EAU

JULY 2021

PROJECT ID: 1023-00-83

WITH: N/A

COUNTY: JACKSON

ORDER OF SHEETS

TOTAL SHEETS = 54

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

BLACK RIVER FALLS - TOMAH

CASTLE MOUND ROAD B-27-53

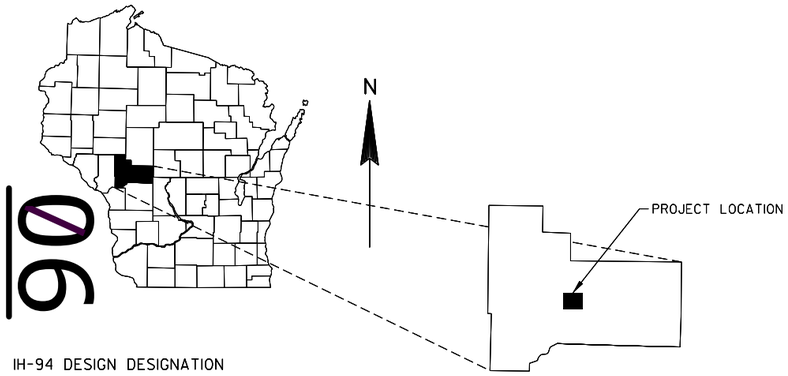
IH 94

JACKSON COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1023-00-83	———	—

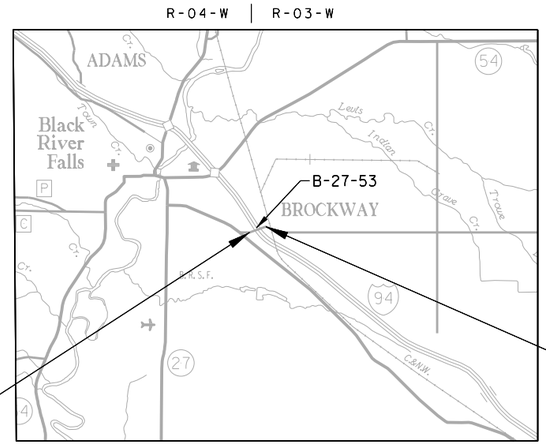
STATE PROJECT NUMBER

1023-00-83



IH-94 DESIGN DESIGNATION

A.A.D.T.	2020	=	25,240
A.A.D.T.	2040	=	27,900
D.H.V.		=	2,360 (YEAR 2020)
D.D.		=	58/42
T.		=	X.X%
DESIGN SPEED		=	70 mph
ESALS		=	XXXXXXX



CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

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

UTILITIES

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

LAYOUT SCALE 0 1.0 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.045 MI.

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

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988, NAVD 88 (2012).

ORIGINAL PLANS PREPARED BY

HNTB

10 W. MIFFLIN STREET
SUITE 300
MADISON, WI 53703
(414) 359-2300

WISCONSIN PROFESSIONAL ENGINEER
ANDREW D. ROSEMEYER
E-43027
MADISON, WI

03/30/21 (Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	WisDOT
Designer	HNTB
Project Manager	JESSE LARSON, PE
Regional Examiner	
Regional Supervisor	TARA WEISS, PE

APPROVED FOR THE DEPARTMENT

DATE: 03/30/21 Jesse Larson (Signature)

E

CONTACTS

WISDOT PROJECT MANAGER
JESSE LARSON, PE
718 W. CLAIREMONT AVENUE
EAU CLAIRE, WI 54701
PHONE: (715) 491-1470
JESSE.LARSON@DOT.WI.GOV

WISDOT - COMMUNICATION LINE
JOHN MITTELSTADT
433 W. ST. PAUL AVE. STE. 300
MILWAUKEE, WI 53203-3007
PHONE: (608) 205-7859
JOHN.MITTELSTADT@DOT.WI.GOV

WISDOT STRUCT. MAINT. ENGINEER
GREGORY HAIG
CELL: (715) 577-0646
GREGORY.HAIG@DOT.WI.GOV

WI DNR LIAISON
BRAD BETTHAUSER
DNR SERVICE CENTER
473 GRIFFITH AVENUE
WISCONSIN RAPIDS, WI 54494-7859
PHONE: (715) 213-9064
BRADLEY.BETTHAUSER@WISCONSIN.GOV

COUNTY SHERIFF
DUANE M. WALDERA
BLACK RIVER FALLS, WI 54615
ADMINISTRATIVE: (715) 284-9009
NON-EMERG: (715) 284-5357
EMERGENCY: 911

HIGHWAY COMMISSIONER
JAY BOREK
119 HARRISON STREET
BLACK RIVER FALLS, WI 54615
PHONE: (715) 284-0233
JAY.BOREK@CO.JACKSON.WI.US

STRUCTURE DESIGN
PAT CASHIN, PE
250 E. WISCONSIN AVENUE
SUITE 2000
MILWAUKEE, WI 53202
PHONE: (414) 359-2300
PCASHIN@HNTB.COM

ROADWAY DESIGN
ANDREW ROSEMEYER, PE
10 W. MIFFLIN STREET
SUITE 300
MADISON, WI 53703
PHONE: (608) 294-5015
AROSEMEYER@HNTB.COM

GENERAL NOTES

NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY UTILITY WHICH IS NOT A MEMBER OF DIGGERS HOTLINE MUST BE CONTACTED SEPERATELY.

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

TRAFFIC CONTROL LOCATIONS AS SHOWN IN THE PLAN ARE SUGGESTED LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

DO NOT REMOVE TREES OR SHRUBS UNLESS DESIGNATED FOR REMOVAL BY THE ENGINEER.

EROSION CONTROL DEVICE'S ARE AT SUGGESTED LOCATIONS. THE ACTUAL LOCATIONS WILL BE DETERMINED BY THE CONTRACTORS ECIP AND BY THE ENGINEER. EROSION CONTROL DEVICE'S SHALL BE MAINTAINED UNTIL PERMANENT VEGETATION IS ESTABLISHED OR UNTIL THE ENGINEER DETERMINES THAT THE DEVICE IS NO LONGER REQUIRED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESHAPING AND SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY ANY OPERATION OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS AT THE CONTRACTOR'S EXPENSE.

UTILITY CONTACTS

AT&T LEGACY
KENNETH M. NINE
110 N. MAIN STREET
CULVER, IN 46511
PHONE: (574) 842-8830
MOBILE PHONE: (574) 904-6336
KNINE@JMCEAINC.COM

ATC MANAGEMENT
DOUG VOSBERG
2489 RINDEN ROAD
COTTAGE GROVE, WI 53527
PHONE: (608) 877-7650
DVOSBERG@ATCLLC.COM

CENTURYLINK
BRIAN STELPLUGH
333 NORTH FRONT STREET
LA CROSSE, WI 54601
PHONE: (608) 615-4136
MOBILE PHONE: (608) 780-1238
BRIAN.STELPLUGH@LUMEN.COM

JACKSON ELECTRIC COOPERATIVE
ERIC STEIEN
N6868 CO HWY F
P.O. BOX 546
BLACK RIVER FALLS, WI 54615
(715) 284-5385
ESTEIEN@JACKELEC.COM

XCEL ENERGY
MITCHELL DIENGER
414 NICOLLET MALL 5TH FLOOR
MINNEAPOLIS, MN 55401
PHONE: (612) 321-3109
MOBILE PHONE: (608) 386-2233
MITCHELL.A.DIENGER@XCELENERGY.COM

