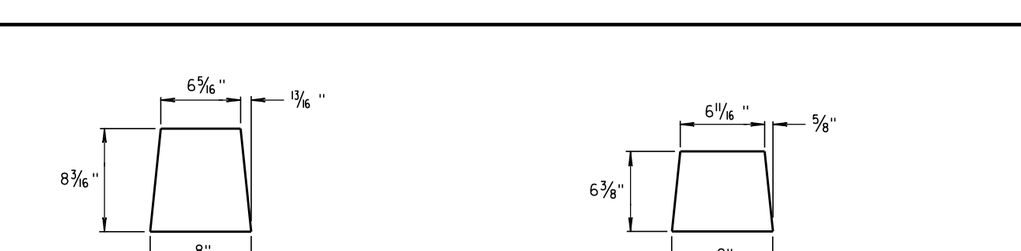


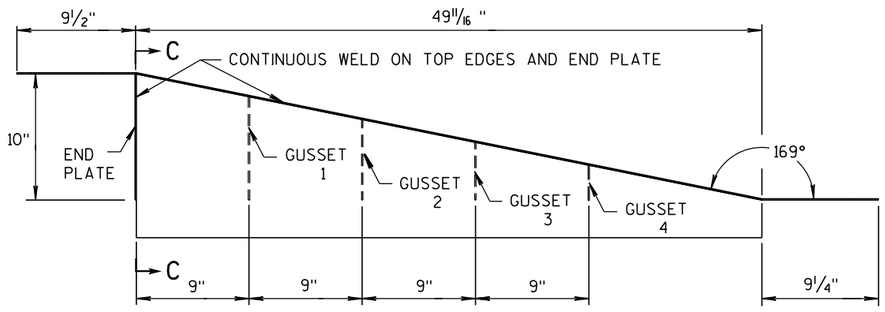
SIDE PLATE

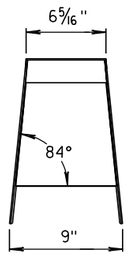




TOP PLATE







SECTION C-C

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.

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 TRANSPORTATION

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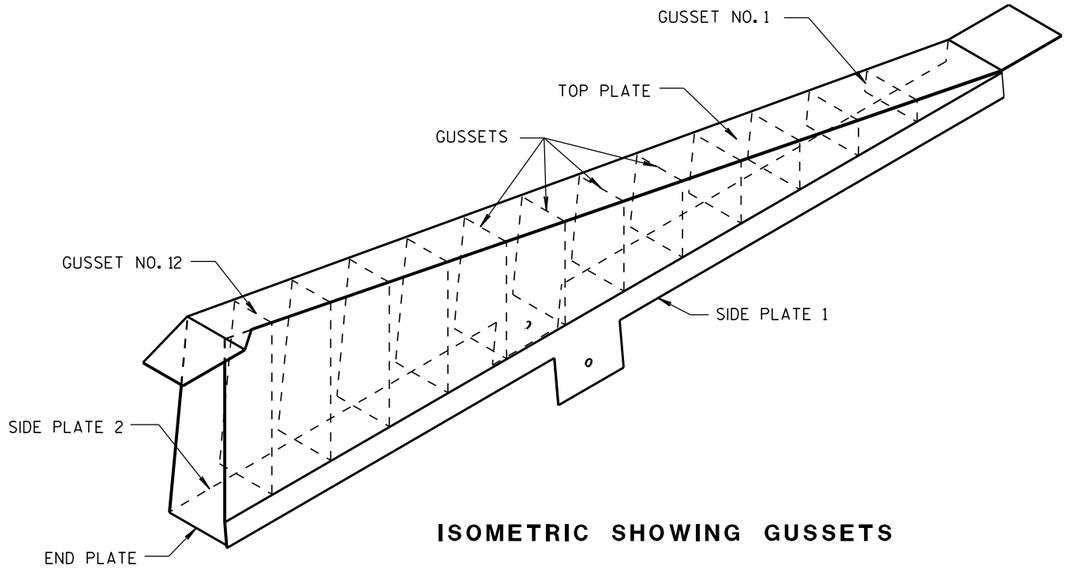
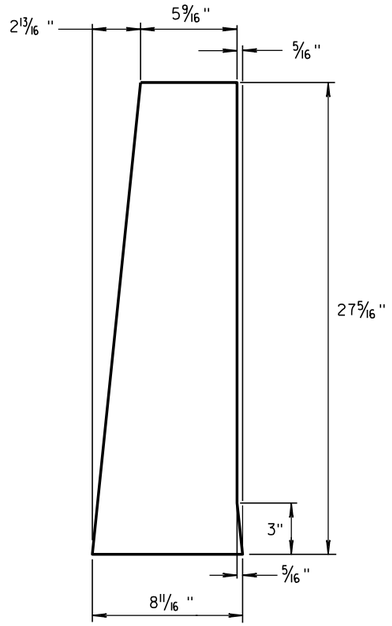
S.D.D. 14 B 7-13f

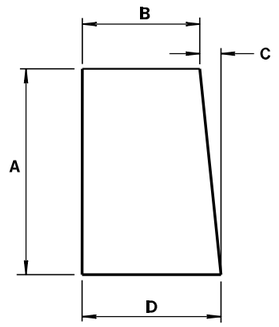


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



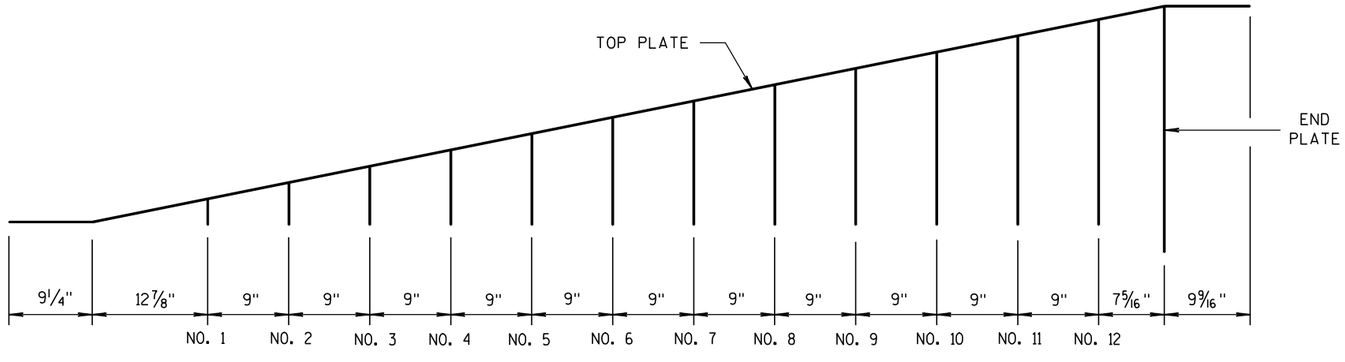
GUSSETS 1 - 12

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 TRANSPORTATION

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S.D.D. 14 B 7-13g

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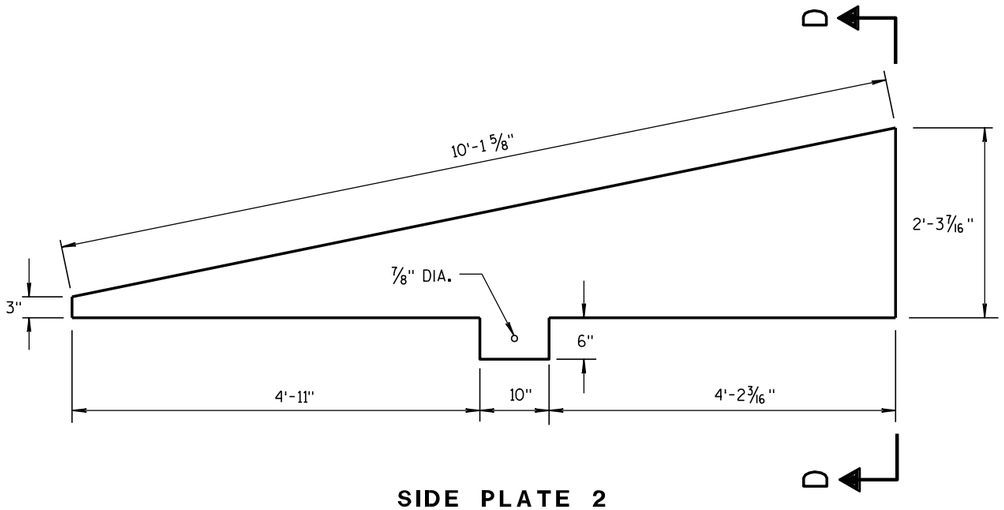
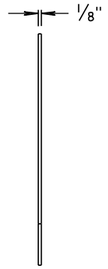
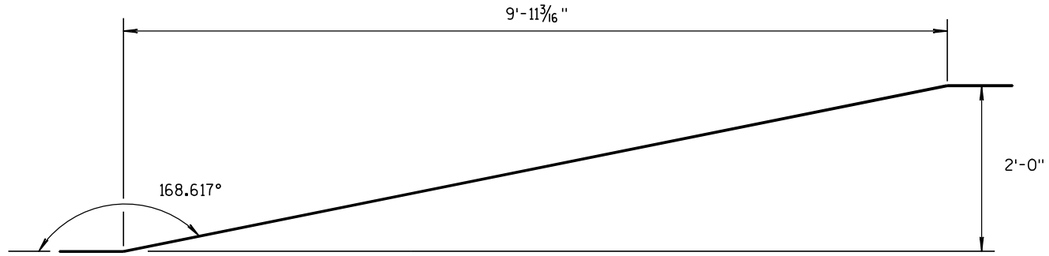
S.D.D. 14 B 7-13g



SIDE PLATE 2

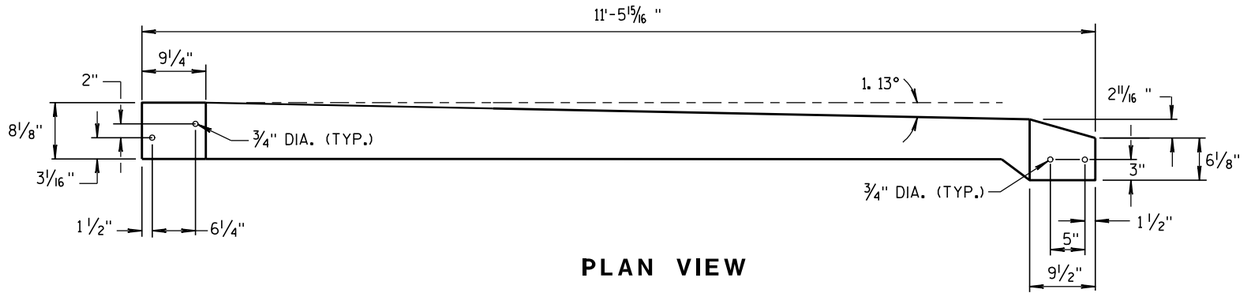


END VIEW



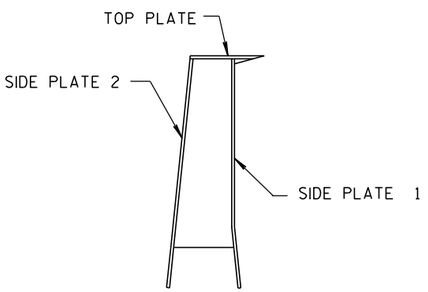
SIDE VIEW

TOP PLATE

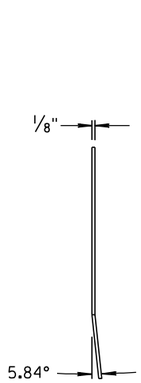


PLAN VIEW

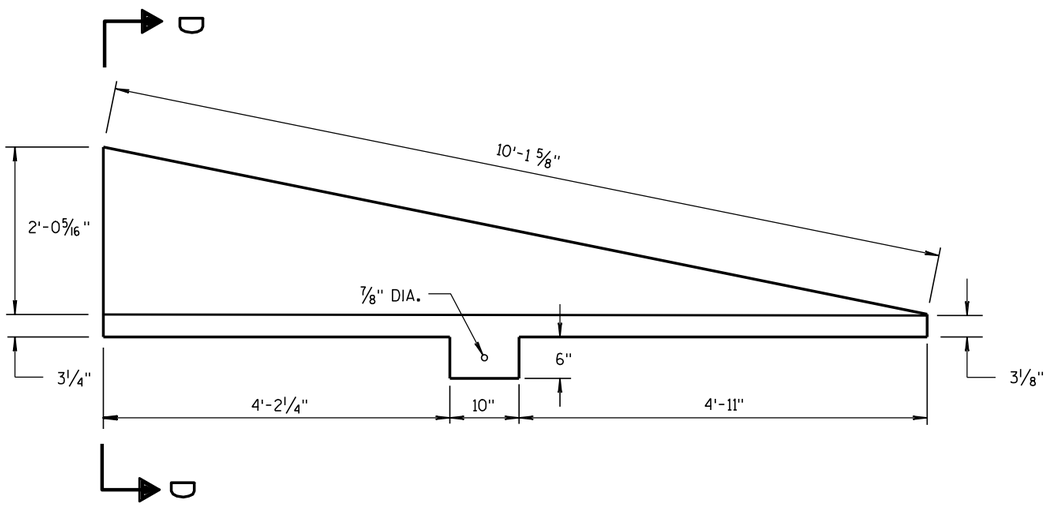
TOP PLATE



SECTION D-D



END VIEW



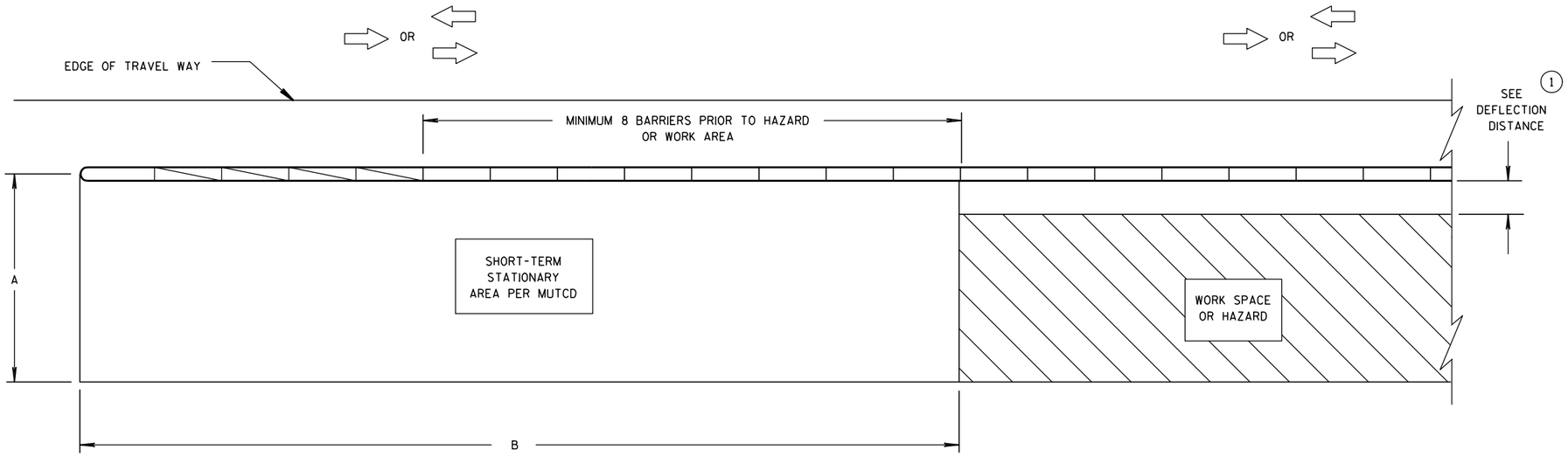
SIDE PLATE 1

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

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
8/31/2012 DATE	/S/ Jerry H. ENT ROADWAY STANDARDS ENGINEER
FHWA	

6

S.D.D. 14 B 7-13h



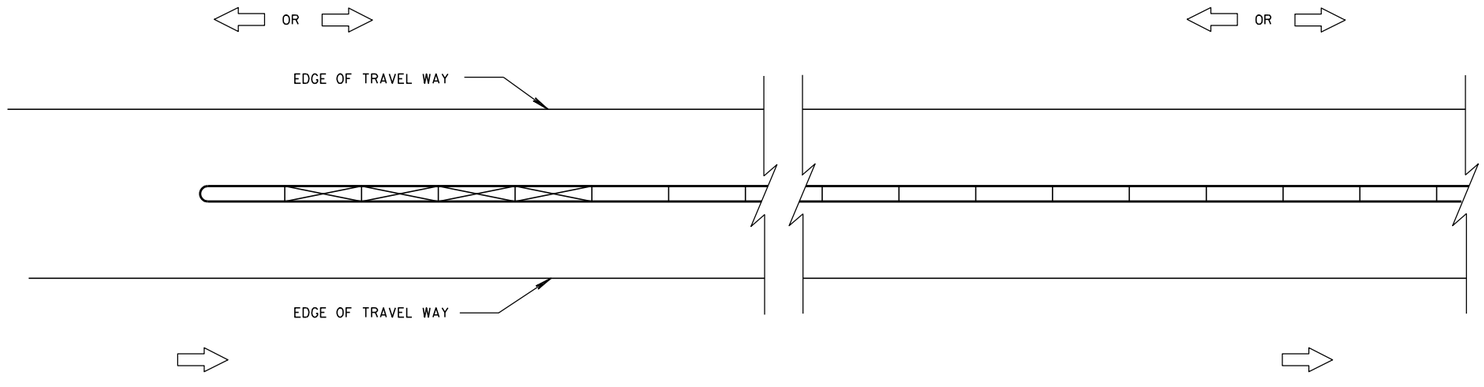
CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER

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.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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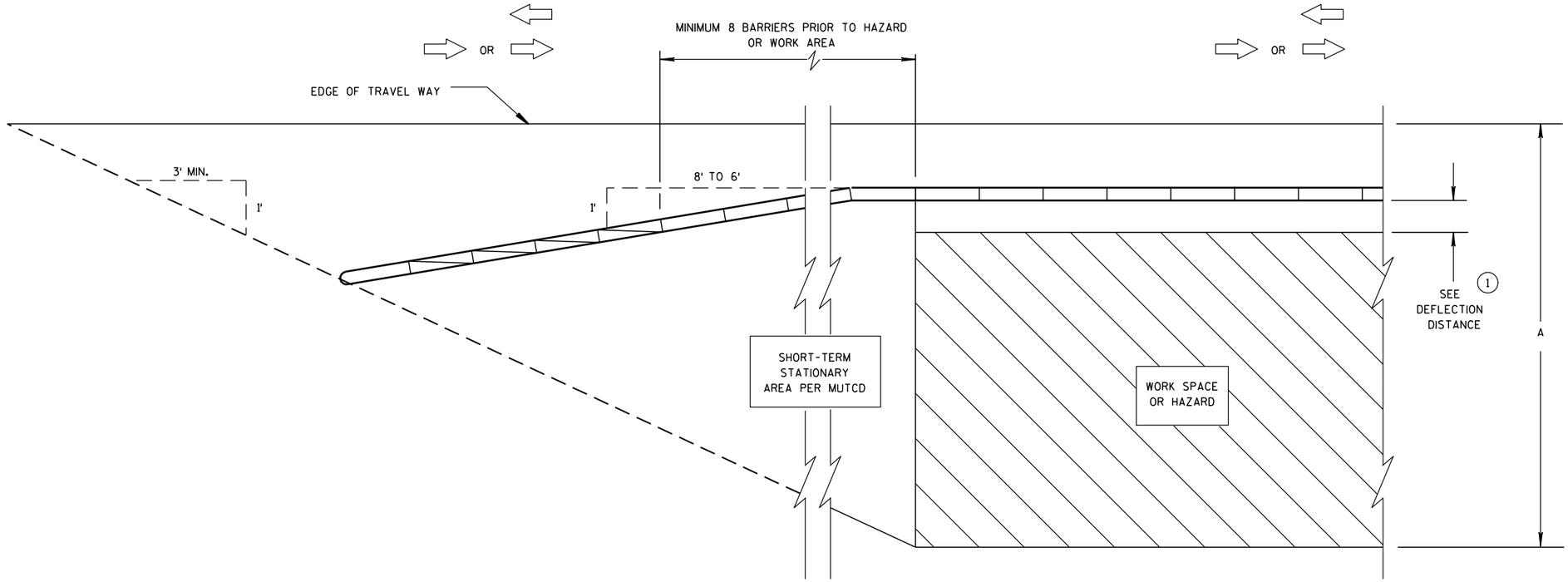
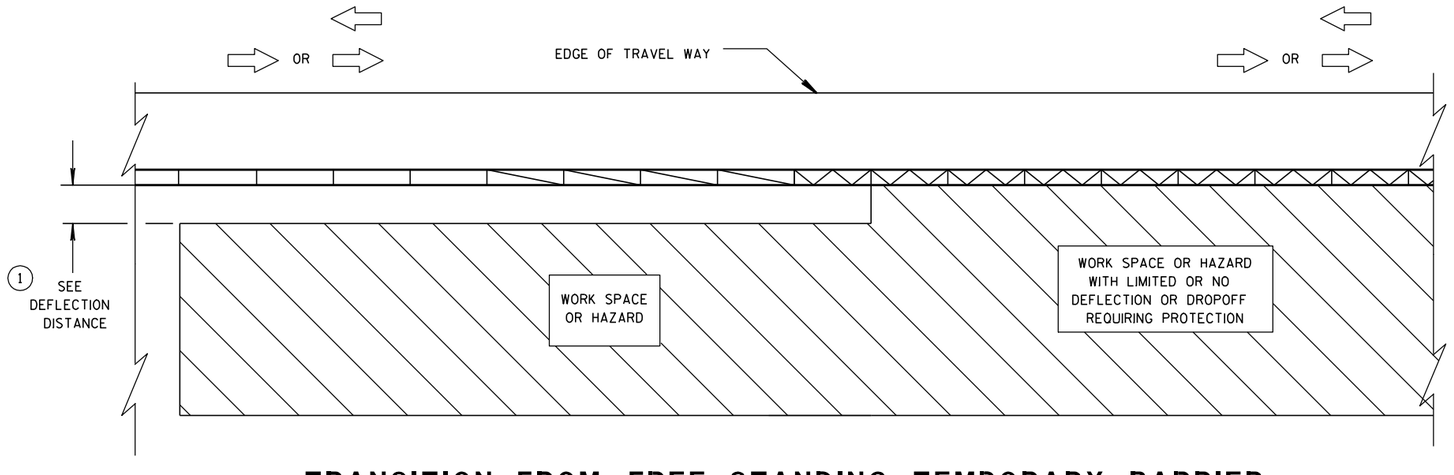
S.D.D. 14 B 8-1a



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 TRANSPORTATION

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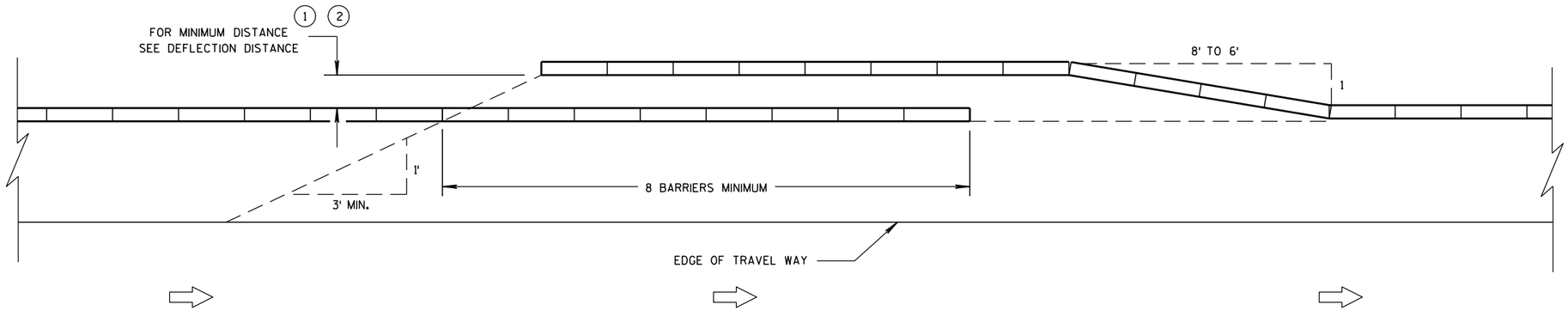
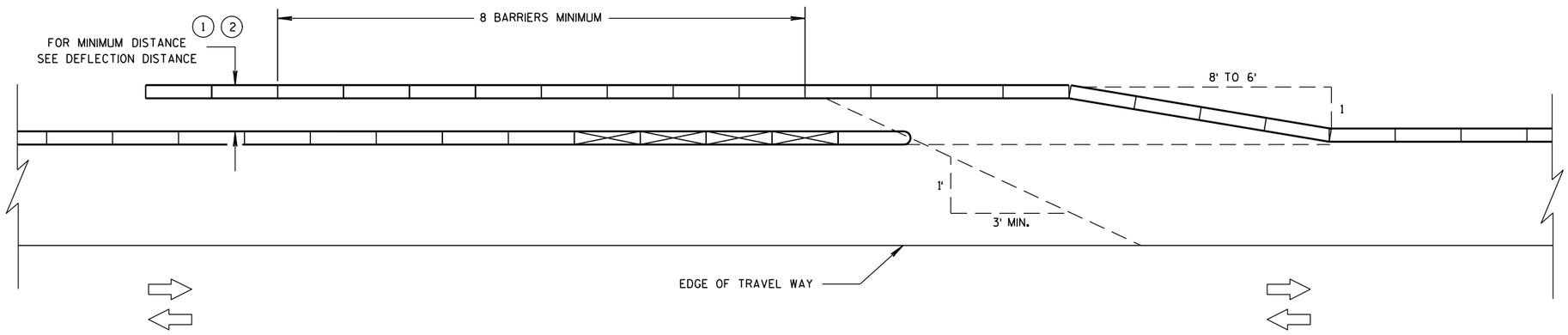
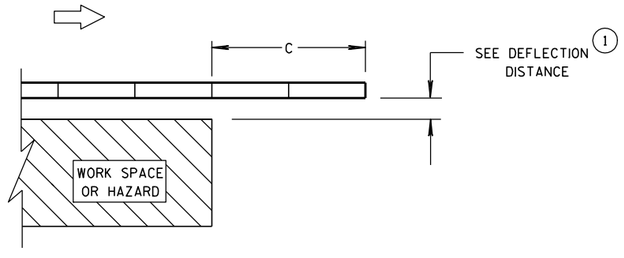
S.D.D. 14 B 8-1b



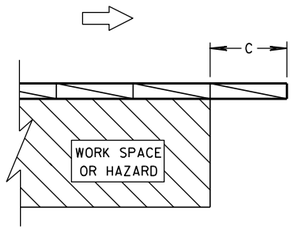
TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC



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 TRANSPORTATION

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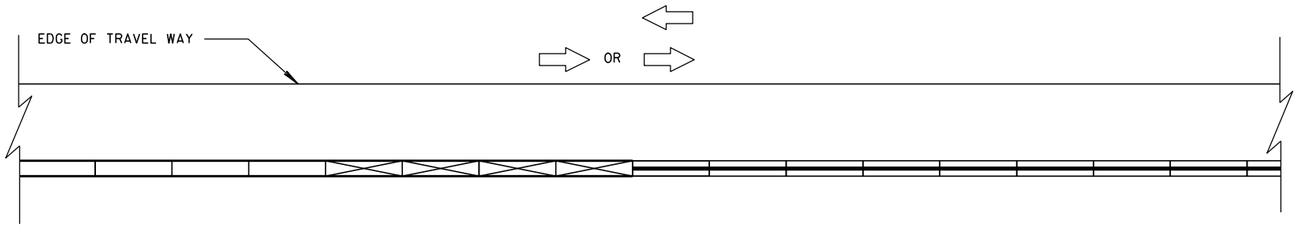
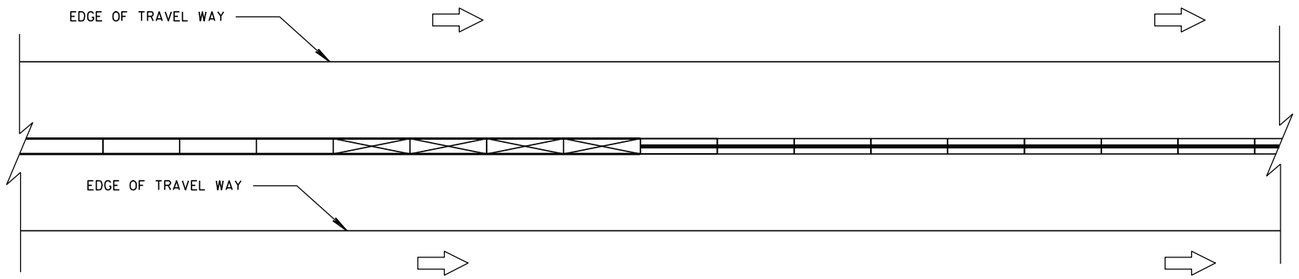
S.D.D. 14 B 8-1c



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

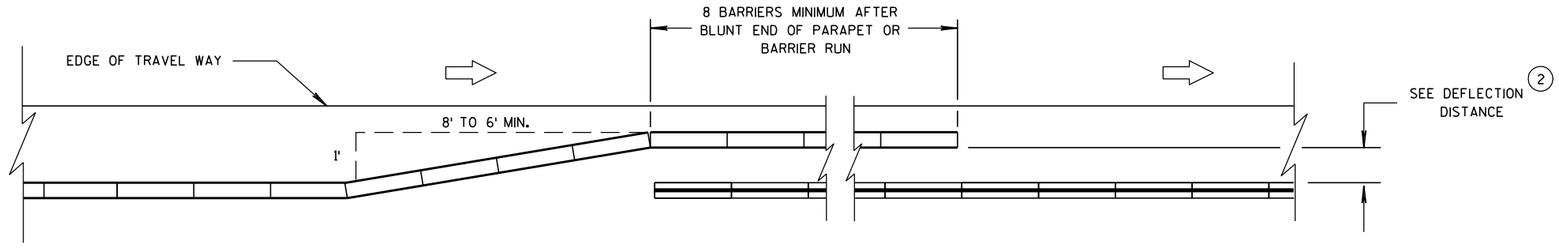
SEE FREE STANDING TRANSITION
TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION
TO TIED-DOWN SYSTEM DETAILS

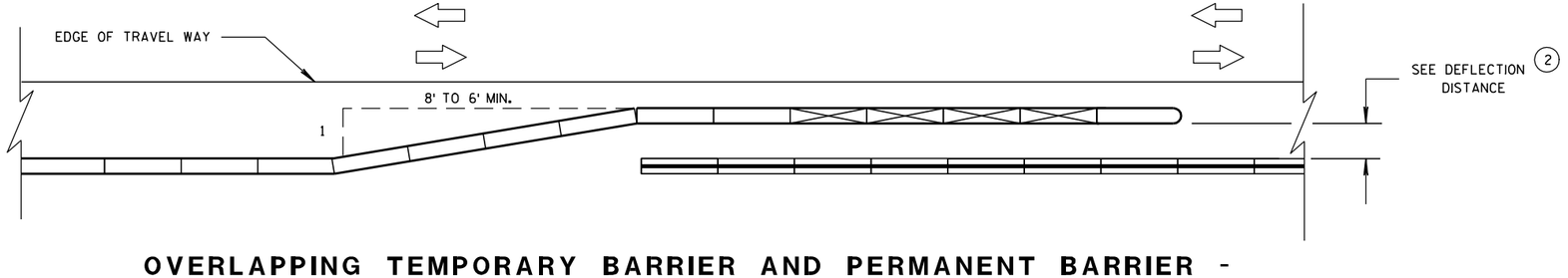
3 PINS PLACED ON
TRAFFIC SIDE OF BARRIER

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
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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

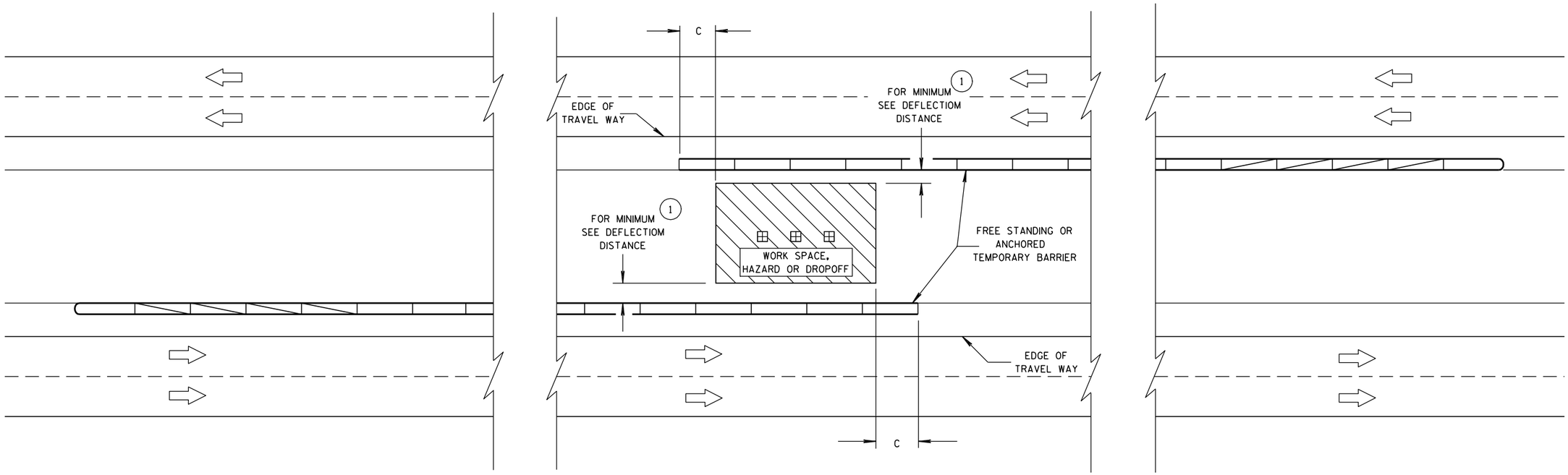
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

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

8/31/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINNER

FHWA

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GENERAL NOTES

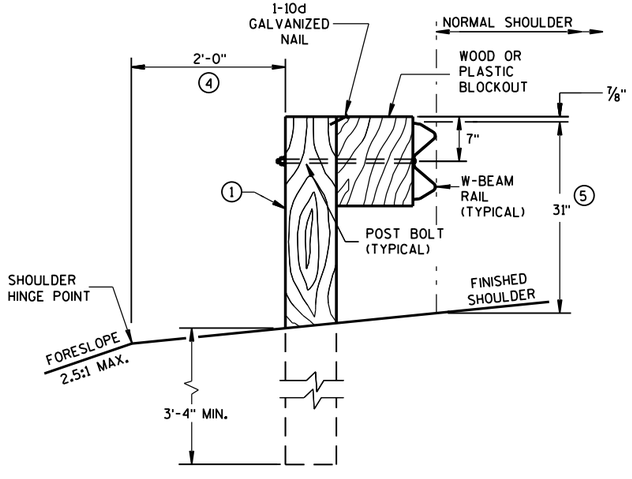
1. WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

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 2½INCHES 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.

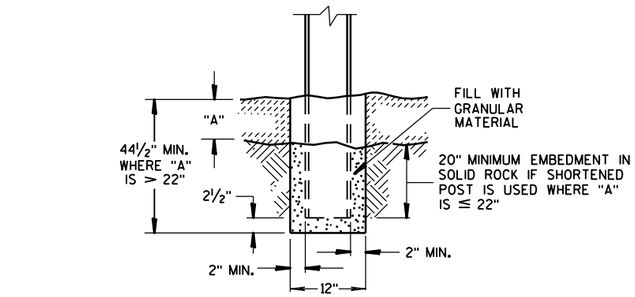
4. WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

5. FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".



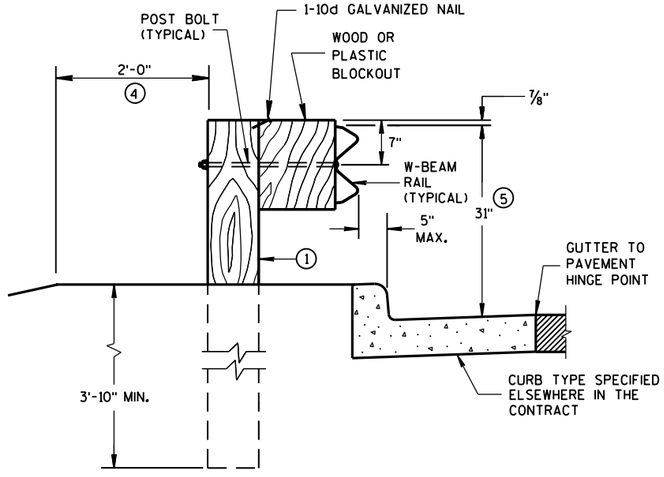
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



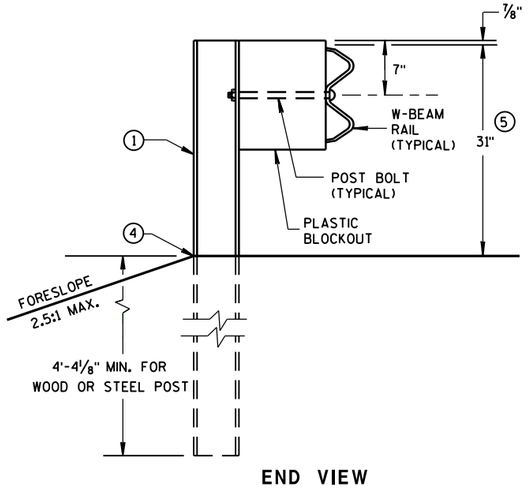
END VIEW

SETTING STEEL OR WOOD POST IN ROCK ③



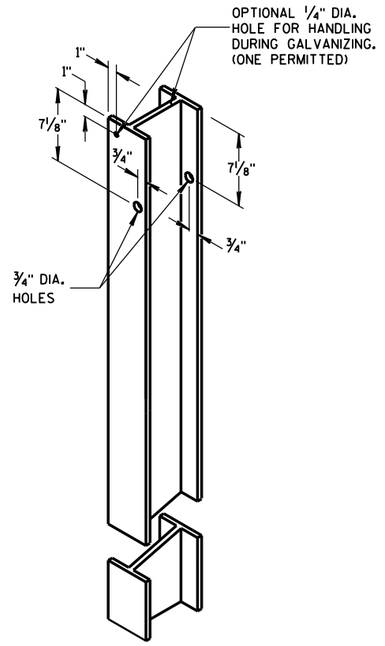
END VIEW

LOCATED ALONG A CURBED ROADWAY

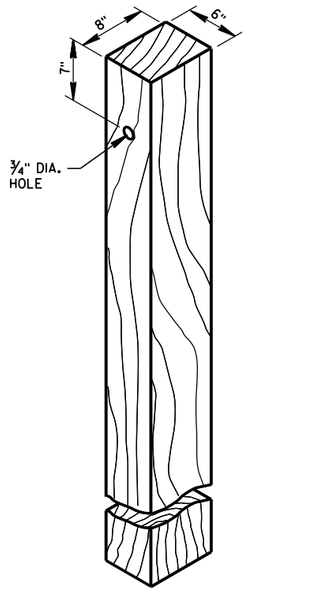


END VIEW

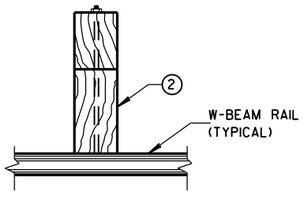
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



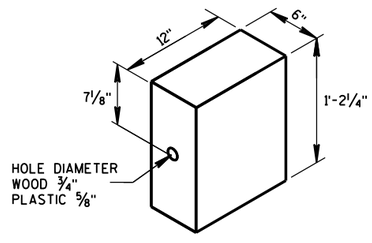
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) ①



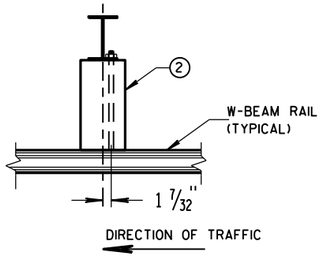
WOOD POST
(6" X 8") NOMINAL ①



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT ②



PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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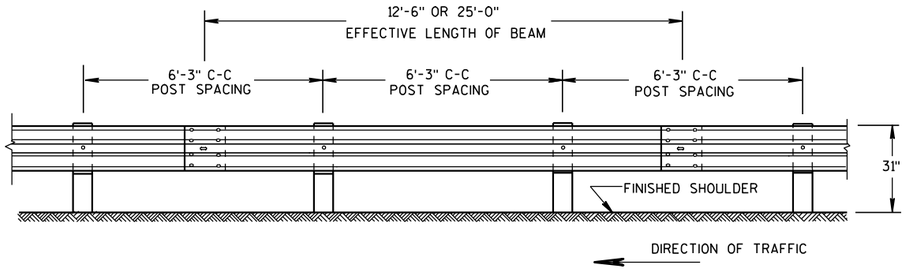
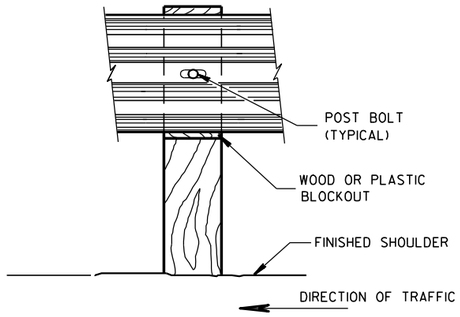


FRONT VIEW

POST SPACING STANDARD INSTALLATION



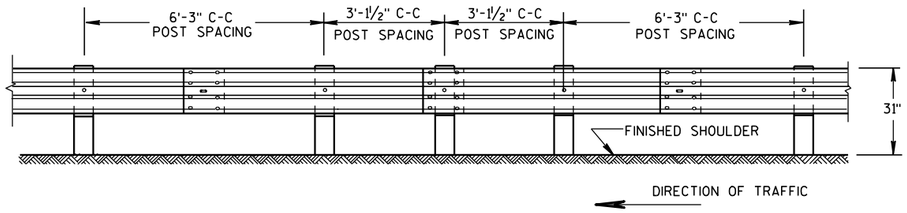
FRONT VIEW AT WOOD POST

GENERAL NOTES

1. PROVIDE TYPE "H" SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH TYPE "H" YELLOW REFLECTIVE SHEETING.
2. 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.
3. REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.
4. PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.
5. 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

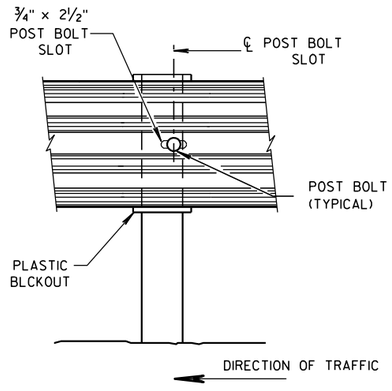
POST BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 5/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

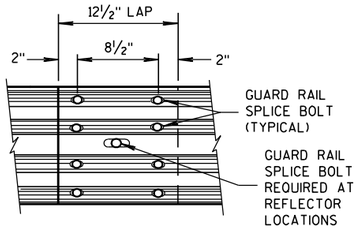


FRONT VIEW

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

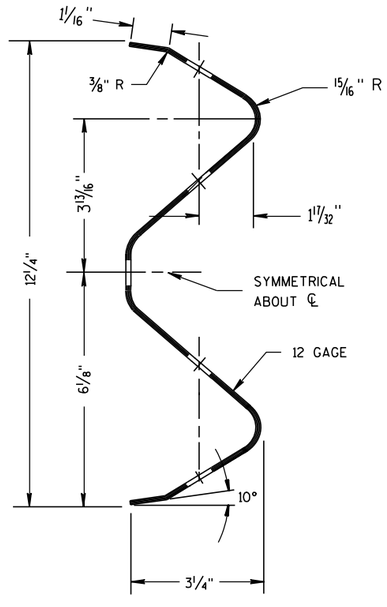


FRONT VIEW AT STEEL POST

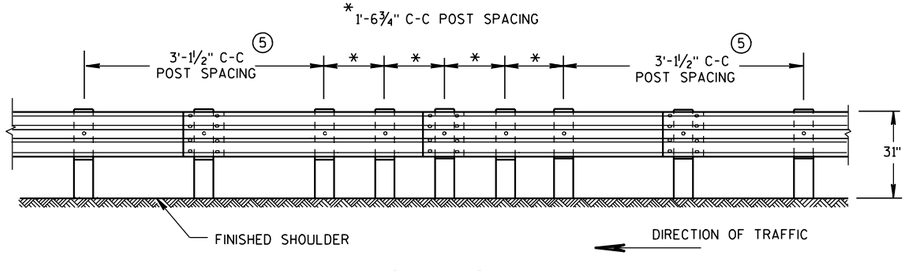


FRONT VIEW

MID-SPAN BEAM SPLICE

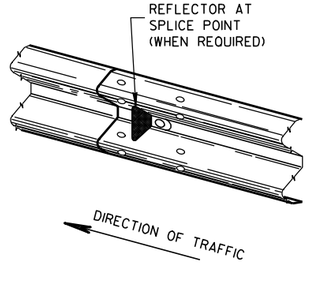


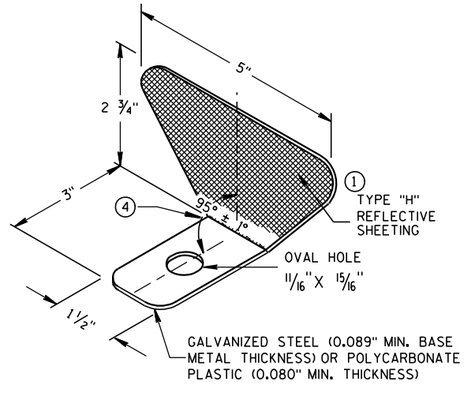
SECTION THRU W-BEAM RAIL



FRONT VIEW

QUARTER POST SPACING (QS)





ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION ①

REFLECTOR SPACING ②

	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	1 1	3
TWO WAY TRAFFIC	< 200' > 200'	25' C-C 50' C-C	1 1 ③	6
TWO WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	2 2 ④	3

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

S.D.D. 14 B 42-2b

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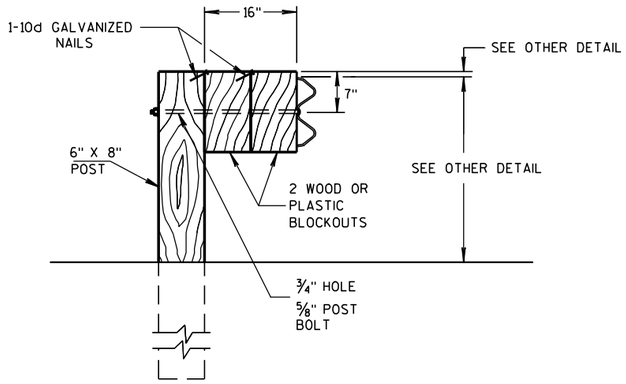
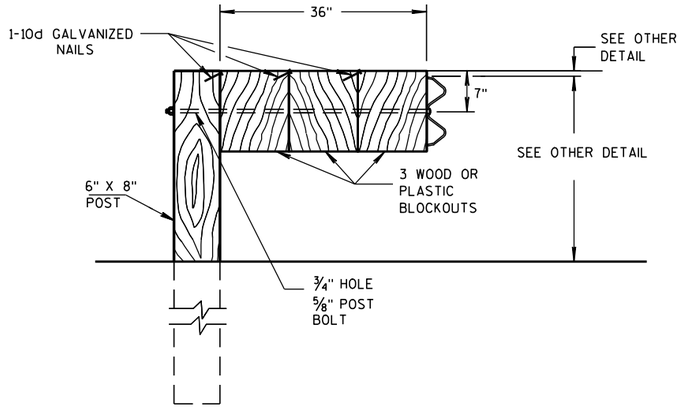


DETAIL FOR 16" BLOCKOUT DEPTH

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.