ORDER OF SECTION 2 DETAIL SHEETS

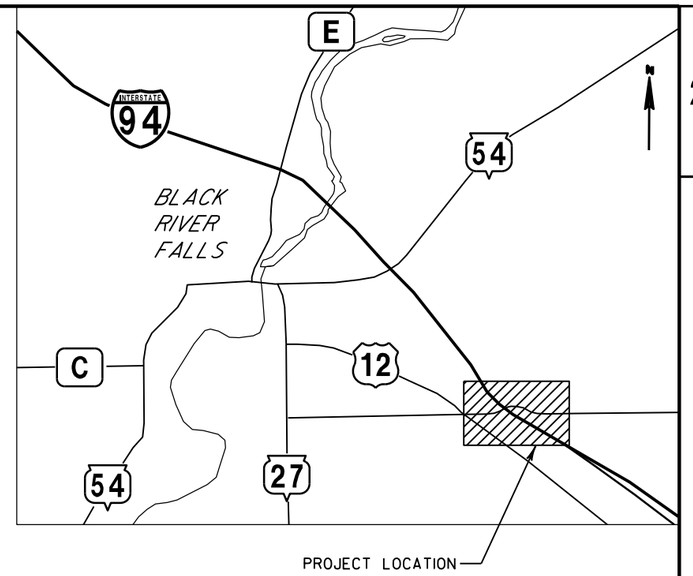
DIGGERS HOTLINE
Dial 811 or (800) 242-8511
www.DiggersHotline.com

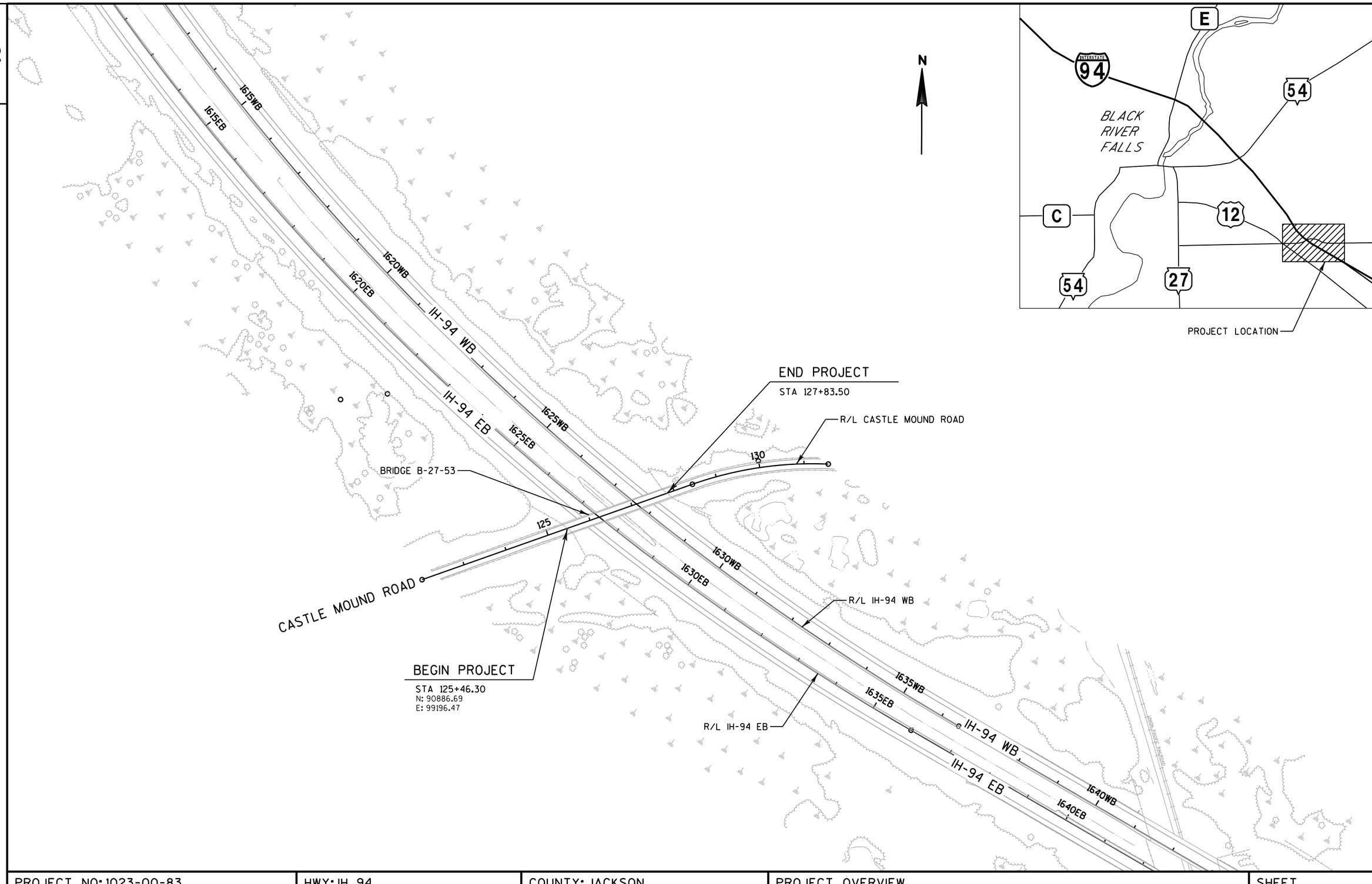
ABBREVIATIONS

AEW	APRON END WALL
AGG	AGGREGATE
BAD	BASE AGGREGATE DENSE
BM	BENCH MARK
C&G	CURB AND GUTTER
C/L	CENTER OR CONSTRUCTION LINE
CMCP	CULVERT PIPE CORRUGATED METAL
CONC	CONCRETE
CP	CULVERT PIPE
CPRC	CULVERT PIPE REINFORCED CONCRETE
CSD	CONCRETE SURFACE DRAIN
CY	CUBIC-YARD
D	DEGREE OF CURVE
Δ	DELTA
DISCH	DISCHARGE
EAT	ENERGY ABSORBING TERMINAL
FE	FIELD ENTRANCE
HMA	HOT MIX ASPHALT
INV	INVERT
L	LENGTH OF CURVE
LHF	LEFT HAND FORWARD
LT	LEFT
MIN	MINIMUM
M/L	MATCHLINE
NB	NORTHBOUND
NC	NORMAL CROWN
PAVT	PAVEMENT
PC	POINT OF CURVE
PCC	POINT OF COMPOUND CURVE
PE	PRIVATE ENTRANCE
PI	POINT OF INTERSECTION
PLE	PERMANENT LIMITED EASMENT
PT	POINT OF TANGENT
R	RADIUS OF CURVE
R/L	REFERENCE LINE
R/W	RIGHT OF WAY
RC	REVERSE CROWN
RCAEW	APRON ENDWALL FOR CULVERT PIPE REINFORCED CONCRETE
REQD	REQUIRED
RHF	RIGHT HAND FORWARD
RO	RUN OFF LENGTH
RRSP	RAILROAD SPIKE
RT	RIGHT
SALV	SALVAGED
SAPBC	SALVAGED ASPHALTIC PAVEMENT BASE COARSE
SB	SOUTHBOUND
SDD	STANDARD DETAIL DRAWINGS
SE	SUPER ELEVATION
SF	SQUARE FOOT
SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
STA	STATION
SY	SQUARE YARD
T	TANGENT LENGTH
TLE	TEMPORARY LIMITED EASEMENT
VCL	VERTICAL CURVE LENGTH
VPC	POINT OF VERTICAL CURVE
VPI	POINT OF VERTICAL INTERSECTION
VPT	POINT OF VERTICAL TANGENT

2

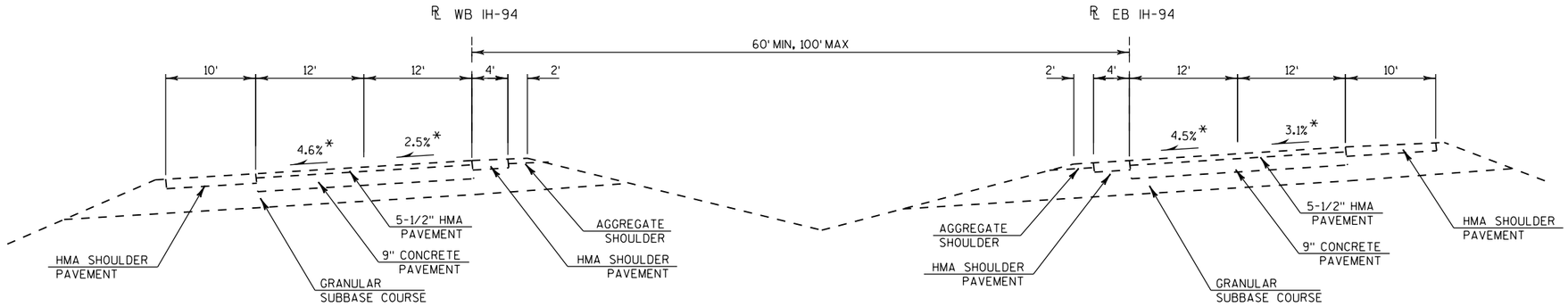
FILE NAME: I:\56537\1517-75-71\t1\cds\020101_gn.ppt PLOT DATE : 5/4/2021 2:23:49 PM PLOT BY : HNTB Corp. PLOT NAME : 020101_gn1 PLOT SCALE : 1:1





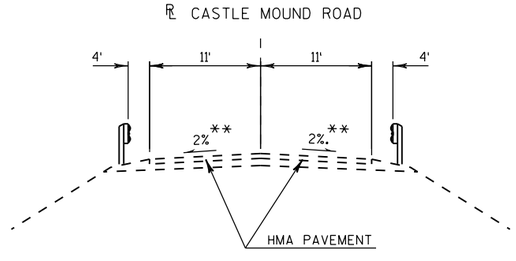
PROJECT NO: 1023-00-83	HWY: IH 94	COUNTY: JACKSON	PROJECT OVERVIEW	SHEET 3	E

2



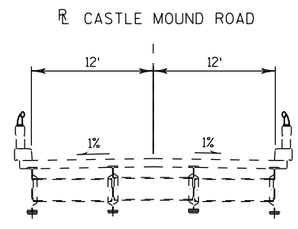
EXISTING TYPICAL SECTION
IH 94

APPLIES TO ENTIRE LIMITS OF PROJECT
* SEE NOTE 1



EXISTING TYPICAL SECTION
CASTLEMOUND ROAD

123+00.00 TO 125+46.30 & 127+83.50 TO 131+00.00
** SEE NOTE 2



EXISTING TYPICAL SECTION
CASTLEMOUND ROAD

125+46.30 TO 127+83.50
OVER B-27-53

NOTES

1) PER 2011 WISDOT PROJECT ID 1023-00-76 EXISTING SUPERELEVATION IS 3.3% ON THE ALIGNMENT PLAN HOWEVER CROSS SECTIONS SHOW THE CROSS SLOPES AS INDICATED ON THIS EXISTING TYPICAL SECTION.

2) SLOPE TRANSITIONS FROM 2% TO 1% AT THE APPROACH TO THE BRIDGE

PROJECT NO: 1023-00-83	HWY: IH 94	COUNTY: JACKSON	EXISTING TYPICAL SECTIONS	SHEET 4	E

2

GENERAL NOTES FOR TRAFFIC CONTROL

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

2) CONFLICTING TRAFFIC SIGNS SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER. CONFLICTING SIGNS WILL BE COVERED USING THE APPROPRIATE STANDARD BID ITEM, TRAFFIC CONTROL COVERING SIGNS TYPE I OR TRAFFIC CONTROL COVERING SIGNS TYPE II.

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

4) ALL TYPE III BARRICADES SHALL BE 8' WIDE, UNLESS OTHERWISE NOTED, AND EQUIPPED WITH TWO TYPE A (LOW INTENSITY FLASHING) LIGHTS.

5) TURNING TRAFFIC CONTROL DEVICES WHEN NOT IN USE TO OBSURE THE MESSAGE IS NOT ALLOWED.

6) SIGNS AND DEVICES WILL BE IN CONFORMANCE WITH THE LATEST WISCONSIN MANUAL OF TRAFFIC CONTROL DEVICES (WMUTCD)

7) LANE CLOSURES WILL ONLY BE ALLOWED DURING TIMES SPECIFIED IN THE SPECIAL PROVISIONS.

8) SHOULDER CLOSURE SHALL FOLLOW WISDOT SDD 15D27 "TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY SPEEDS GREATER THAN 40 MPH"

TRAFFIC CONTROL LEGEND

- TRAFFIC CONTROL BARRICADE TYPE III WITH LIGHTS TYPE A
- TRAFFIC CONTROL BARRICADE TYPE III WITH LIGHTS TYPE A AND ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH LIGHT TYPE C
- TRAFFIC CONTROL ARROW BOARD
- TRAFFIC CONTROL SIGN(S) ON PERMANENT SUPPORT
- TRAFFIC CONTROL SIGN(S) ON TEMPORARY SUPPORT
- PCMS — TRAFFIC CONTROL SIGNS PORTABLE CHANGABLE MESSAGE
- CC — CRASH CUSHION TEMPORARY
- CONCRETE BARRIER TEMPORARY PRECAST
- TRAFFIC FLOW ARROW
- WORK ZONE

NOTES FOR TRAFFIC CONTROL

1) DETAIL WAS DEVELOPED BASED ON GUIDANCE IN SDD 15D-12-B "TRAFFIC CONTROL LANE CLOSURE, SPEED REDUCTION". REFER TO THE SDD FOR ADDITIONAL INFORMATION NOT PROVIDED ON THIS SHEET.

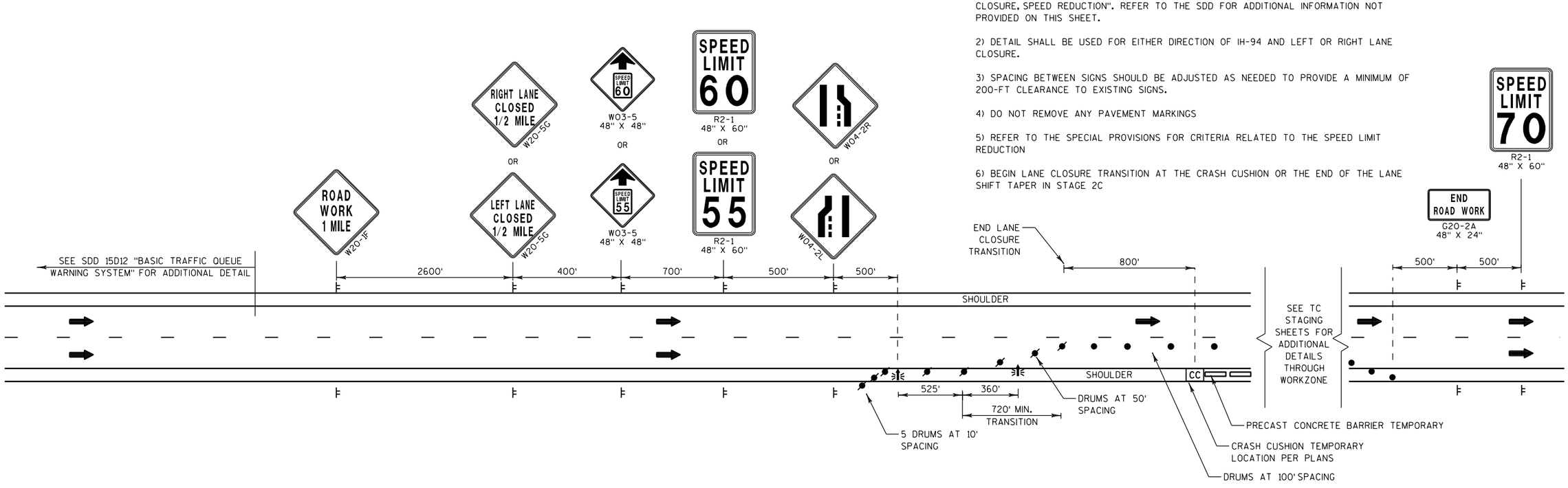
2) DETAIL SHALL BE USED FOR EITHER DIRECTION OF IH-94 AND LEFT OR RIGHT LANE CLOSURE.