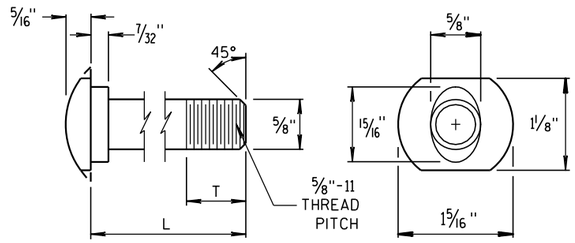


DETAIL FOR 36" BLOCKOUT DEPTH

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.

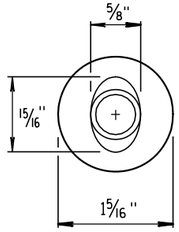
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

NOTE: 1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 1/16".
2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

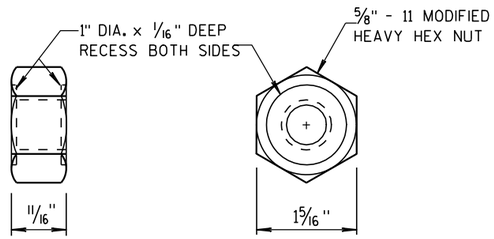


POST BOLT TABLE

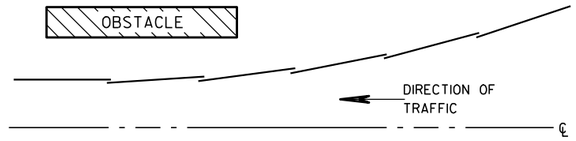
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

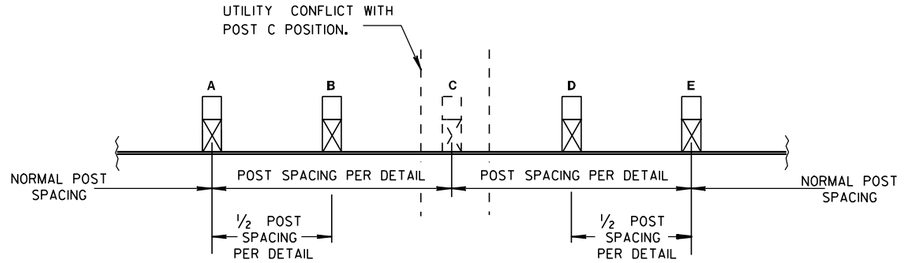


POST BOLT AND RECESS NUT

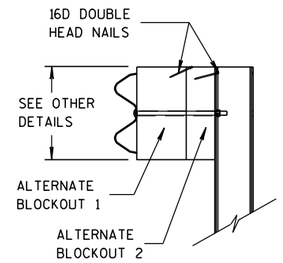


PLAN VIEW

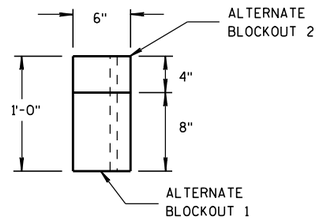
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/15/2011 DATE — /S/ Jerry H. [illegible] ROADWAY STANDARDS ENGINEER — ENT

FHWA

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S.D.D. 14 B 42-2c

GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE EXTENDED VEHICLE RUNOUT PATH (EVRP), 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 MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.

(D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

(F) SHEETING IS ATTACHED TO 0.040 ALUMINUM SHEET AND ATTACHED TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER OF E.A.T.

(G) ½" DIAMETER X 3" LONG LAG BOLT AND WASHER.

(H) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.

(I) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

SEE SDD 14B42 FOR MORE INFORMATION.

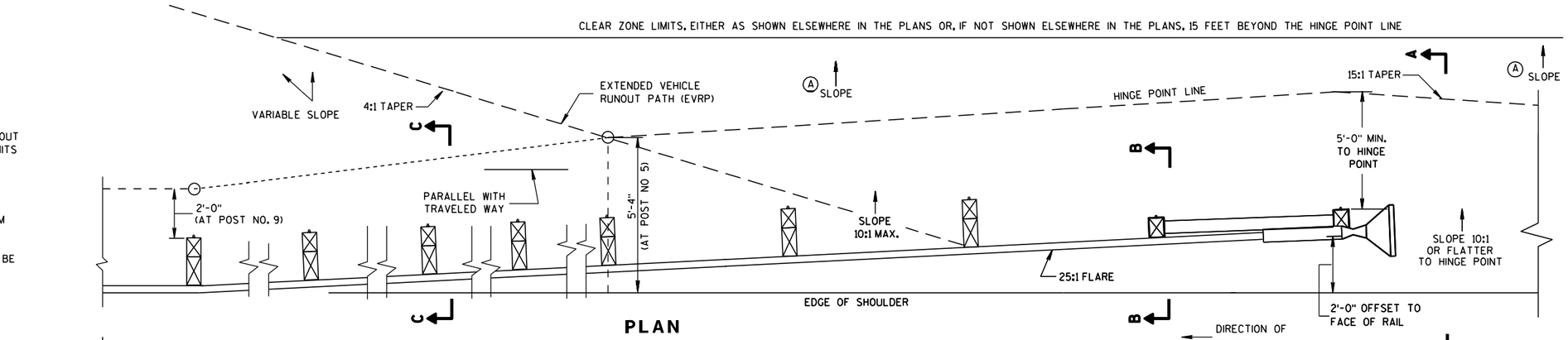
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

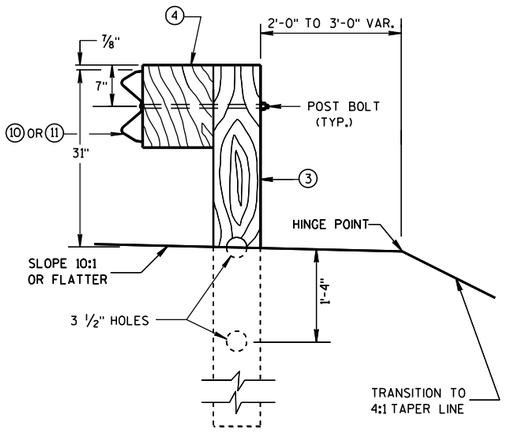
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

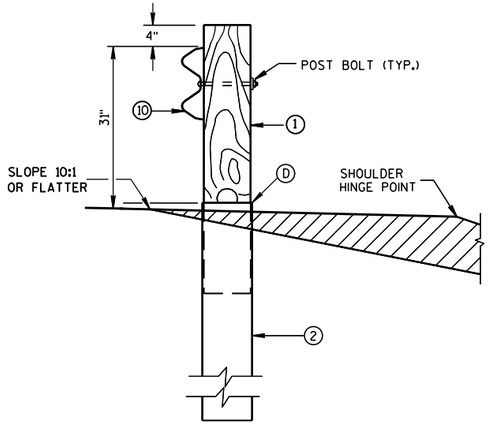
PATTERN AND COLORS ON REFLECTIVE SHEETING TYPE H ARE TO CONFORM TO OM3-L OR OM3-R OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE (± ¾")

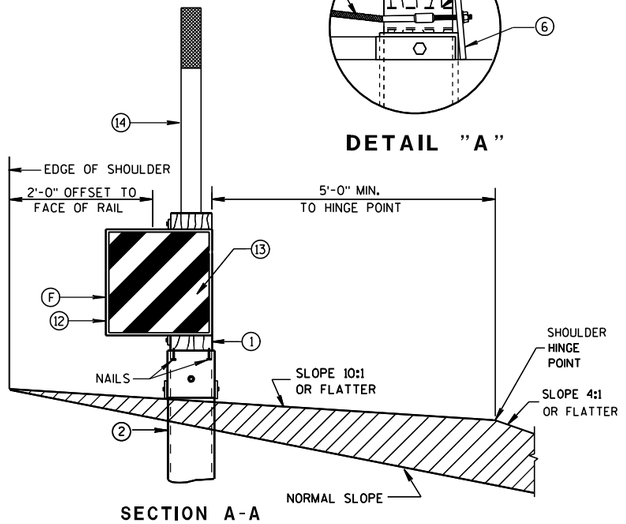




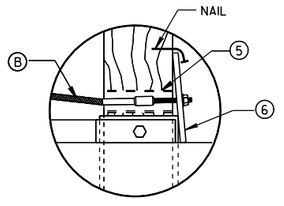
SECTION C-C
TYPICAL AT POST NOS. 3-9



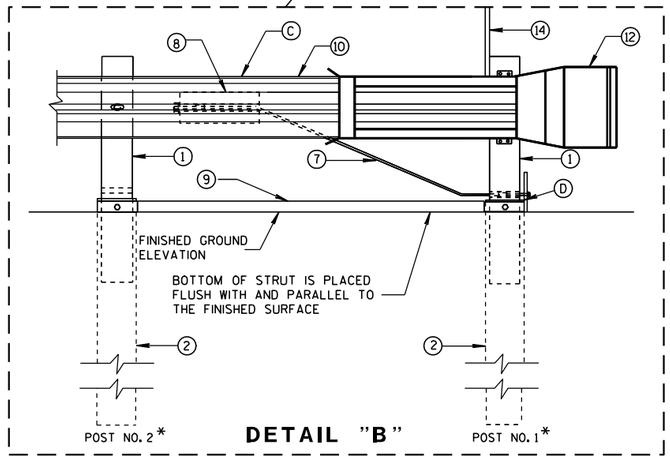
SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"



DETAIL "B"

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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S.D.D. 14 B 44-1a

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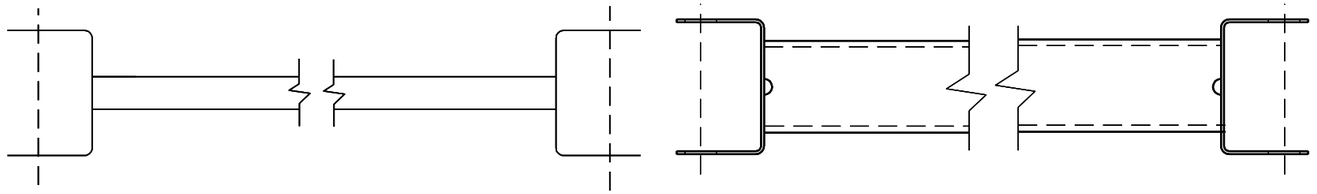
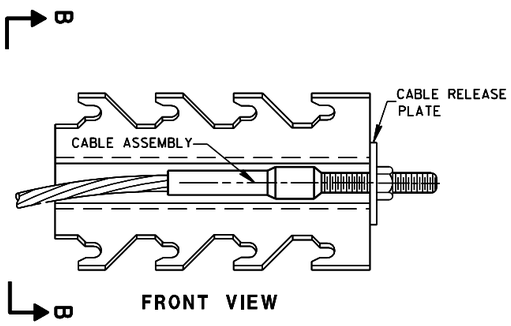


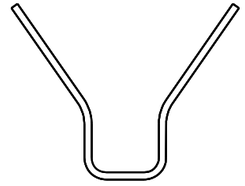
GENERIC GROUND STRUT (9) (H)

BILL OF MATERIALS

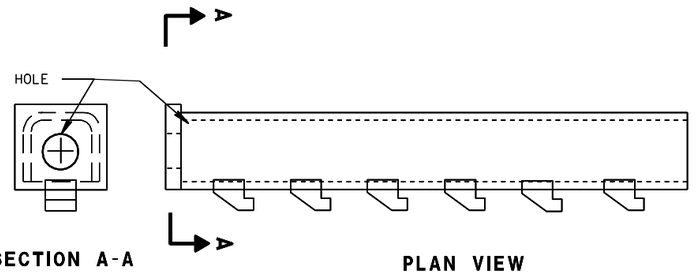
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
(1)	WOOD BREAKAWAY POST
(2)	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
(3)	WOOD CRT
(4)	WOOD BLOCKOUT
(5)	PIPE SLEEVE
(6)	BEARING PLATE
(7)	BCT CABLE ASSEMBLY
(8)	ANCHOR 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)	END SECTION EAT
(13)	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE H (ONLY THE SHEETING IS SUPPLIED BY THE MANUFACTURER)
(14)	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



FRONT VIEW



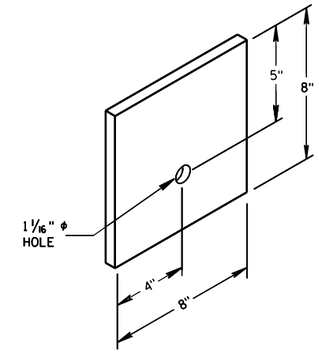
SECTION B-B



SECTION A-A

PLAN VIEW

GENERIC ANCHOR CABLE BOX (8) (H)



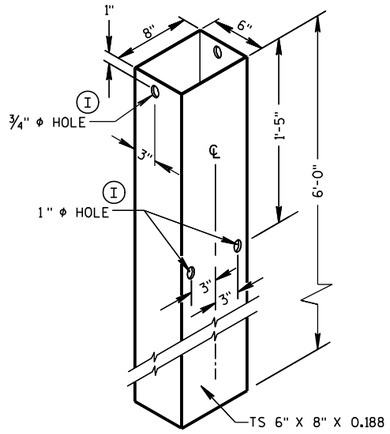
BEARING PLATE (6)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

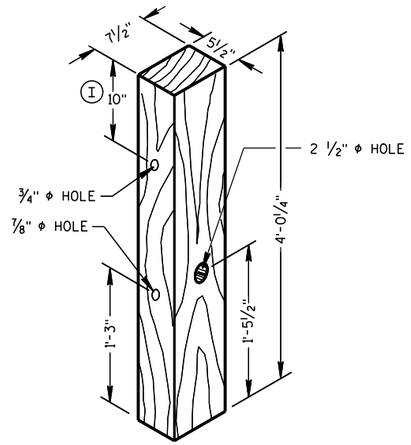
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 44-1b

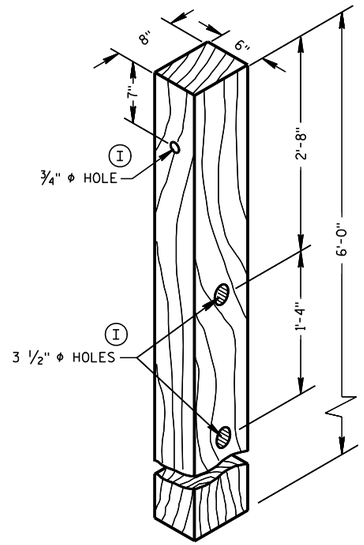


FOUNDATION TUBE (2)



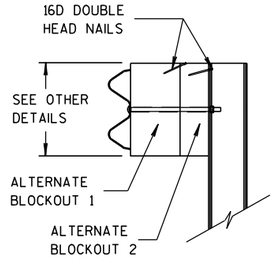
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

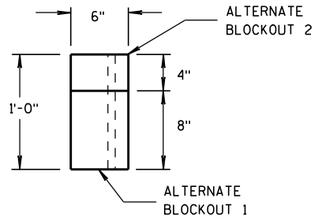


POSTS NUMBER 3-9

WOOD CRT POST (3)

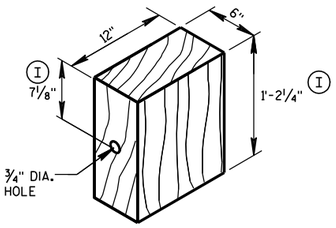


SIDE VIEW



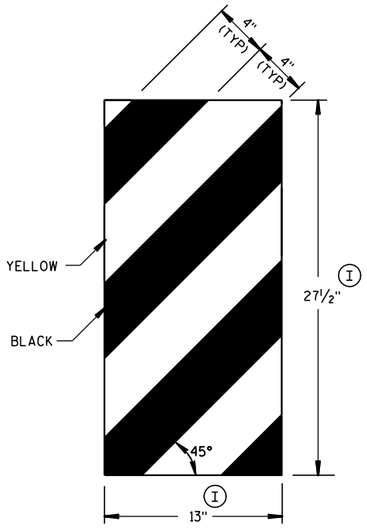
TOP VIEW

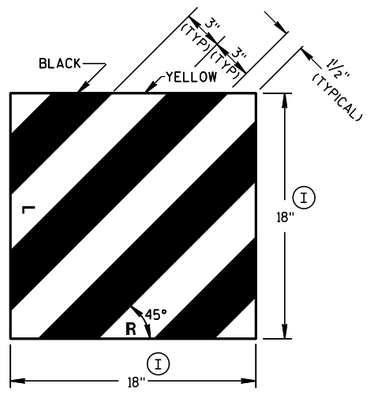
ALTERNATE WOOD BLOCKOUT DETAIL



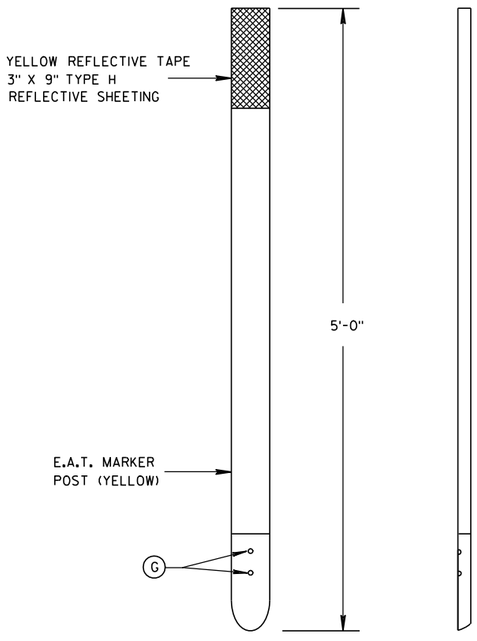
WOOD BLOCKOUT (4)

REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2





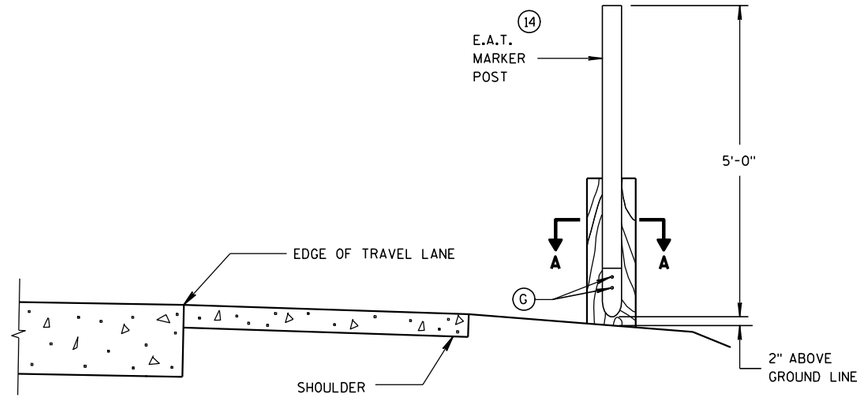
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

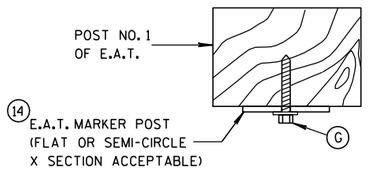
SIDE VIEW

E.A.T. MARKER POST (14)



TYPICAL INSTALLATION OF E.A.T. MARKER POST BACKSIDE OF POST NO. 1

(E.A.T. AND RAIL REMOVED FOR CLARITY)

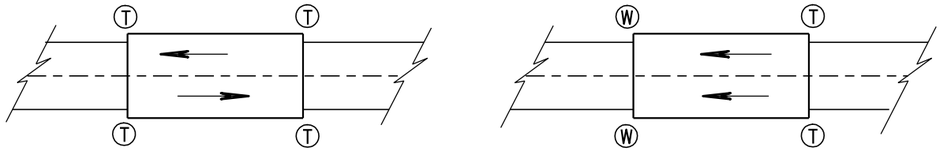


SECTION A-A

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/23/2011 — DATE
/S/ Jerry H. [illegible] — ROADWAY STANDARDS ENGINEER
79
[illegible]ENT
FHWA



TWO WAY TRAFFIC

ONE WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

GENERAL NOTES

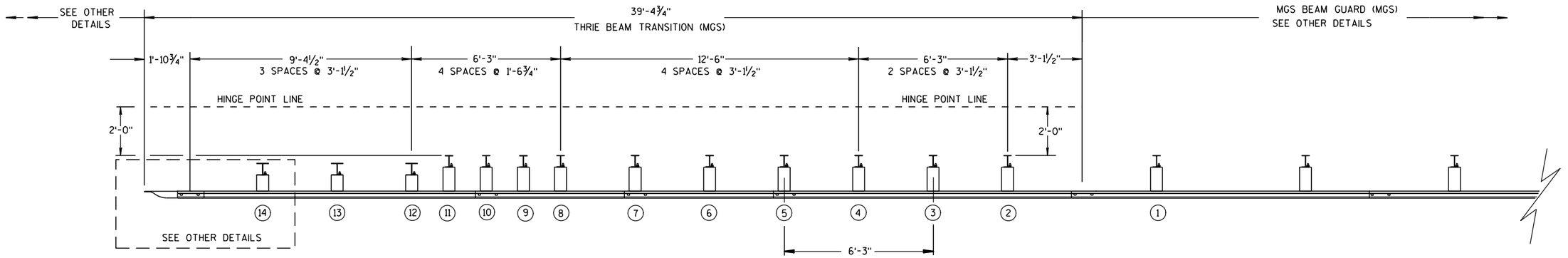
BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3.

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

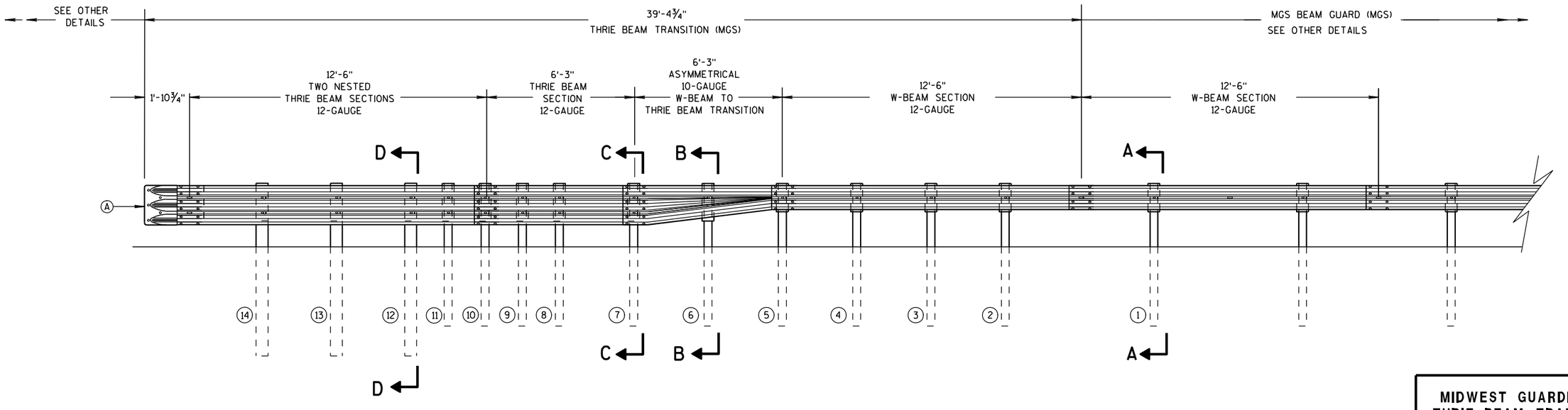
TRANSITION USES STEEL POSTS ONLY.

SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

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



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	80

6

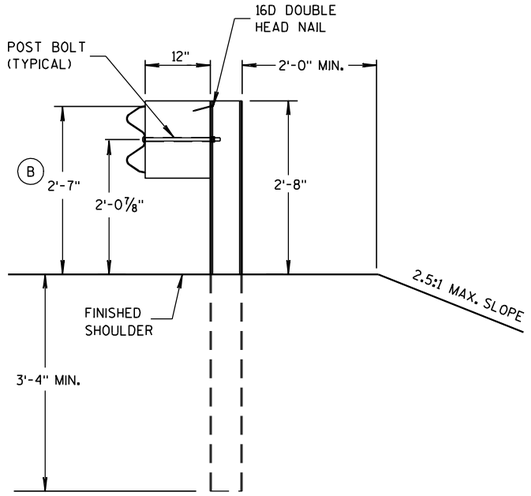
S.D.D. 14 B 45-3a

6

S.D.D. 14 B 45-3a

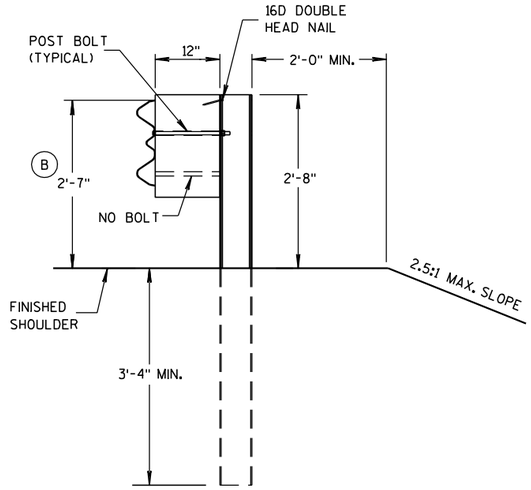
GENERAL NOTES

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



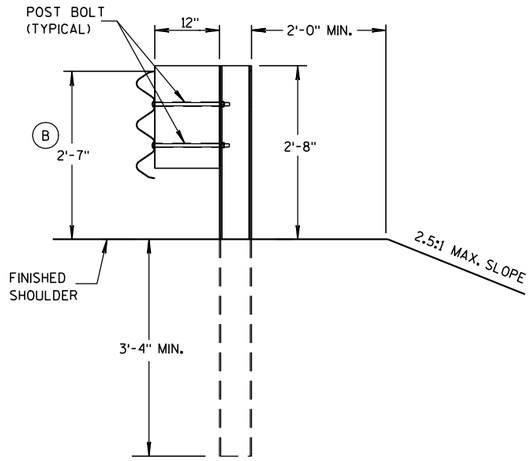
SECTION A-A

POSTS 1-5



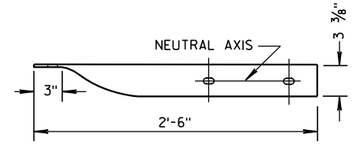
SECTION B-B

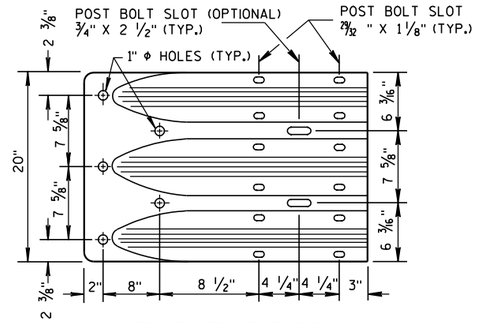
POST 6



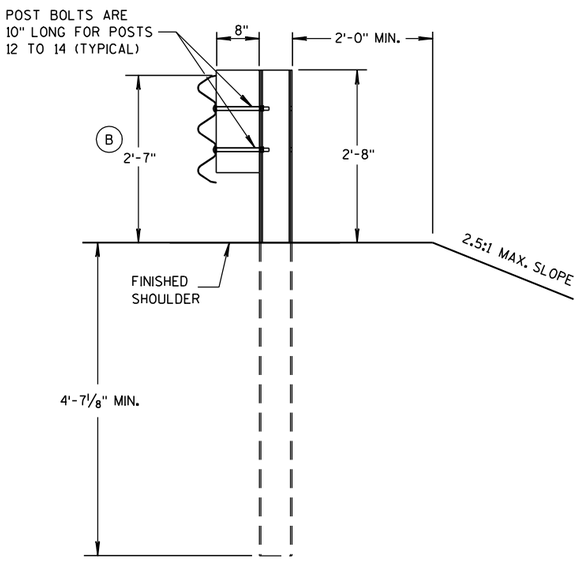
SECTION C-C

POSTS 7-11





THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-14

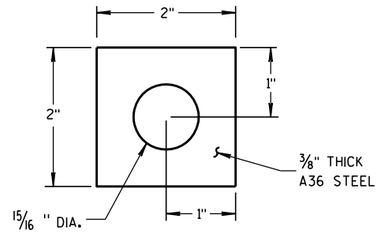
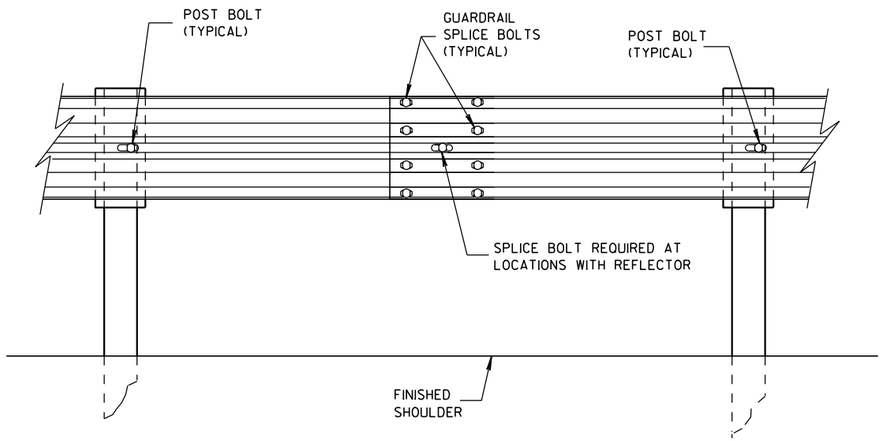
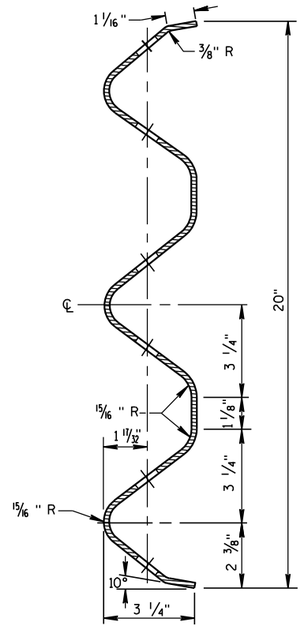


PLATE WASHER DETAIL



SPLICE DETAIL



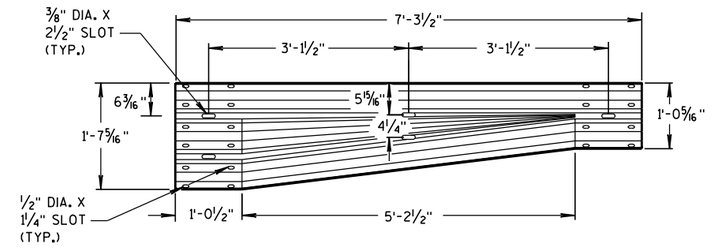
SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

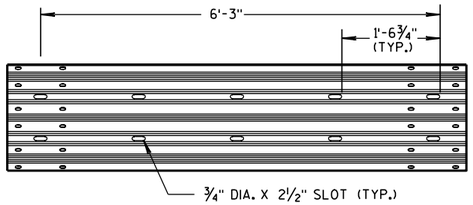
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

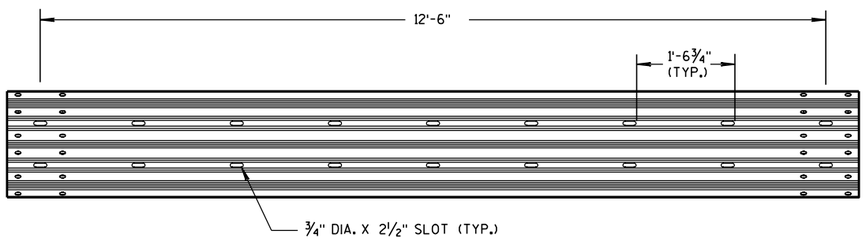
S.D.D. 14 B 45-3b



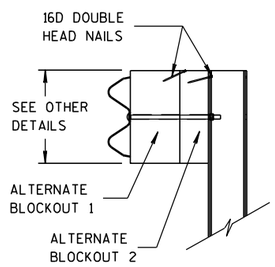
W-BEAM TO THRIE BEAM TRANSITION SECTION



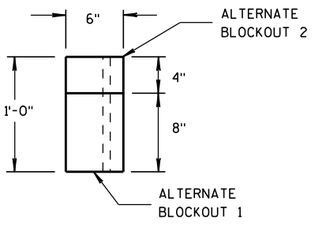
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

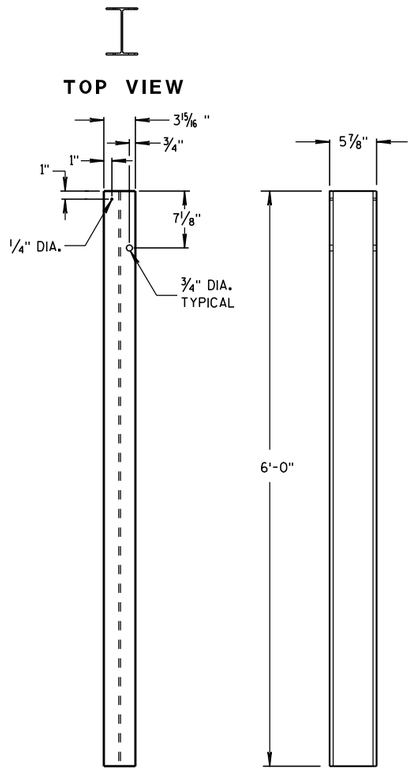


SIDE VIEW



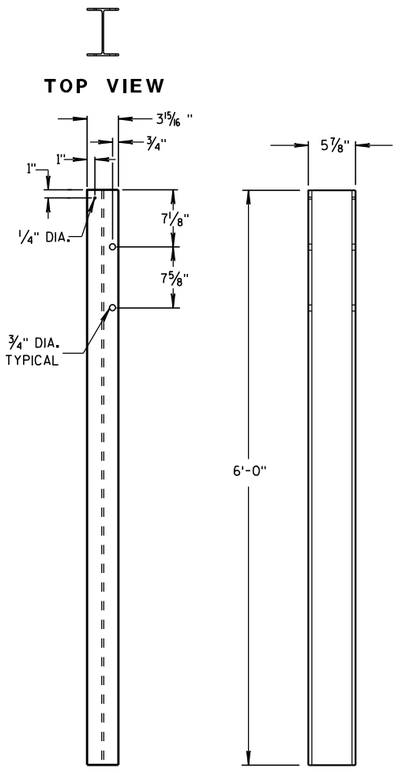
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



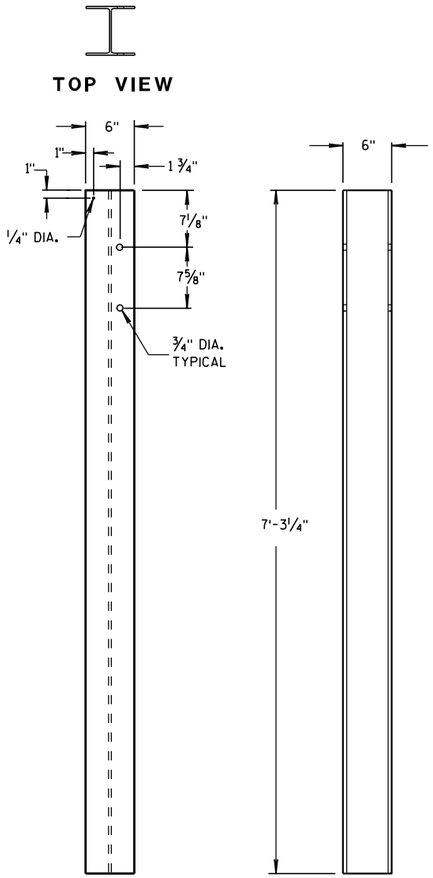
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5



FRONT VIEW SIDE VIEW

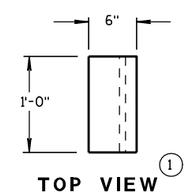
STEEL POSTS 6-11



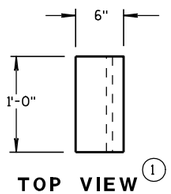
FRONT VIEW SIDE VIEW

STEEL POSTS 12-14

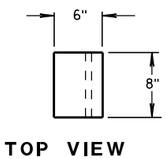
(1) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.



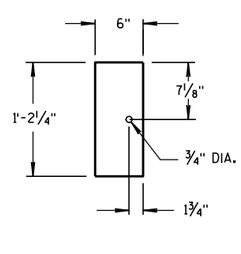
TOP VIEW (1)



TOP VIEW (1)

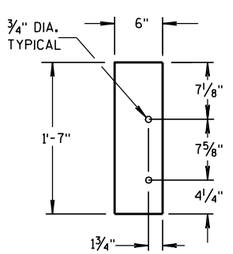


TOP VIEW



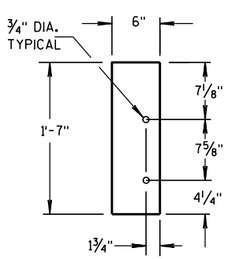
FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-11



FRONT VIEW

BLOCKOUT POSTS 12-14

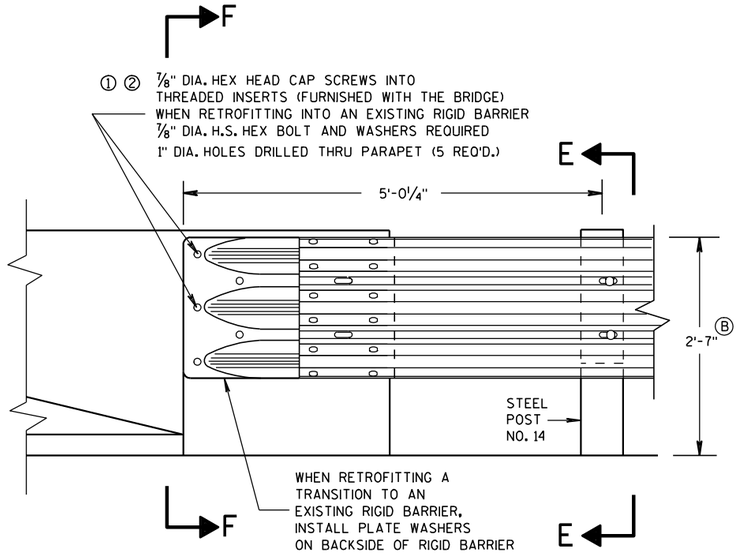
STEEL POST SIZES

POST NUMBER	SECTION TYPE	LENGTH
(1)	W6x9	72"
(2)	W6x9	72"
(3)	W6x9	72"
(4)	W6x9	72"
(5)	W6x9	72"
(6)	W6x9	72"
(7)	W6x9	72"
(8)	W6x9	72"
(9)	W6x9	72"
(10)	W6x9	72"
(11)	W6x9	72"
(12)	W6x15	87 1/8"
(13)	W6x15	87 1/8"
(14)	W6x15	87 1/8"

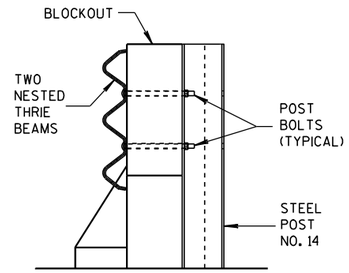
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 45-3c



FRONT VIEW



SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

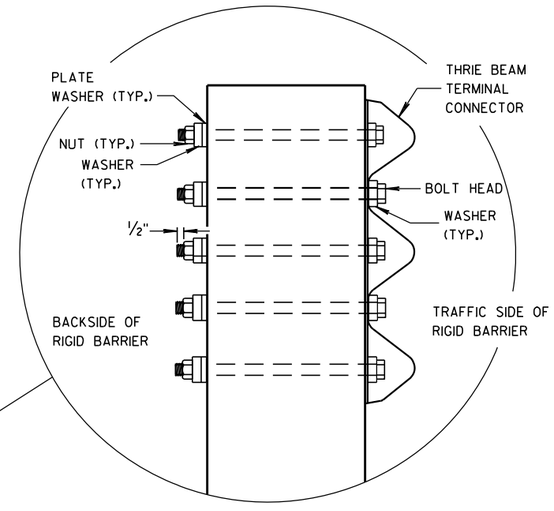
THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

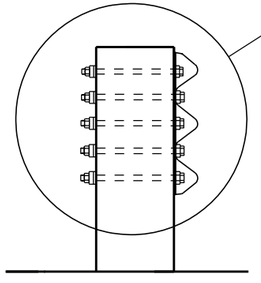
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

② 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.

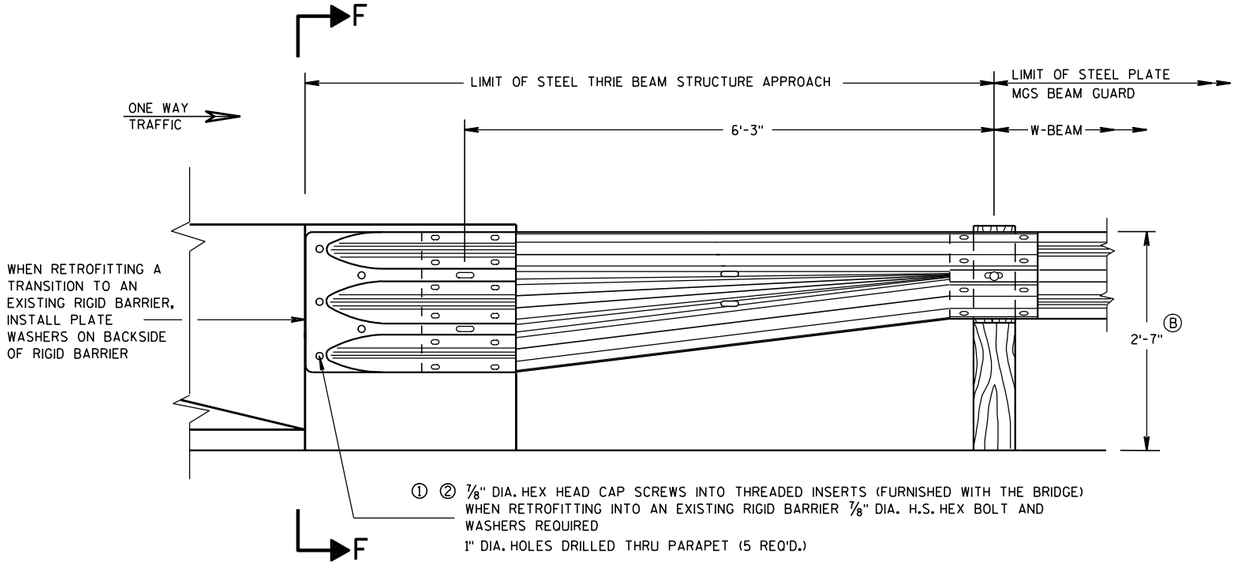
③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

Ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".





SECTION F-F



FRONT VIEW

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

8/31/2012 — DATE

/S/ Jerry H. [illegible] — ROADWAY STANDARDS ENGINEER

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GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

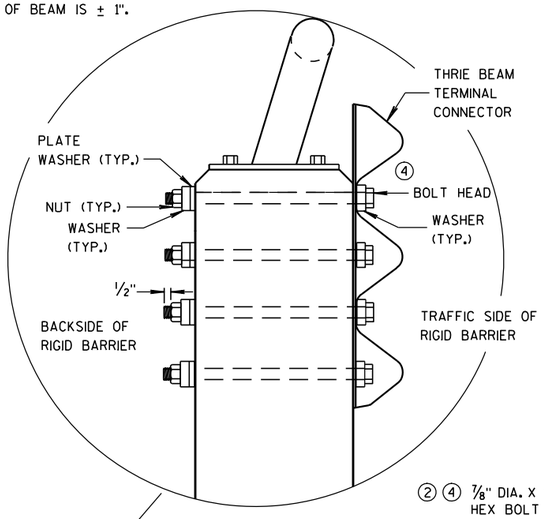
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

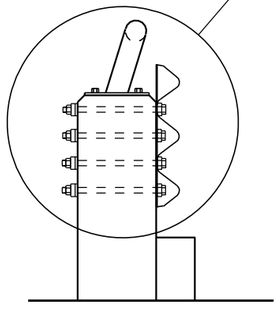
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. 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.

③ 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". BLOCK IS INCIDENTAL TO THE CONTRACT.