3) SPACING BETWEEN SIGNS SHOULD BE ADJUSTED AS NEEDED TO PROVIDE A MINIMUM OF 200-FT CLEARANCE TO EXISTING SIGNS.

4) DO NOT REMOVE ANY PAVEMENT MARKINGS

5) REFER TO THE SPECIAL PROVISIONS FOR CRITERIA RELATED TO THE SPEED LIMIT REDUCTION

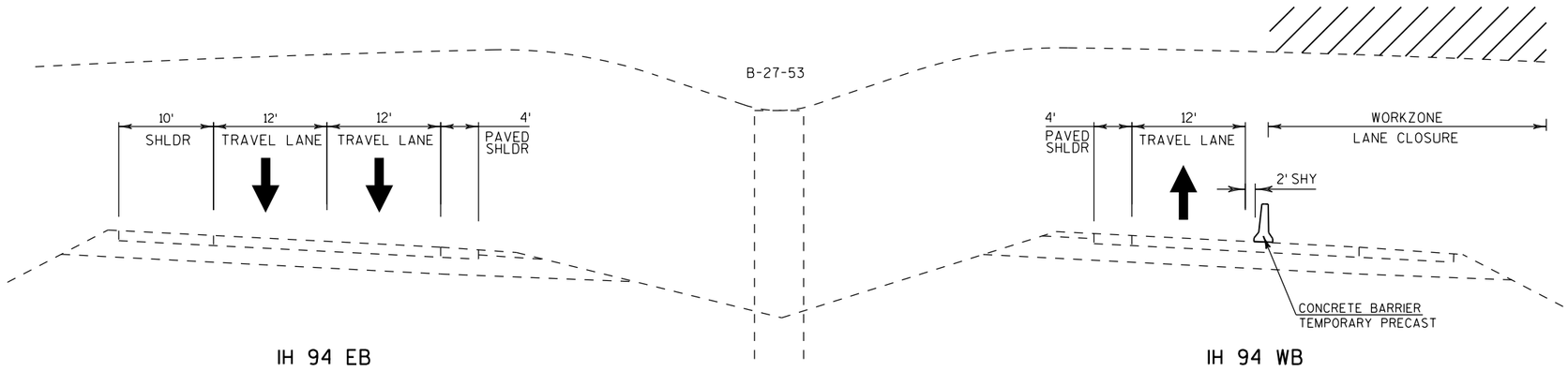
6) BEGIN LANE CLOSURE TRANSITION AT THE CRASH CUSHION OR THE END OF THE LANE SHIFT TAPER IN STAGE 2C



ADVANCED SIGNING - LONG TERM LANE CLOSURE

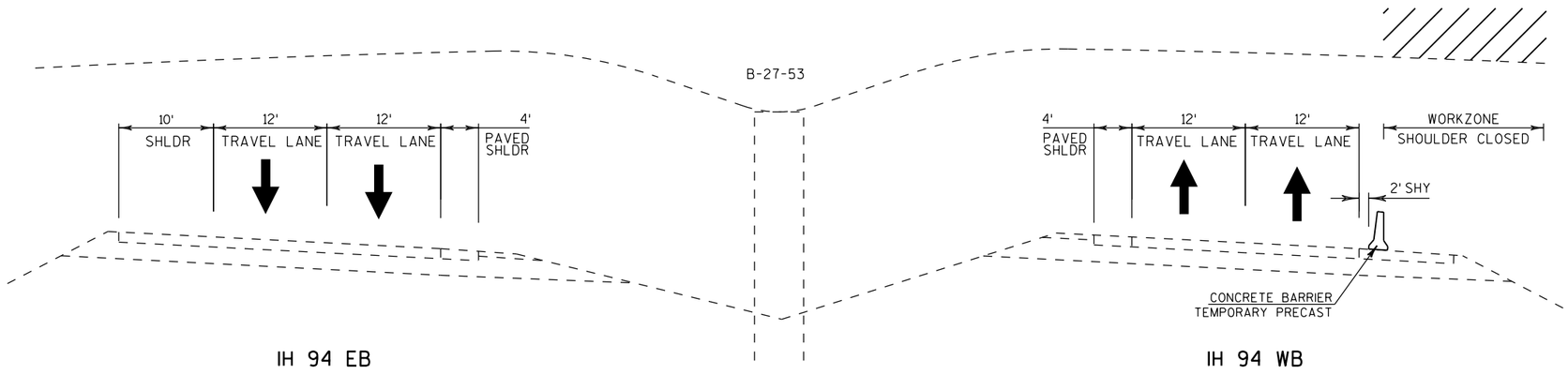
PROJECT NO: 1023-00-83	HWY: IH 94	COUNTY: JACKSON	TRAFFIC CONTROL DETAILS	SHEET 5	E