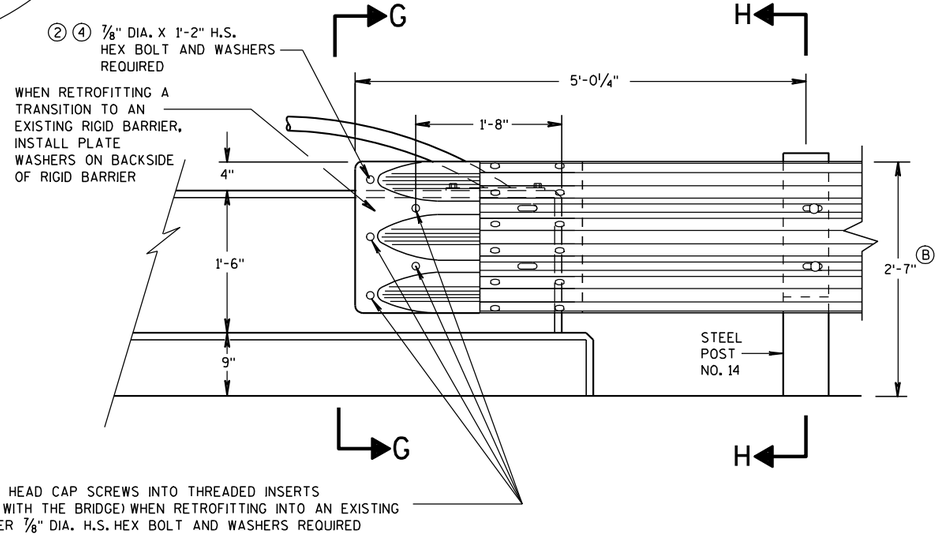
④ BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.

Ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".

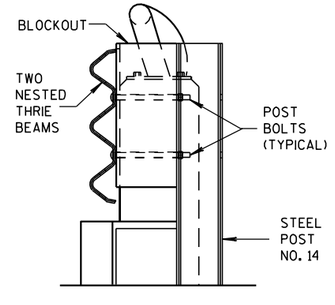




SECTION G-G

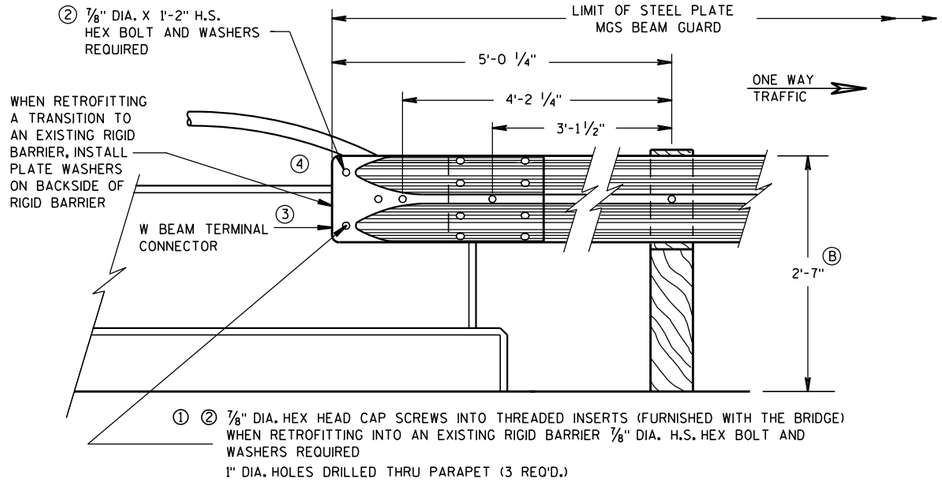


FRONT VIEW



SECTION H-H

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

(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

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/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER

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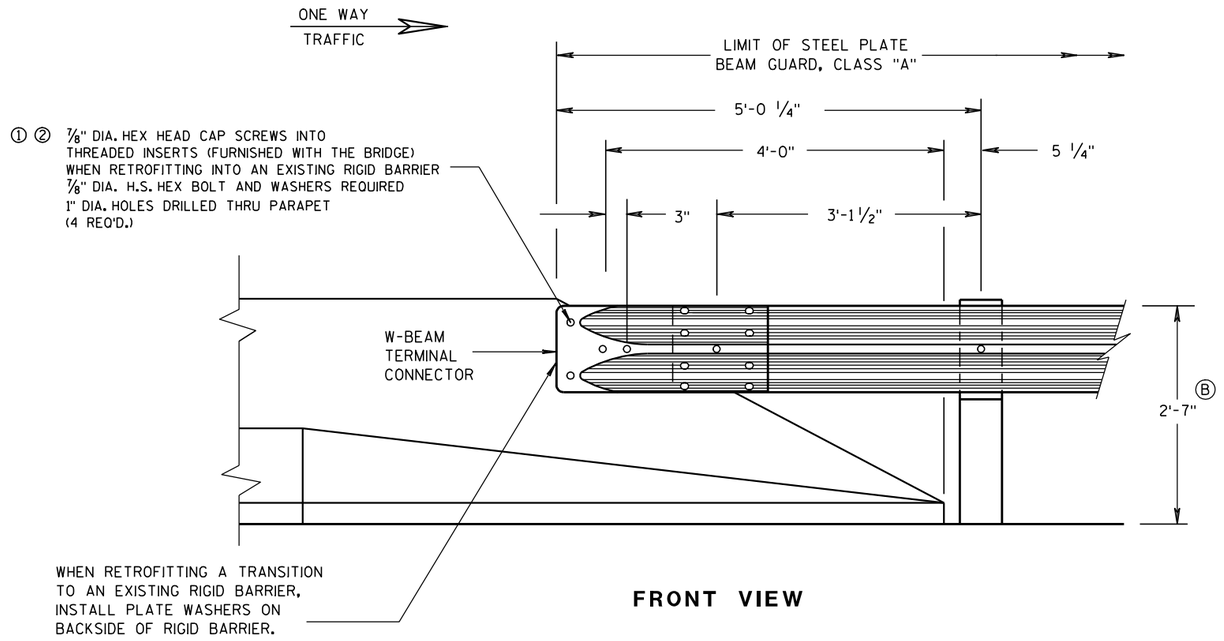


FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

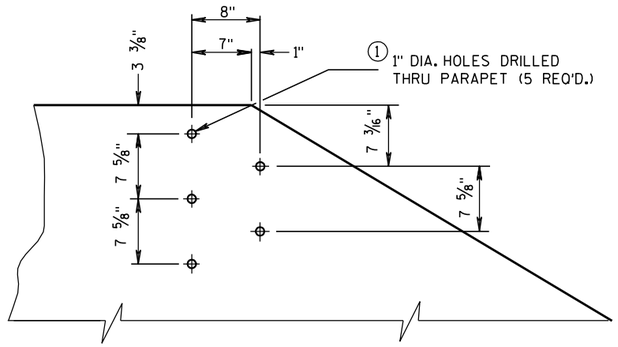
(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

GENERAL NOTES

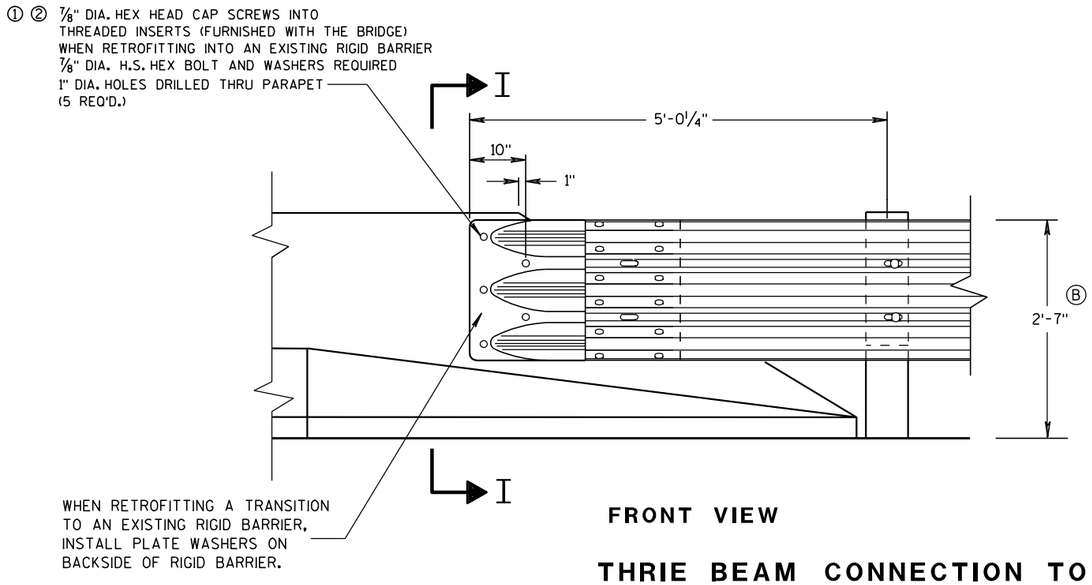
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

② 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.

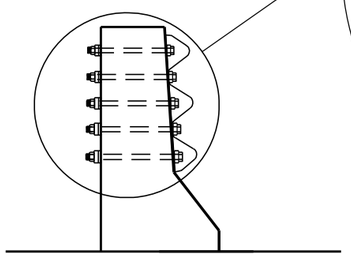
Ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".



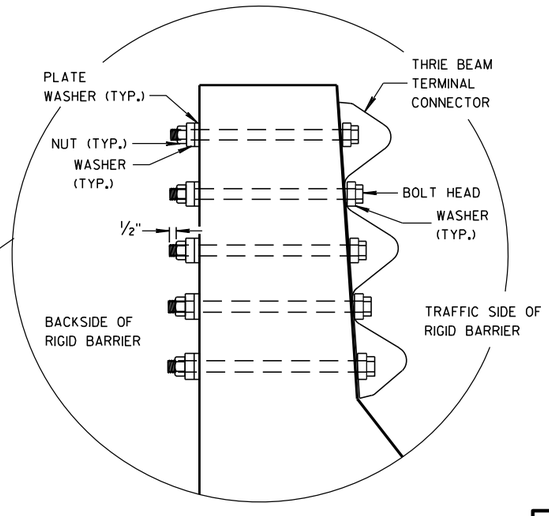
DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION I-I



THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER

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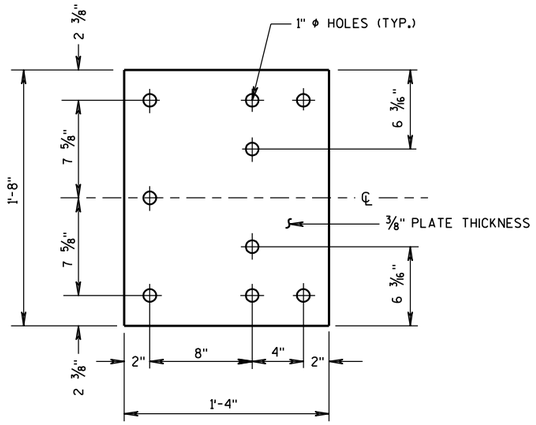
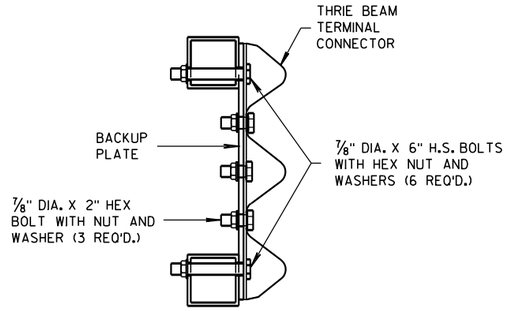
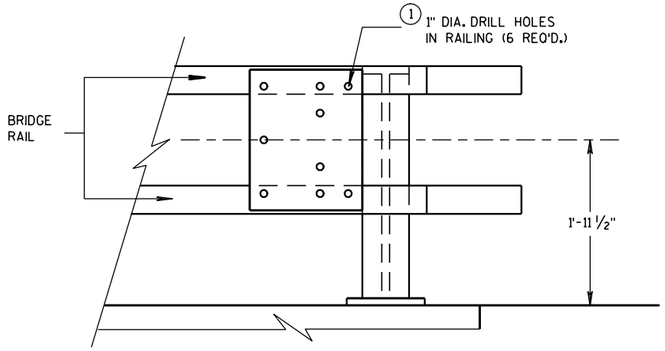


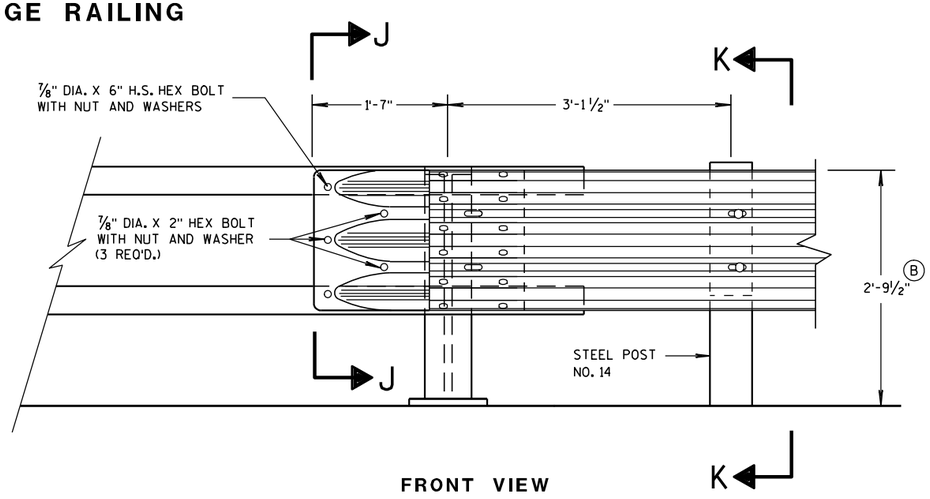
BACK-UP PLATE DETAIL



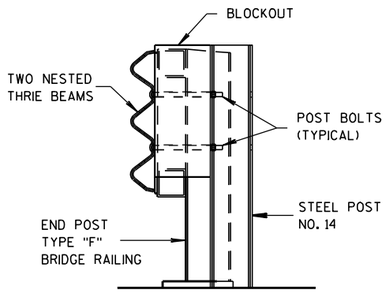
SECTION J-J



BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING



FRONT VIEW



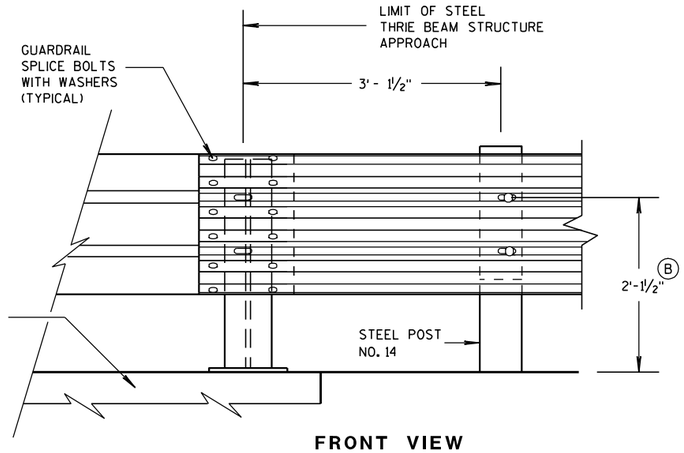
SECTION K-K

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

GENERAL NOTES

① DRILLING HOLES THROUGH THE PAPRPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(B) TOLERANCE FOR TOP OF BEAM IS ± 1".



FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

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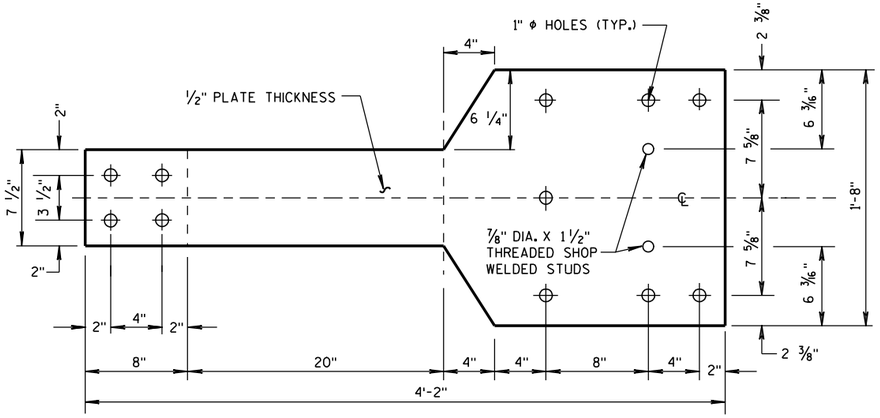
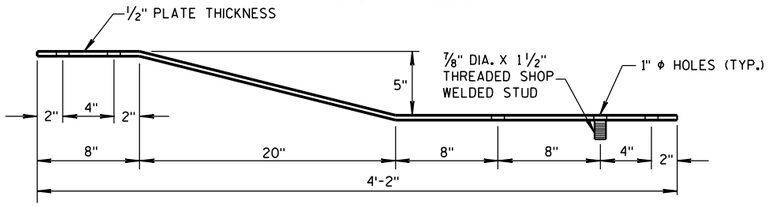
GENERAL NOTES

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

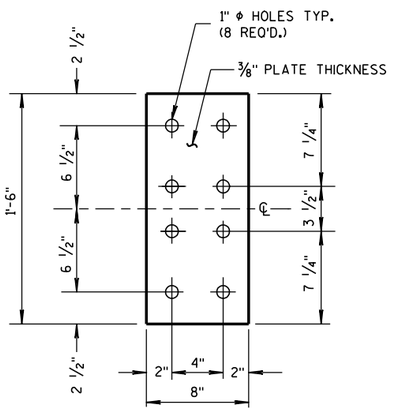


FRONT VIEW



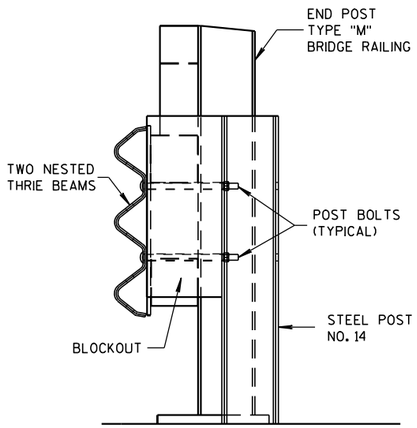
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

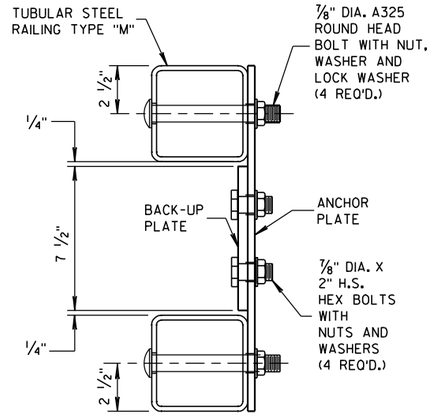


FRONT VIEW

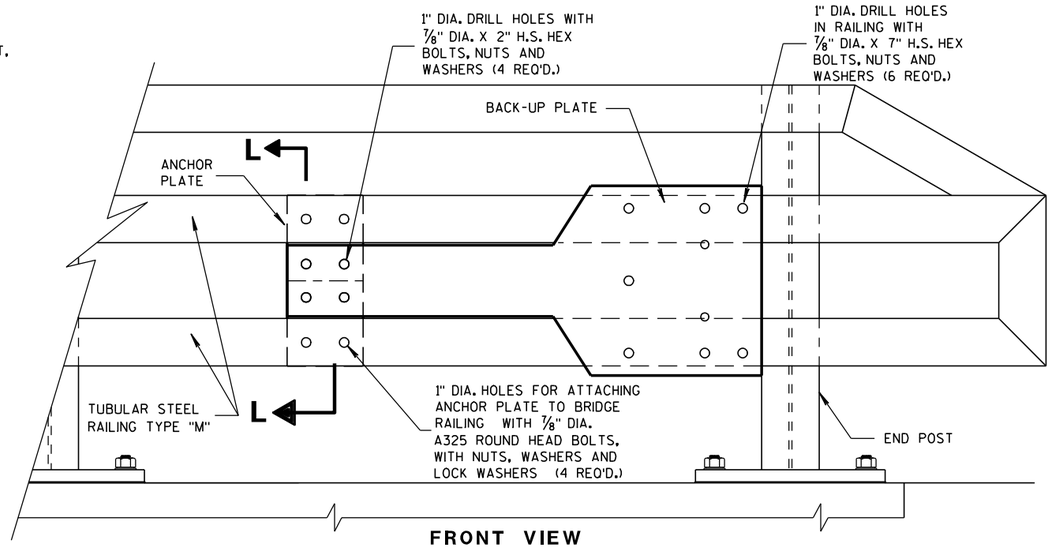
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M

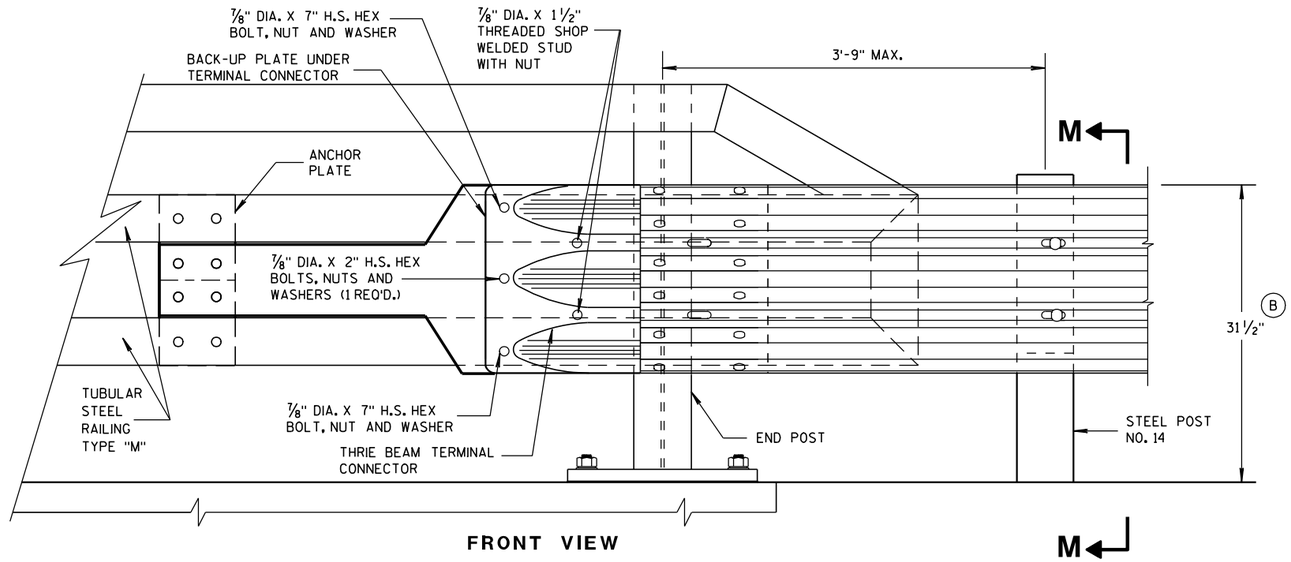


SECTION L-L

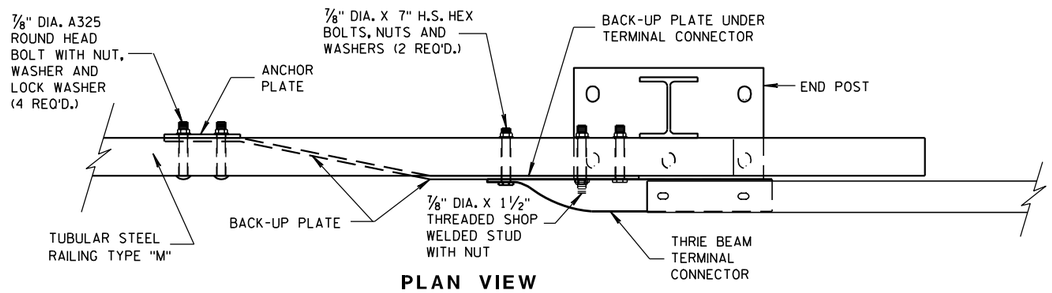


FRONT VIEW

ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
8-31-2012 DATE	/S/ Jerry H. Zogg ROADWAY STANDARDS ENGINEER
FHWA	87 ENT

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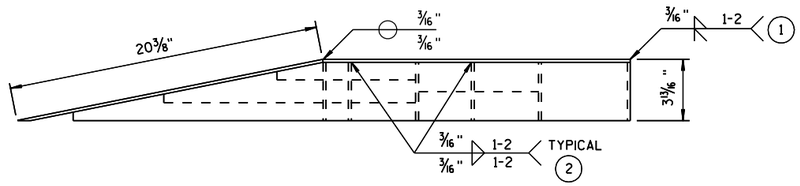

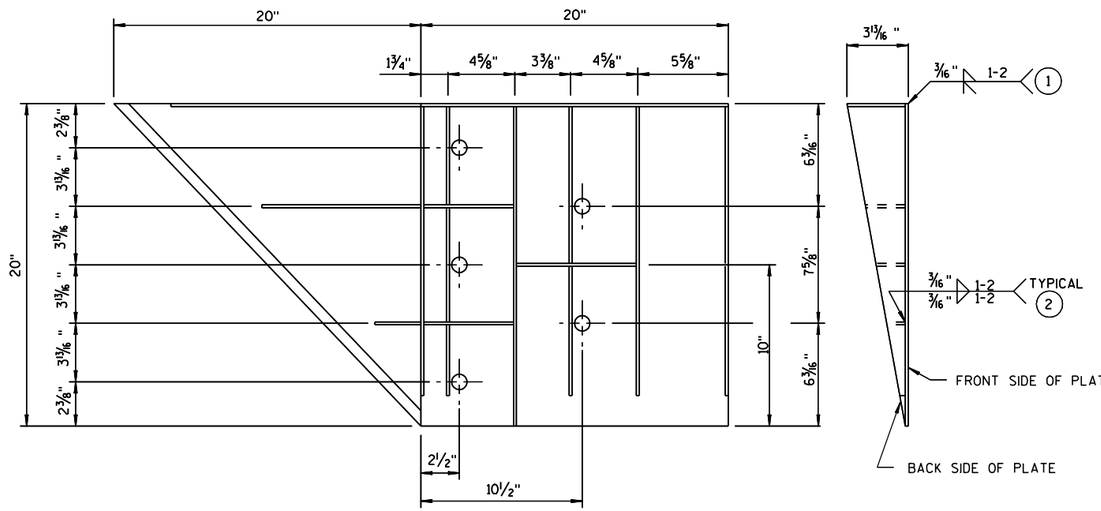

WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.

FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

(1) STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.

(2) STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".

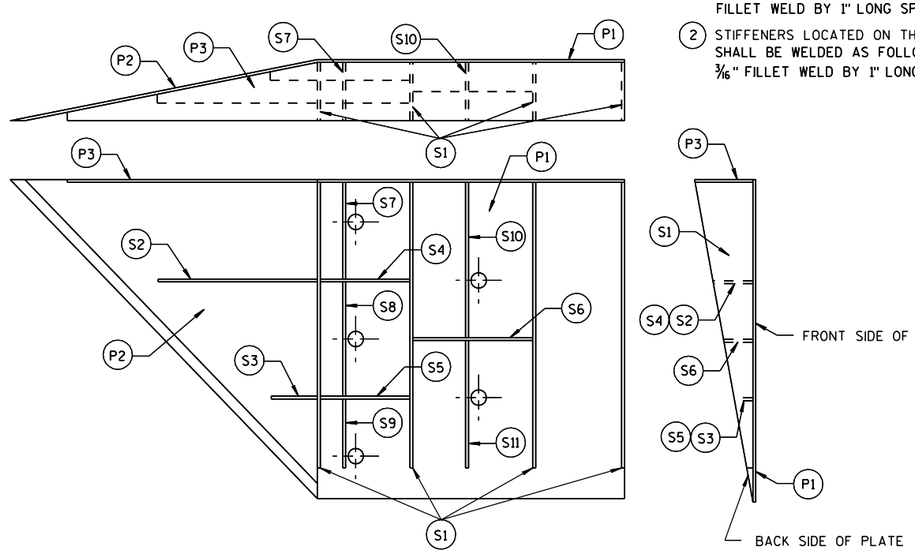

PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)				
PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 9/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 5/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 7/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 1/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 7/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 9/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 5/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 3/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 11/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 13/16"	1/4"

SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012
DATE
/S/ Jerry H ...
ROADWAY STANDARDS 88
ENGINEER
...MENT
FHWA

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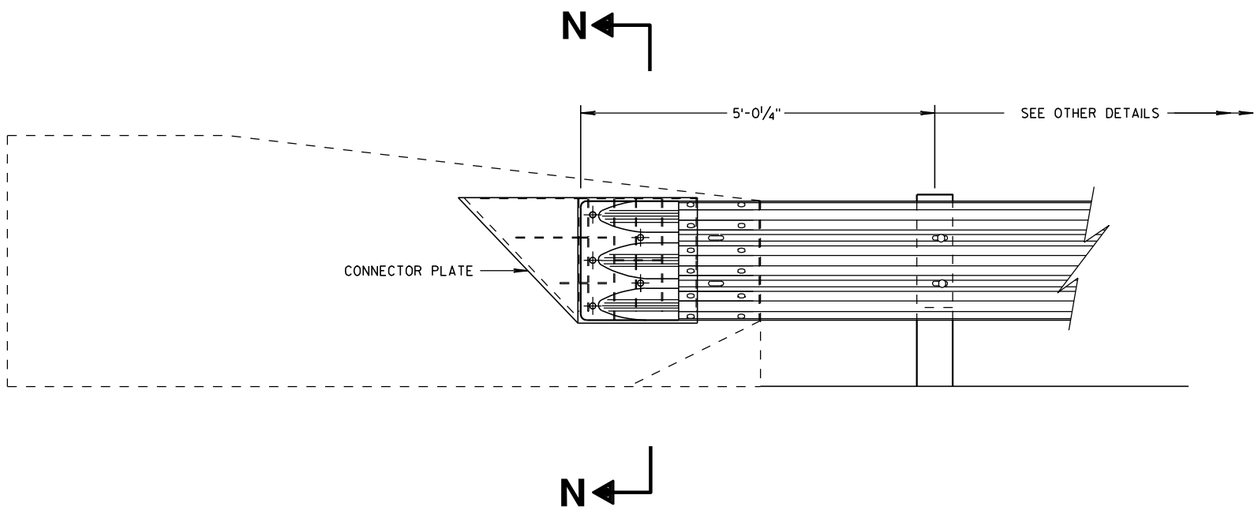
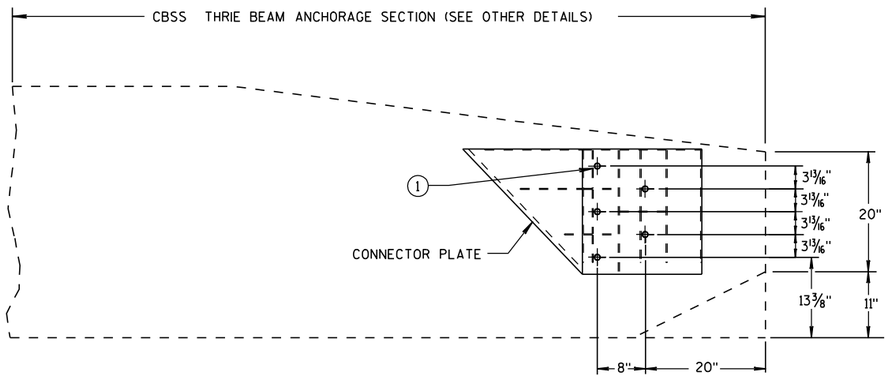


THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER

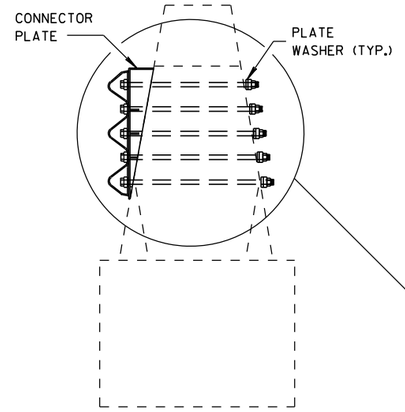


SINGLE SLOPE CONNECTION PLATE PLACEMENT

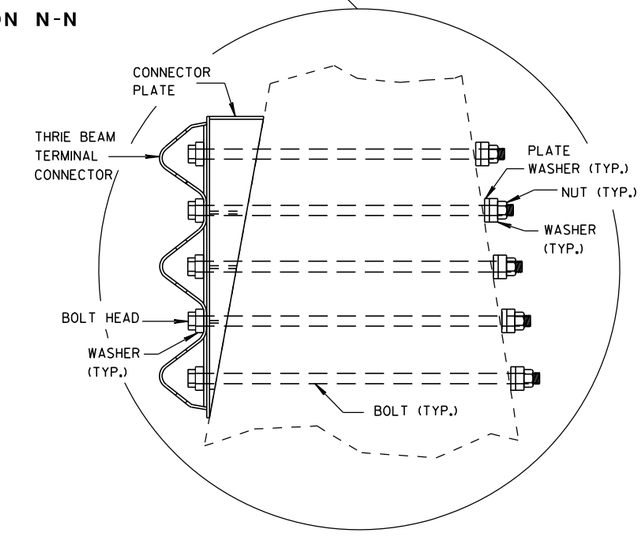
GENERAL NOTES

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

(1) 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.



SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012
DATE

/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER

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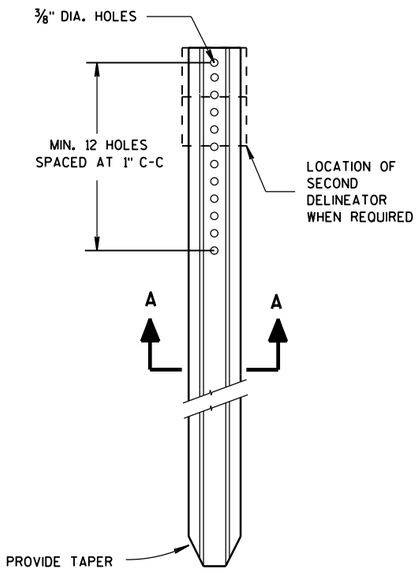
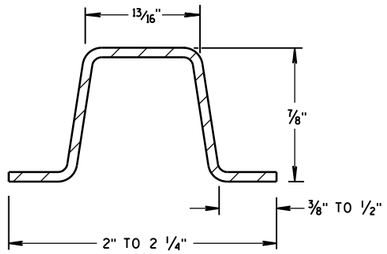
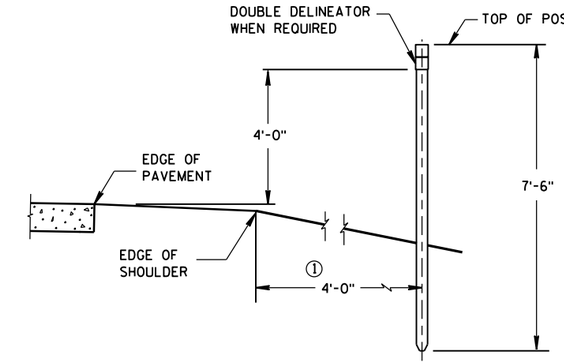


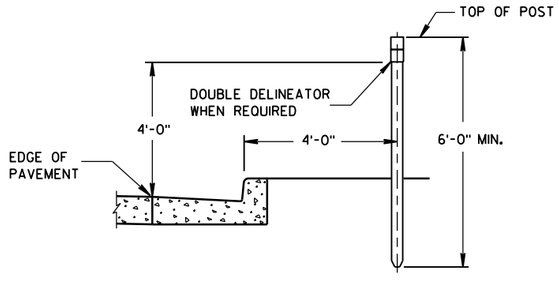
DELINEATOR POST



SECTION A-A

WEIGHT 1.12 LBS PER FT. ± 0.1 LB.



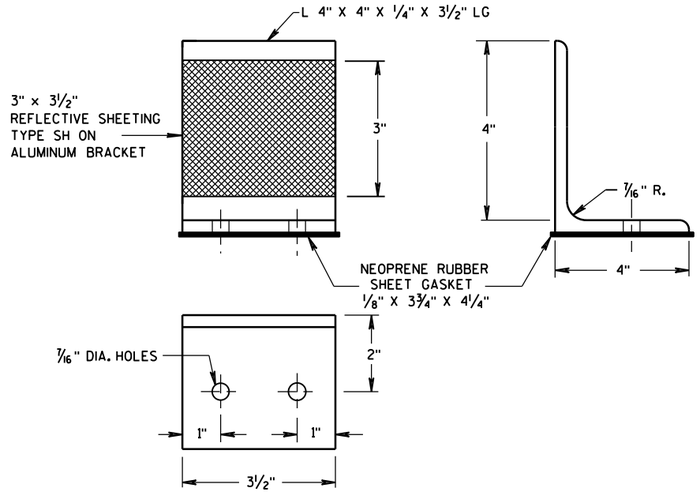


TYPICAL INSTALLATIONS OF DELINEATOR POSTS

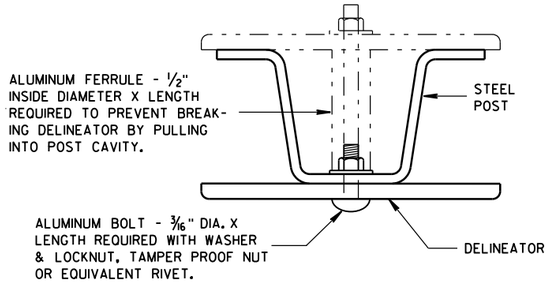
GENERAL NOTES

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

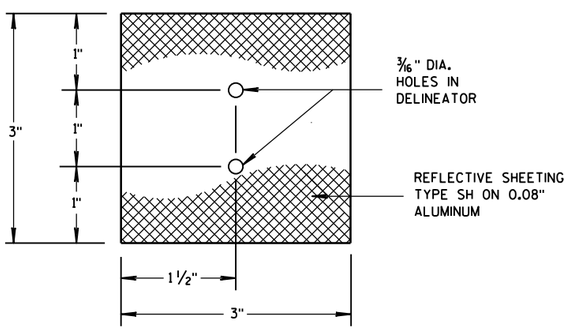
① DELINEATORS SHALL BE PLACED AT A CONSTANT DISTANCE FROM THE EDGE OF THE SHOULDER FOR THE LENGTH OF THE INSTALLATION.



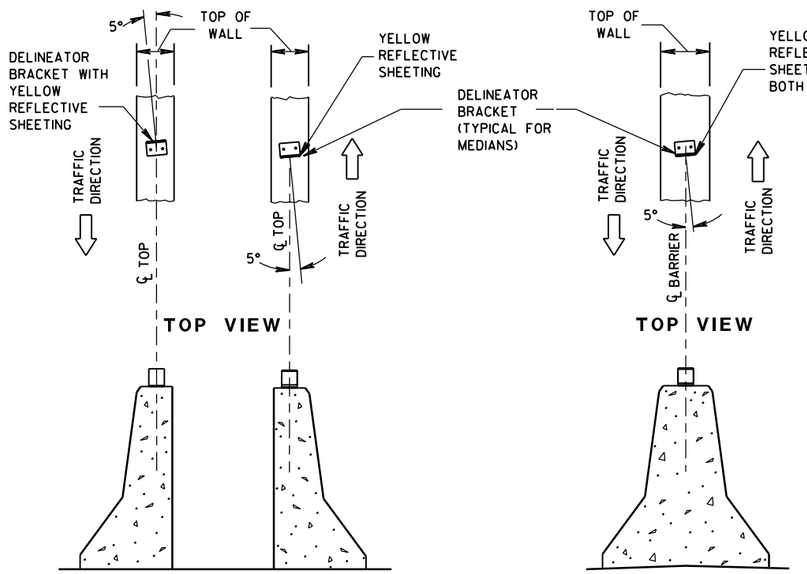
DELINEATOR BRACKET



MOUNTING DETAIL FOR DELINEATOR

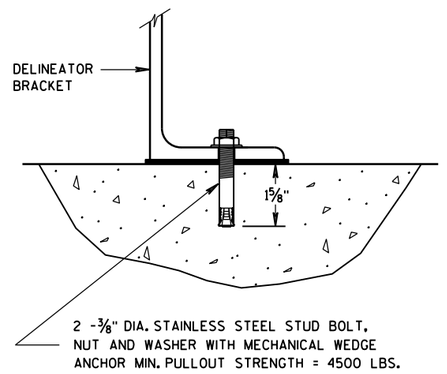


3"x 3" DELINEATOR



DOUBLE BARRIERS IN MEDIAN | MEDIAN BARRIER | BARRIER LOCATED TO RT. OF TRAFFIC FLOW

LOCATION AND AIMING DETAILS FOR DELINEATOR BRACKETS MOUNTED ON CONCRETE BARRIERS



DELINEATOR BRACKET MOUNTING DETAIL

DELINEATOR POST, DELINEATOR, AND DELINEATOR BRACKET WITH REFLECTIVE SHEETING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC E
FHWA

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S.D.D. 15 A 2-8

6

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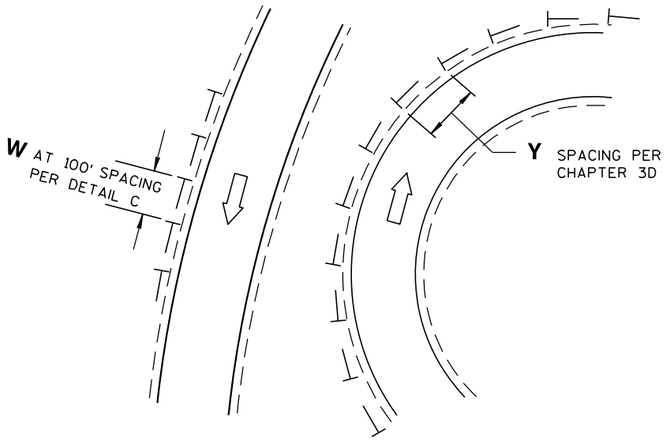
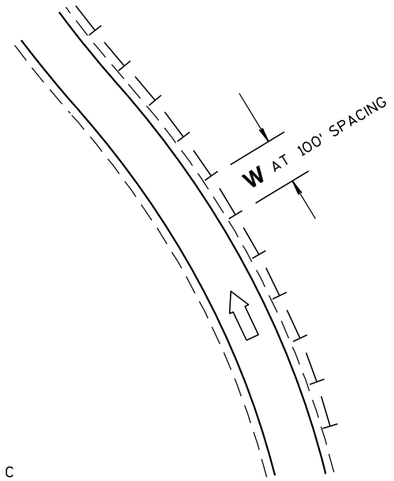
GENERAL NOTES

* USE DOUBLE DELINEATOR ALONG ACCELERATION-DECELERATION LANES AND TAPERS. USE SINGLE DELINEATOR WHEN RAMP PAVEMENT IS FULL WIDTH.



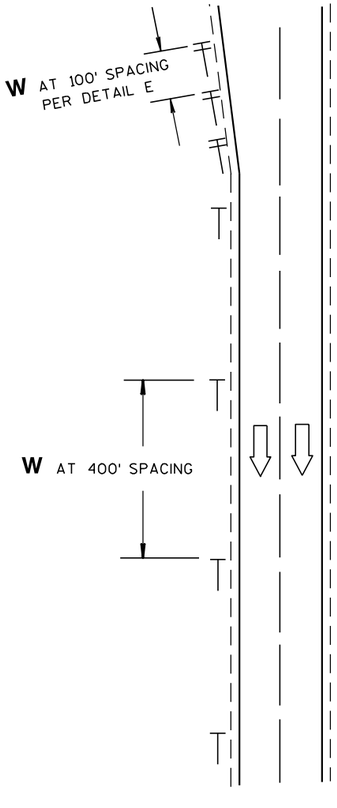
DETAIL A
DELINEATOR LAYOUT AT CURVED RAMP



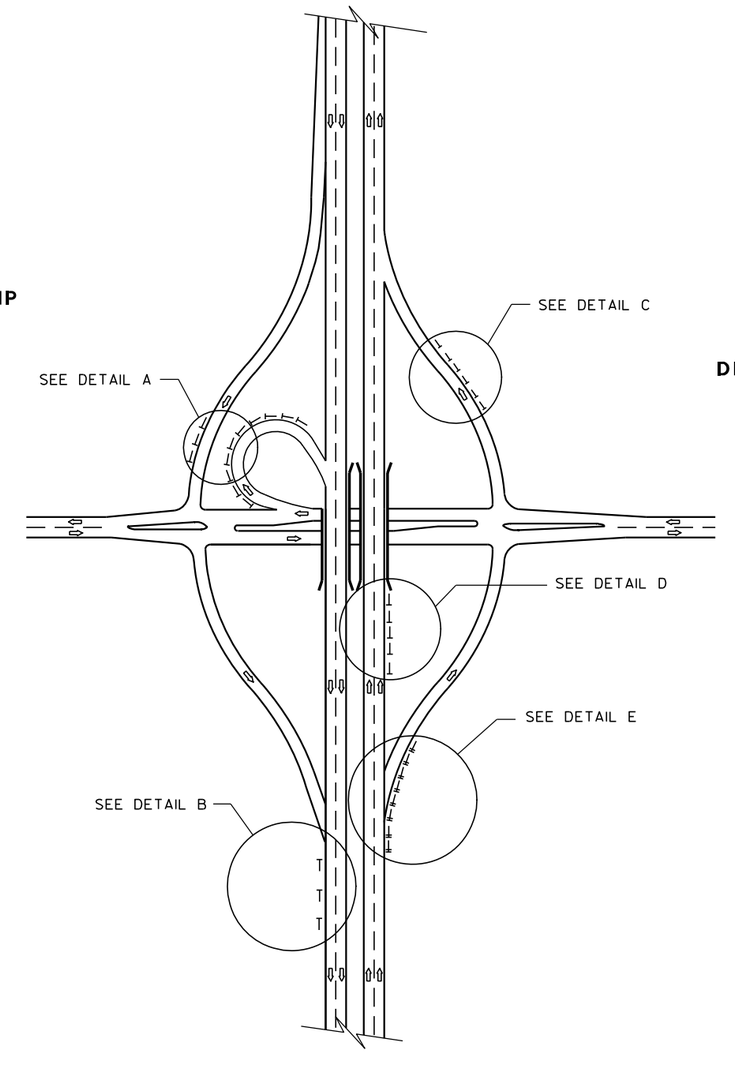
DETAIL C
DELINEATOR LAYOUT ALONG RAMP

LEGEND

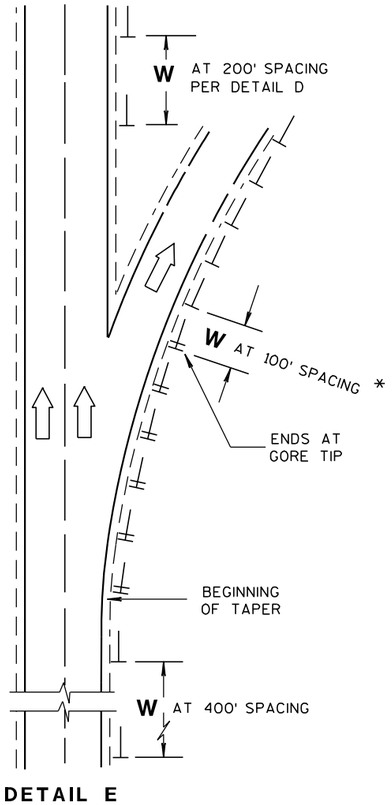
- DIRECTION OF TRAFFIC FLOW
- SINGLE DELINEATOR
- DOUBLE DELINEATOR
- W — WHITE
- Y — YELLOW



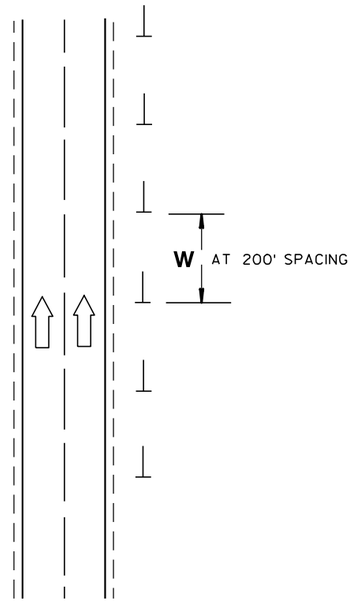
DETAIL B
DELINEATOR LAYOUT ALONG MAINLINE



DELINEATOR LAYOUT



DETAIL E
DELINEATOR LAYOUT FOR ACCELERATION - DECELERATION LANES AND TAPERS AT RAMPS



DETAIL D
DELINEATOR LAYOUT BETWEEN INTERCHANGE RAMPS

DELINEATOR LAYOUT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2/5/09 DATE
/S/ Thomas N. Nothnagel
STATE TRAFFIC ENGINEER
FHWA

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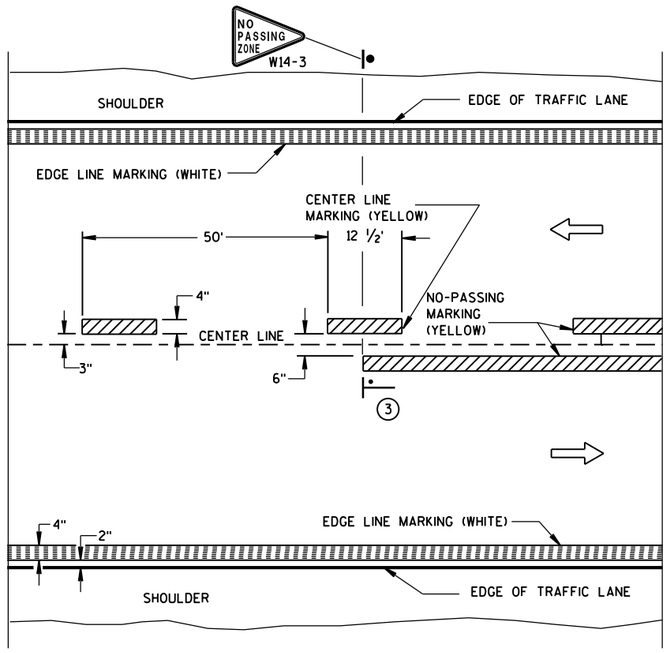
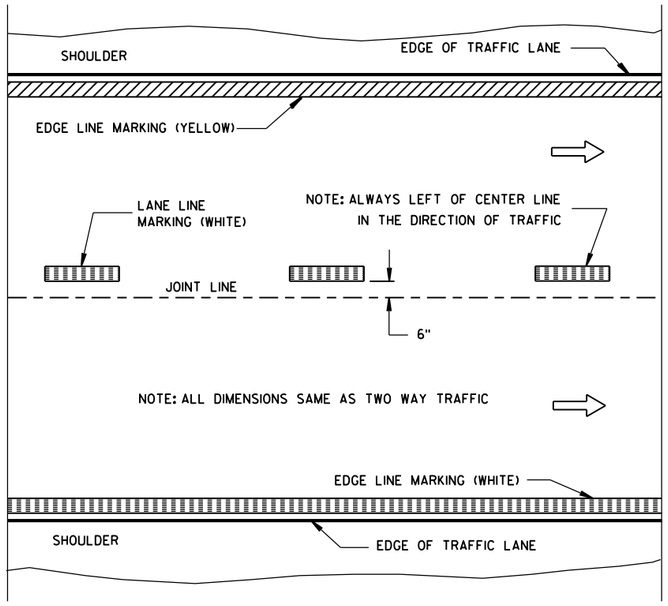
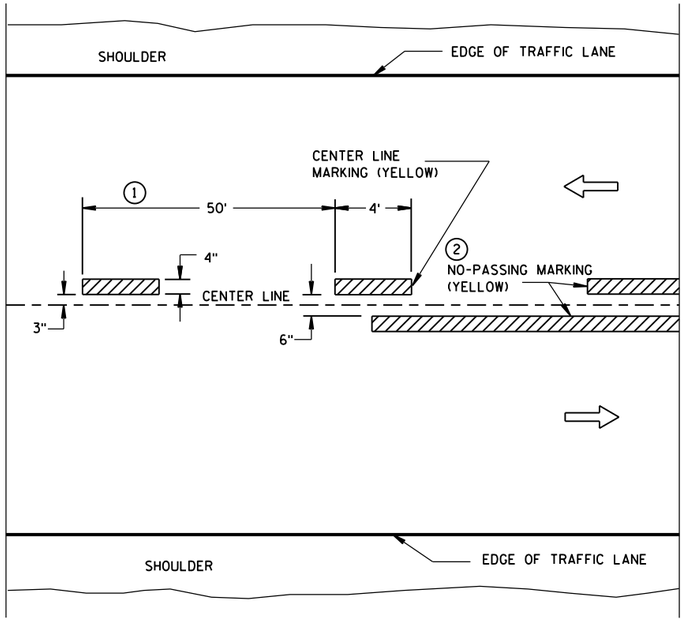


TWO WAY TRAFFIC

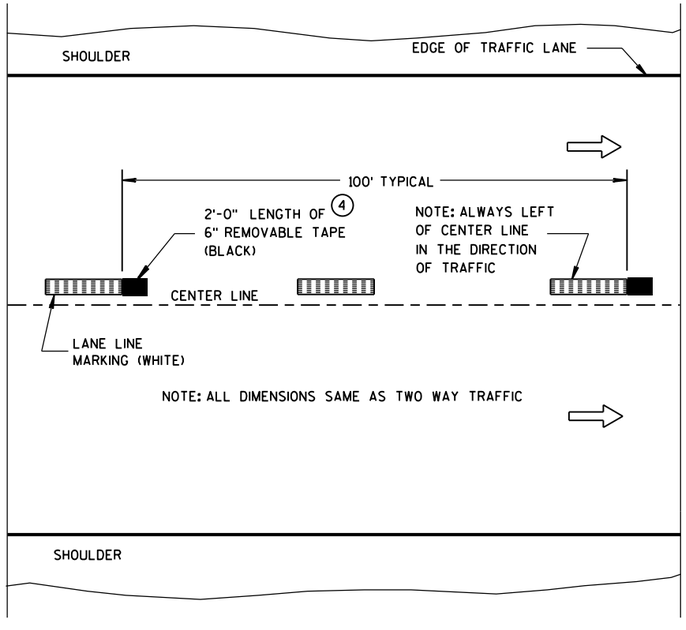


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

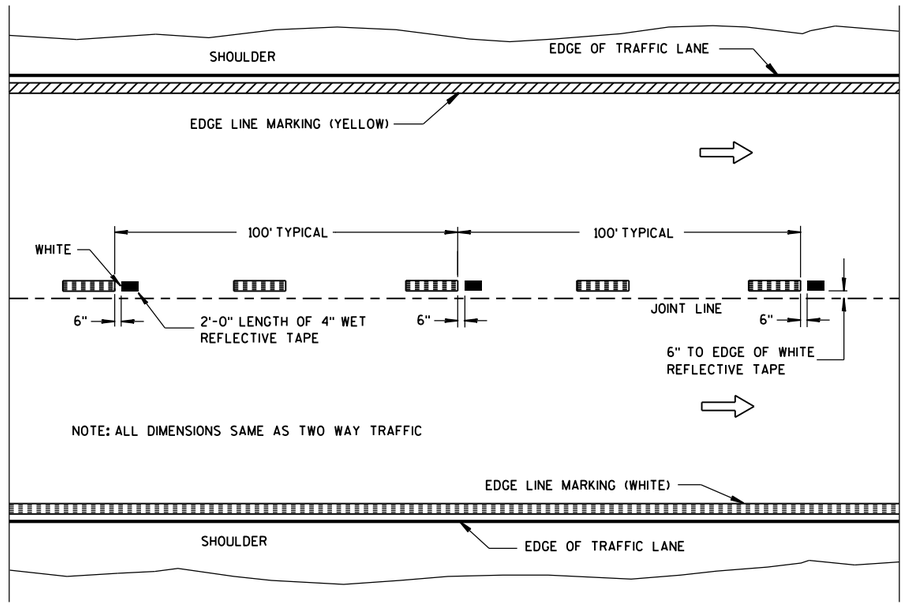
GENERAL NOTES

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

1. HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
2. NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
3. NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
4. CONCRETE ONLY.

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



WET REFLECTIVE TAPE SUPPLEMENT TO
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

LEGEND

"T" MARKING

POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10-1-2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

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

6

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- REMOVING PAVEMENT MARKING
- CONCRETE BARRIER TEMPORARY PRECAST
- DIRECTION OF TRAFFIC
- WORK AREA

W057-52
36"x24"

INSTALL ON EACH APPROACH AT THE CLOSEST INTERSECTION WITH A STATE OR COUNTY TRUNK HIGHWAY, OR AS DIRECTED BY THE ENGINEER. WIDTH ON SIGN TO BE APPROX. 1 FOOT LESS THAN AVAILABLE WIDTH (OMIT IF AVAILABLE WIDTH IS MORE THAN 16 FEET).

LOCATED 500 FEET IN ADVANCE OF R2-1 SIGN AND 500 FEET BEYOND THE "ROAD WORK 1 MILE" SIGN.

R2-1
48"x60"
(BLACK AND WHITE)

IF THE REGULATORY SPEED HAS BEEN REDUCED, A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. THERE SHOULD BE A SPEED LIMIT SIGN INCORPORATED A MINIMUM OF EVERY 2 OR 3 MILES.

* INCLUDE RESUME SPEED LIMIT SIGN A MINIMUM OF 200 FEET (500 FEET DESIRABLE) AFTER END ROAD WORK SIGNS.

GENERAL NOTES

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

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.

ALL SIGNS ARE 48"x48" 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.

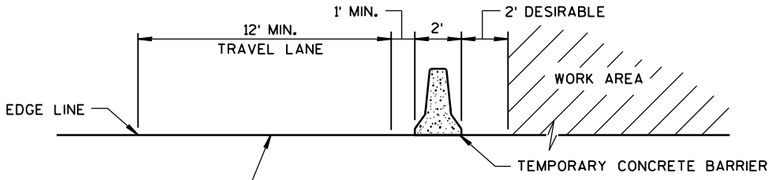
(1) CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUM TAPER.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

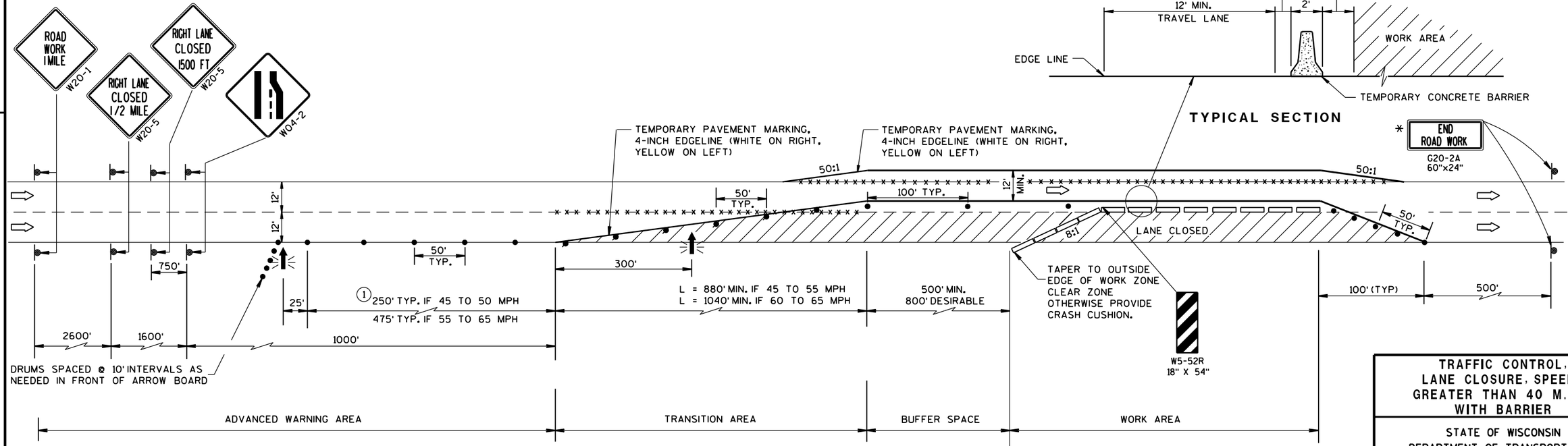
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

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

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



TYPICAL SECTION



TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER — SIGN
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LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMENENT SUPPORT
- POST WITH ATTACHED SIGN IN DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC
- WORK AREA

GENERAL NOTES

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIREABLE) DISTANCE TO EXISTING SIGNS.

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

ALL SIGNS ARE 48"×48" UNLESS OTHERWISE NOTED.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 4 OR MORE DAYS AND NIGHTS.

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

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

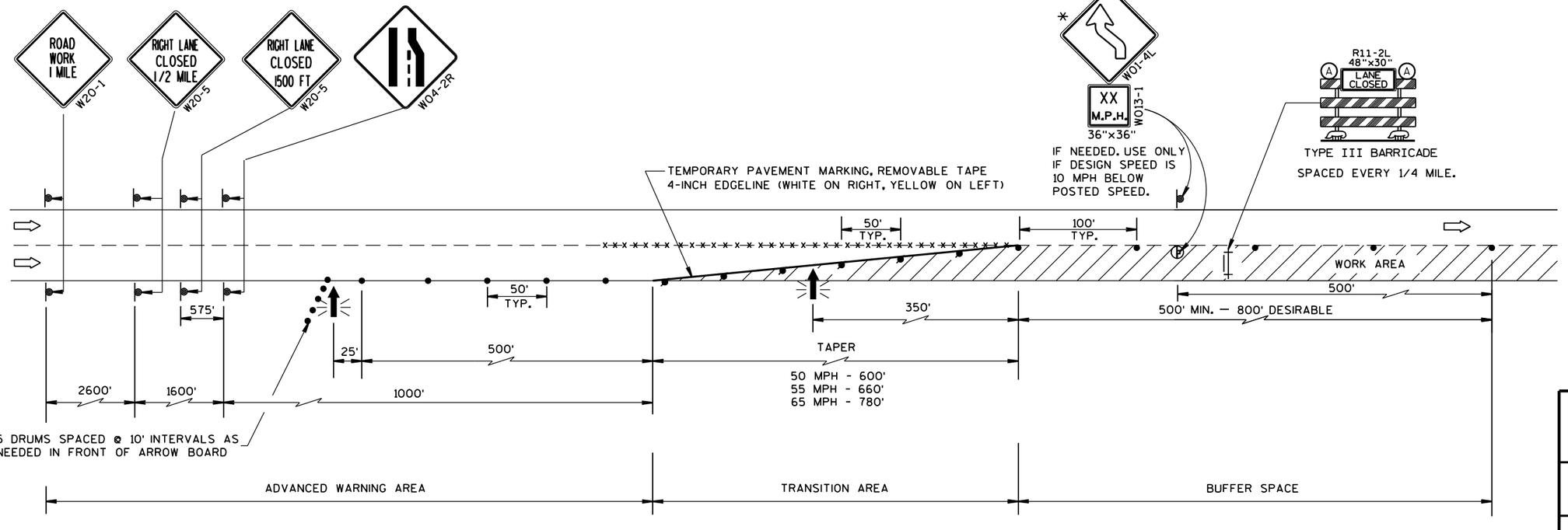
ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN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

* THE LEFT REVERSE CURVE SIGN (W01-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.

LOCATED 500 FEET IN ADVANCE OF R2-1 SIGN AND 500 FEET BEYOND THE "ROAD WORK 1 MILE" SIGN.

R2-1
48"×60"
(BLACK AND WHITE)

IF THE REGULATORY SPEED HAS BEEN REDUCED, A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. THERE SHOULD BE A SPEED LIMIT SIGN INCORPORATED A MINIMUM OF EVERY 2 OR 3 MILES.



TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
SIGN
FHWA

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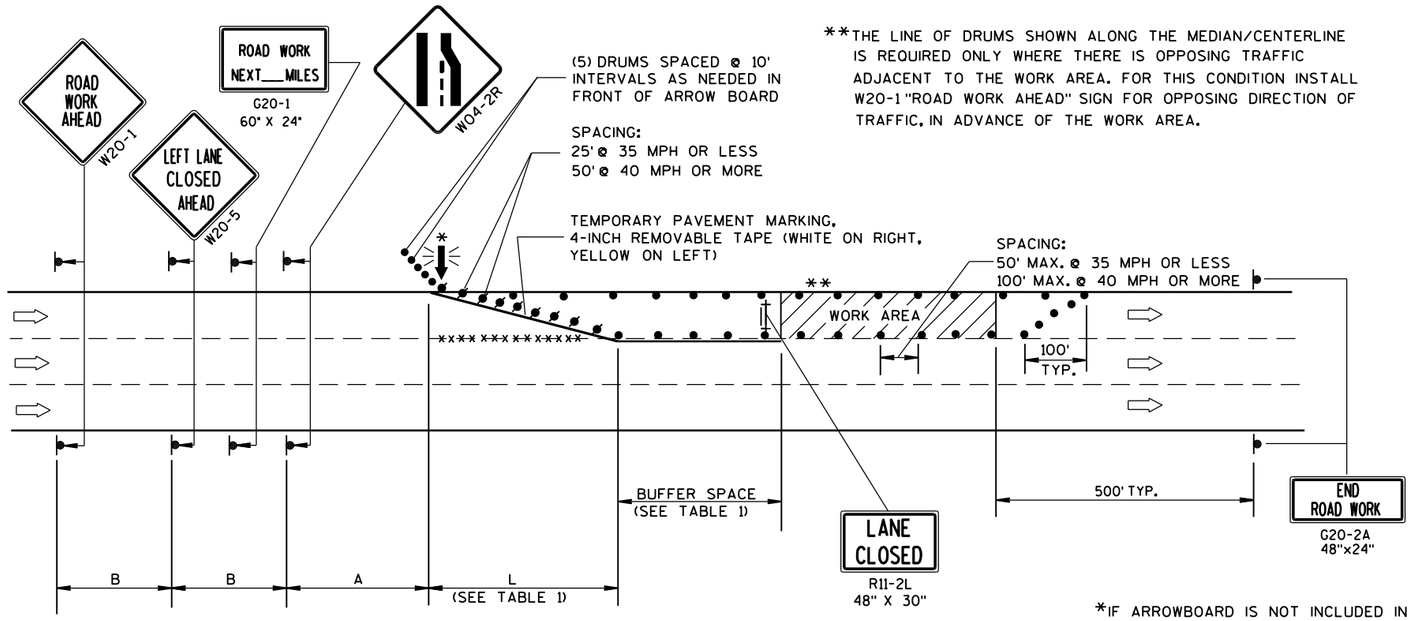
S.D.D. 15 D 12-3



**THE LINE OF DRUMS SHOWN ALONG THE MEDIAN/CENTERLINE IS REQUIRED ONLY WHERE THERE IS OPPOSING TRAFFIC ADJACENT TO THE WORK AREA. FOR THIS CONDITION INSTALL W20-1 "ROAD WORK AHEAD" SIGN FOR OPPOSING DIRECTION OF TRAFFIC, IN ADVANCE OF THE WORK AREA.

B=400' AT 25-30 MPH
700' AT 35-40 MPH
1000' AT 45-55 MPH

A=200' AT 25-30 MPH
350' AT 35-40 MPH
500' AT 45-55 MPH

(PLACE BARRICADE AND SIGN APPROX. EVERY 1000' ACROSS THE CLOSED LANE)

*IF ARROWBOARD IS NOT INCLUDED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE A TYPE III BARRICADE WITH W01-6 SIGN IN THE LANE CLOSURE TAPER.

W01-6
48"x24"

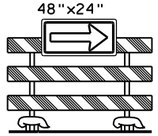


TABLE 1
TAPER AND BUFFER SPACE FOR 12' LANE WIDTH

S	L	BUFFER SPACE
25	125'	55'
30	180'	85'
35	245'	120'
40	320'	170'
45	540'	220'
50	600'	280'
55	660'	335'

FOR LANE WIDTH OTHER THAN 12':

L = WS AT 45 MPH OR GREATER

$L = \frac{WS^2}{60}$ AT 40 MPH OR LESS

L = TAPER LENGTH IN FEET

S = NON-CONSTRUCTION SPEED LIMIT (MPH)

W = WIDTH OF LANE CLOSURE

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- DIRECTION OF TRAFFIC
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- WORK AREA

GENERAL NOTES

THIS LANE CLOSURE DETAIL IS TYPICAL FOR CLOSING THE LEFT LANE. FOR A RIGHT LANE CLOSURE, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

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

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

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 DISTRICT TRAFFIC UNIT.

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

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

ON UNDIVIDED ROADWAYS, OMIT THE SIGNS SHOWN ON LEFT SIDE OF ROAD.

W20-1, G20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS.

PLACE THE ARROWBOARD AS CLOSE AS POSSIBLE TO THE BEGINNING OF THE LANE CLOSURE TAPER, PREFERABLY ON THE SHOULDER OR TERRACE.

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

BARRICADES IN A CLOSED LANE 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.

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

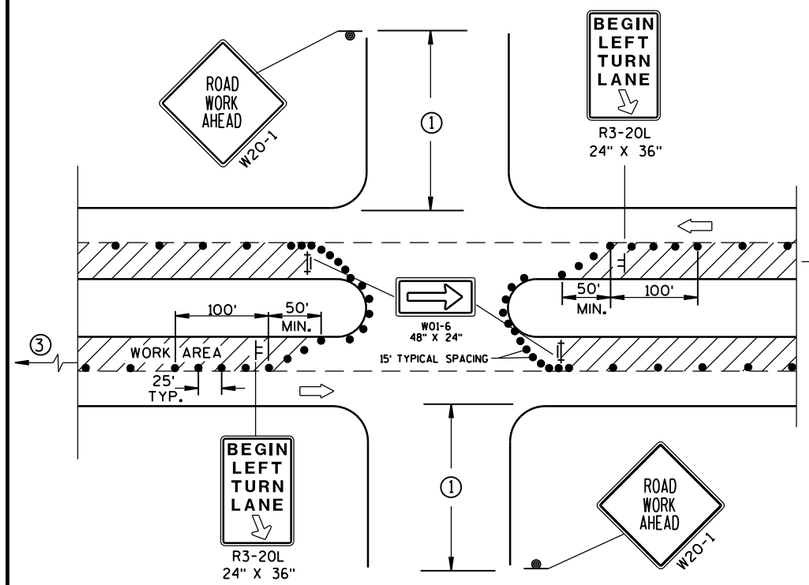
TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

S.D.D. 15 D 20-2

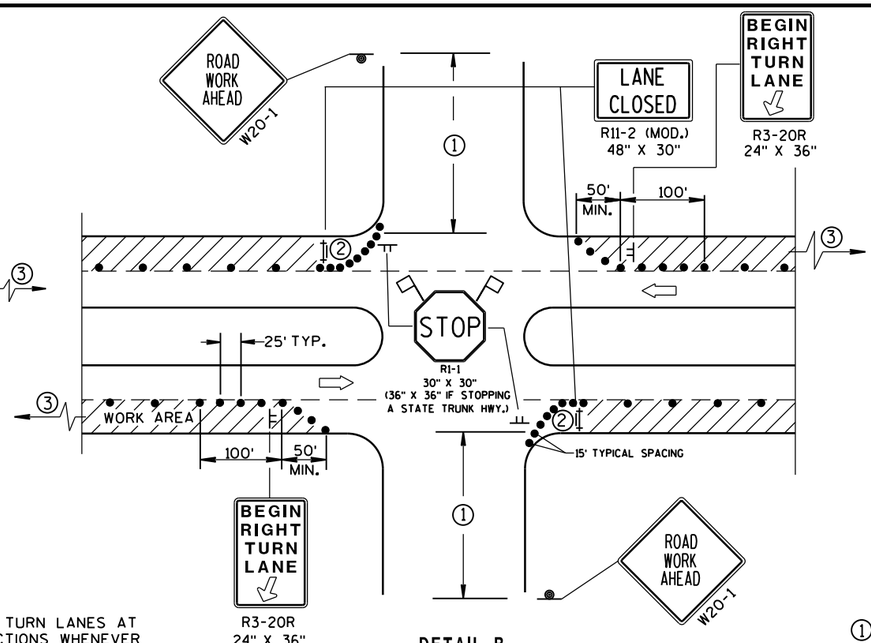
S.D.D. 15 D 20-2



DETAIL A

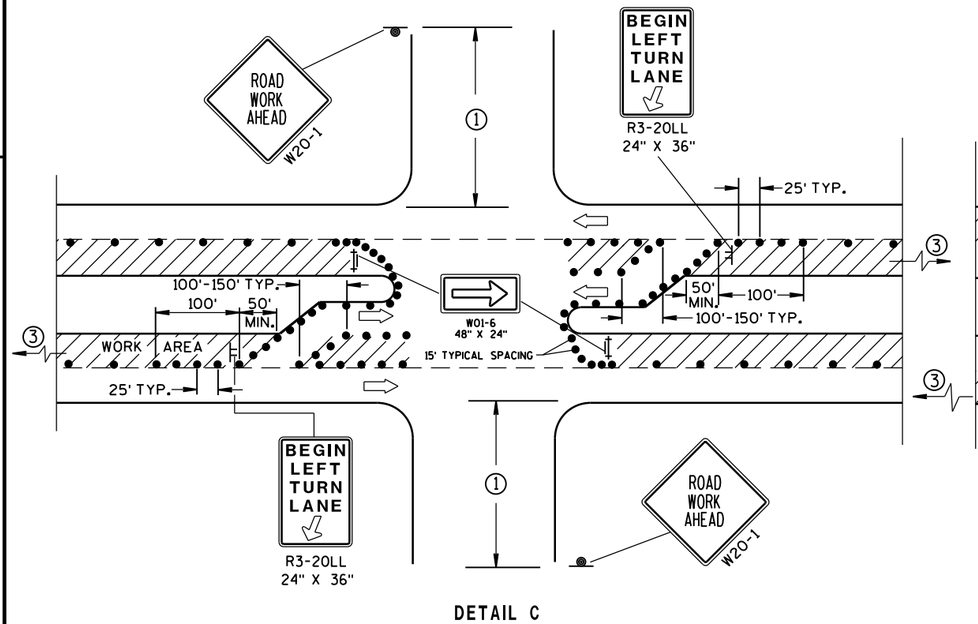
FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING

PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.



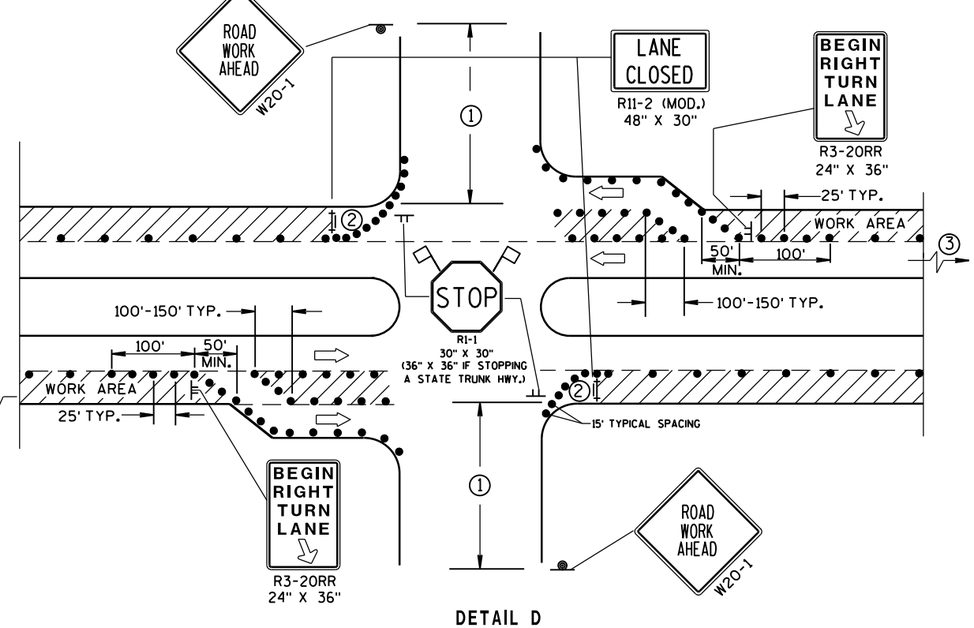
DETAIL B

FOR RIGHT LANE CLOSURE AT INTERSECTION



DETAIL C

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING (WITH LEFT TURN BAY OPEN)



DETAIL D

FOR RIGHT LANE CLOSURE AT INTERSECTION (WITH RIGHT TURN BAY OPEN)

GENERAL NOTES

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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 DISTRICT TRAFFIC UNIT.

"WO" SIGNS ARE THE SAME AS "W" SIGNS 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.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

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

BARRICADES IN A CLOSED LANE 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.

① 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35-40 MPH.
200' IF 25-30 MPH.

② ALSO USE BARRICADE AND 15-FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS.

③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.

LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT (5' MIN. MOUNTING HEIGHT)
- TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., (ORANGE)
- WORK AREA

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013	/S/ Travis Feltes
DATE	STATE TRAFFIC ENGINEER

FHWA

6

S.D.D. 15 D 21-2

LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- FLASHING ARROW BOARD
- WORK AREA

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT SHOULDER. FOR CLOSING THE LEFT SHOULDER, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

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

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

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

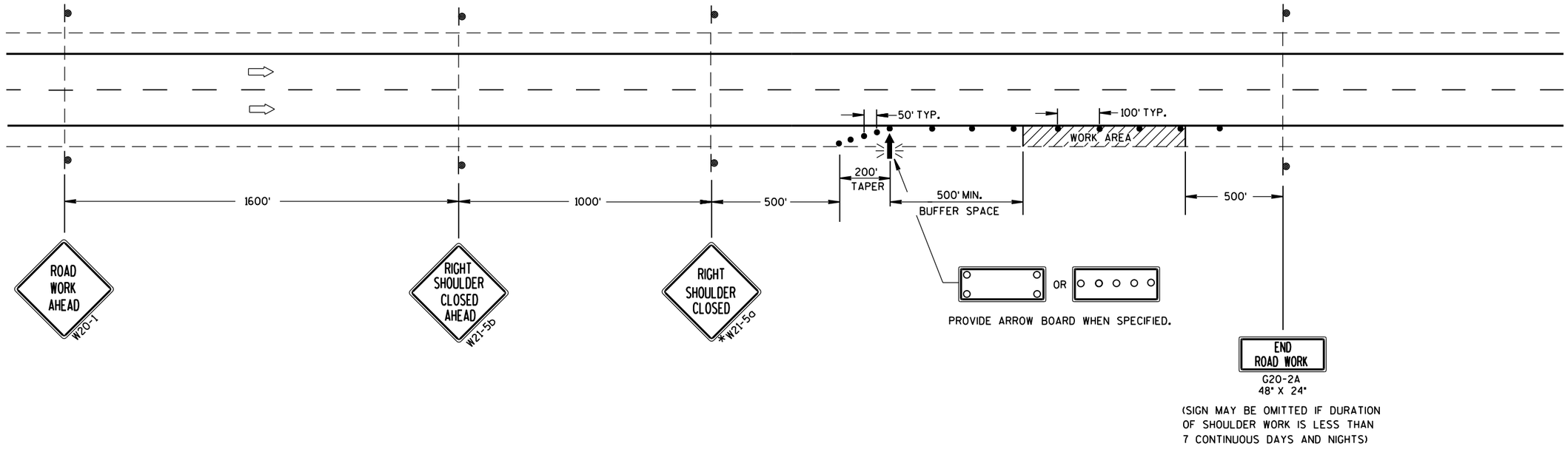
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

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

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-5a SIGN MAY BE OMITTED.



TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

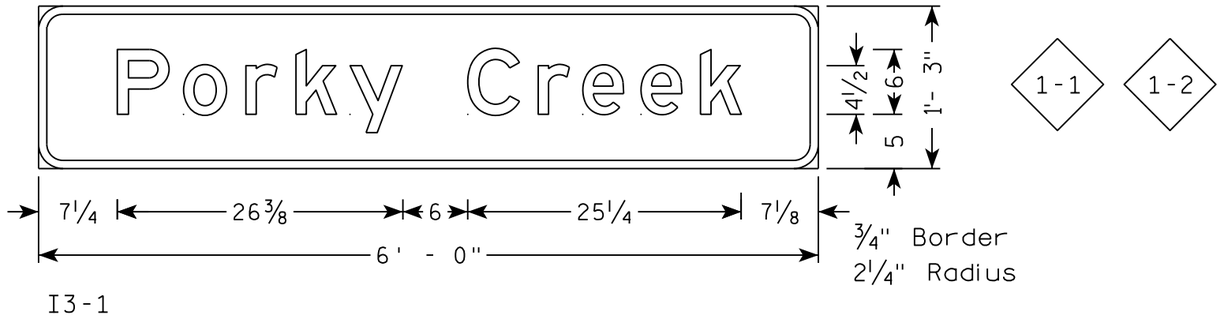
FHWA

6

S.D.D. 15 D 27-2

6

S.D.D. 15 D 27-2

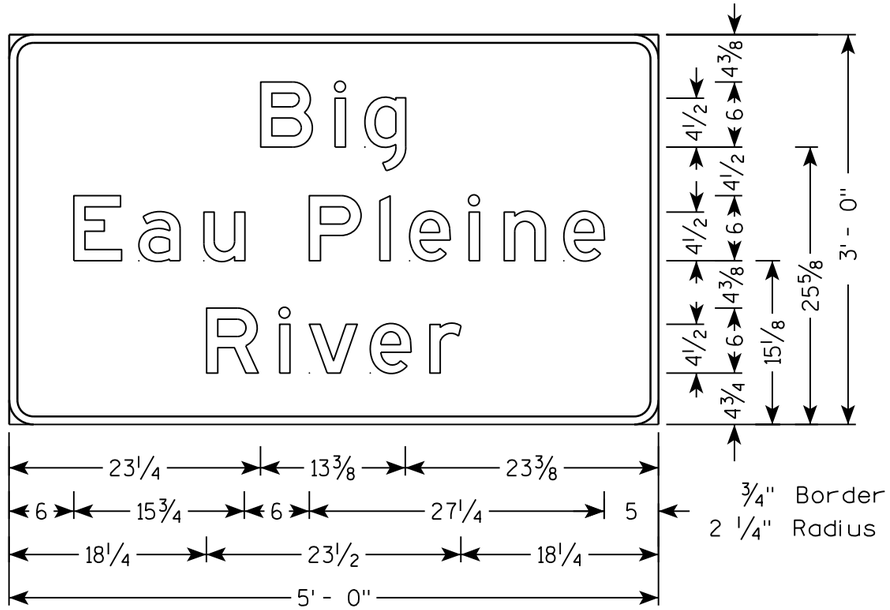


I3-1

1-1 1-2

NOTES

1. All Signs Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - GREEN
   Message - WHITE
3. Message Series - E



I3-1

2-1 2-2

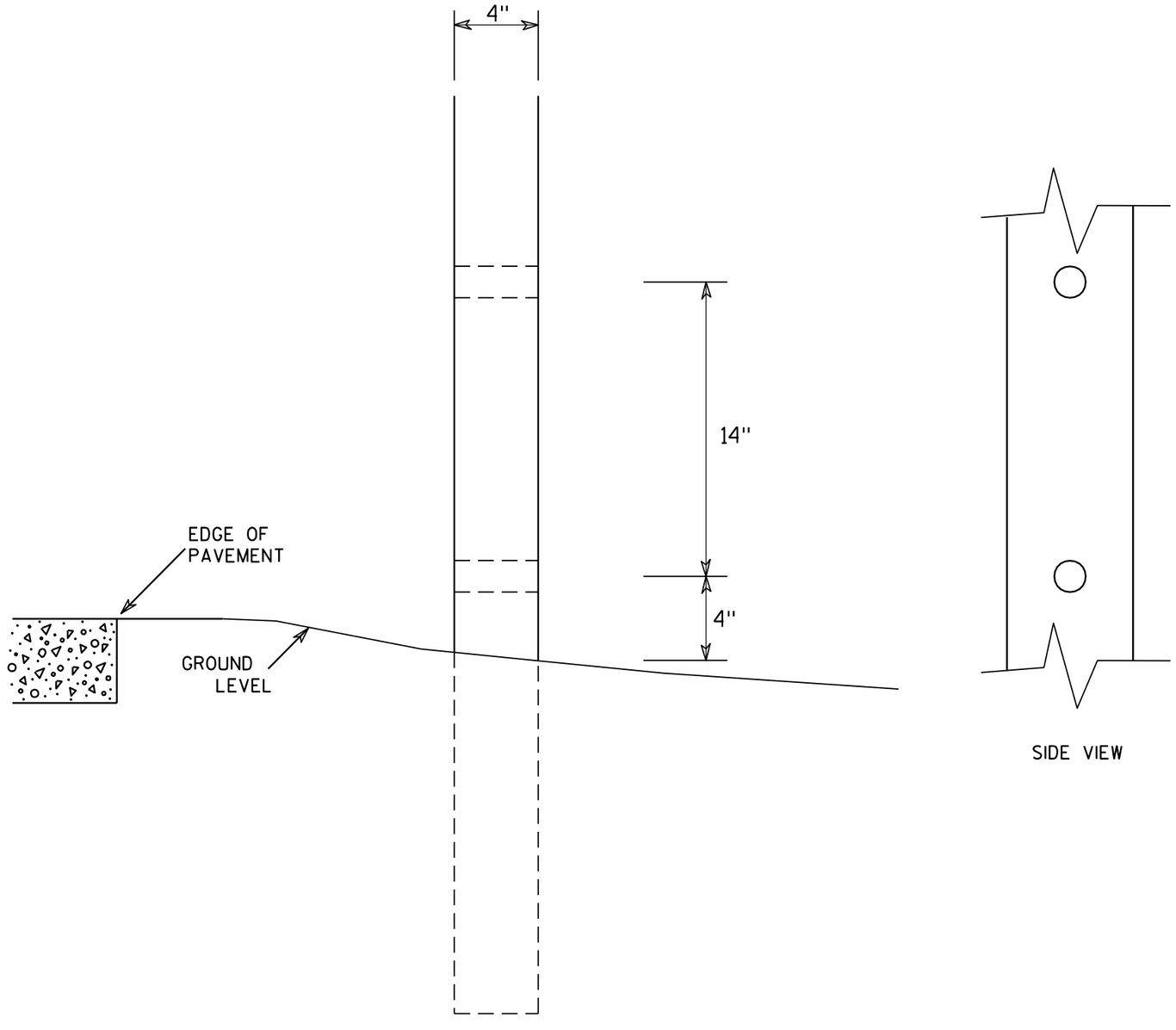
7

7

PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	PERMANENT SIGNING	SHEET 98	E

FILE NAME : P:\47xx\4724_DP.12.STH29.MAR\CADDS\Plan\070101_sd.dgn PLOT DATE : 7/30/2013 PLOT BY : emo PLOT NAME : PLOT SCALE : 1:13.9912

WISDOT/CADDS SHEET 47



SIDE VIEW

GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

7

7

4 X 6 WOOD POST MODIFICATIONS

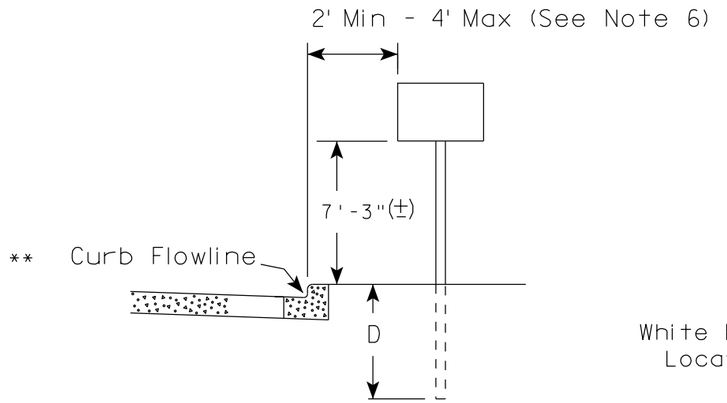
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang
for State Traffic Engineer

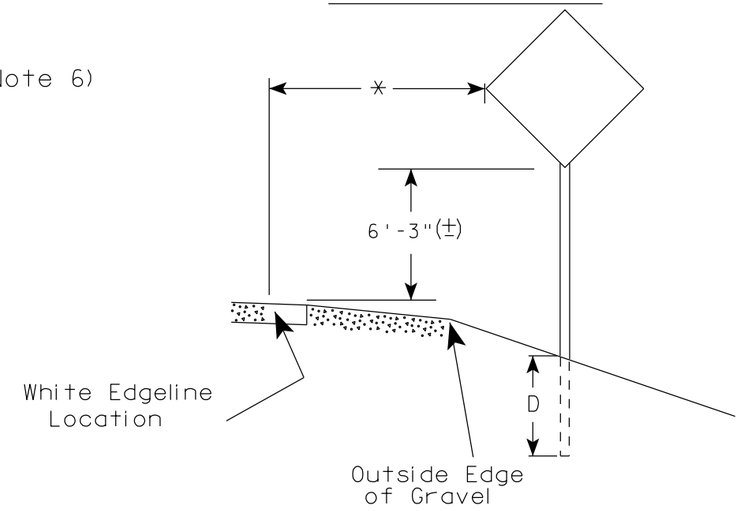
DATE 3/27/97 PLATE NO. A4-11.2

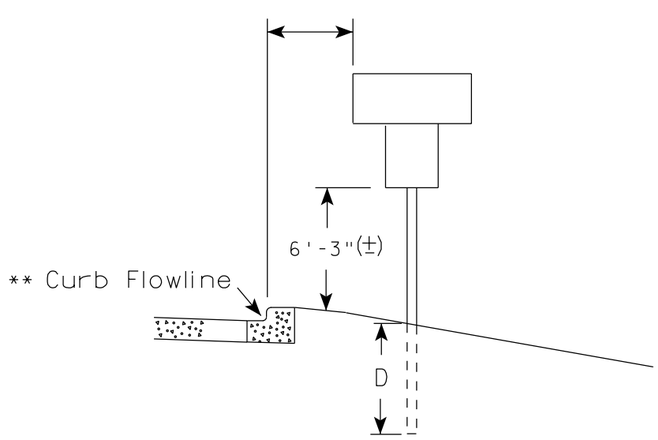
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 99	E

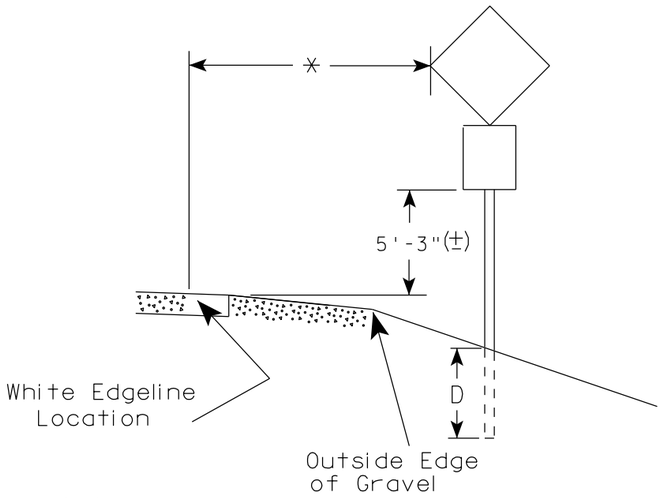
URBAN AREA



RURAL AREA (See Note 2)







** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

GENERAL NOTES

1. Signs wider than 4 feet, 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series) & End of Rod Markers (W5-56 & W5-56A) shall be mounted at a height of 4'-3" (+).

POST EMBEDMENT DEPTH

Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

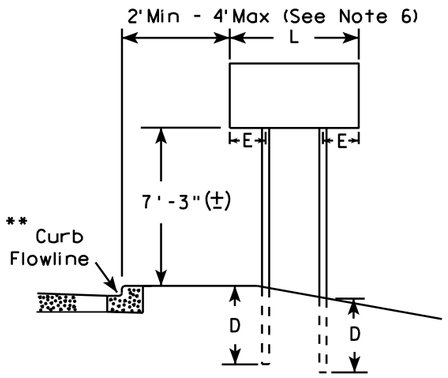
APPROVED Matthew R Rauch
for State Traffic Engineer

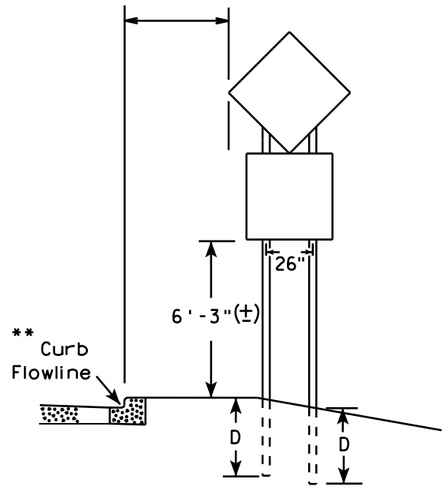
DATE 9/30/13 PLATE NO. A4-3.18

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

7

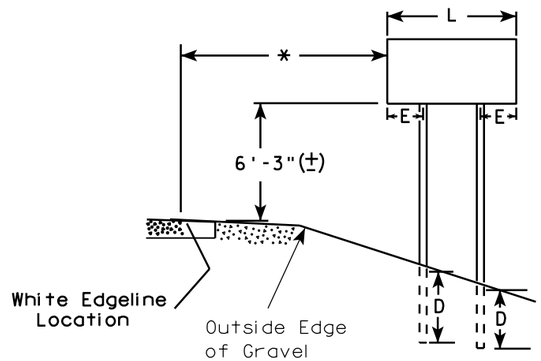
URBAN AREA

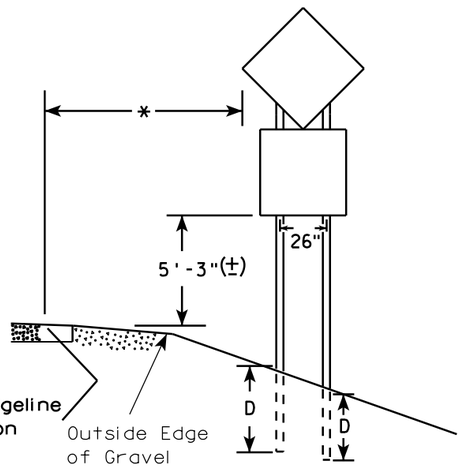




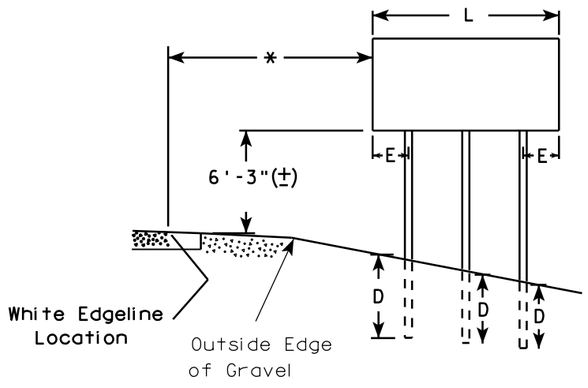
48" DIAMOND WARNING SIGN

RURAL AREA (See Note 3)





48" DIAMOND WARNING SIGN



GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series) & End of Road Markers (W5-56 & W5-56A) shall be mounted at a height of 4"-3" (±).