2



IH-94 STAGE 1A

WEEKDAYS (SEE SPECIFICATIONS)
LOOKING NORTH



IH-94 STAGE 1B

WEEKENDS (SEE SPECIFICATIONS)
LOOKING NORTH

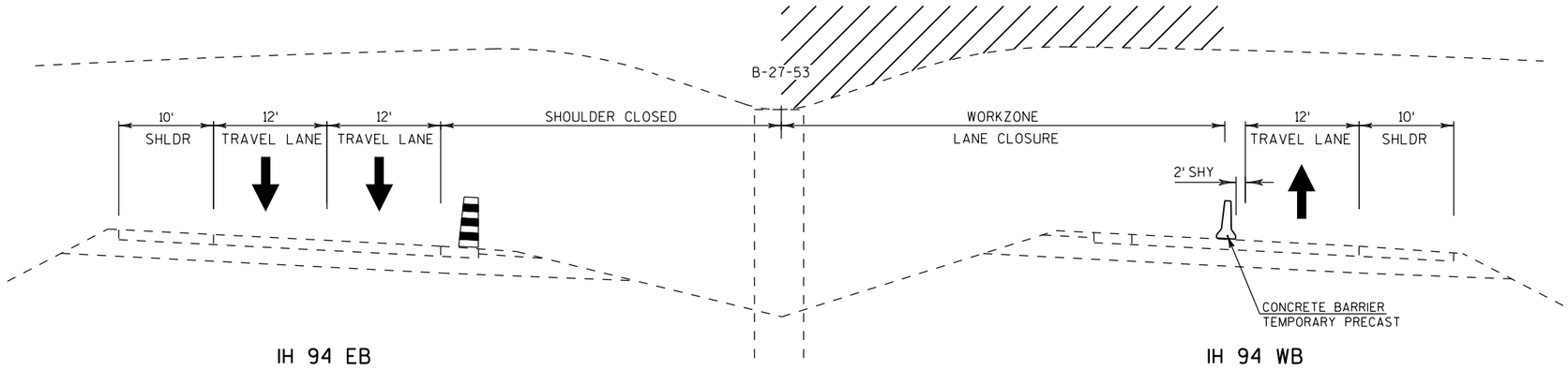
LEGEND

TRAFFIC FLOW ARROW

WORK ZONE

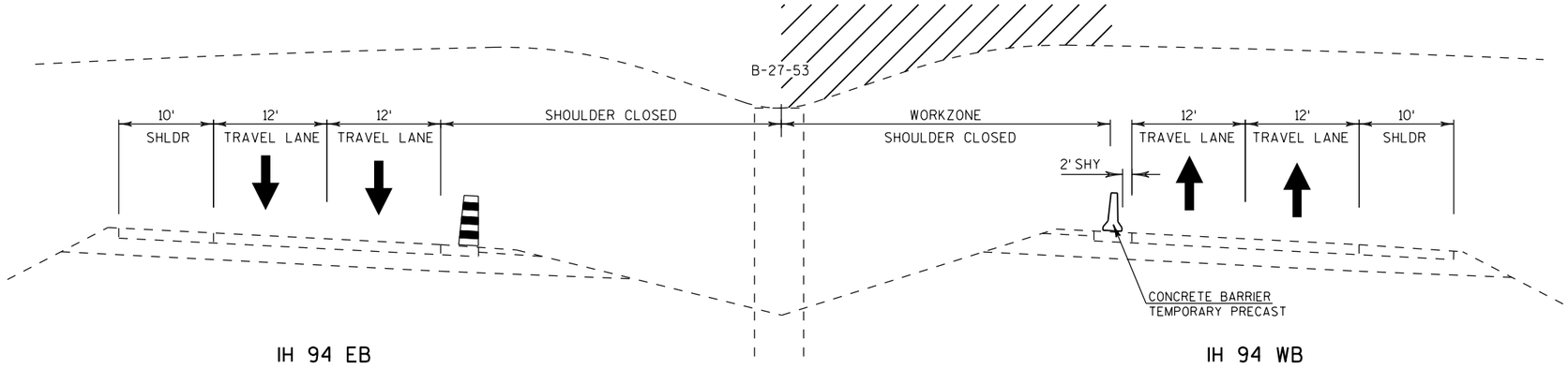
PROJECT NO: 1023-00-83	HWY: IH 94	COUNTY: JACKSON	TRAFFIC CONTROL - TYPICAL SECTIONS	SHEET 6	E

2



IH-94 STAGE 2A

WEEKDAYS (SEE SPECIFICATIONS)
LOOKING NORTH



IH-94 STAGE 2B

WEEKENDS (SEE SPECIFICATIONS)
LOOKING NORTH

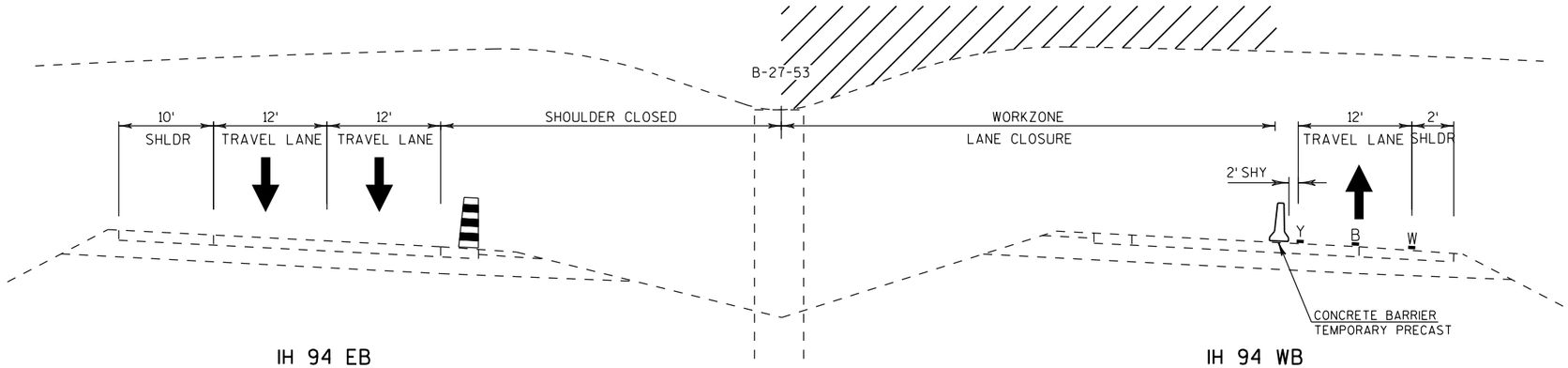
LEGEND

TRAFFIC FLOW ARROW

WORK ZONE

PROJECT NO: 1023-00-83	HWY: IH 94	COUNTY: JACKSON	TRAFFIC CONTROL - TYPICAL SECTIONS	SHEET 7	E

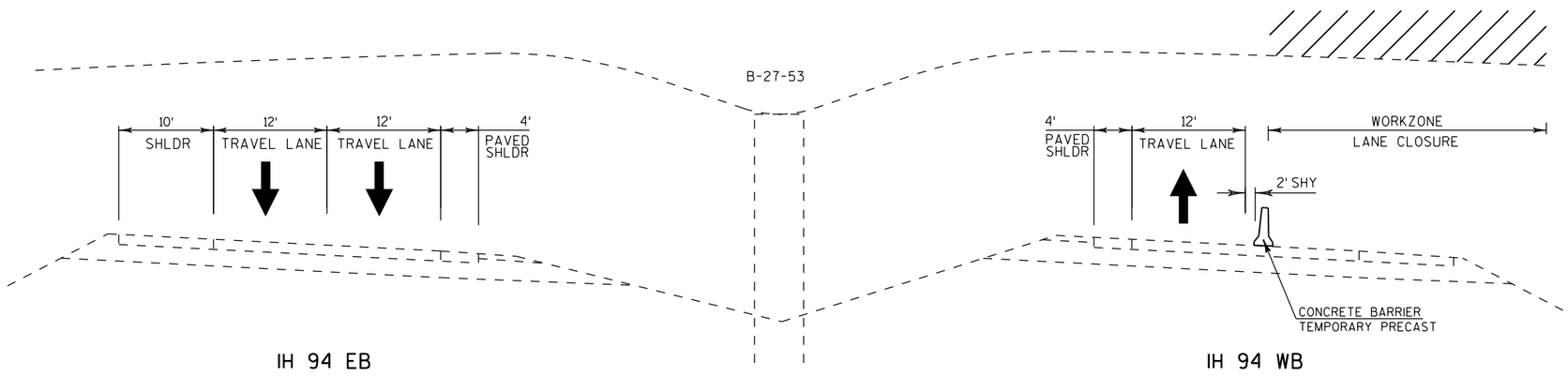
2



IH-94 STAGE 2C

WEEKDAYS (SEE SPECIFICATIONS)
LOOKING NORTH

Y : TEMP MARKING REMOVABLE TAPE - YELLOW
W : TEMP MARKING REMOVABLE TAPE - WHITE
B : TEMP MARKING REMOVABLE TAPE - BLACK NON-REFLECTIVE



IH-94 STAGE 3

WEEKDAYS (SEE SPECIFICATIONS)
LOOKING NORTH

LEGEND

TRAFFIC FLOW ARROW

WORK ZONE

PROJECT NO: 1023-00-83	HWY: IH 94	COUNTY: JACKSON	TRAFFIC CONTROL - TYPICAL SECTIONS	SHEET 8	E

FILE NAME : \\milw00\ingrproj\73176\WO-9\t1\cds\025200_tc.dgn PLOT DATE : 5/4/2021 1:57:38 PM PLOT BY : grosemeyer PLOT NAME : $FILE$ PLOT SCALE : 15:1

STHDOT/CADDS SHEET 42

2

2

INTERSTATE 94

E

54

CITY LIMITS

BLACK RIVER FALLS

WEST BAUER ROAD

UPRR

F

①

B-27-53
WORKZONE

C

③ ④ ⑤ ⑥ ⑦

CASTLE MOUNT ROAD

② F ④ ③

27

INTERSTATE 94

BROCKWAY ROAD

54

12

N

ROAD WORK AHEAD W20-1

① TWO (2) SIGNS, EACH SHOULDER ON THE EB IH-94 ENTRANCE RAMP

R11-3C 60" X 24"
BRIDGE OUT 2 MILES AHEAD
TYPE III BARRICADE

② PLACED ALONG THE EB OUTSIDE SHOULDER

ROAD CLOSED 500 FT W20-3

③ PLACED 500-FT BEFORE BARRICADE CLOSURE

ROAD CLOSED 1500 FT W20-3

④ PLACED 1,000-FT BEFORE SIGN (3)

R11-3C 60" X 24"
BRIDGE OUT 0.5 MILES AHEAD
TYPE III BARRICADE

⑤ PLACED ALONG THE EB OUTSIDE SHOULDER

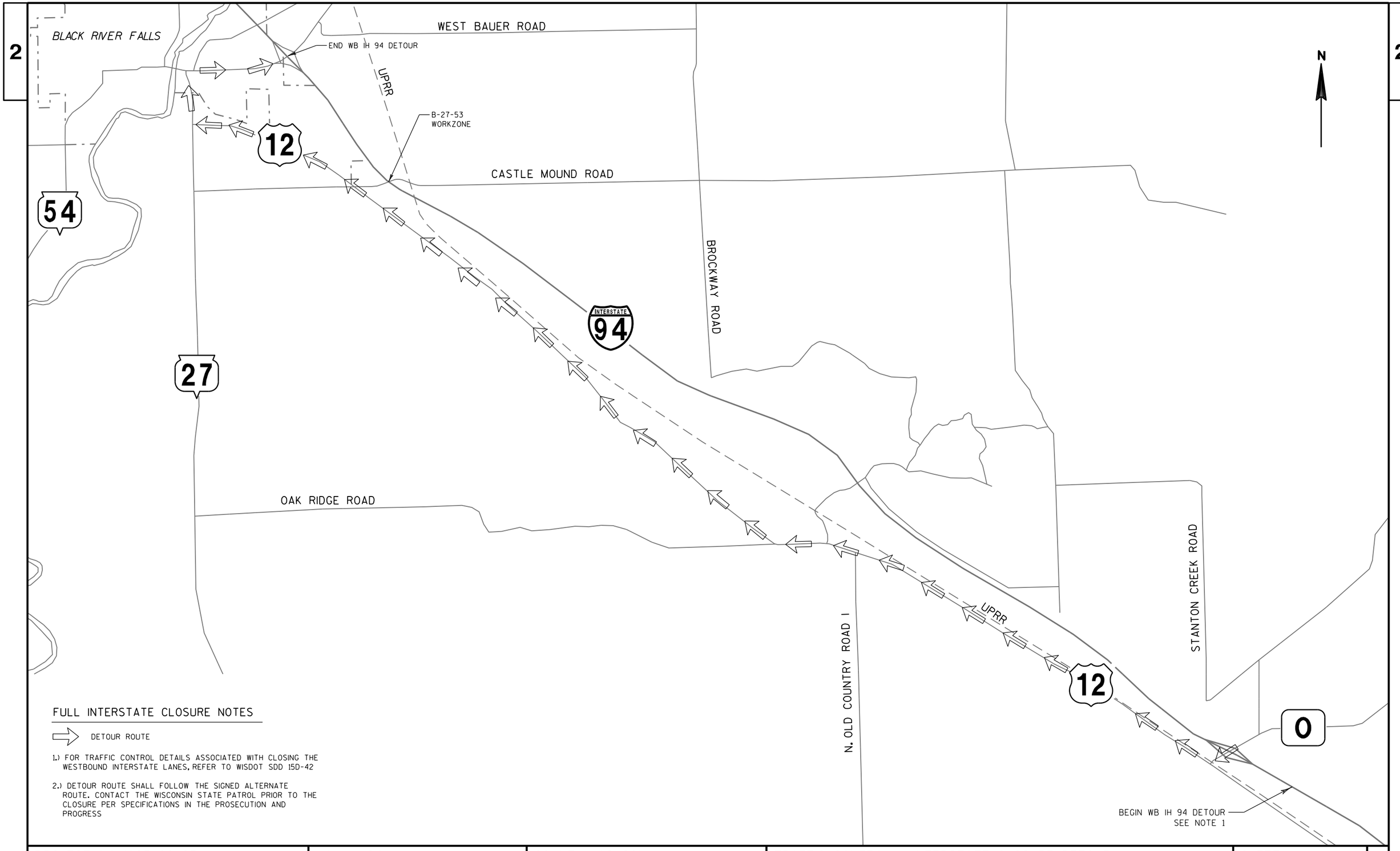
R11-3C 60" X 24"
BRIDGE OUT 3 MILES AHEAD
TYPE III BARRICADE

⑥ PLACED ALONG THE WB OUTSIDE SHOULDER

ROAD CLOSED AHEAD W20-3

⑦ PLACED ONE MILE WEST OF BROCKWAY

PROJECT NO: 1023-00-83	HWY: IH 94	COUNTY: JACKSON	TRAFFIC CONTROL - ADVANCED SIGNING	SHEET 9	E



FULL INTERSTATE CLOSURE NOTES

⇨ DETOUR ROUTE

1.) FOR TRAFFIC CONTROL DETAILS ASSOCIATED WITH CLOSING THE WESTBOUND INTERSTATE LANES, REFER TO WISDOT SDD 15D-42

2.) DETOUR ROUTE SHALL FOLLOW THE SIGNED ALTERNATE ROUTE. CONTACT THE WISCONSIN STATE PATROL PRIOR TO THE CLOSURE PER SPECIFICATIONS IN THE PROSECUTION AND PROGRESS

PROJECT NO: 1023-00-83	HWY: IH 94	COUNTY: JACKSON	TRAFFIC CONTROL - INTERSTATE CLOSURE DETOUR	SHEET 10 E

2

R11-2B
48" X 30"
ROAD CLOSED
TYPE III BARRICADE

R11-2B
48" X 30"
BRIDGE OUT
TYPE III BARRICADE

SEE ADVANCED SIGNING DETAIL

5 DRUMS SPACED AT 10-FEET

25' TYP

IH-94 WB

1624WB 1625WB 1626WB 1627WB 1628WB 1629WB 1630WB 1631WB

50' 50' 8:1 TAPER 50' 100' TYP

FACE OF BARRIER SET
2' SHY TO CENTER LINE SKIPS

W05-52R
18" X 54"