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

*** See A4-3 sign plate for signs 4' or less in width or 20 S.F. or less in area.

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 120"	L/5

***

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 120" less than 168"	12"

SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)	
L	E
168" and greater	12"

POST EMBEDMENT DEPTH

Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

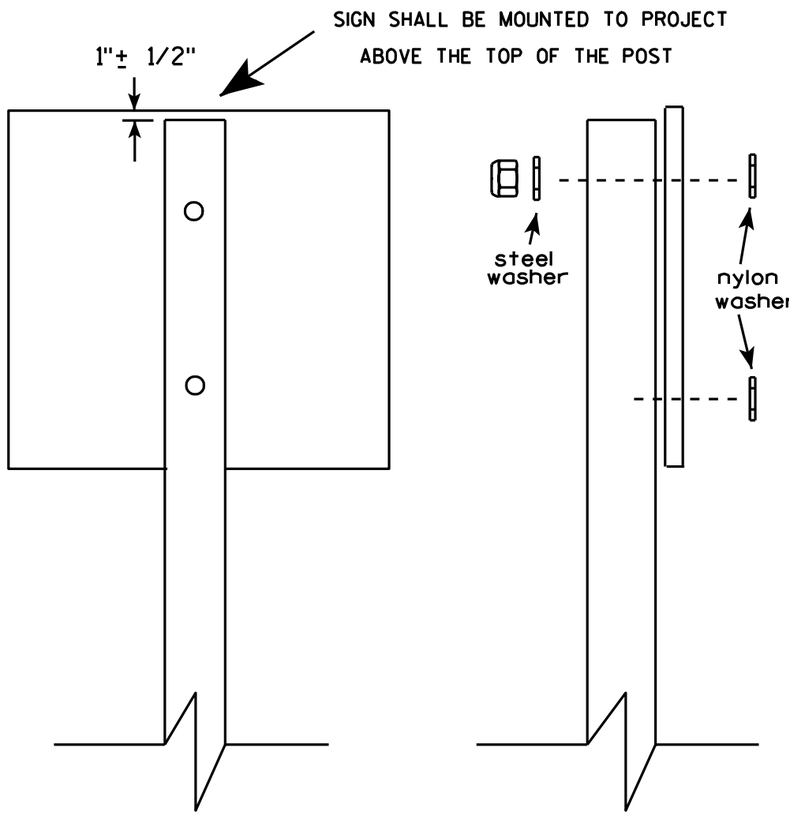
WISCONSIN DEPT OF TRANSPORTATION

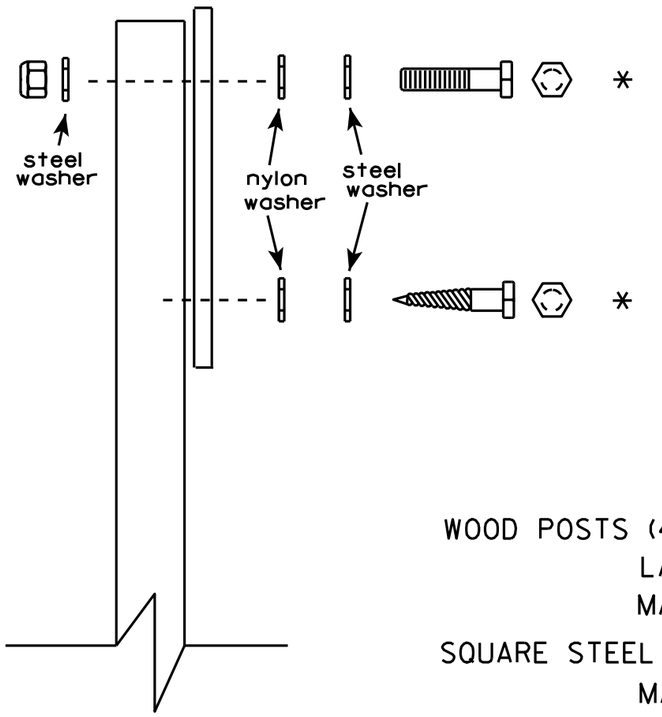
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/13 PLATE NO. A4-4 12

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A44.DGN PLOT DATE : 30-SEP-2013 13:27 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 107.021305:1.000000 WISDOT/CADDS SHEET 42





Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

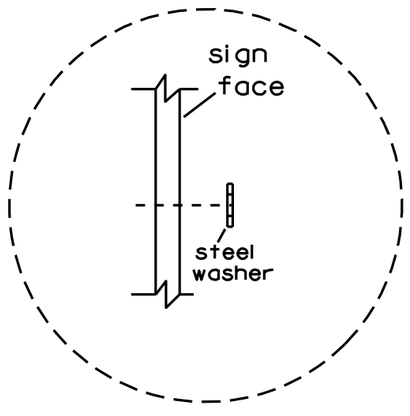
a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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.



Washer Placement when Sign Has Other Than Type H or Type F Face

* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/23/10 PLATE NO. A4-8.7

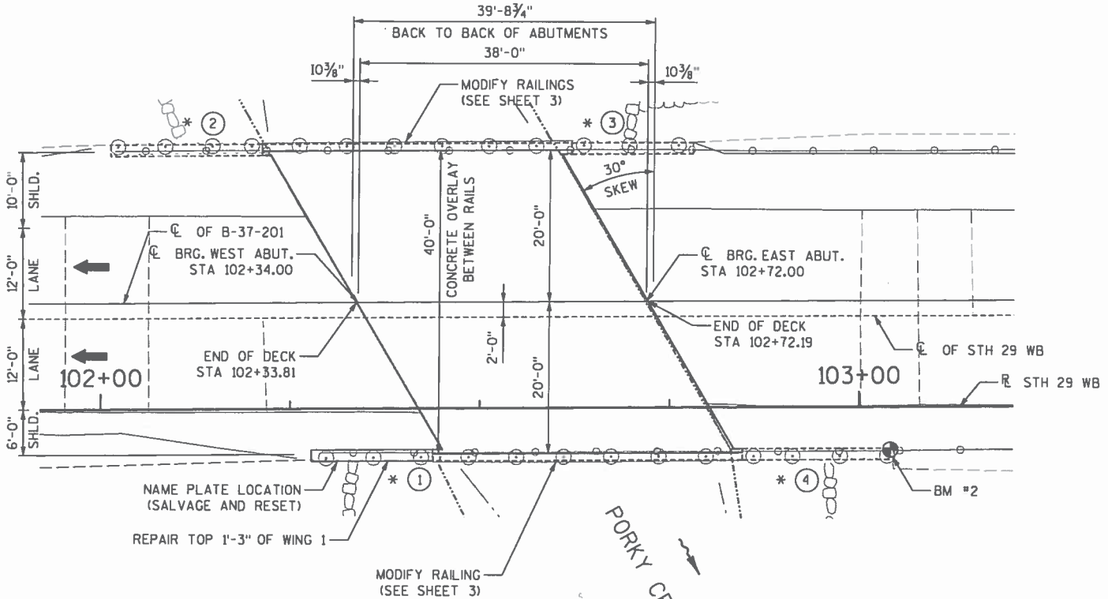
7

7

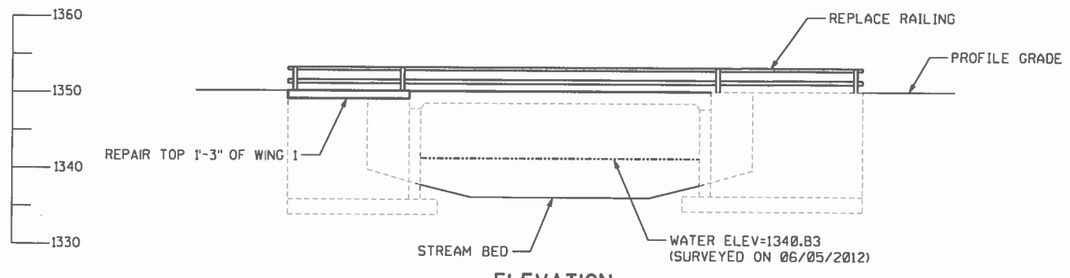
PROJECT NO:

SHEET NO: 102 E

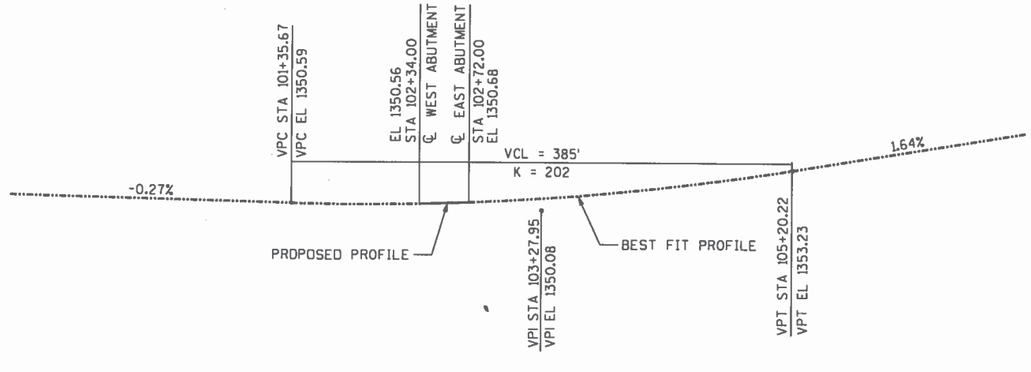
STATE PROJECT NUMBER
1053-02-63



PLAN
CONCRETE OVERLAY



ELEVATION
NORMAL TO PORKY CREEK



PROFILE GRADE LINE - STH 29 WB
PROFILE IS SHOWN ALONG THE CENTER OF STRUCTURE

NOTES
⊗ DENOTES WING WALL NUMBER

* PROVIDE THRIE BEAM RAIL ATTACHMENT.

BEST FIT PROFILE GRADE LINE BASED ON GEOMETRIC DATA. USE GRADES SHOWN AT THE ABUTMENTS AND PIERS, BASED ON EXISTING SURVEY DATA, FOR FINISHED DECK ELEVATIONS AT THE CENTERLINE.

DESIGN DATA
LIVE LOAD:
LOADING:
DESIGN RATING: HS-20
INVENTORY RATING: HS-21
OPERATING RATING: HS-35
MAX. STD. PERMIT VEHICLE LOAD = 250 KIPS

ULTIMATE DESIGN STRESSES:
CONCRETE MASONRY SLAB _____ f'c = 4,000 psi
ALL OTHER _____ f'c = 3,500 psi
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 _____ fy = 60,000 psi

TRAFFIC DATA
ADT = 11,600 (2014)
ADT = 15,000 (2034)
RDS = 70 M.P.H.

HYDRAULIC DATA
(FROM EXISTING PLANS)
Q100 = 1890 C.F.S.
VELOCITY = 7.7 F.P.S.
HIGH WATER = EL. 1346.80
WATERWAY AREA = 245 SF
DRAINAGE AREA 6.3 SQ. MI.
ROADWAY OVERTOPPING FREQUENCY = N/A

LIST OF DRAWINGS
1. CONCRETE OVERLAY
2. CROSS SECTION AND QUANTITIES
3. RAILING STEEL, TYPE W, REHABILITATION DETAIL
4. CONCRETE SURFACE REPAIRS

BENCH MARK

NO.	STATION	DESCRIPTION	ELEV.
2	103+04 (RT)	CHISELED SQUARE ON SE WING WALL	1350.26

WISCONSIN PROFESSIONAL ENGINEER
DAVID R. BROSE
E-26268
MILWAUKEE
WIS.
7-31-13

STRUCTURES DESIGN CONTACTS
BRIDGE OFFICE:
WILLIAM DREHER (608) 266-8489
CONSULTANT:
DAVE BROSE (414) 347-1607

NO.	DATE	REVISION	BY

EMCS
1300 W. Canal Street, Suite 200
Milwaukee, WI 53233
414.347.1607 FAX 414.347.1347

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher KAR 09/17/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-37-201
STH 29 OVER PORKY CREEK

COUNTY	TOWN/~~CITY/VILLAGE~~
MARATHON	HOLTON

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
SKR	DRB	TGR	DRB

CONCRETE OVERLAY

SHEET 103 OF 4

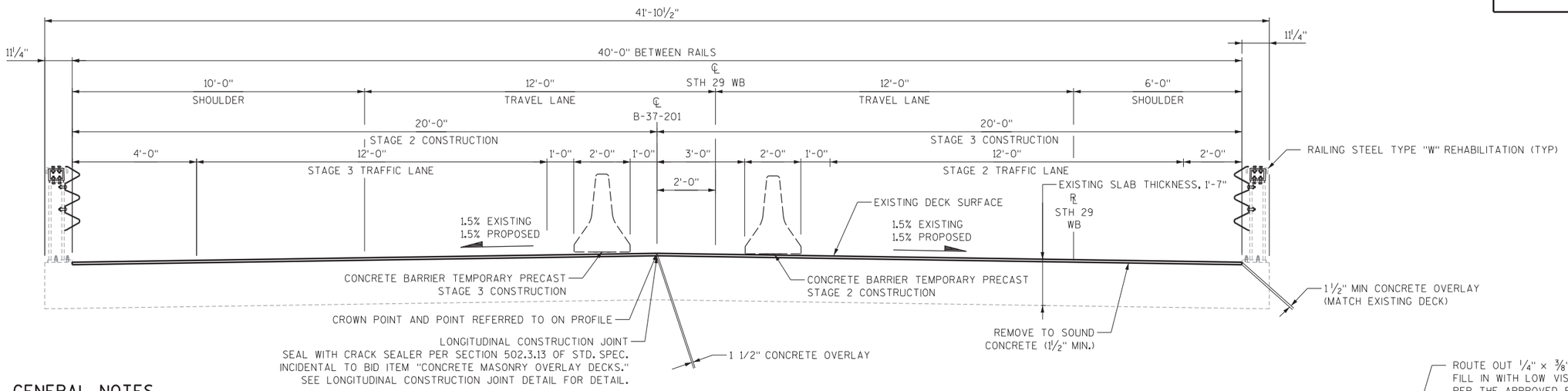
8

8

FILE NAME : P:\47xx\4724_OP.12.STH29.MAR\CADDS\Plan\B-37-201 Porky Creek\080101_gp.dgn PLOT DATE : 7/30/2013 PLOT BY : ojc PLOT NAME : ORG DATE : Originator : Dist. PLOT SCALE : 1:20

STATE PROJECT NUMBER

1053-02-63



CROSS SECTION THRU ROADWAY

(LOOKING EAST)

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON ORIGINAL STRUCTURE PLANS.

THE EXISTING STRUCTURE B-37-201 IS A SINGLE SPAN SLAB STRUCTURE WITH AN OVERALL WIDTH OF 41'-10½" AND AN OVERALL LENGTH OF 39'-8¾".

A MINIMUM OF 1½" OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK, EXCEPT FOR AREA UNDERNEATH RAILING, UNDER THE BID ITEM "CLEANING DECKS".

ALL CONCRETE REMOVAL NOT COVERED WITH CONCRETE OVERLAY SHALL BE DEFINED BY A 1-INCH DEEP SAW CUT.

VARIATIONS TO THE NEW GRADE LINE OVER ¼" MUST BE SUBMITTED BY THE FIELD ENGINEER TO THE STRUCTURES DESIGN SECTION FOR REVIEW.

IF THE EXISTING NAME PLATE IS DAMAGED AND A NEW NAME PLATE IS REQUIRED, THE ORIGINAL CONSTRUCTION DATE IS 1982.

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

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

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.

"PREPARATION DECKS TYPE 1 AND TYPE 2" AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER.

◆ THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS" INCLUDES CONCRETE FOR THE PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, AND CONCRETE OVERLAY.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE ROADWAY DECK EXCEPT FOR THE AREA BENEATH RAILINGS.

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY AT THE ABUTMENTS IS TO BE INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

STAGE 1 CONSTRUCTION IS PAVING OF INSIDE SHOULDER OF APPROACH ROADWAYS.

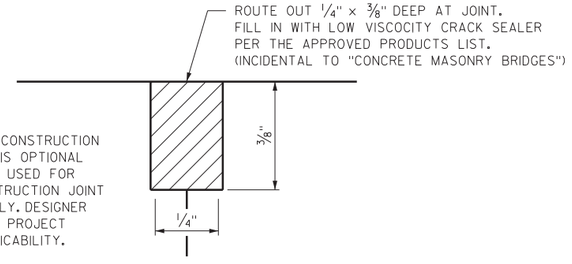
AGGREGATE BACKFILL AND RESTORATION NEEDED FOR PARTIAL REMOVAL OF WINGWALL 1 WILL BE PAID FOR UNDER ROADWAY BID ITEMS.

CONCRETE SURFACE REPAIR NOTE

◑ "CONCRETE SURFACE REPAIR" SHALL BE USED FOR NEEDED REPAIRS ON THE EXISTING ABUTMENTS. LOCATION AND LIMITS OF REPAIR SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

NOTES

☒ AT ABUTMENTS AS DIRECTED BY THE ENGINEER.



NOTE:
LONGITUDINAL CONSTRUCTION JOINT DETAIL IS OPTIONAL AND IS TO BE USED FOR STAGED CONSTRUCTION JOINT LOCATIONS ONLY. DESIGNER TO DETERMINE PROJECT SPECIFIC APPLICABILITY.

LONGITUDINAL CONSTRUCTION JOINT DETAIL

TOTAL ESTIMATED QUANTITIES

	ITEM NO.	BID ITEMS	UNIT	EAST ABUTMENT	WEST ABUTMENT	SUPER	TOTAL
	203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS (STA 102+53)	LS	-	-	-	1
	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (B-37-201)	LS	-	-	-	1
	502.0100	CONCRETE MASONRY BRIDGES	CY	-	1	-	1
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	-	-	171	171
	505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	-	45	-	45
	509.0301	PREPARATION DECKS TYPE 1	SY	-	-	26	26
	509.0302	PREPARATION DECKS TYPE 2	SY	-	-	9	9
	509.0500	CLEANING DECKS	SY	-	-	171	171
◑	509.1500	CONCRETE SURFACE REPAIR	SF	5	3	2	10
◆	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	-	-	9	9
☒	509.9020.S	EPOXY CRACK SEALING	LF	6	11	9	26
	SPV 0105	RAILING STEEL TYPE "W" REHABILITATION	LS	-	-	-	1
		NON-BID ITEMS					
		NON-BITUMINOUS JOINT SEALER	SIZE				¾", 1"

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-37-201

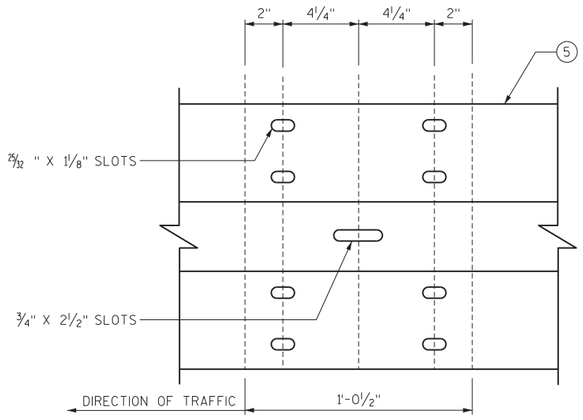
DRAWN BY SKR | PLANS CK'D. AJC

CROSS SECTION AND QUANTITIES

SHEET 2 OF 4
104

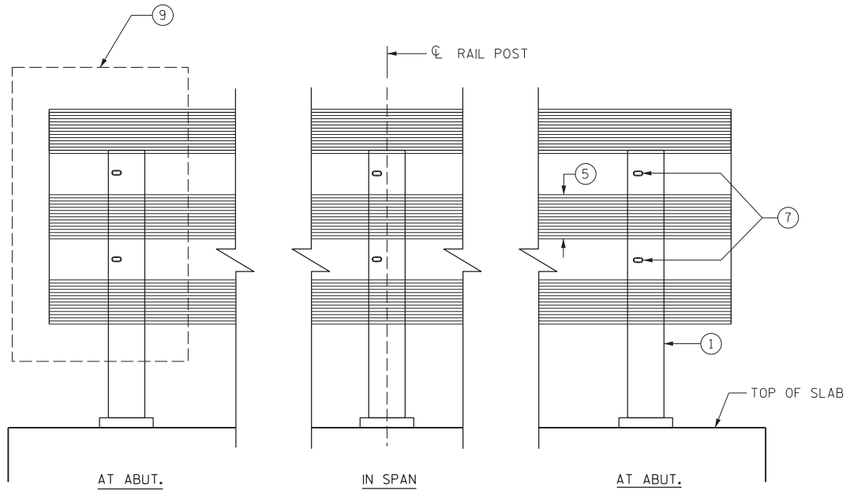
STATE PROJECT NUMBER

1053-02-63



RAIL MEMBER SPLICE

⅝" DIA. BUTTON HEAD OVAL SHOULDER BOLTS WITH HEX. NUTS AT ALL SLOTS



ELEVATION

LEGEND

1. EXISTING W6 X 25, DRILL 2 - ¾" DIA. HOLES FOR BOLT NO. 7.
2. EXISTING C8 X 11.5, WITH 13/16 " DIA. HOLES, ATTACH TO NO. 4 WITH BOLTS NO. 8.
3. EXISTING PLATE ½" X 5¾" X 6", WITH 1¼" DIA. HOLE FOR BOLTS NO. 8.
4. STRUCTURAL TUBE 6" X 4" X ⅜", WITH 13/16 " DIA. HOLES, 6" LONG, ATTACH TO NO. 3 WITH BOLTS NO. 8. (NEW)
5. REMOVE AND INSTALL RAIL (THRIE BEAM) AND ATTACH TO NO. 1 WITH BOLTS NO. 7. (NEW)
6. 1¾" X 3" MOUNTING BOLT WASHER, EIGHT GAGE GALVANIZED. (NEW)
7. ⅝" DIA. BUTTON HEAD RAIL MOUNTING BOLT WITH ROUND WASHER AND NUT, 2 PER POST. (NEW)
8. ⅝" DIA. X 2" LG. HEX. BOLTS WITH NUT AND TWO WASHERS EACH, 4 REQ'D PER POST CONNECTION. (NEW)
9. INSTALL THRIE BEAM CONNECTION PER SDD "MIDWEST GUARDRAIL SYSTEM (MGS) THRIE BEAM TRANSITION". SEE DETAIL FOR CONNECTION TO RAILING STEEL TYPE "W" CONNECTION PAID FOR UNDER ROADWAY BID ITEMS.
10. A325 - ⅞" DIA. HEX BOLTS (GALVANIZED) WITH A325 NUT AND WASHER. 14" LONG AT END POSTS AND AT POSTS ON CONCRETE SLAB SUPERSTRUCTURES WHERE THE SLAB THICKNESS IS > 15". USE 8" LONG AT ALL OTHER LOCATIONS. 4 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 3. CHAMFER TOP OF BOLTS BEFORE THREADING. (NEW - 3 LOCATIONS)
11. ¼" x 8" x 8" FLAT BAR WITH 15/16 " DIA. HOLES FOR ANCHOR BOLTS NO. 10. (NEW - 3 LOCATIONS)

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BID ITEM SHALL BE "RAILING STEEL TYPE "W" REHABILITATION" WHICH SHALL INCLUDE ALL MATERIALS AND LABOR NECESSARY TO RAISE ITEMS NO. 2 & NO. 5 BETWEEN THE LONGIT. LIMITS OF RAILING AS SHOWN IN ELEVATION AND SHALL BE PAID FOR AS A LUMP SUM ITEM.

ALL MATERIALS USED IN FABRICATION SHALL BE MADE FROM MATERIALS CONFORMING TO A.S.T.M. DESIGNATION A709 GRADE 36 UNLESS NOTED OTHERWISE.

SHIM PLATES 6" X 1/16" X 6" MAY BE USED BETWEEN TOP OF POST AND CHANNEL MEMBER TO ACHIEVE VERTICAL ALIGNMENT.

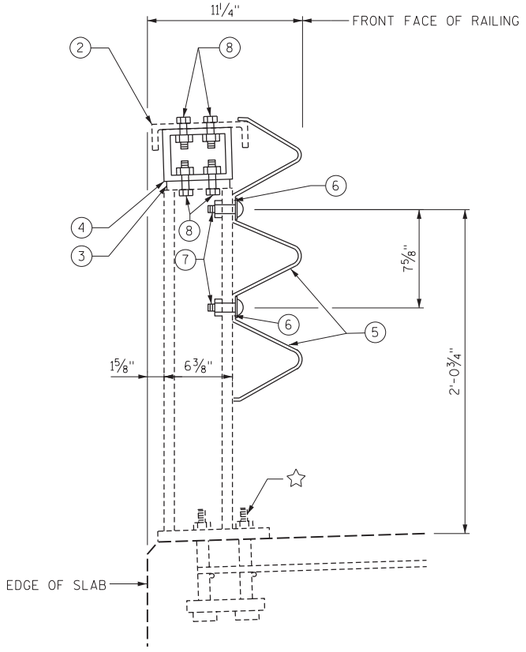
ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION.

PRIOR TO GALVANIZING, ALL STEEL STRUCTURAL TUBE SHALL BE GIVEN A NO. 6 BLAST CLEANING BY S.S.P.C. SPECIFICATIONS.

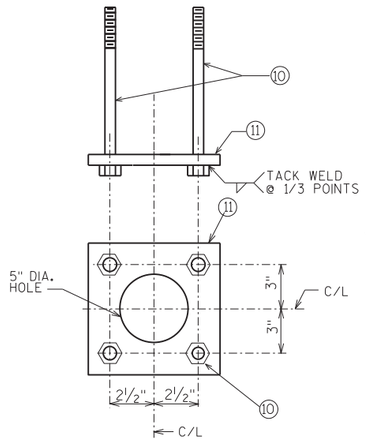
RAIL MEMBERS SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC AND THE UPPER RAIL SHALL LAP THE LOWER RAIL.

NEW BOLTS AND REFLECTORS SHALL BE FURNISHED AND USED TO RAISE THE RAILING AND INSTALL NEW THRIE BEAM.

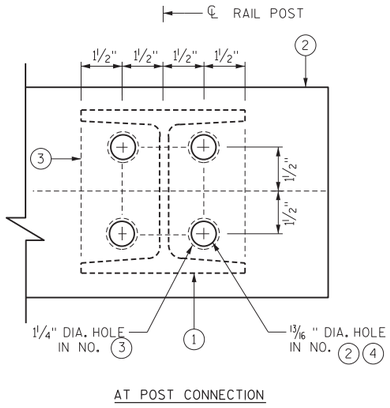
☆ INSTALL NEW POST ANCHORS ON WINGWALL 1 WHERE TOP OF WINGWALL IS BEING RECONSTRUCTED. SEE ANCHORAGE DETAIL FOR DETAILS. ANY WORK PERFORMED IS INCIDENTAL TO BID ITEM "RAILING STEEL TYPE 'W' REHABILITATION".



SECTION THRU RAILING



☆ANCHORAGE DETAIL



AT POST CONNECTION

CHANNEL MEMBER DETAIL

TOTAL ESTIMATED QUANTITIES

STRUCTURE NUMBER	EXISTING POSTS EACH		RAIL MEMBER LIN. FT.	
	LT	RT	LT	RT
B-37-201	13	13	69	69

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-37-201

DRAWN BY TGR | PLANS CK'D. AJC

RAILING STEEL, TYPE W, REHAB. DETAIL

SHEET 3 OF 4
105

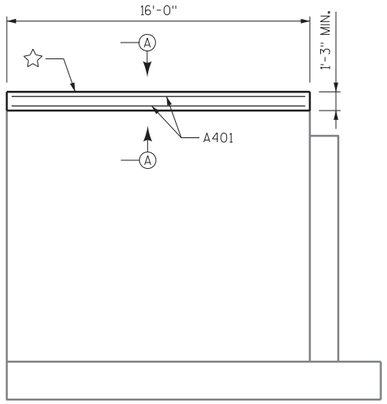
8

8

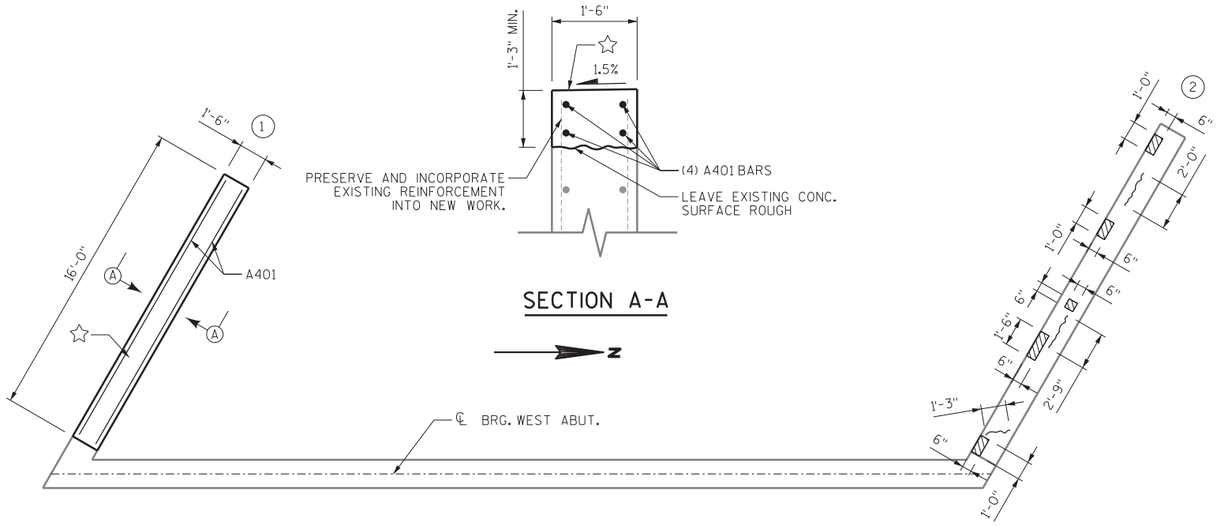
FILE NAME : P:\47xx\4724_DP.12.STH29.MAR\CADDS\Plan\B-37-201 Porky Creek\080203_rd.dgn PLOT DATE : 7/30/2013 PLOT BY : ajc PLOT NAME : ORG DATE : Originator : Dist PLOT SCALE : 1:3.99999

STATE PROJECT NUMBER

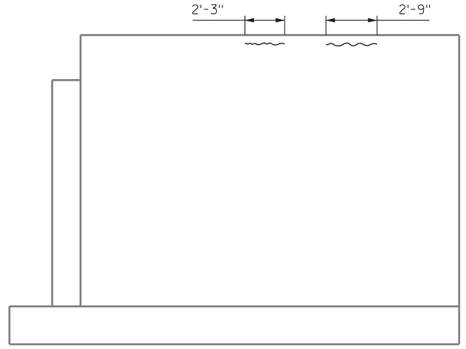
1053-02-63



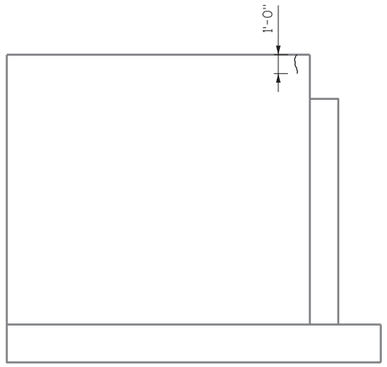
WING 1 ELEVATION
(LOOKING NORTH)



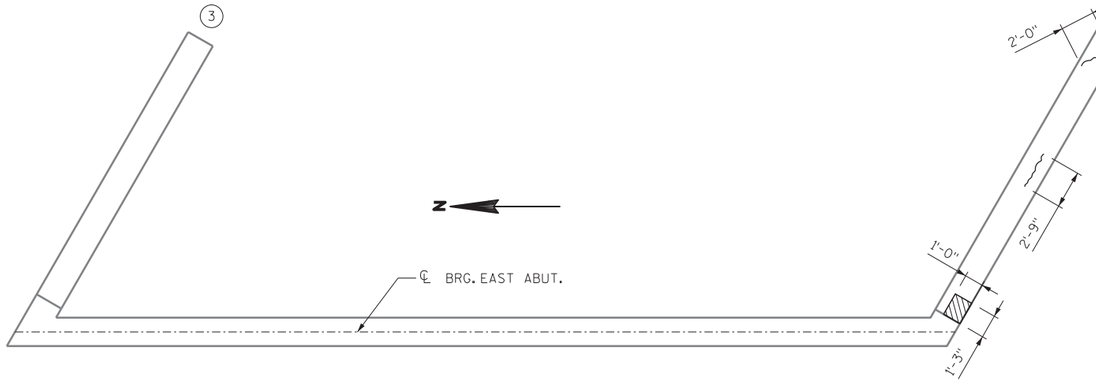
WEST ABUTMENT PLAN



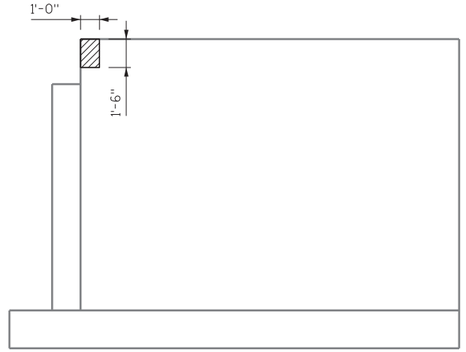
WING 2 ELEVATION
(LOOKING SOUTH)



WING 3 ELEVATION
(LOOKING SOUTH)

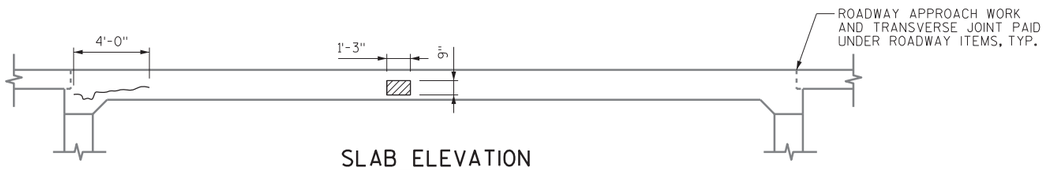


EAST ABUTMENT PLAN



WING 4 ELEVATION
(LOOKING NORTH)

SLAB ELEVATION
(LOOKING SOUTH)



SLAB ELEVATION
(LOOKING NORTH)

BILL OF BARS

BAR MARK	COAT	EAST ABUT.	WEST ABUT.	LENGTH	BENT	LOCATION
A401	X	-	4	15'-6"	X	WING - HORIZ.

NOTES

- CONCRETE SURFACE REPAIR REQUIRED. LOCATIONS AND DIMENSIONS OF SPALL AREAS ARE APPROXIMATE AND SHOULD BE USED AS A GUIDE ONLY. AREAS TO BE DETERMINED BY ENGINEER IN THE FIELD.
- EPOXY CRACK SEALING REQUIRED. LOCATIONS AND DIMENSIONS ARE APPROXIMATE AND SHOULD BE USED AS A GUIDE ONLY. AREAS TO BE DETERMINED BY ENGINEER IN THE FIELD.
- (X) DENOTES WINGWALL NUMBER
- INSTALL NEW POST ANCHORS ON WINGWALL 1 WHERE TOP OF WINGWALL IS BEING RECONSTRUCTED. SEE ANCHORAGE DETAIL ON SHEET 3 FOR DETAILS. ANY WORK PERFORMED IS INCIDENTAL TO BID ITEM "RAILING STEEL TYPE 'W' REHABILITATION".

RAILING NOT SHOWN IN DETAILS FOR CLARITY.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-37-201

DRAWN BY AJC | PLANS CK'D. DRB

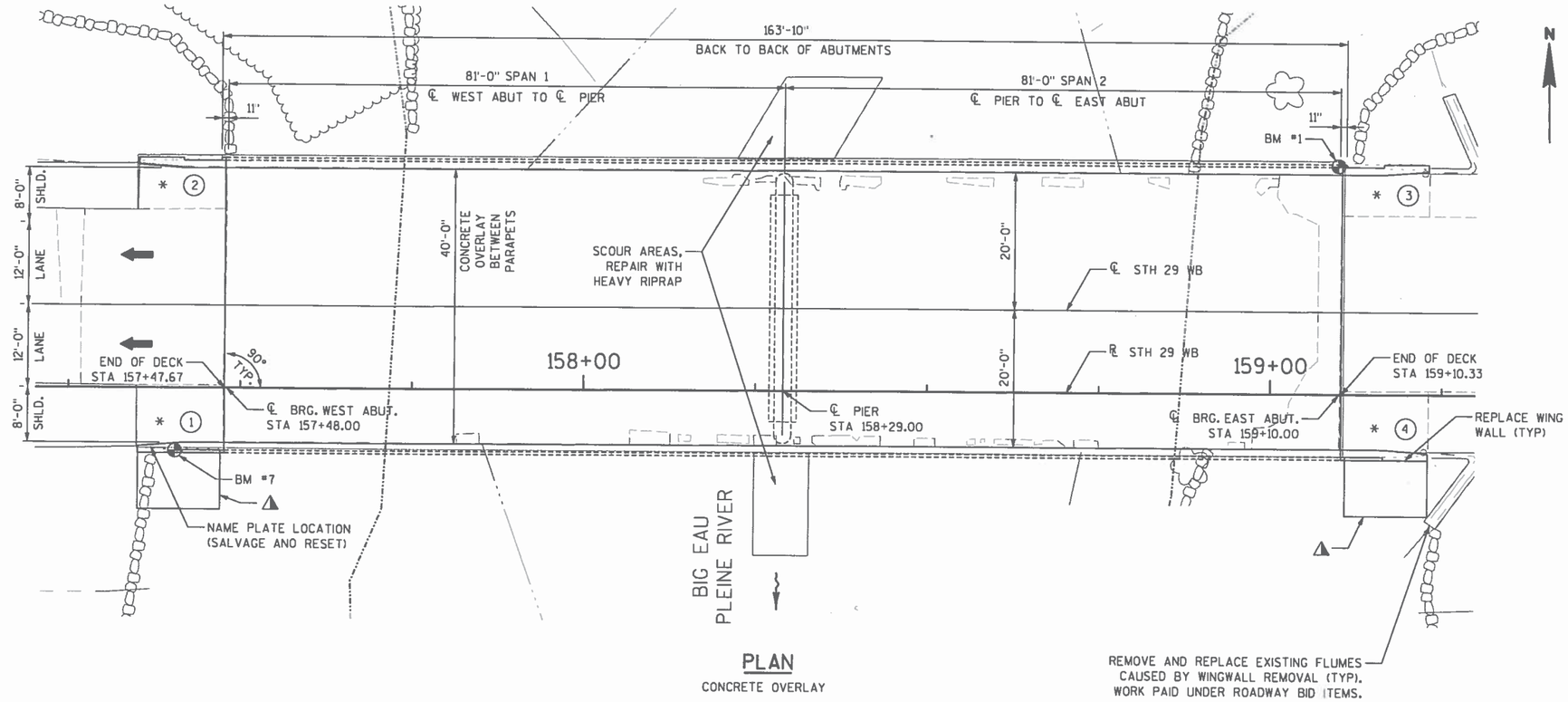
CONCRETE SURFACE REPAIRS

SHEET 4 OF 4
106

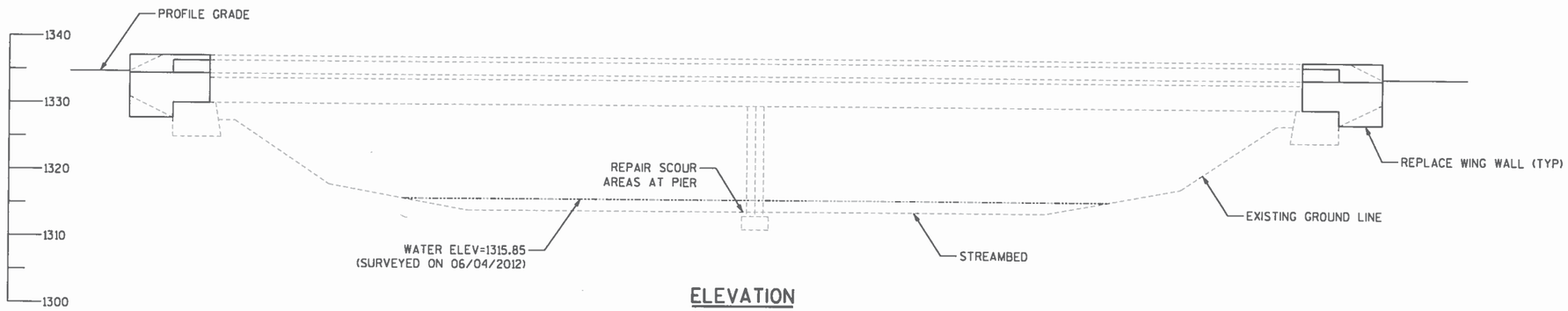
8

FILE NAME : P:\47xx\4724_DP.12.STH29.MAR\CADDS\Plan\B-37-201 Porky Creek\080204_cr.dgn PLOT DATE : 7/30/2013 PLOT BY : ajc PLOT NAME : ORG DATE : Originator : Dist PLOT SCALE : 1:7.99998

STATE PROJECT NUMBER
1053-02-63



PLAN
CONCRETE OVERLAY



ELEVATION
(LOOKING NORTH)

NOTES
⊗ DENOTES WING WALL NUMBER

* PROVIDE THRIE BEAM RAIL ATTACHMENT.

⚠ REPLACE HEAVY RIPRAP AND GEOTEXTILE FABRIC TYPE HR NEXT TO WINGWALL CAUSED BY WINGWALL REMOVAL. NEW RIPRAP DEPTH SHOULD BE 2'±. LOCATIONS AND LIMITS OF REPLACEMENT SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER. EXISTING RIPRAP MAY BE SALVAGED AND REUSED IF IT MEETS THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR HEAVY RIPRAP.

DESIGN DATA
LIVE LOAD:
LOADING:
DESIGN RATING: HS-20
INVENTORY RATING: HS-20
OPERATING RATING: HS-38
MAX. STD. PERMIT VEHICLE LOAD = 250 KIPS

ULTIMATE DESIGN STRESSES:
CONCRETE MASONRY SLAB _____ f'c = 4,000 psi
ALL OTHER _____ f'c = 3,500 psi
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 _____ fy = 60,000 psi

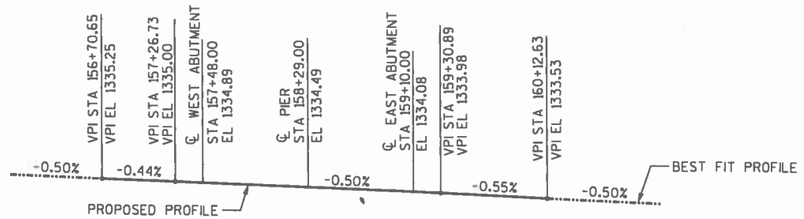
TRAFFIC DATA
ADT = 11,600 (2014)
ADT = 15,000 (2034)
RDS = 70 M.P.H.