2' OFFSET FROM EDGE OF TRAVEL LANE

SEE ADVANCED SIGNING DETAIL

CC

130 129 128 127 126 125

500'

500'

CASTLE MOUND ROAD

1625EB 1626EB 1627EB 1628EB 1629EB 1630EB 1631EB 1632E

IH-94 EB

R11-2B
48" X 30"
ROAD CLOSED
TYPE III BARRICADE

R11-2B
48" X 30"
BRIDGE OUT
TYPE III BARRICADE

STAGE 1A TC AND OPERATIONS

GENERAL NOTES

1) SEE SEPARATE DETAIL SHEET FOR ADVANCED SIGNING FOR CASTLE MOUND ROAD CLOSURE

ANTICIPATED CONTRACTOR OPERATIONS

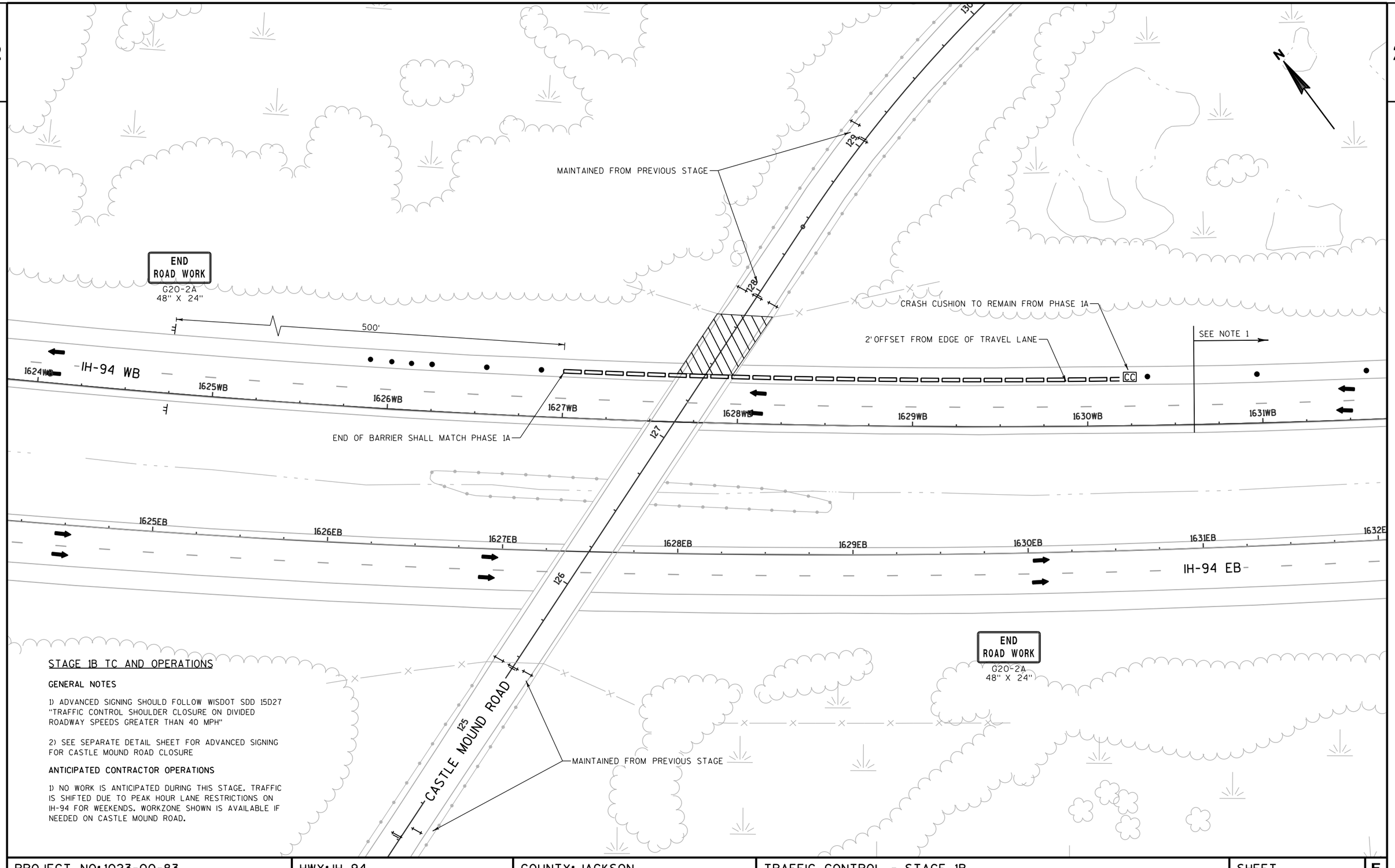
1) BEGIN REMOVAL OF THE BRIDGE DECK AND PARAPET ON CASTLE MOUND ROAD
2) REMOVE AND REPLACE DIAPHRAMS
3) GIRDER HEAT STRAIGHTENING

PROJECT NO: 1023-00-83	HWY: IH 94	COUNTY: JACKSON	TRAFFIC CONTROL - STAGE 1A	SHEET 11	E

FILE NAME : \\milw00\ingrproj\73176\WO-9\t1\cds\026101_st1a.dgn PLOT DATE : 5/4/2021 1:58:51 PM PLOT BY : arosemeyer PLOT NAME : PLOT SCALE : 50:1

WISDOT/CADDS SHEET 42

2



STAGE 1B TC AND OPERATIONS

GENERAL NOTES

1) ADVANCED SIGNING SHOULD FOLLOW WISDOT SDD 15D27 "TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY SPEEDS GREATER THAN 40 MPH"