HYDRAULIC DATA
(FROM EXISTING PLANS)
Q100 = 8800 C.F.S.
VELOCITY = 6.6 F.P.S.
HIGH WATER = EL. 1326.8
WATERWAY AREA = 1335 SF
DRAINAGE AREA 64 SQ. MI.
ROADWAY OVERTOPPING FREQUENCY = N/A

LIST OF DRAWINGS
1. GENERAL PLAN & ELEVATION
2. CROSS SECTION AND QUANTITIES
3. WINGWALL REPAIR DETAILS
4. SLOPED FACE PARAPET "B"
5. SCOUR REPAIR
6. CONCRETE SURFACE REPAIRS

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
1	159+10 (LT)	CHISELED SQUARE IN NE PARAPET	1336.43
7	157+40 (RT)	ALUMN. CAP IN SW WING WALL	1337.20



PROFILE GRADE LINE - STH 29 WB
PROFILE IS SHOWN ALONG THE CENTERLINE OF STRUCTURE

WISCONSIN
DAVID R. BROSE
E-26268
MILWAUKEE
WIS.
PROFESSIONAL ENGINEER
7-31-13

STRUCTURES DESIGN CONTACTS
BRIDGE OFFICE:
WILLIAM DREHER (608) 266-8489
CONSULTANT:
DAVE BROSE (414) 347-1607

NO.	DATE	REVISION	BY

EMCS
1300 W. Canal Street, Suite 200
Milwaukee, WI 53233
414.347.1607 FAX 414.347.1347

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher KAR 09/17/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-37-202

STH 29 OVER BIG EAU PLEINE RIVER

COUNTY	TOWN/CITY/VILLAGE
MARATHON	HOLTON

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
SKR	DRB	TGR	DRB

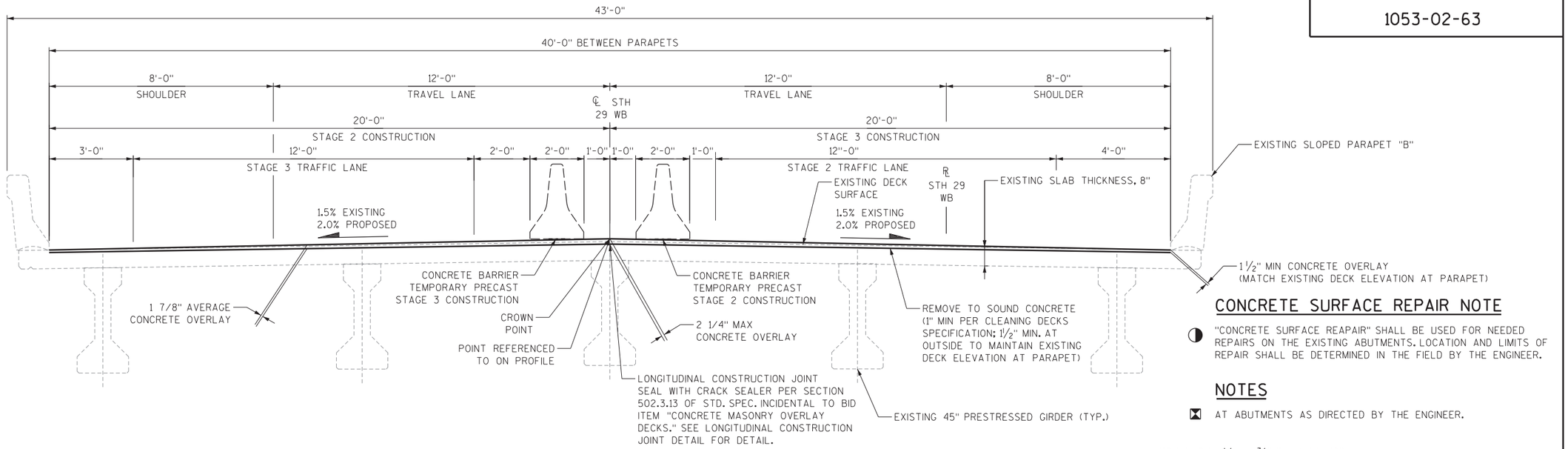
GENERAL PLAN & ELEVATION

SHEET 107 OF 6

8

8

STATE PROJECT NUMBER
1053-02-63



CROSS SECTION THRU ROADWAY

(LOOKING EAST)

CONCRETE SURFACE REPAIR NOTE

◑ "CONCRETE SURFACE REAPAIR" SHALL BE USED FOR NEEDED REPAIRS ON THE EXISTING ABUTMENTS. LOCATION AND LIMITS OF REPAIR SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

NOTES

⊠ AT ABUTMENTS AS DIRECTED BY THE ENGINEER.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON ORIGINAL STRUCTURE PLANS.

THE EXISTING STRUCTURE B-37-202 IS A 2-SPAN PRESTRESSED GIRDER STRUCTURE WITH AN OVERALL WIDTH OF 43'-0" AND AN OVERALL LENGTH OF 163'-10".

A MINIMUM OF 1" OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK, EXCEPT FOR AREA UNDERNEATH RAILING, UNDER THE BID ITEM "CLEANING DECKS"

ALL CONCRETE REMOVAL NOT COVERED WITH CONCRETE OVERLAY SHALL BE DEFINED BY A 1" DEEP SAW CUT.

VARIATIONS TO THE NEW GRADE LINE OVER ¼" MUST BE SUBMITTED BY THE FIELD ENGINEER TO THE STRUCTURES DESIGN SECTION FOR REVIEW.

IF THE EXISTING NAME PLATE IS DAMAGED AND A NEW NAME PLATE IS REQUIRED, THE ORIGINAL CONSTRUCTION DATE IS 1982.

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

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

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.

"PREPARATION DECKS TYPE 1 AND TYPE 2" AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER.

◆ THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS" INCLUDES CONCRETE FOR THE PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, AND CONCRETE OVERLAY.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE ROADWAY DECK. IT SHALL ALSO BE APPLIED TO THE FRONT FACE AND TOP OF PARAPETS ALONG THE ENTIRE ROADWAY DECK INCLUDING THE LENGTH OF THE WINGWALLS.

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY AT THE ABUTMENTS IS TO BE INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

STAGE 1 CONSTRUCTION IS PAVING OF INSIDE SHOULDER OF APPROACH ROADWAYS.

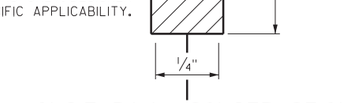
ALL ROADWAY APPROACH AND TRANSVERSE JOINT WORK SHALL BE PAID UNDER ROADWAY ITEMS.

TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEMS	UNIT	EAST ABUTMENT	WEST ABUTMENT	SUPER	PIER	TOTAL
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS (STA 158+29)	LS	-	-	-	-	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES (B-37-202)	LS	-	-	-	-	1
210.0100	BACKFILL STRUCTURE	CY	45	45	-	-	90
502.0100	CONCRETE MASONRY BRIDGES	CY	9	9	-	-	18
502.3200	PROTECTIVE SURFACE TREATMENT	SY	10	10	854	-	874
502.5002	MASONRY ANCHORS TYPE L NO. 4 BARS	EA	10	10	-	-	20
503.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	EA	16	16	-	-	32
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	1,240	1,240	-	-	2,480
509.0301	PREPARATION DECKS TYPE 1	SY	-	-	110	-	110
509.0302	PREPARATION DECKS TYPE 2	SY	-	-	40	-	40
509.0500	CLEANING DECKS	SY	-	-	725	-	725
509.1500	CONCRETE SURFACE REPAIR	SF	12	18	-	-	30
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	-	-	50	-	50
509.9020.S	EPOXY CRACK SEALING	LF	3	-	-	-	3
509.9050.S	CLEANING PARAPETS	LF	-	-	330	-	330
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	5	5	-	-	10
606.0300	RIPRAP HEAVY	CY	15	15	-	22	52
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EA	2	2	-	-	4
645.0120	GEOTEXTILE FABRIC TYPE HR	SY	22	22	-	-	44
	NON-BID ITEMS						
	NON-BITUMINOUS JOINT SEALER	SIZE					¾", 1"
	PREFORMED JOINT FILLER	SIZE					½"

ROUTE OUT ¼" x ⅜" DEEP AT JOINT. FILL IN WITH LOW VISCOCITY CRACK SEALER PER THE APPROVED PRODUCTS LIST. (INCIDENTAL TO "CONCRETE MASONRY BRIDGES")

NOTE:
LONGITUDINAL CONSTRUCTION JOINT DETAIL IS OPTIONAL AND IS TO BE USED FOR STAGED CONSTRUCTION JOINT LOCATIONS ONLY. DESIGNER TO DETERMINE PROJECT SPECIFIC APPLICABILITY.



LONGITUDINAL CONSTRUCTION JOINT DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-37-202

DRAWN BY SKR | PLANS CK'D. AJC

CROSS SECTION AND QUANTITIES

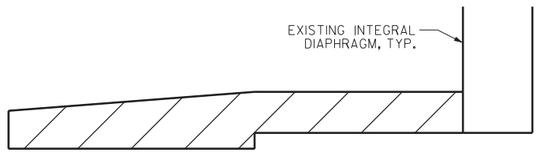
SHEET 2 OF 6
108

8

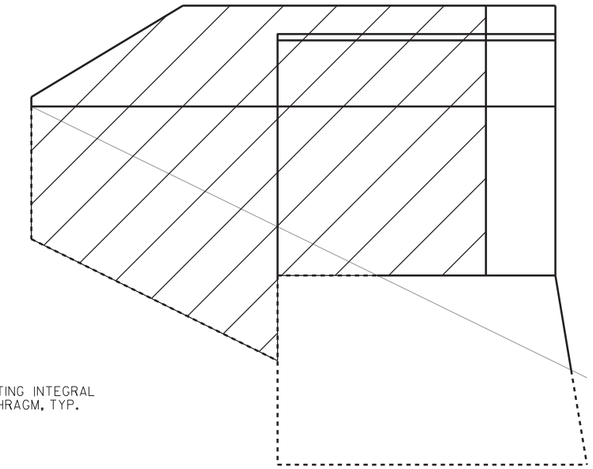
8

STATE PROJECT NUMBER

1053-02-63

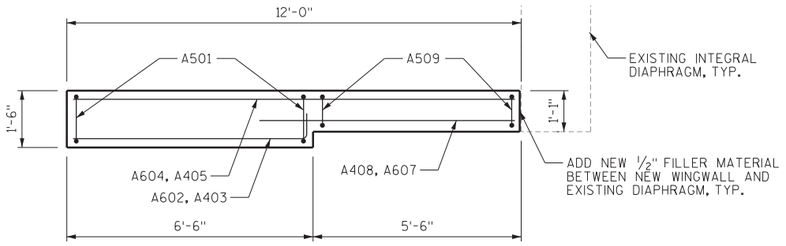


WING PLAN REMOVAL



WING REMOVAL ELEVATION

(LOOKING NORTH FOR WING 1)
(WING 2, 3, & 4 SIMILAR)



WING PLAN DETAIL

GENERAL NOTES

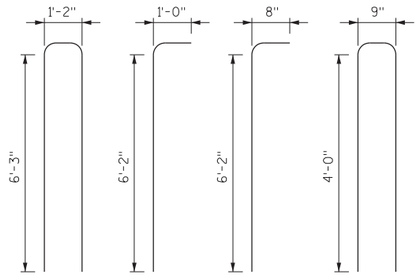
REMOVE EXISTING WINGWALLS TO EXISTING HORIZONTAL CONSTRUCTION JOINT. SALVAGE EXISTING VERTICAL BAR REINFORCEMENT AND EXTEND 24 BAR DIAMETERS INTO NEW WORK.

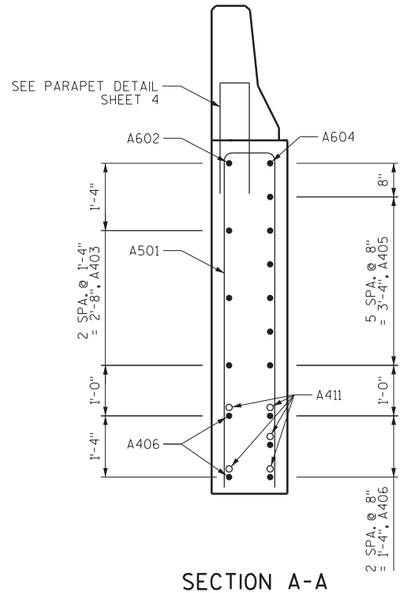
UTILIZE EXISTING REINFORCEMENT FROM THE LOWER WINGWALL BODY.

◹ 18" RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL VERT. AND HORIZ. JOINTS ON BACK FACE ABOVE FOOTING.

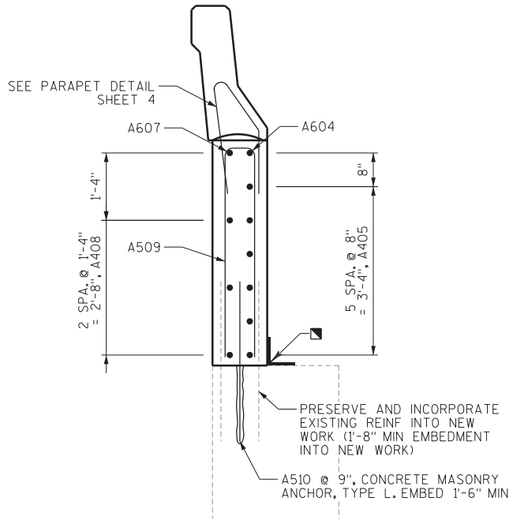
BILL OF BARS

BAR MARK	COAT	EAST ABUT.	WEST ABUT.	LENGTH	BENT	LOCATION
A501	X	18	18	13'-5"	X	WING - VERTICAL
A602	X	2	2	7'-0"	X	WING HORIZONTAL F.F.
A403	X	6	6	6'-9"	X	WING HORIZONTAL F.F.
A604	X	2	2	11'-8"		WING HORIZONTAL B.F.
A405	X	12	12	11'-8"		WING HORIZONTAL B.F.
A406	X	10	10	6'-2"		WING HORIZONTAL
A607	X	2	2	8'-10"		WING HORIZONTAL F.F.
A408	X	6	6	7'-8"		WING HORIZONTAL F.F.
A509	X	16	16	8'-6"	X	WING - VERTICAL
A510	X	16	16	4'-1"		WING - VERT. DOWELS
A411	X	10	10	3'-9"		WING - HORIZ. DOWELS

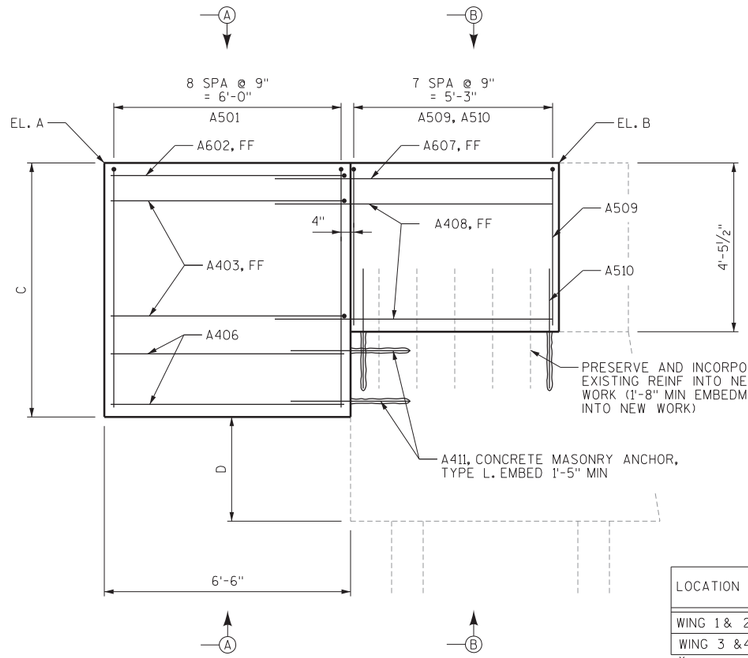




SECTION A-A



SECTION B-B



LOCATION	EL. A*	EL. B*	C	D
WING 1 & 2	1334.47	1334.41	6'-8 3/8"	2'-9 7/8"
WING 3 & 4	1333.54	1333.60	6'-7 3/4"	2'-9"

*ELEV FROM EXISTING PLANS

WING 1 AND 3 ELEVATION

(LOOKING NORTH FOR WING 1)
(WINGS 2, 3, & 4 SIMILAR)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-37-202

DRAWN BY AJC | PLANS CK'D. DRB

WINGWALL REPAIR DETAILS

SHEET 3 OF 6
109

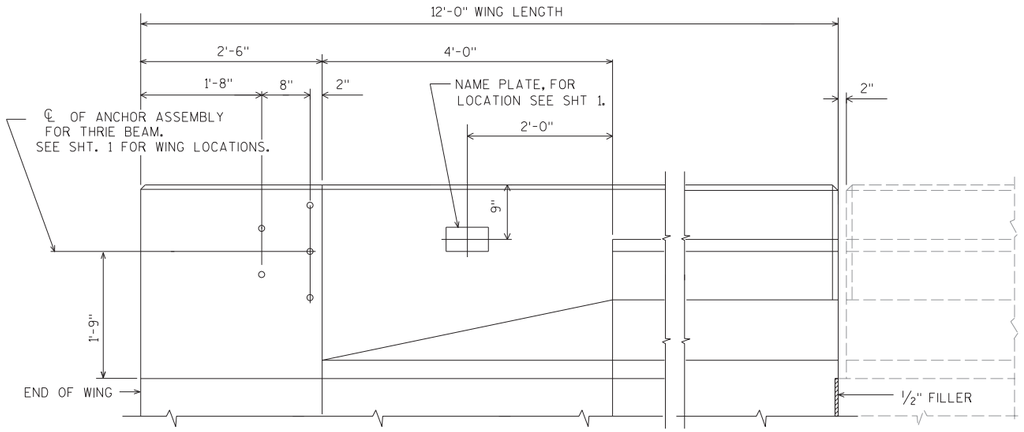
8

8

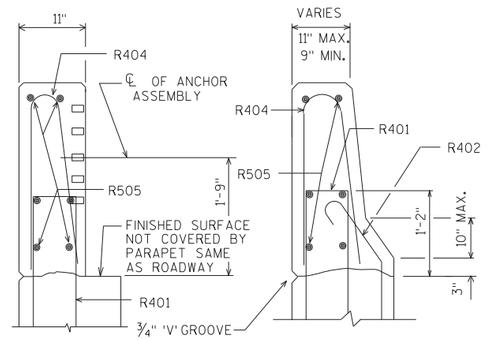
FILE NAME : P:\47xx\4724_DP.12.STH29.MAR\CADDS\Plan\B-37-202 Big Eau Pleine\080203_ww.dgn PLOT DATE : 7/30/2013 PLOT BY : ajc PLOT NAME : ORG DATE : Originator : Dist PLOT SCALE : 1:3.99999

STATE PROJECT NUMBER

1053-02-63

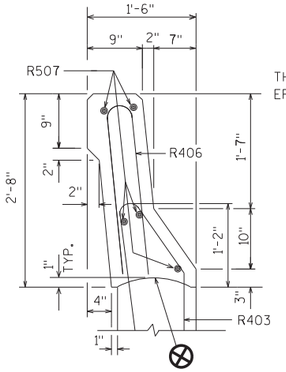


INSIDE ELEVATION



SECTION A

SECTION B



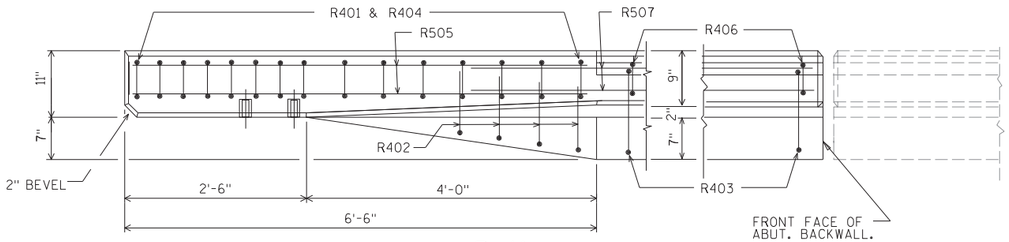
SECTION C

BILL OF BARS

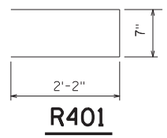
FOR ABUTMENT PARAPETS

THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE.
EPOXY COAT ALL PARAPET REINF.

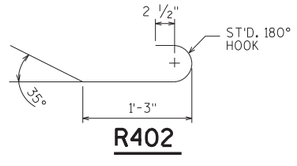
BAR MARK	COAT	NO. REQ'D. EAST ABUT.	NO. REQ'D. WEST ABUT.	LENGTH	BENT	LOCATION
R401	X	30	30	4'-9"	X	PARAPET VERT.
R402	X	8	8	3'-1"	X	PARAPET VERT.
R403	X	16	16	4'-9"	X	PARAPET VERT.
R404	X	30	30	4'-9"	X	PARAPET VERT.
R505	X	12	12	6'-2"		PARAPET HORIZ.
R406	X	16	16	4'-10"	X	PARAPET VERT.
R507	X	10	10	8'-3"		PARAPET HORIZ.



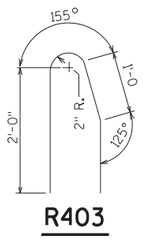
PLAN



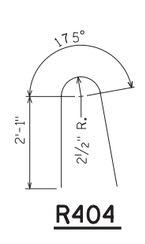
R401



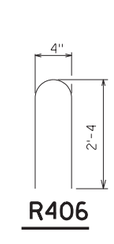
R402



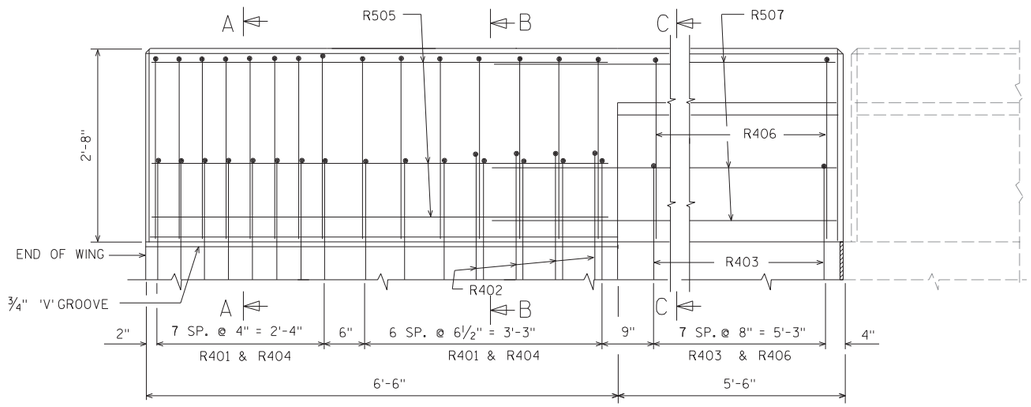
R403



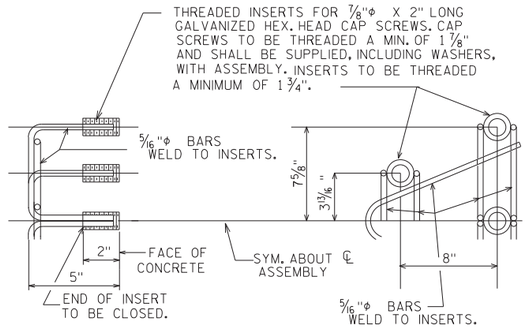
R404



R406



OUTSIDE ELEVATION



DETAIL OF ANCHOR ASSEMBLY

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

⊗ CONST. JOINT - STRIKE OFF AS SHOWN.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-37-202

DRAWN BY AJC | PLANS CK'D. DRB

SLOPED FACE PARAPET "B"

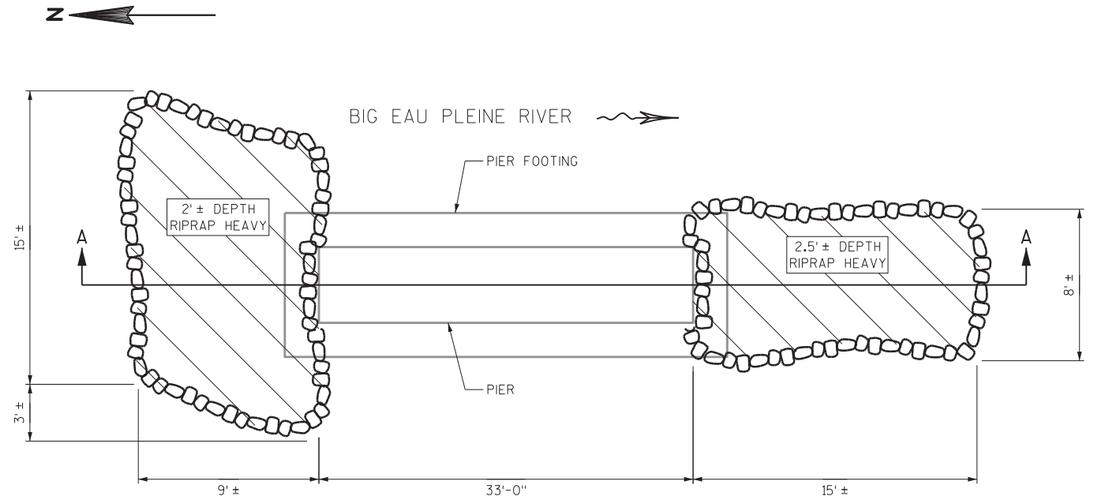
SHEET 4 OF 6
110

8

8

STATE PROJECT NUMBER

1053-02-63



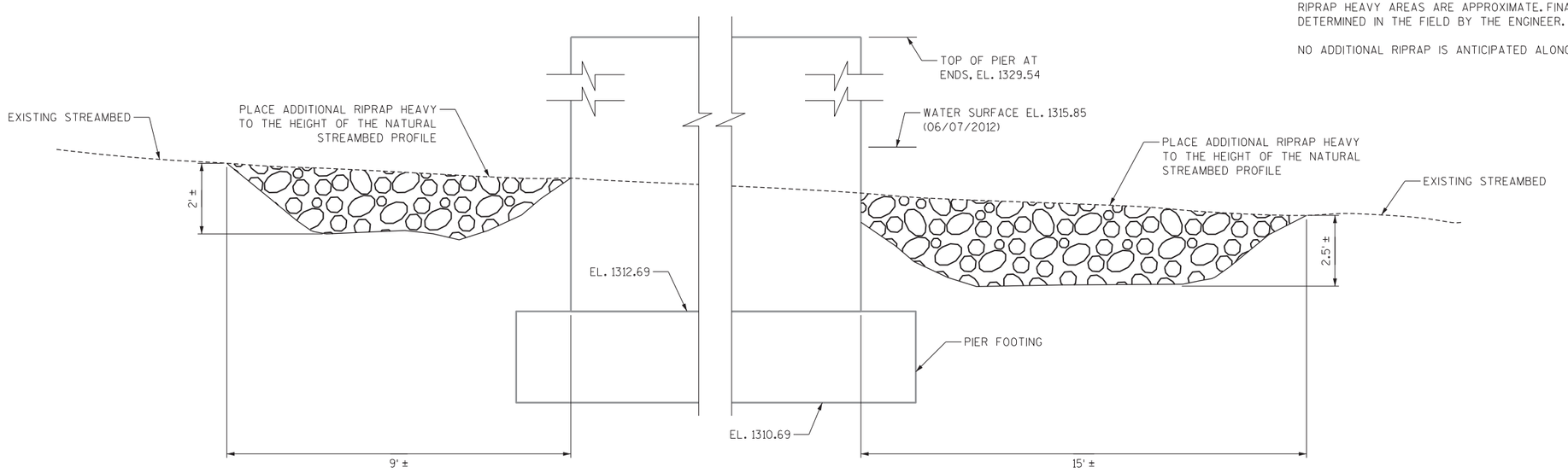
PLAN AT PIER

NOTES:

SCOUR HOLE DEPTHS ARE APPROXIMATE AS MEASURED ON 06/07/2012.

RIPRAP HEAVY AREAS ARE APPROXIMATE. FINAL AREAS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.

NO ADDITIONAL RIPRAP IS ANTICIPATED ALONG THE SIDES OF PIER.



SECTION AT PIER
SECTION A-A

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-37-202

DRAWN BY TGR | PLANS CK'D. DRB

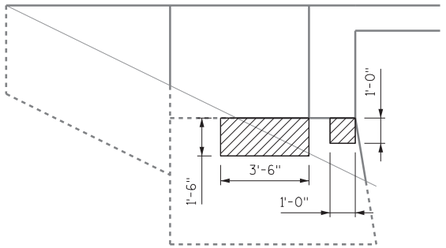
SCOUR REPAIR

SHEET 5 OF 6
111

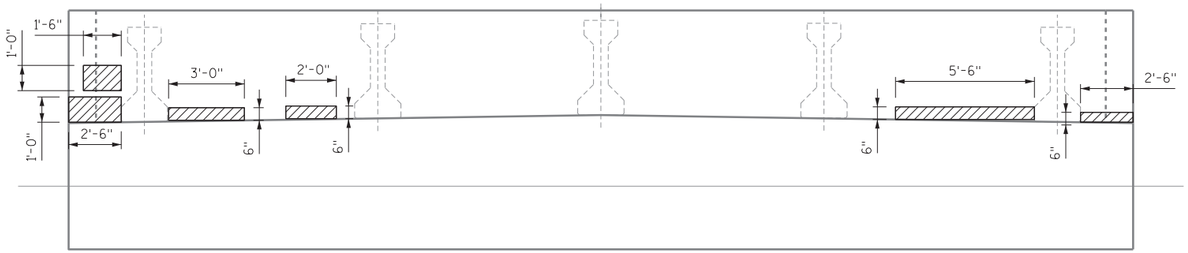
FILE NAME : P:\47xx\4724_DP.12.STH29.MAR\CADDS\Plan\B-37-202 Big Eau Pleine\080205_sr.dgn PLOT DATE : 7/30/2013 PLOT BY : ajc PLOT NAME : ORG DATE : Originator : Dist PLOT SCALE : 1:2

STATE PROJECT NUMBER

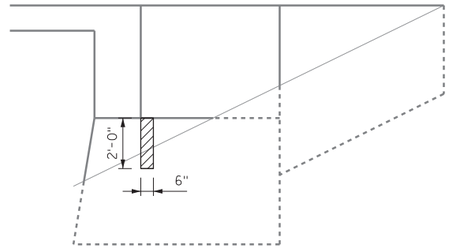
1053-02-63



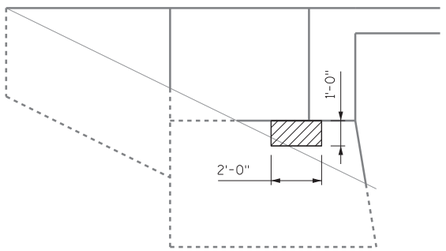
WING 1
(LOOKING NORTH)



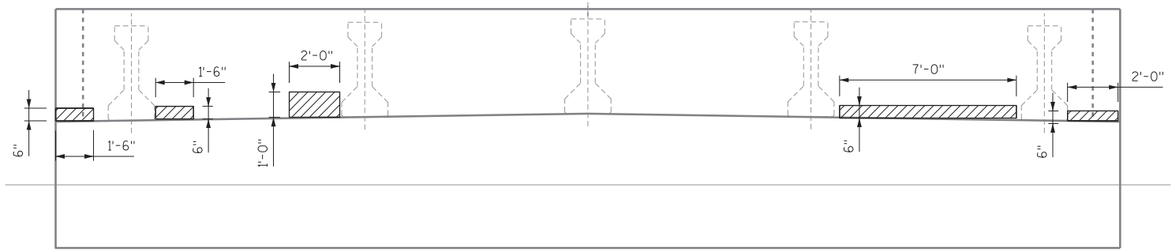
WEST ABUTMENT
(LOOKING WEST)



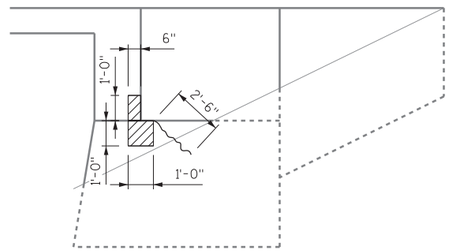
WING 2
(LOOKING SOUTH)



WING 3
(LOOKING SOUTH)



EAST ABUTMENT
(LOOKING EAST)



WING 4
(LOOKING NORTH)

8

8

CONCRETE SURFACE REPAIR REQUIRED. LOCATIONS AND DIMENSIONS OF SPALL AREAS ARE APPROXIMATE AND SHOULD BE USED AS A GUIDE ONLY. AREAS TO BE DETERMINED BY ENGINEER IN THE FIELD.

EPOXY INJECTION CRACK REPAIR REQUIRED. LOCATIONS AND DIMENSIONS ARE APPROXIMATE AND SHOULD BE USED AS A GUIDE ONLY. AREAS TO BE DETERMINED BY ENGINEER IN THE FIELD.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-37-202

DRAWN BY AJC | PLANS CK'D. DRB

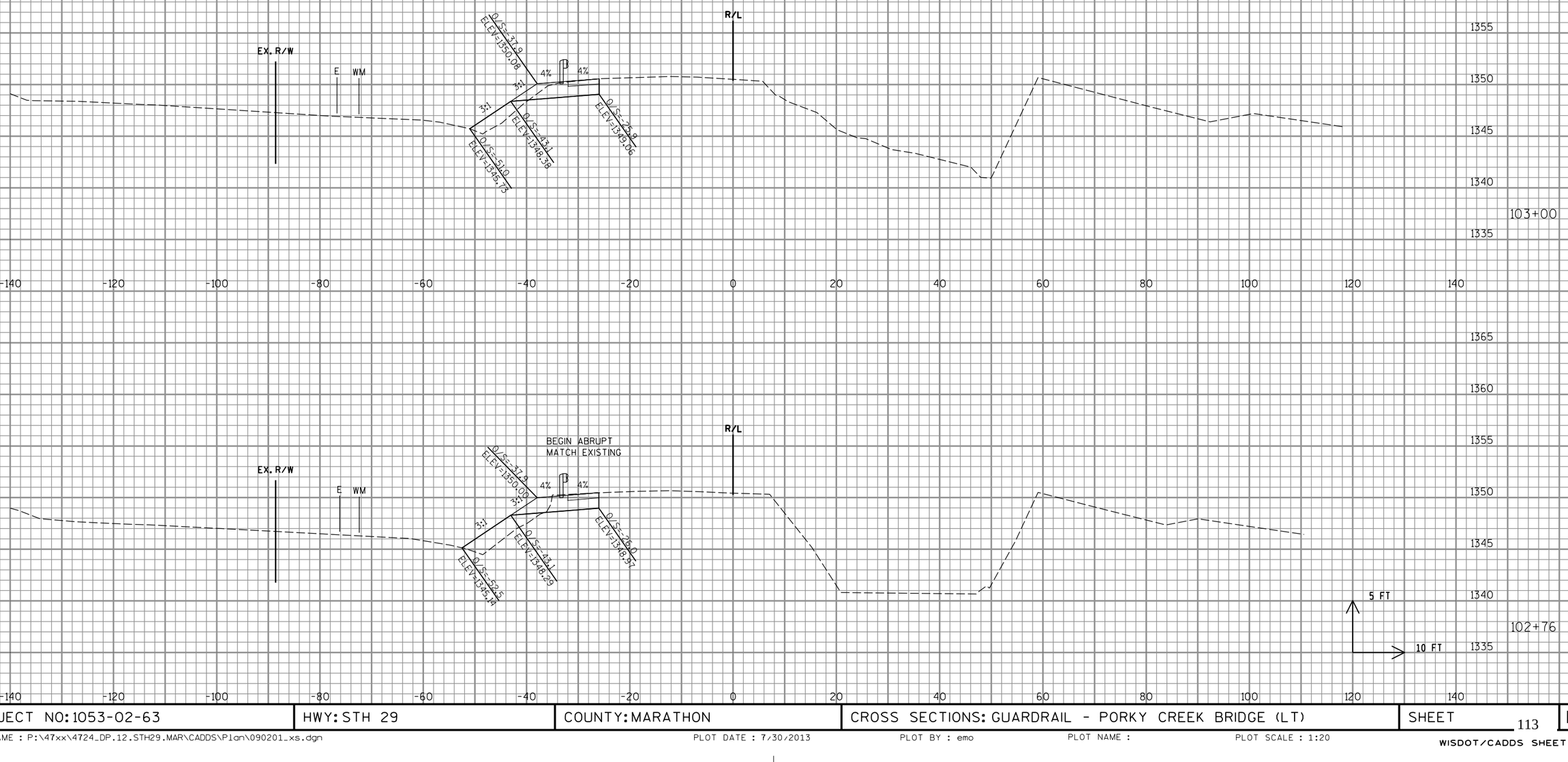
CONCRETE SURFACE REPAIRS

SHEET 6 OF 6

112

NOTES:
THE MATCH LINE IS AT THE EXISTING EDGE OF CONCRETE PAVEMENT

EXISTING BASE AGGREGATE TO REMAIN IS SHOWN IN CONSTRUCTION DETAIL



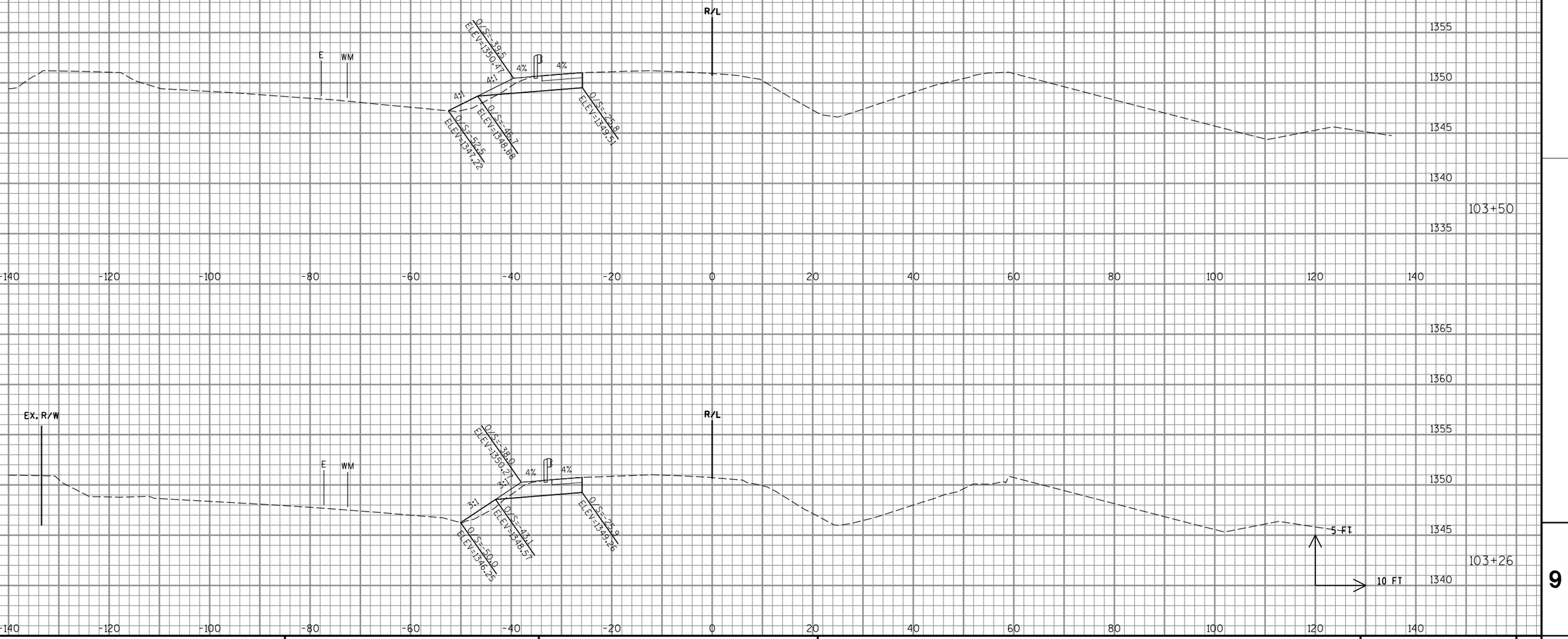
9

9

PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: GUARDRAIL - PORKY CREEK BRIDGE (LT)	SHEET 113	E

NOTES:
THE MATCH LINE IS AT THE EXISTING EDGE OF CONCRETE PAVEMENT

EXISTING BASE AGGREGATE TO REMAIN IS SHOWN IN CONSTRUCTION DETAIL



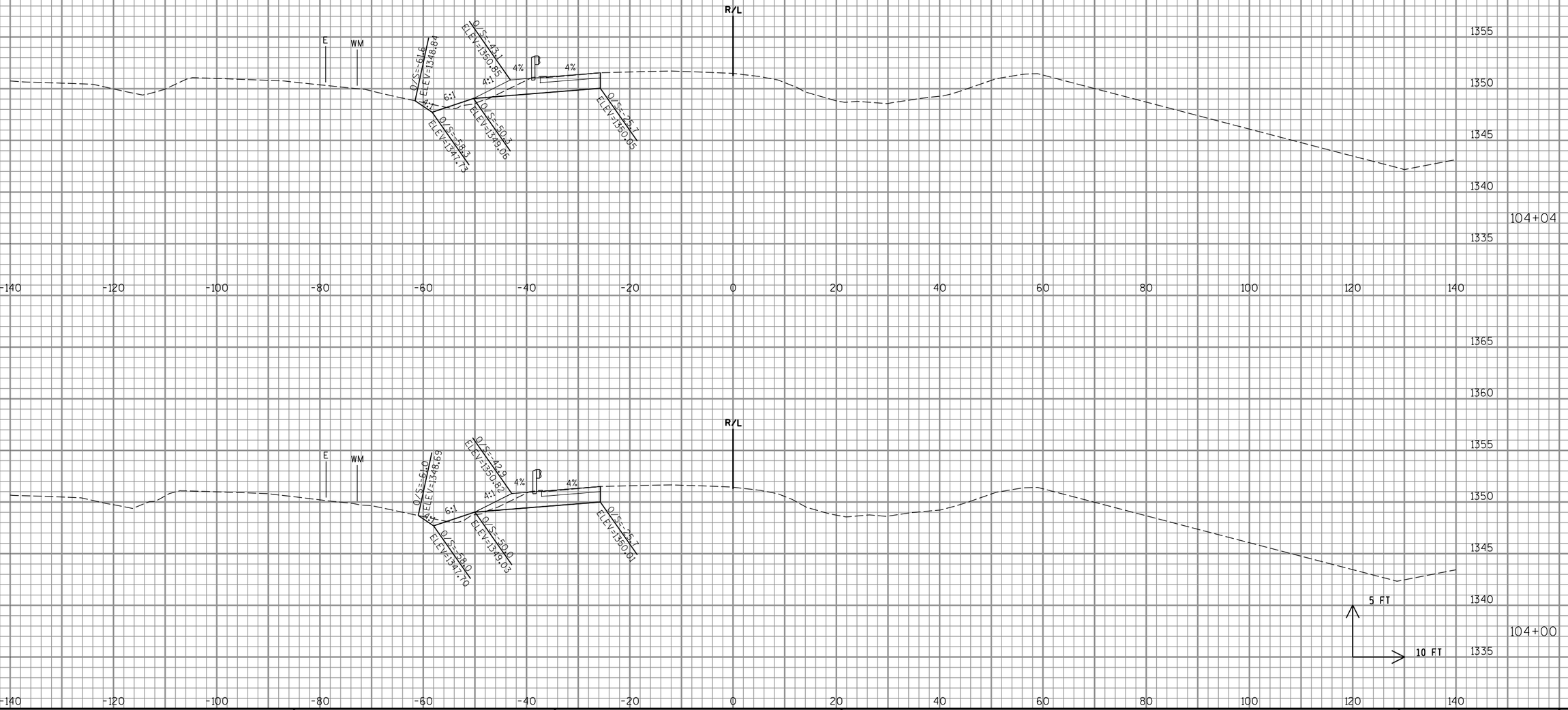
9

9

PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: GUARDRAIL - PORKY CREEK BRIDGE (LT)	SHEET 114	E

NOTES:
THE MATCH LINE IS AT THE EXISTING EDGE OF CONCRETE PAVEMENT

EXISTING BASE AGGREGATE TO REMAIN IS SHOWN IN CONSTRUCTION DETAIL

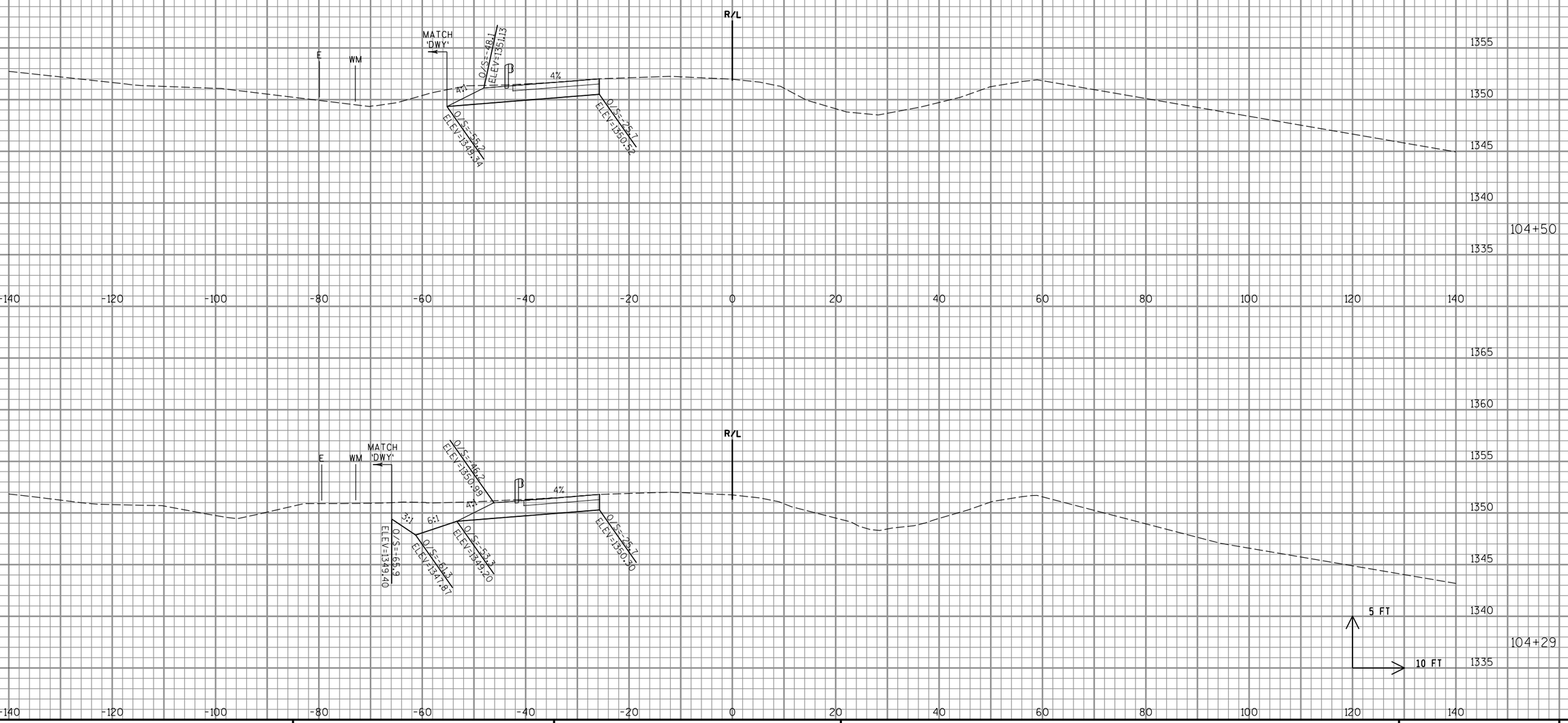


9

PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: GUARDRAIL - PORKY CREEK BRIDGE (LT)	SHEET 115	E

NOTES:
THE MATCH LINE IS AT THE EXISTING EDGE OF CONCRETE PAVEMENT

EXISTING BASE AGGREGATE TO REMAIN IS SHOWN IN CONSTRUCTION DETAIL



9

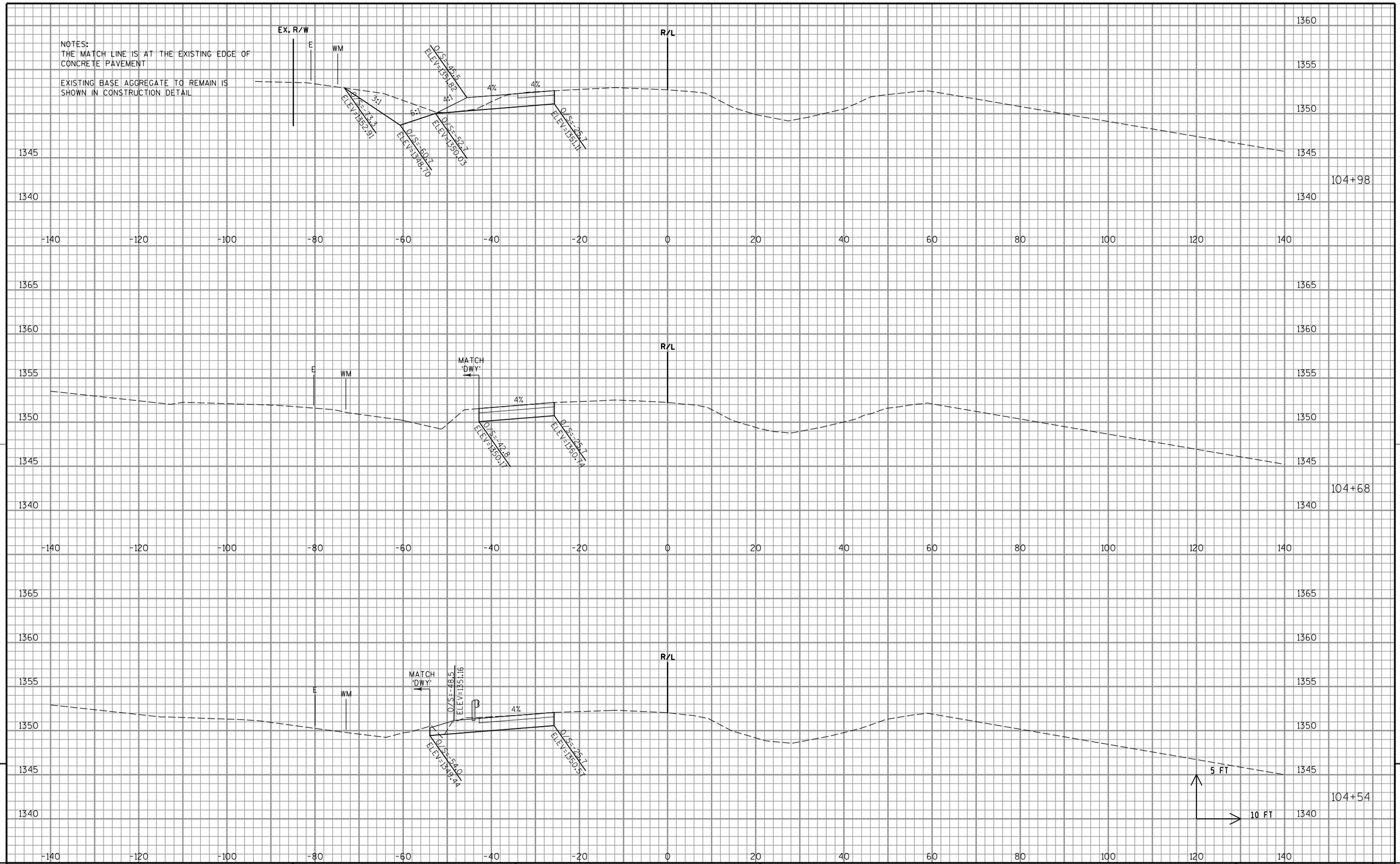
PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: GUARDRAIL - PORKY CREEK BRIDGE (LT)	SHEET 116	E

9

FILE NAME : P:\47xx\4724_DP.12.STH29.MAR\CADDS\Plan\090201_xs.dgn
PLOT DATE : 7/30/2013
PLOT BY : emo
PLOT NAME :
PLOT SCALE : 1:20
WISDOT/CADDS SHEET 21

NOTES:
THE MATCH LINE IS AT THE EXISTING EDGE OF CONCRETE PAVEMENT

EXISTING BASE AGGREGATE TO REMAIN IS SHOWN IN CONSTRUCTION DETAIL



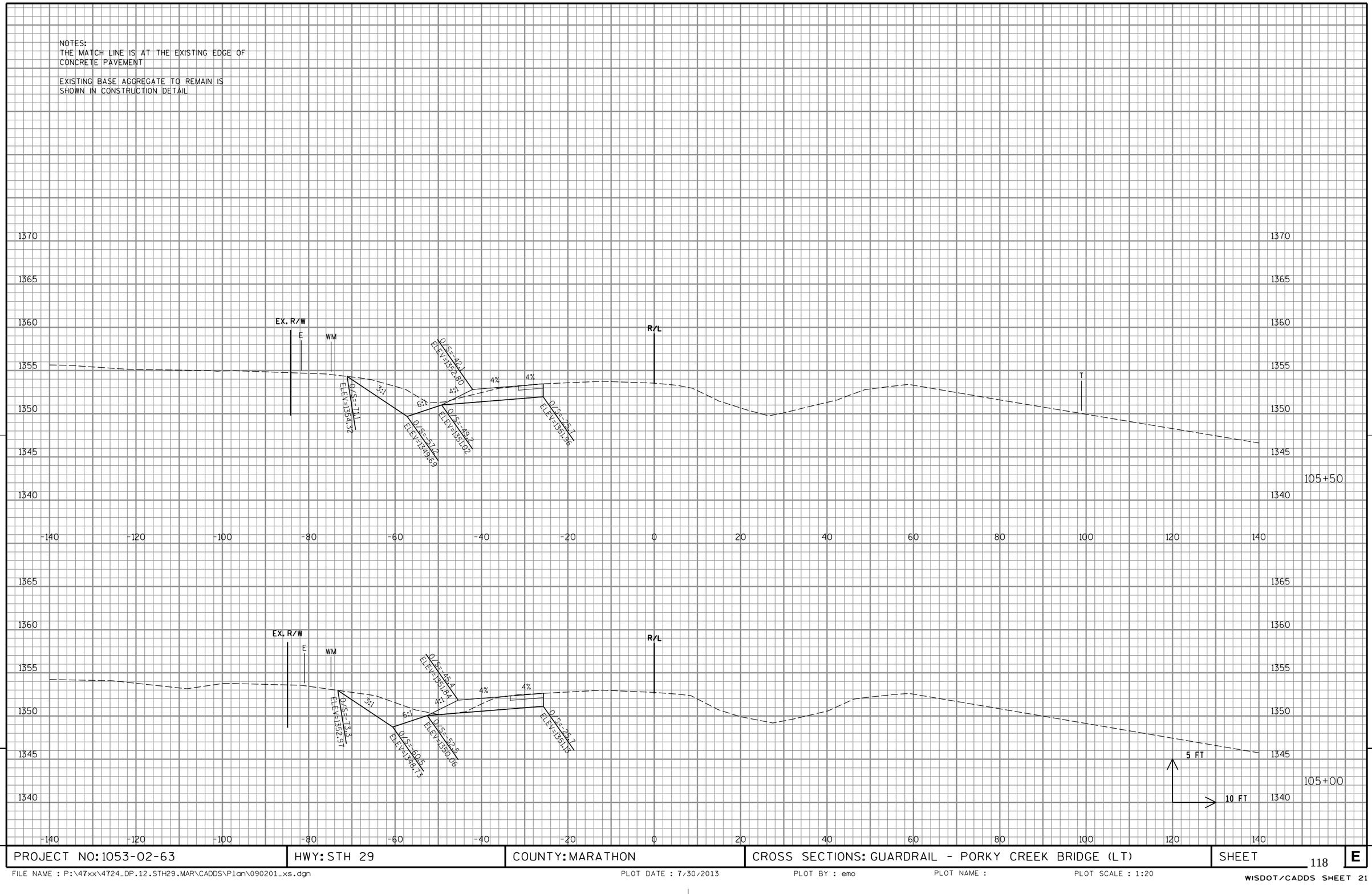
PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: GUARDRAIL - PORKY CREEK BRIDGE (LT)	SHEET 117	E

FILE NAME : P:\47xx\4724_DP.12.STH29.MAR\CADDS\Plan\090201_xs.dgn PLOT DATE : 7/30/2013 PLOT BY : emo PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

NOTES:
THE MATCH LINE IS AT THE EXISTING EDGE OF CONCRETE PAVEMENT

EXISTING BASE AGGREGATE TO REMAIN IS SHOWN IN CONSTRUCTION DETAIL



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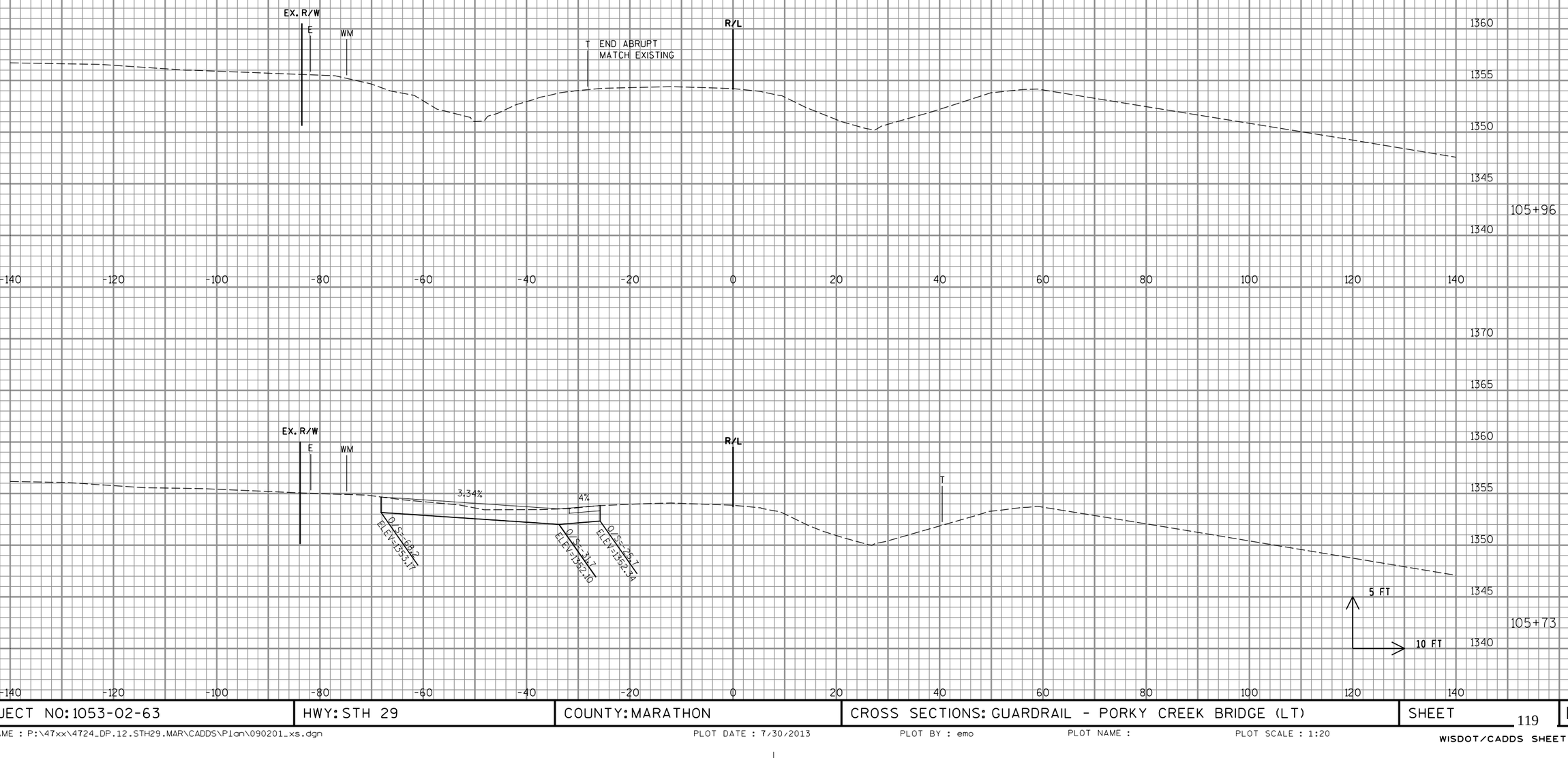
PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: GUARDRAIL - PORKY CREEK BRIDGE (LT)	SHEET 118	E

NOTES:
THE MATCH LINE IS AT THE EXISTING EDGE OF CONCRETE PAVEMENT

EXISTING BASE AGGREGATE TO REMAIN IS SHOWN IN CONSTRUCTION DETAIL



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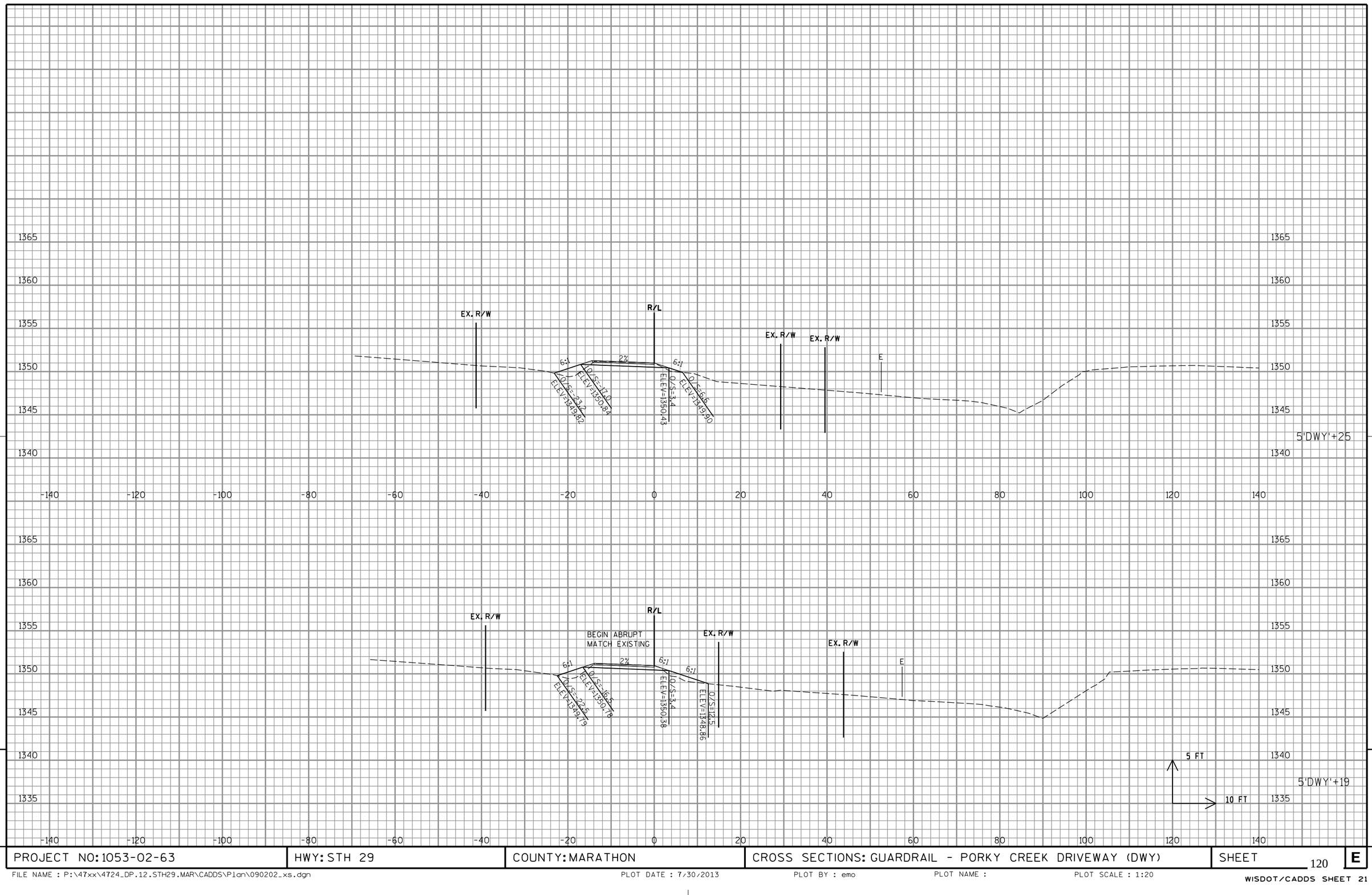
9

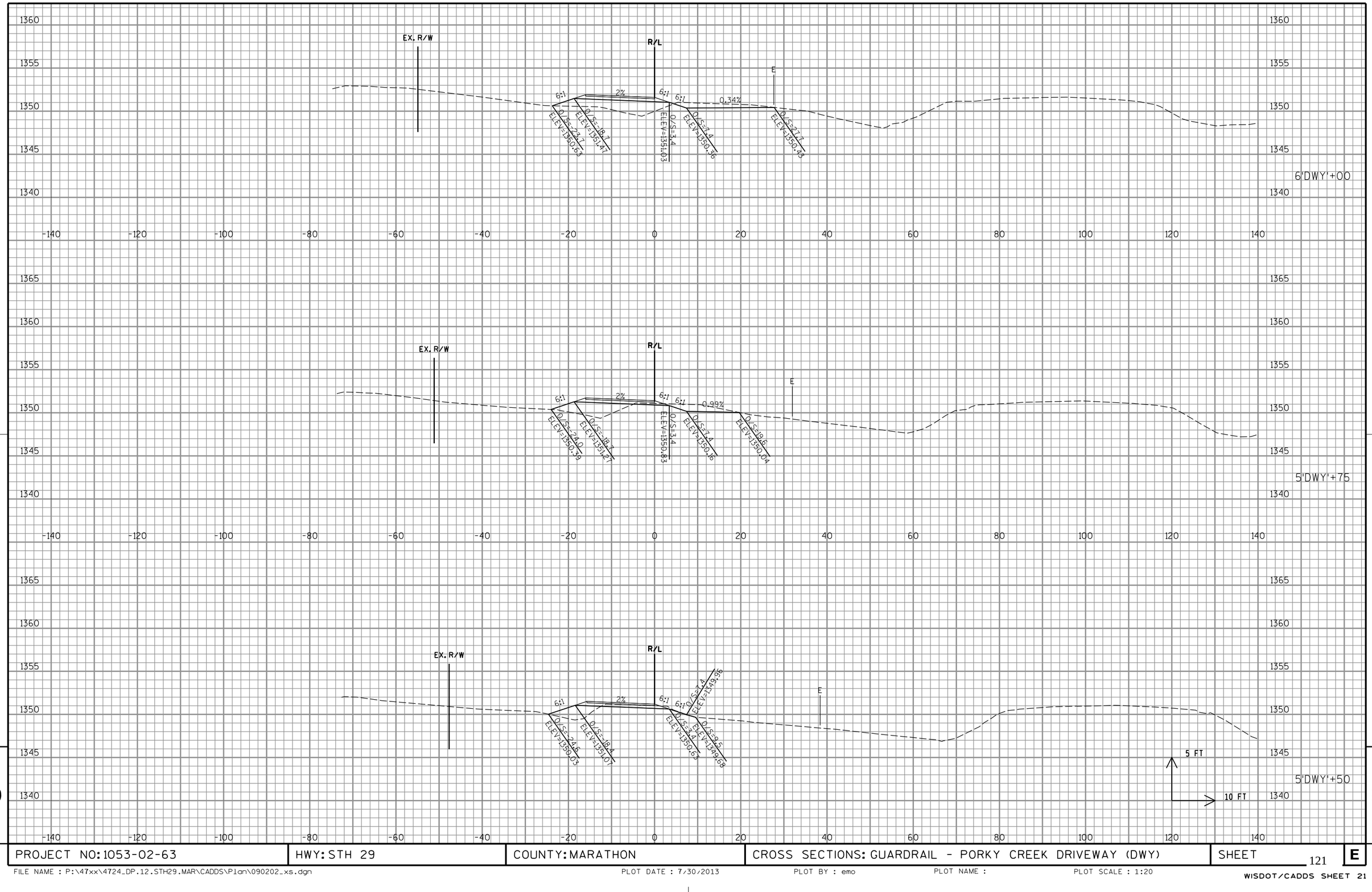
PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: GUARDRAIL - PORKY CREEK BRIDGE (LT)	SHEET 119	E



9

9

PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: GUARDRAIL - PORKY CREEK DRIVEWAY (DWY)	SHEET 120	E



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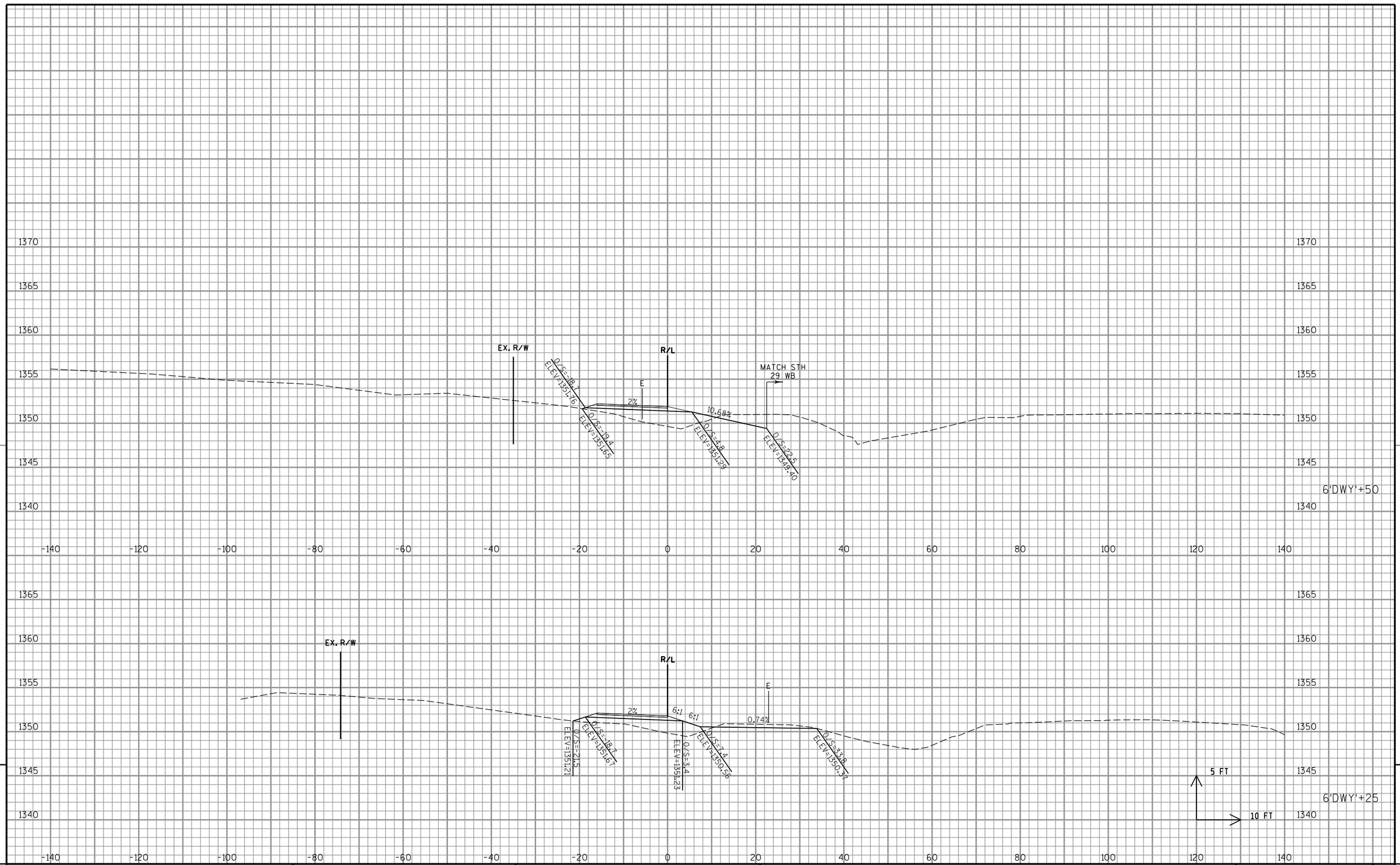
9

PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: GUARDRAIL - PORKY CREEK DRIVEWAY (DWY)	SHEET 121	E



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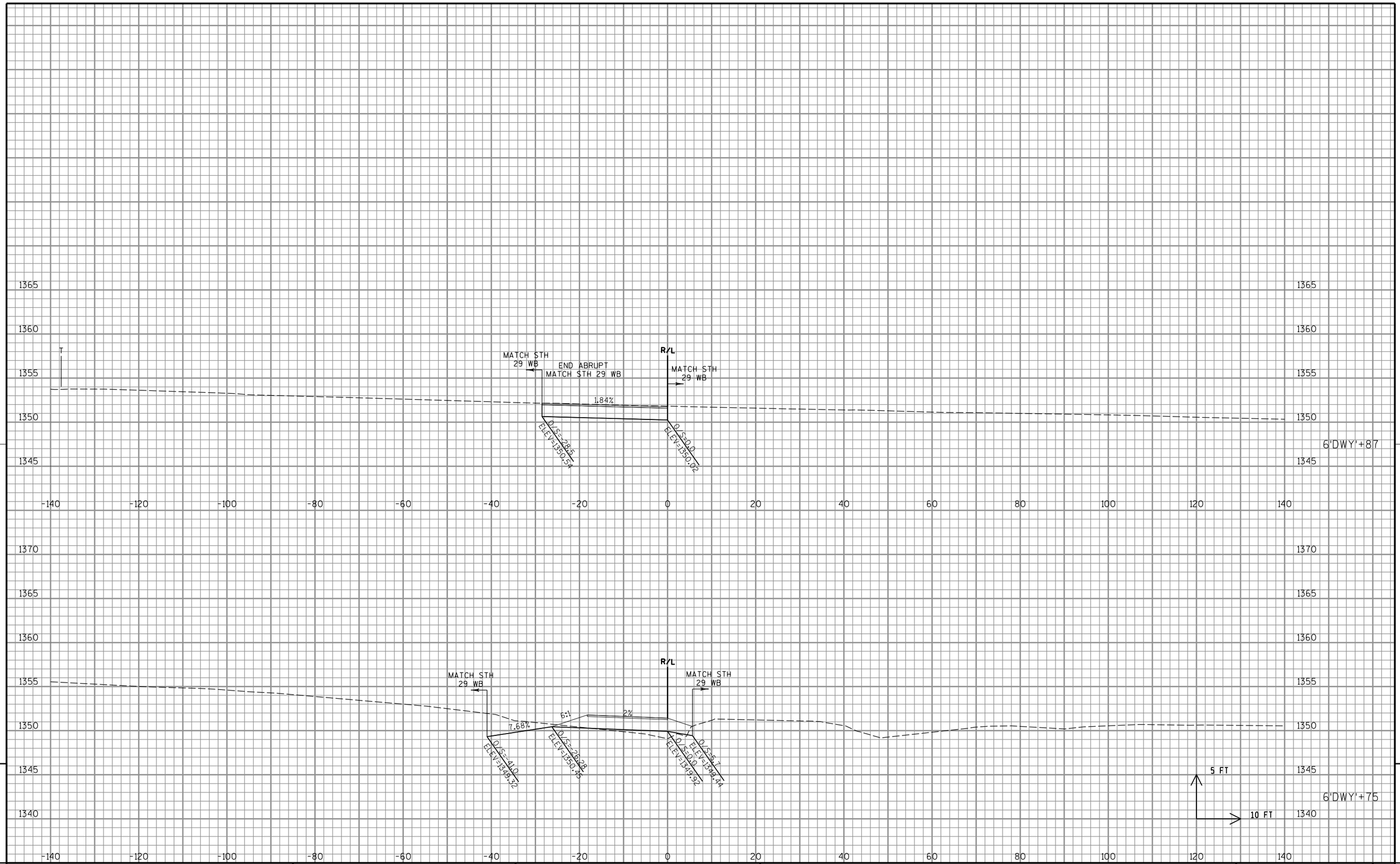
PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: GUARDRAIL - PORKY CREEK DRIVEWAY (DWY)	SHEET 122	E



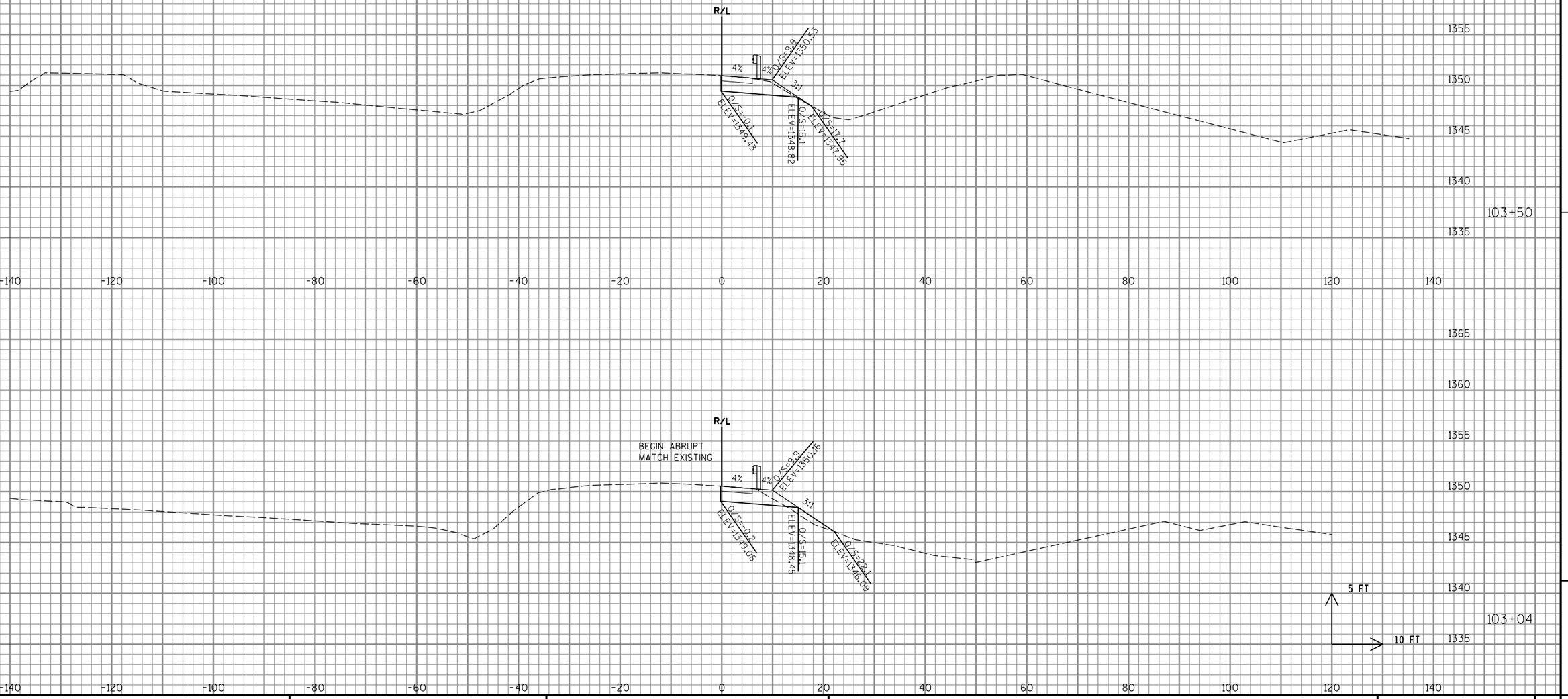
9

9

PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: GUARDRAIL - PORKY CREEK DRIVEWAY (DWY)	SHEET 123	E

NOTES:
THE MATCH LINE IS AT THE EXISTING EDGE OF CONCRETE PAVEMENT

EXISTING BASE AGGREGATE TO REMAIN IS SHOWN IN CONSTRUCTION DETAIL



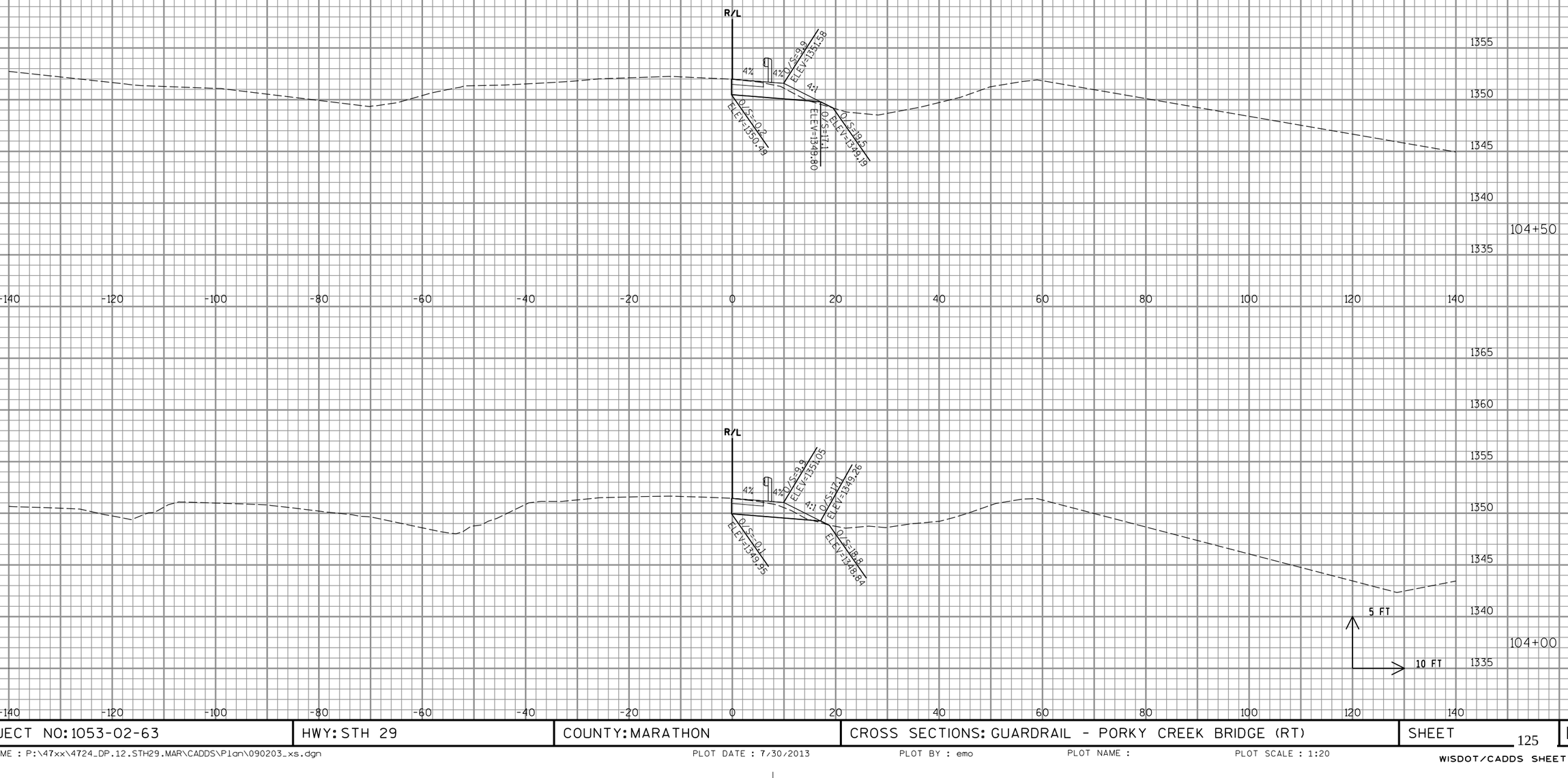
9

PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: GUARDRAIL - PORKY CREEK BRIDGE (RT)	SHEET 124	E

9

NOTES:
THE MATCH LINE IS AT THE EXISTING EDGE OF CONCRETE PAVEMENT

EXISTING BASE AGGREGATE TO REMAIN IS SHOWN IN CONSTRUCTION DETAIL



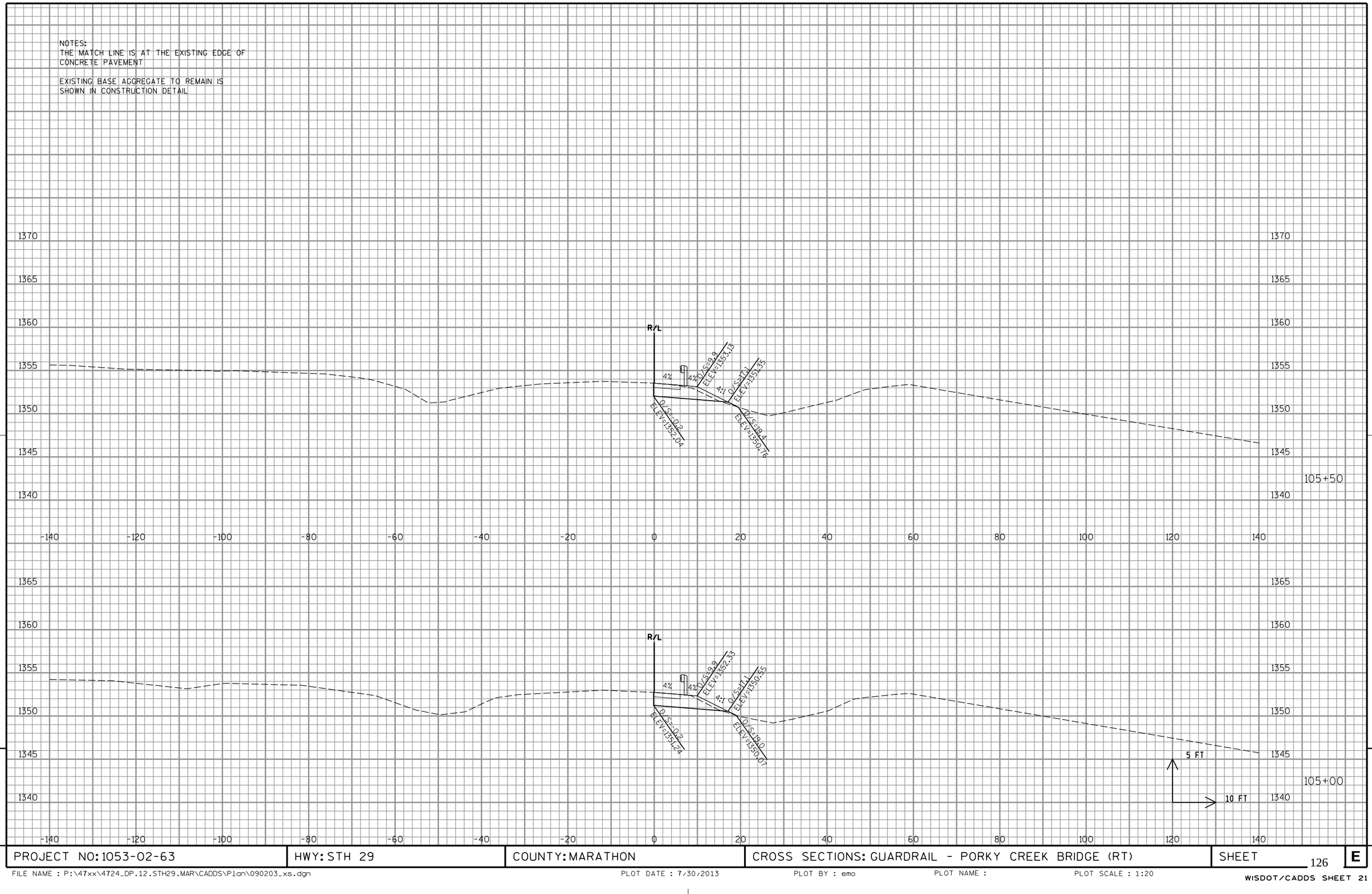
9

9

PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: GUARDRAIL - PORKY CREEK BRIDGE (RT)	SHEET 125	E

NOTES:
THE MATCH LINE IS AT THE EXISTING EDGE OF CONCRETE PAVEMENT

EXISTING BASE AGGREGATE TO REMAIN IS SHOWN IN CONSTRUCTION DETAIL



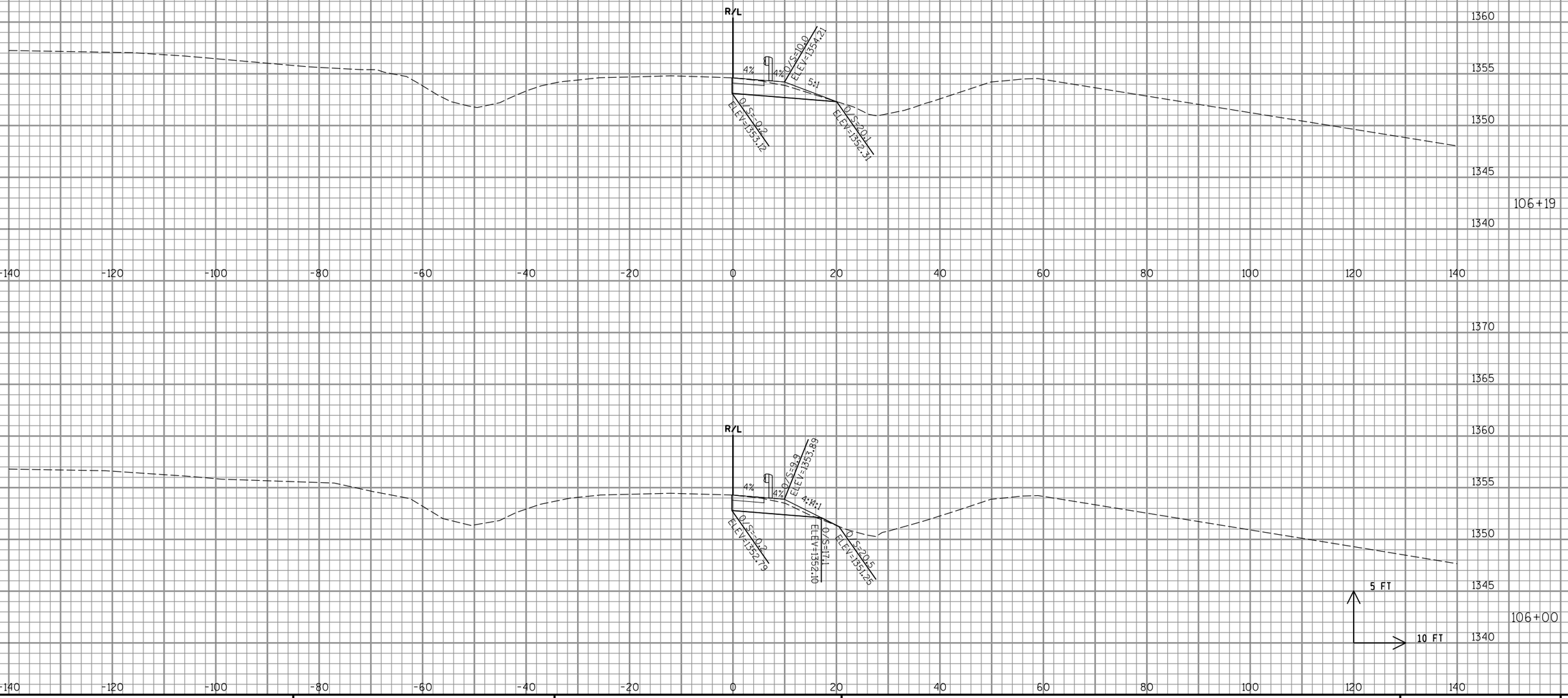
9

9

PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: GUARDRAIL - PORKY CREEK BRIDGE (RT)	SHEET 126	E

NOTES:
THE MATCH LINE IS AT THE EXISTING EDGE OF CONCRETE PAVEMENT

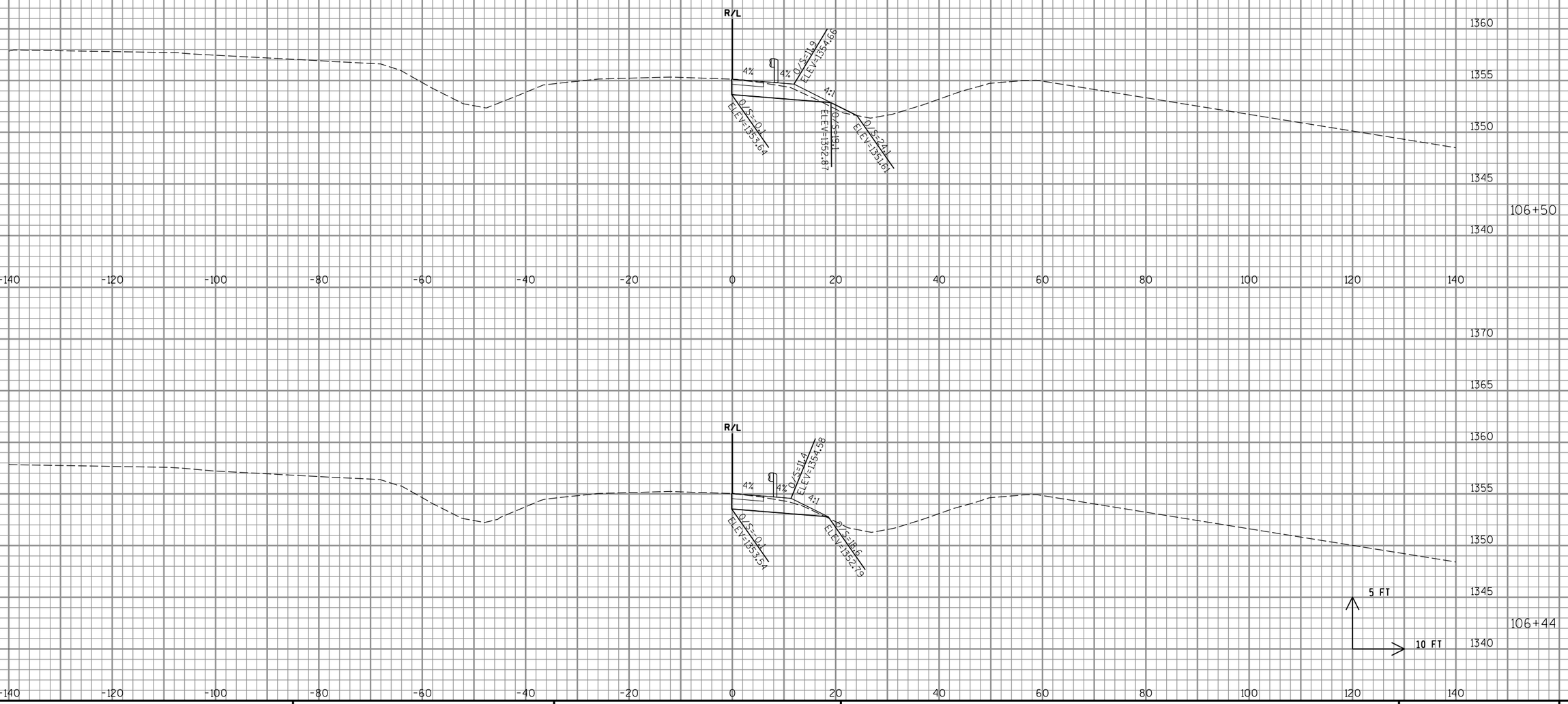
EXISTING BASE AGGREGATE TO REMAIN IS SHOWN IN CONSTRUCTION DETAIL



PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: GUARDRAIL - PORKY CREEK BRIDGE (RT)	SHEET 127	E

NOTES:
THE MATCH LINE IS AT THE EXISTING EDGE OF CONCRETE PAVEMENT

EXISTING BASE AGGREGATE TO REMAIN IS SHOWN IN CONSTRUCTION DETAIL



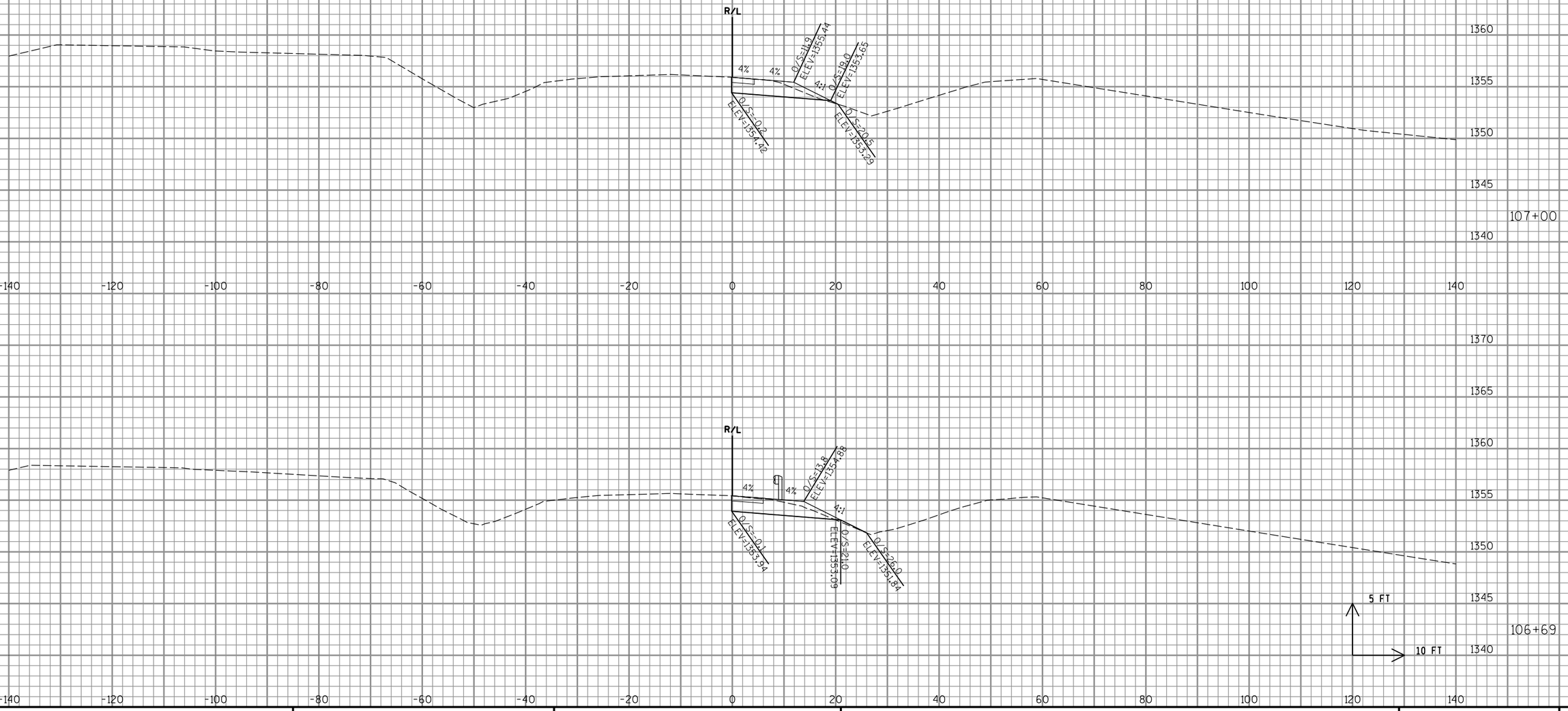
9

PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: GUARDRAIL - PORKY CREEK BRIDGE (RT)	SHEET 128	E

9

NOTES:
THE MATCH LINE IS AT THE EXISTING EDGE OF CONCRETE PAVEMENT

EXISTING BASE AGGREGATE TO REMAIN IS SHOWN IN CONSTRUCTION DETAIL

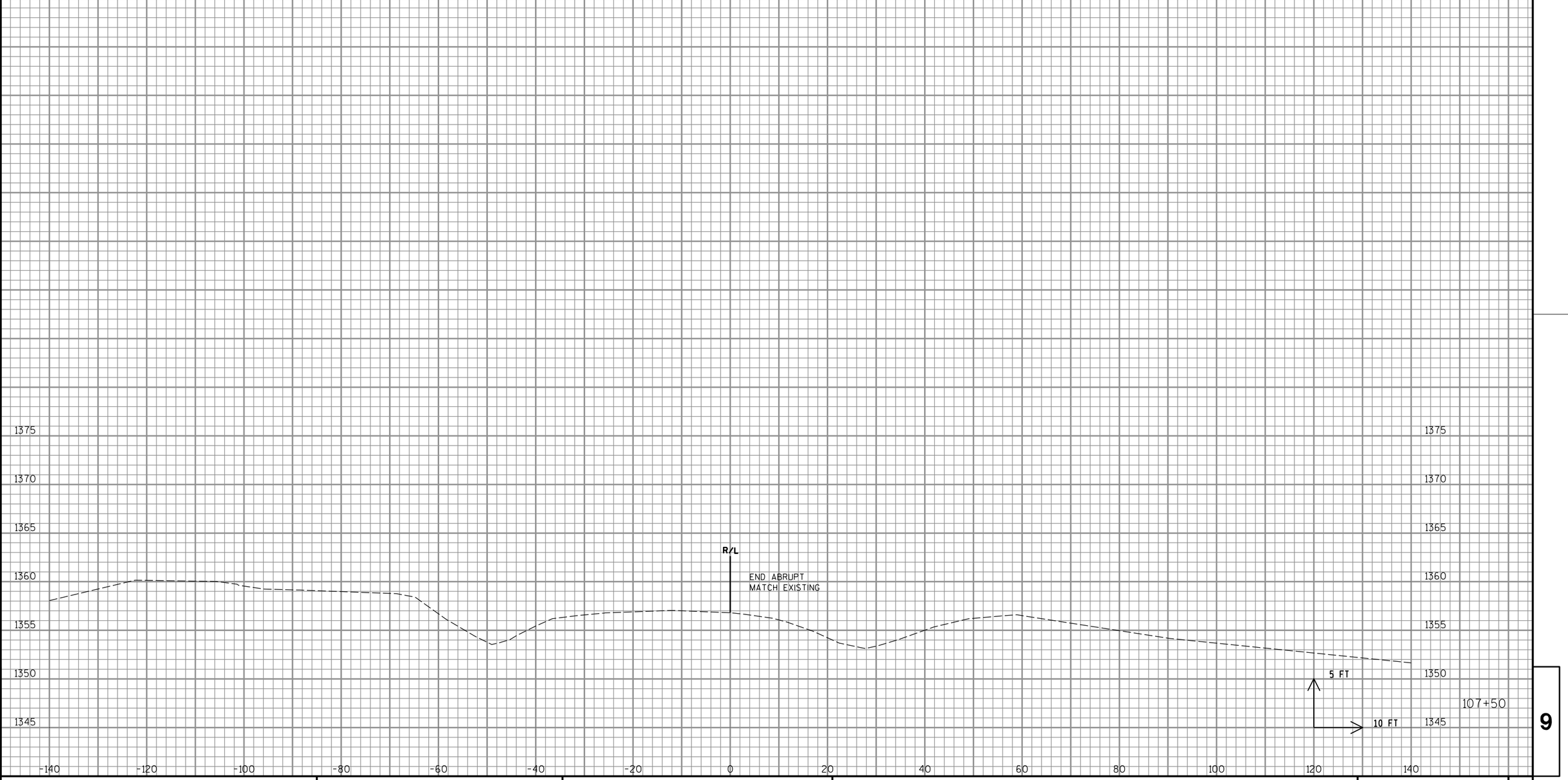


9

PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: GUARDRAIL - PORKY CREEK BRIDGE (RT)	SHEET 129	E

NOTES:
THE MATCH LINE IS AT THE EXISTING EDGE OF CONCRETE PAVEMENT

EXISTING BASE AGGREGATE TO REMAIN IS SHOWN IN CONSTRUCTION DETAIL



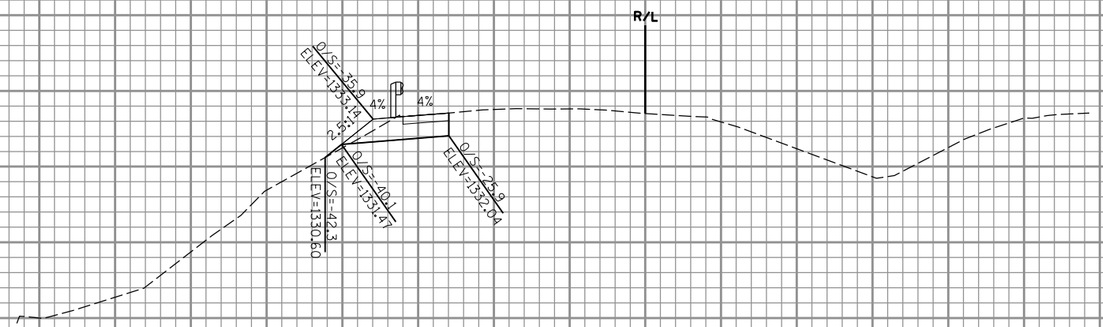
9

9

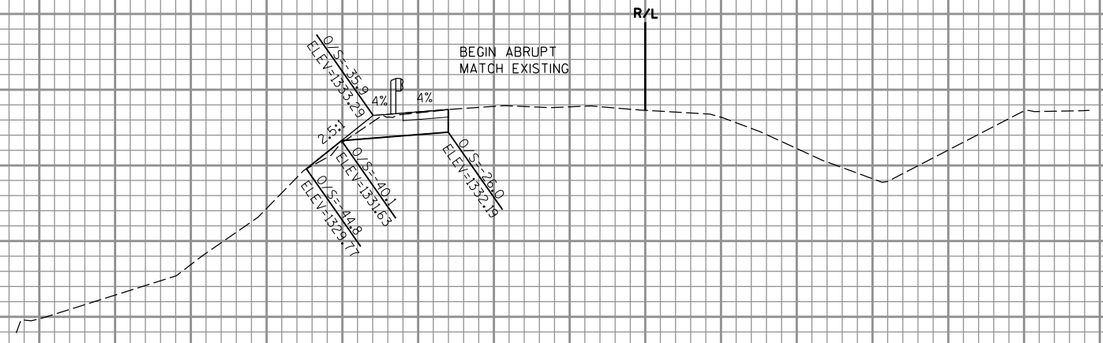
PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: GUARDRAIL - PORKY CREEK BRIDGE (RT)	SHEET 130	E

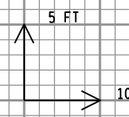
NOTES:
THE MATCH LINE IS AT THE EXISTING EDGE OF CONCRETE PAVEMENT

EXISTING BASE AGGREGATE TO REMAIN IS SHOWN IN CONSTRUCTION DETAIL



159+50





159+23

9

9

PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: GUARDRAIL - BIG EAU PLEINE RIVER BRIDGE (LT)	SHEET 131	E

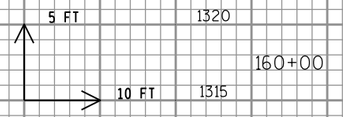
FILE NAME : P:\47xx\4724_DP.12.STH29.MAR\CADDS\Plan\090204_xs.dgn PLOT DATE : 7/30/2013 PLOT BY : emo PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

NOTES:
THE MATCH LINE IS AT THE EXISTING EDGE OF CONCRETE PAVEMENT

EXISTING BASE AGGREGATE TO REMAIN IS SHOWN IN CONSTRUCTION DETAIL

160+50



160+00

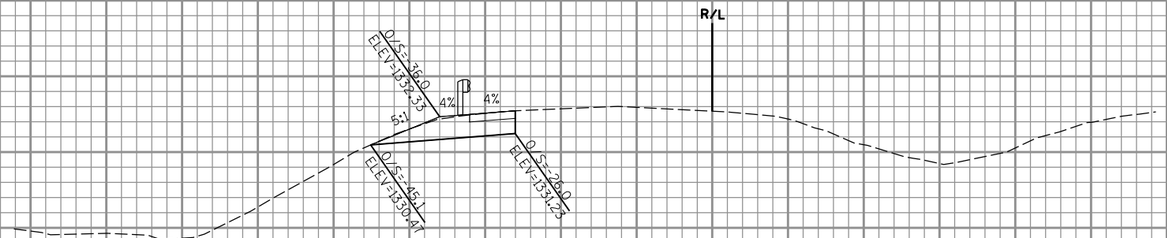
9

9

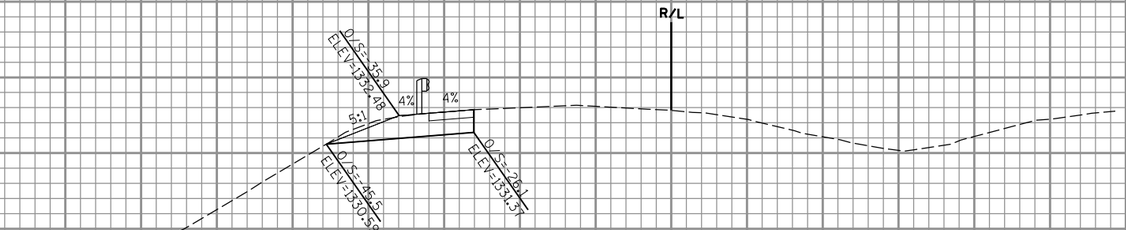
PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: GUARDRAIL - BIG EAU PLEINE RIVER BRIDGE (LT)	SHEET 132	E

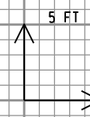
NOTES:
THE MATCH LINE IS AT THE EXISTING EDGE OF CONCRETE PAVEMENT

EXISTING BASE AGGREGATE TO REMAIN IS SHOWN IN CONSTRUCTION DETAIL



161+48





161+00

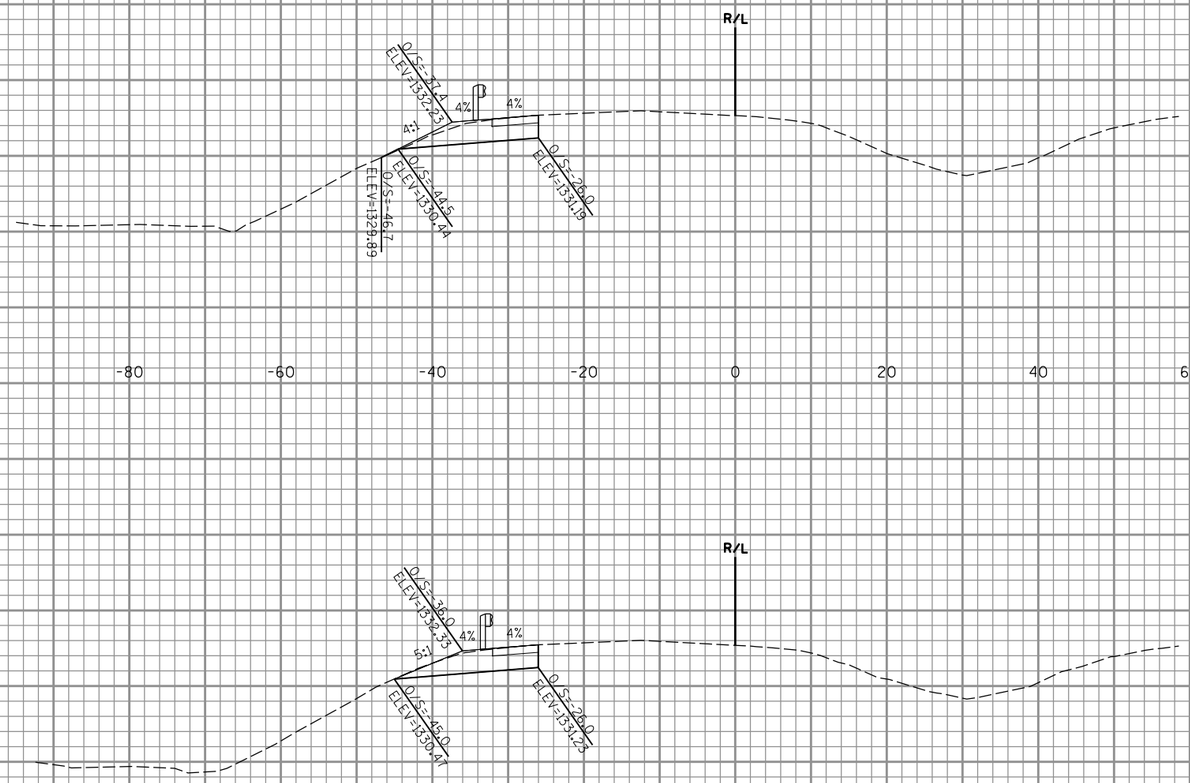
PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: GUARDRAIL - BIG EAU PLEINE RIVER BRIDGE (LT)	SHEET 133	E

FILE NAME : P:\47xx\4724_DP.12.STH29.MAR\CADDS\Plan\090204_xs.dgn PLOT DATE : 7/30/2013 PLOT BY : emo PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

NOTES:
THE MATCH LINE IS AT THE EXISTING EDGE OF CONCRETE PAVEMENT

EXISTING BASE AGGREGATE TO REMAIN IS SHOWN IN CONSTRUCTION DETAIL



161+73

161+50

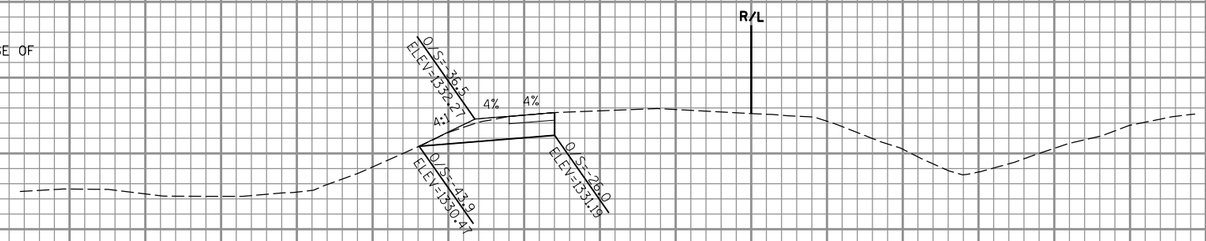
9

9

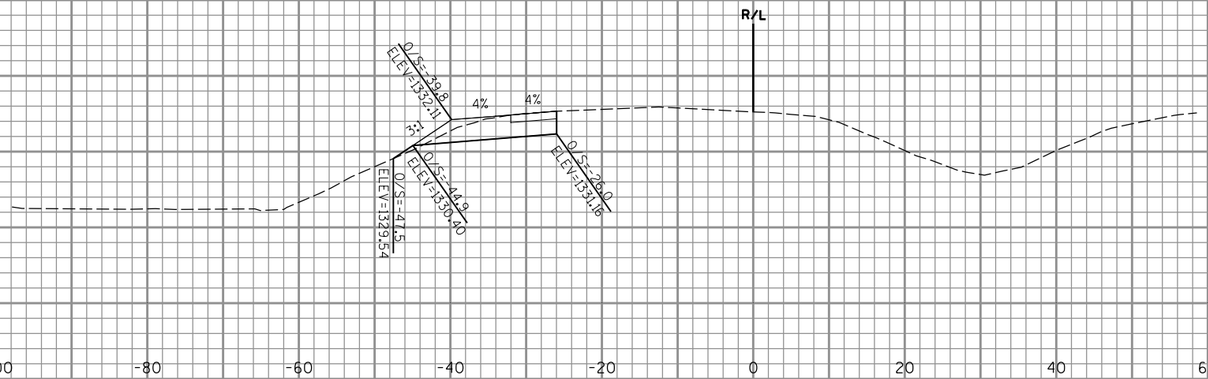
PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: GUARDRAIL - BIG EAU PLEINE RIVER BRIDGE (LT)	SHEET 134	E

NOTES:
THE MATCH LINE IS AT THE EXISTING EDGE OF CONCRETE PAVEMENT

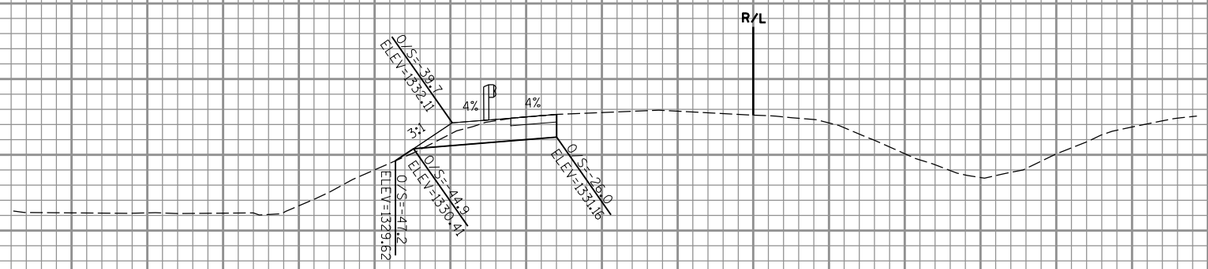
EXISTING BASE AGGREGATE TO REMAIN IS SHOWN IN CONSTRUCTION DETAIL

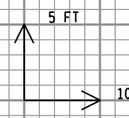


162+50



162+00





161+98

9

9

PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: GUARDRAIL - BIG EAU PLEINE RIVER BRIDGE (LT)	SHEET 135	E

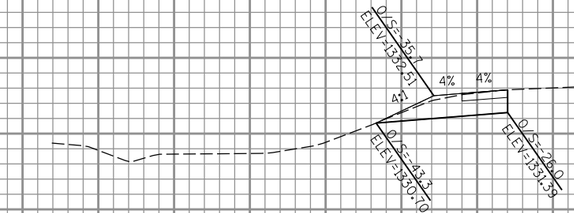
NOTES:
THE MATCH LINE IS AT THE EXISTING EDGE OF CONCRETE PAVEMENT

EXISTING BASE AGGREGATE TO REMAIN IS SHOWN IN CONSTRUCTION DETAIL

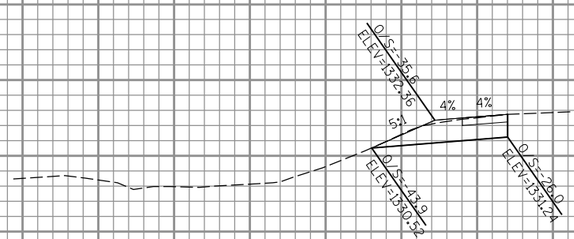
END ABRUPT
MATCH EXISTING

R/L

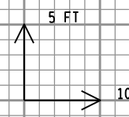
163+67



163+50



163+00



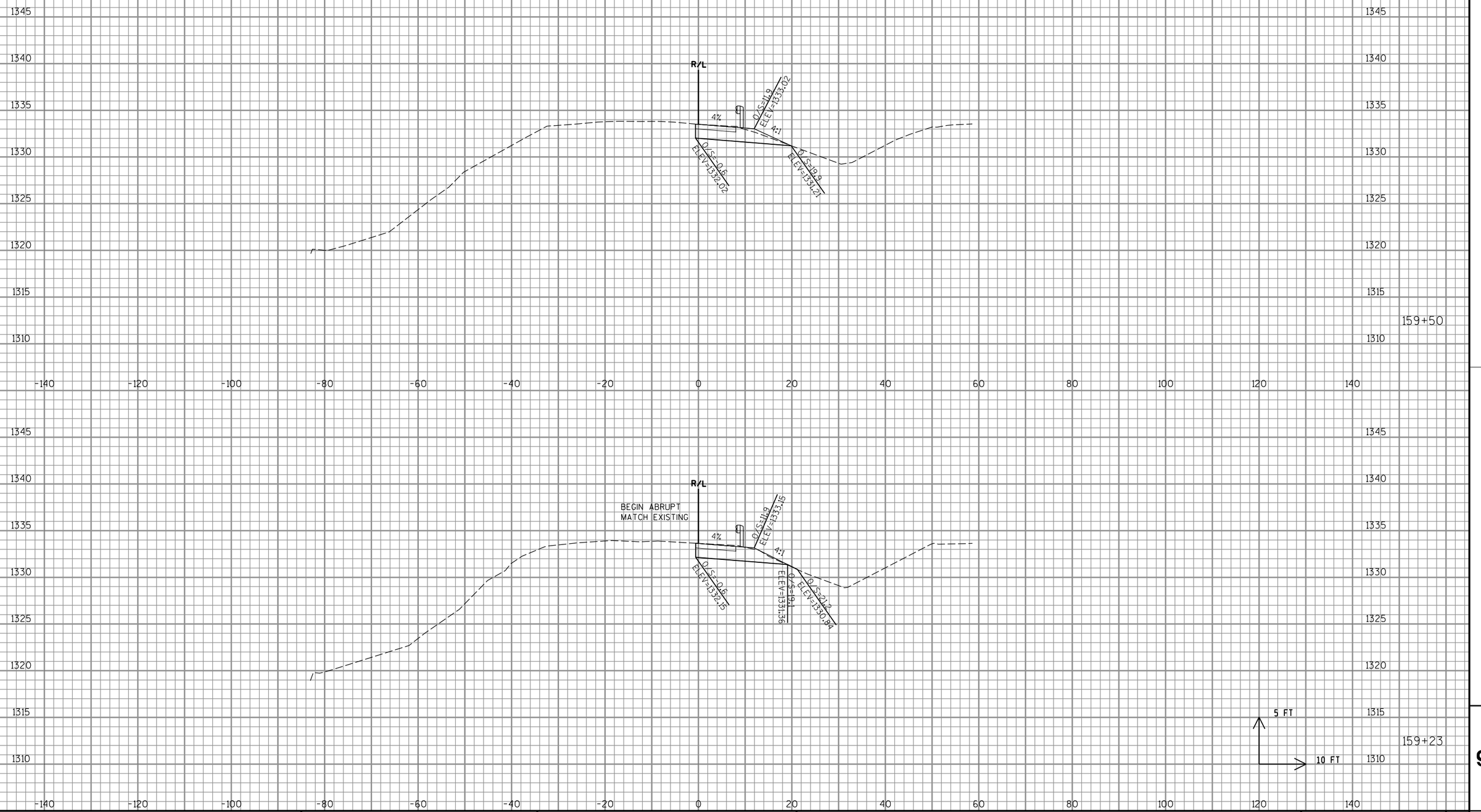
9

9

PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: GUARDRAIL - BIG EAU PLEINE RIVER BRIDGE (LT)	SHEET 136	E

NOTES:
THE MATCH LINE IS AT THE EXISTING EDGE OF CONCRETE PAVEMENT

EXISTING BASE AGGREGATE TO REMAIN IS SHOWN IN CONSTRUCTION DETAIL



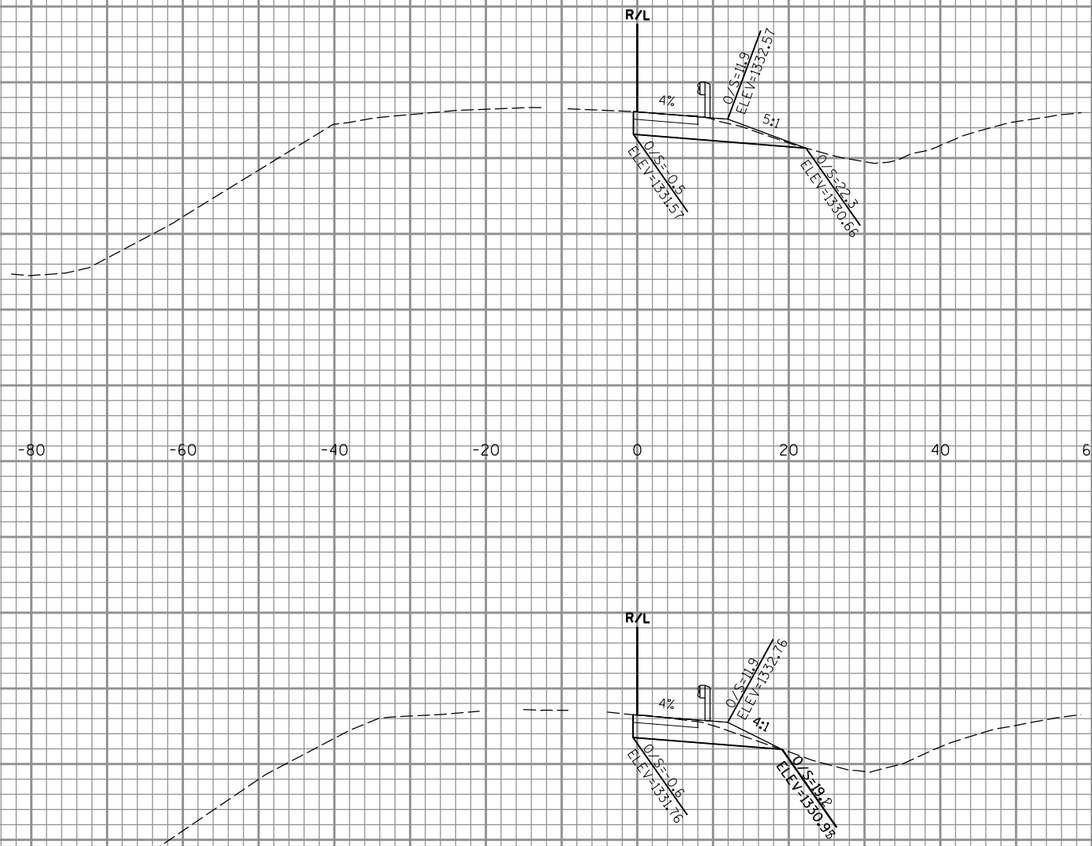
9

9

PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: GUARDRAIL - BIG EAU PLEINE RIVER BRIDGE (RT)	SHEET 137	E

NOTES:
THE MATCH LINE IS AT THE EXISTING EDGE OF CONCRETE PAVEMENT

EXISTING BASE AGGREGATE TO REMAIN IS SHOWN IN CONSTRUCTION DETAIL



160+50

160+00

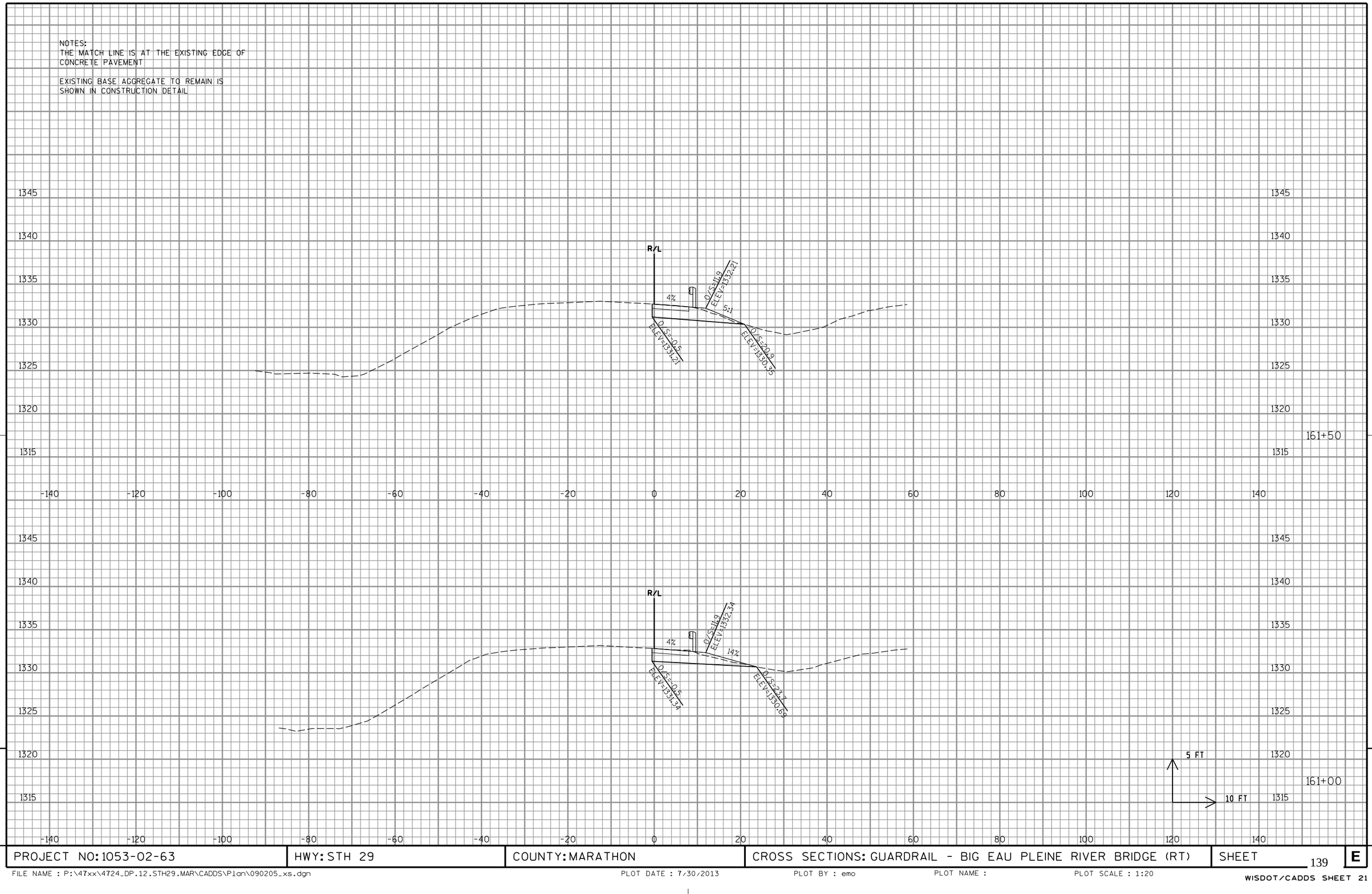
9

9

PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: GUARDRAIL - BIG EAU PLEINE RIVER BRIDGE (RT)	SHEET 138	E

NOTES:
THE MATCH LINE IS AT THE EXISTING EDGE OF CONCRETE PAVEMENT

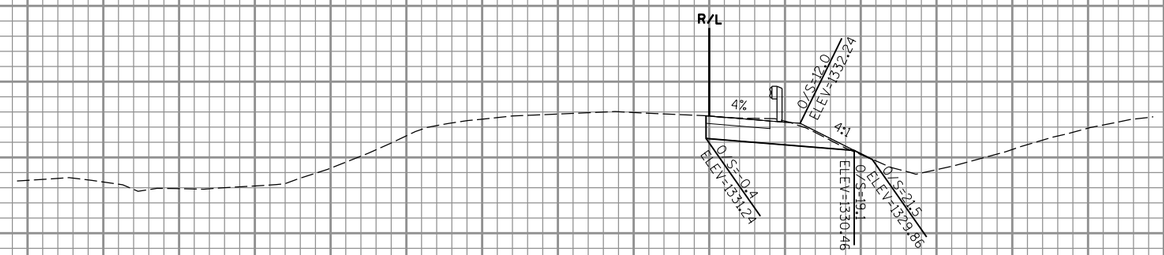
EXISTING BASE AGGREGATE TO REMAIN IS SHOWN IN CONSTRUCTION DETAIL



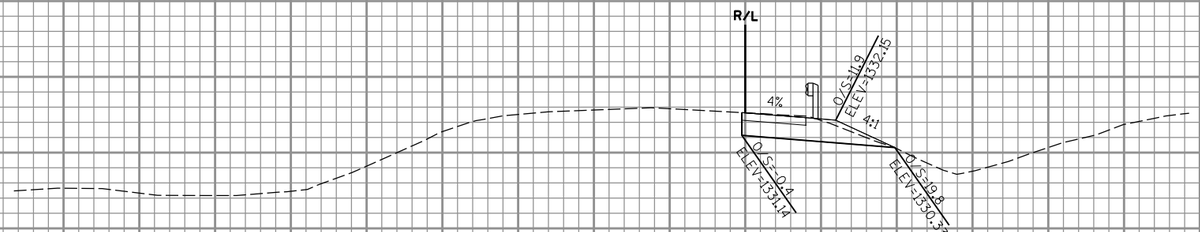
PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: GUARDRAIL - BIG EAU PLEINE RIVER BRIDGE (RT)	SHEET 139	E

NOTES:
THE MATCH LINE IS AT THE EXISTING EDGE OF CONCRETE PAVEMENT

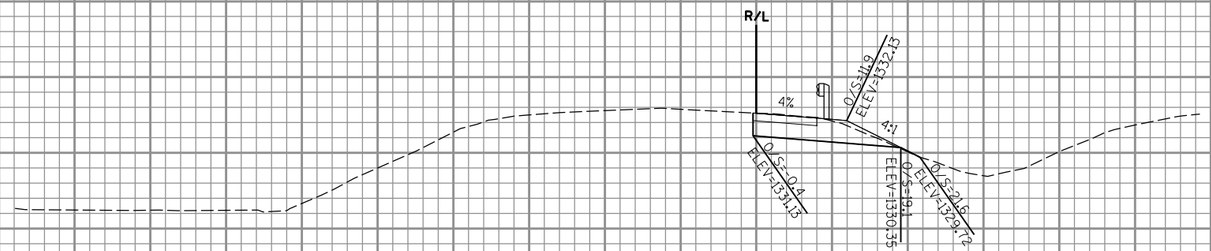
EXISTING BASE AGGREGATE TO REMAIN IS SHOWN IN CONSTRUCTION DETAIL

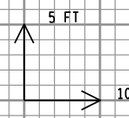


162+98



162+50





162+00

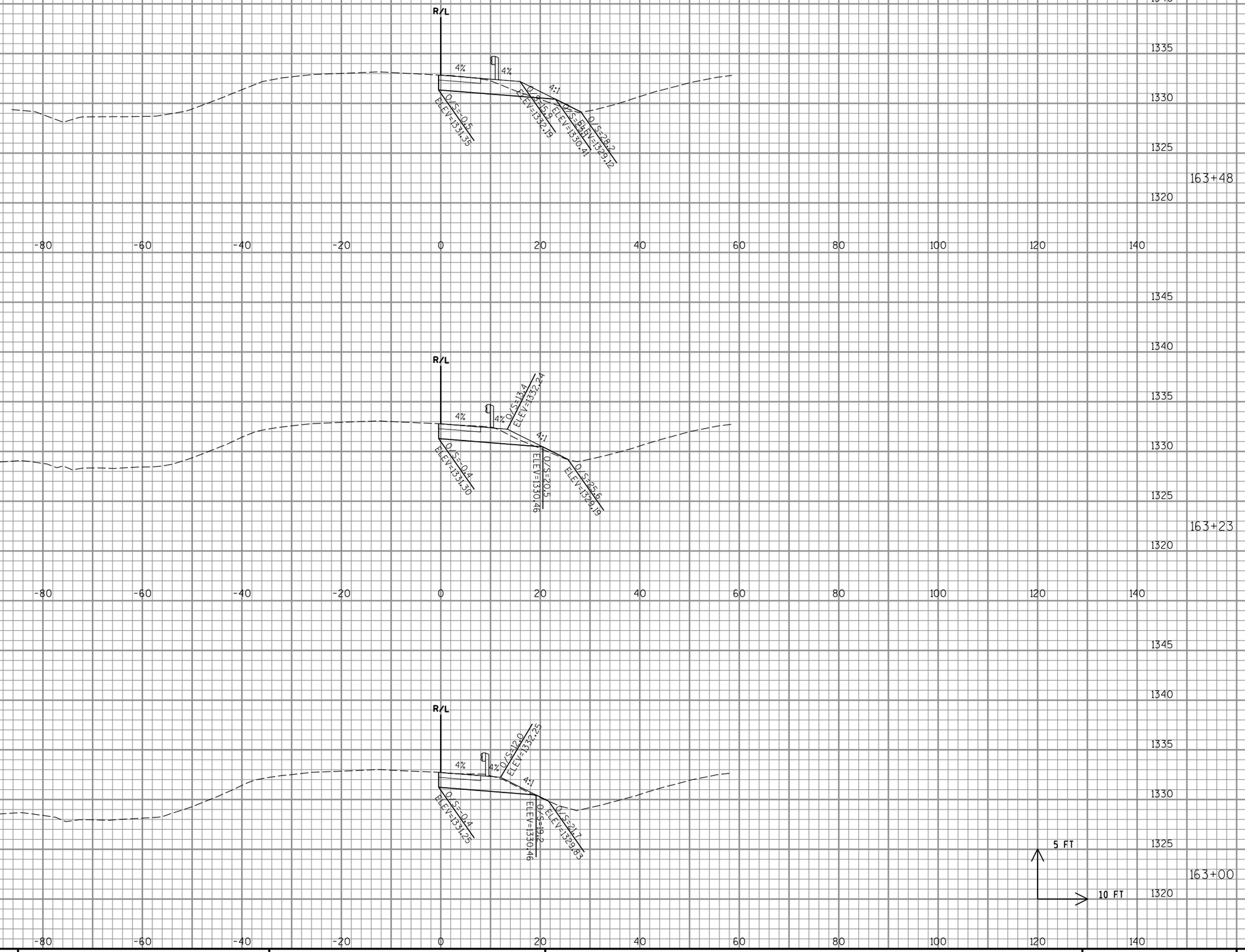
9

9

PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: GUARDRAIL - BIG EAU PLEINE RIVER BRIDGE (RT)	SHEET 140	E

NOTES:
THE MATCH LINE IS AT THE EXISTING EDGE OF CONCRETE PAVEMENT

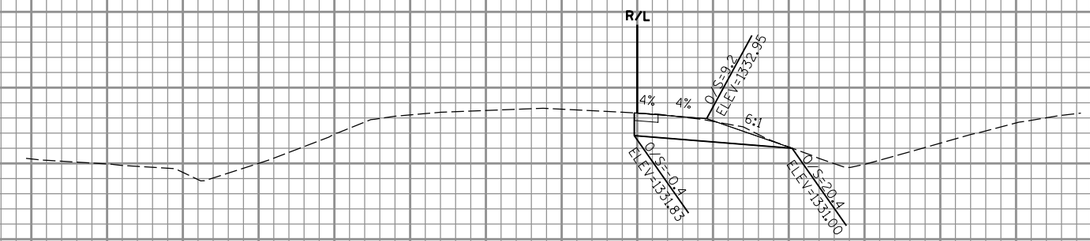
EXISTING BASE AGGREGATE TO REMAIN IS SHOWN IN CONSTRUCTION DETAIL



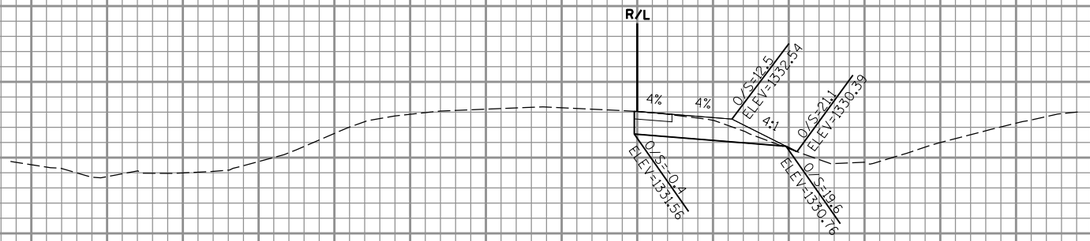
PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: GUARDRAIL - BIG EAU PLEINE RIVER BRIDGE (RT)	SHEET 141	E

NOTES:
THE MATCH LINE IS AT THE EXISTING EDGE OF CONCRETE PAVEMENT

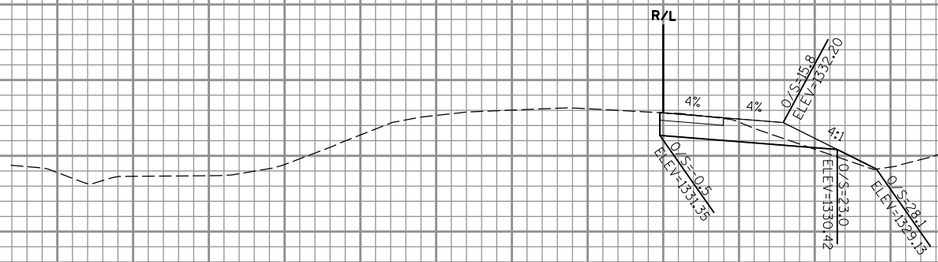
EXISTING BASE AGGREGATE TO REMAIN IS SHOWN IN CONSTRUCTION DETAIL



164+50



164+00



163+50

5 FT
10 FT

9

9

PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: GUARDRAIL - BIG EAU PLEINE RIVER BRIDGE (RT)	SHEET 142	E

NOTES:
THE MATCH LINE IS AT THE EXISTING EDGE OF CONCRETE PAVEMENT

EXISTING BASE AGGREGATE TO REMAIN IS SHOWN IN CONSTRUCTION DETAIL

9

9

PROJECT NO: 1053-02-63	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: GUARDRAIL - BIG EAU PLEINE RIVER BRIDGE (RT)	SHEET 143	E

Wisconsin Department of Transportation

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