2) SEE SEPARATE DETAIL SHEET FOR ADVANCED SIGNING FOR CASTLE MOUND ROAD CLOSURE

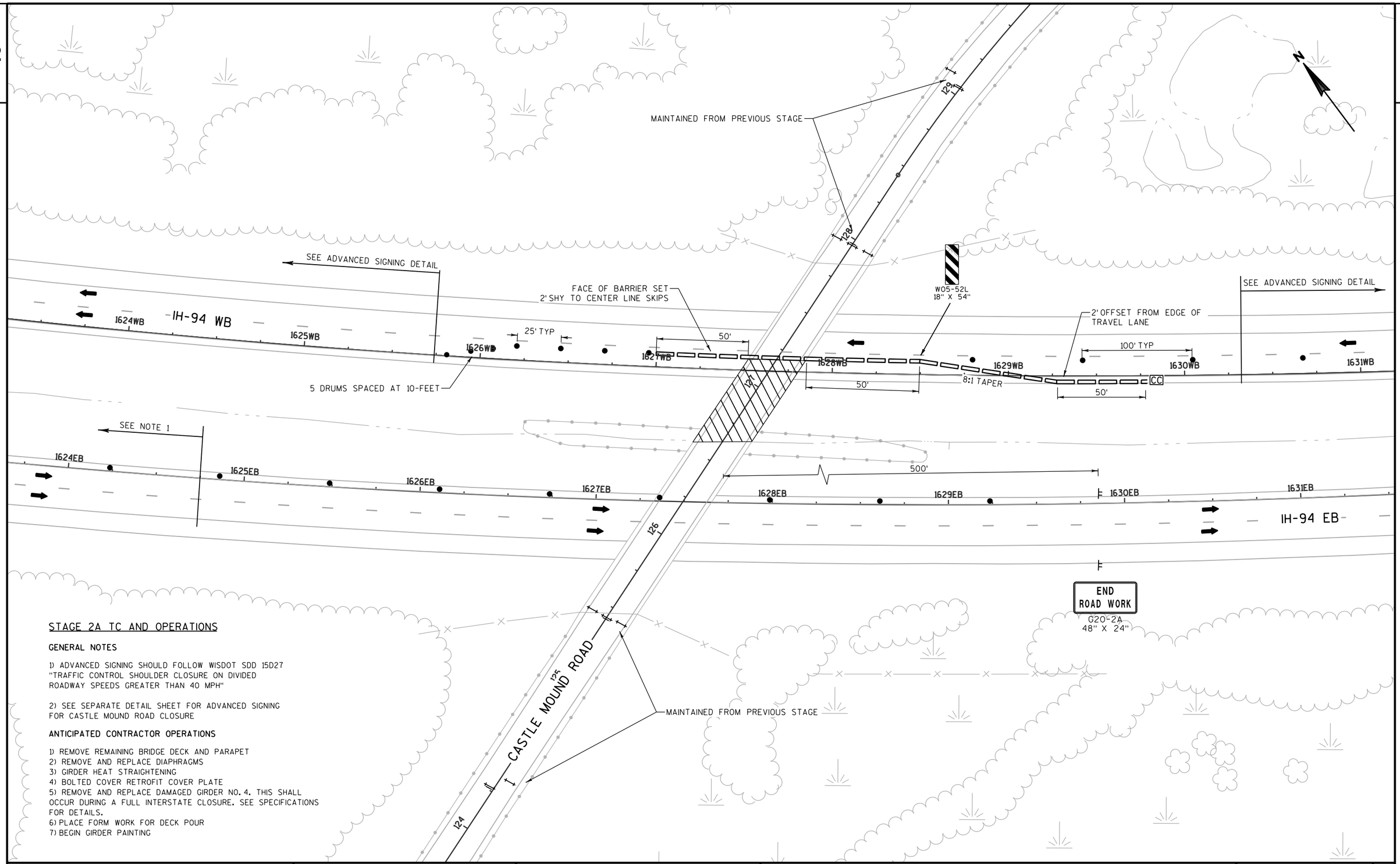
ANTICIPATED CONTRACTOR OPERATIONS

1) NO WORK IS ANTICIPATED DURING THIS STAGE. TRAFFIC IS SHIFTED DUE TO PEAK HOUR LANE RESTRICTIONS ON IH-94 FOR WEEKENDS. WORKZONE SHOWN IS AVAILABLE IF NEEDED ON CASTLE MOUND ROAD.

PROJECT NO: 1023-00-83	HWY: IH 94	COUNTY: JACKSON	TRAFFIC CONTROL - STAGE 1B	SHEET	E

FILE NAME : \\milw00\ingrproj\73176\WO-9\t1\cds\026102_st1b.dgn PLOT DATE : 5/4/2021 1:59:13 PM PLOT BY : grosemeyer PLOT NAME : PLOT SCALE : 50:1
WISDOT/CADDS SHEET 42

2



STAGE 2A TC AND OPERATIONS

GENERAL NOTES

1) ADVANCED SIGNING SHOULD FOLLOW WISDOT SDD 15D27 "TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY SPEEDS GREATER THAN 40 MPH"

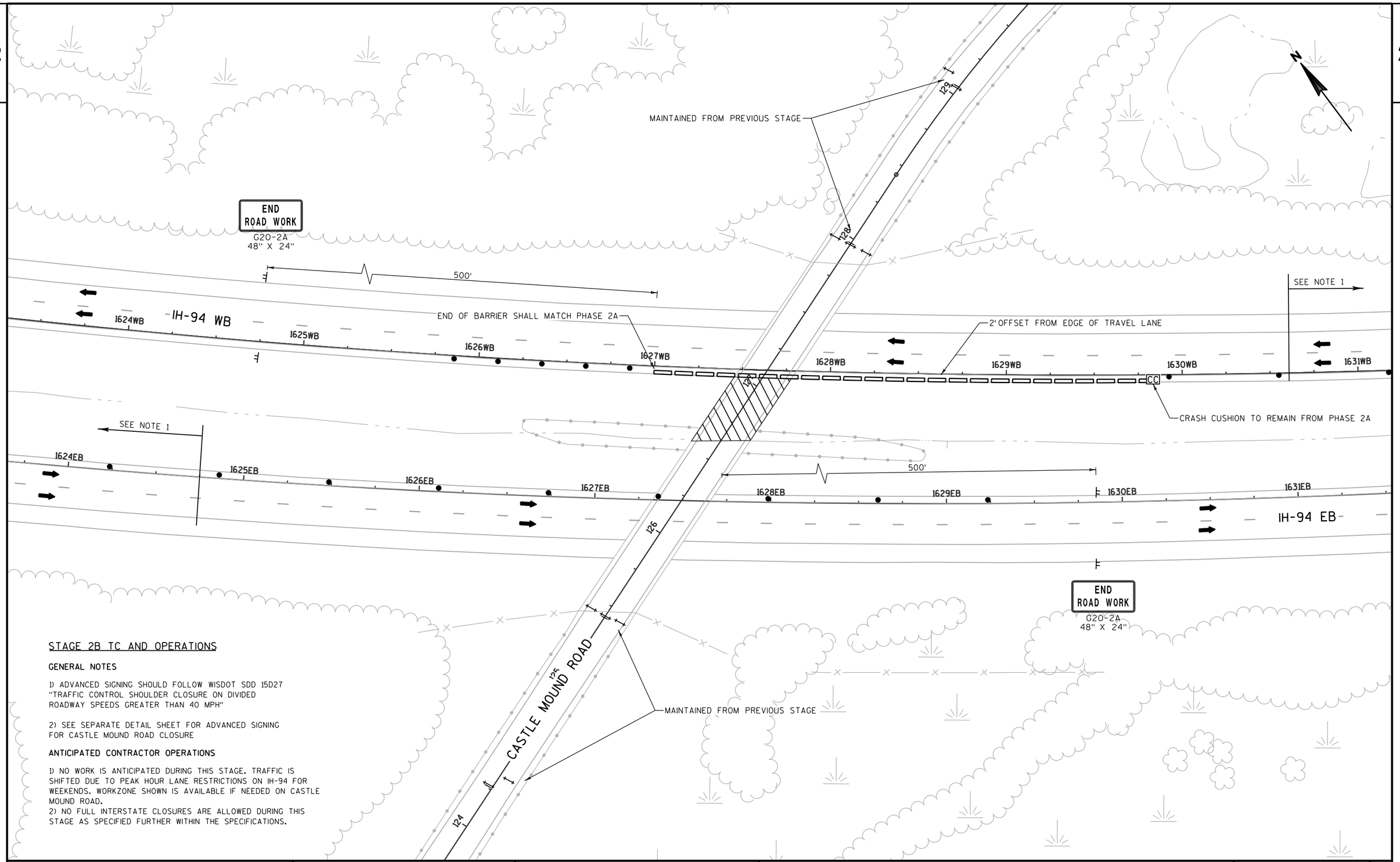
2) SEE SEPARATE DETAIL SHEET FOR ADVANCED SIGNING FOR CASTLE MOUND ROAD CLOSURE

ANTICIPATED CONTRACTOR OPERATIONS

1) REMOVE REMAINING BRIDGE DECK AND PARAPET
2) REMOVE AND REPLACE DIAPHRAGMS
3) GIRDER HEAT STRAIGHTENING
4) BOLTED COVER RETROFIT COVER PLATE
5) REMOVE AND REPLACE DAMAGED GIRDER NO. 4. THIS SHALL OCCUR DURING A FULL INTERSTATE CLOSURE. SEE SPECIFICATIONS FOR DETAILS.
6) PLACE FORM WORK FOR DECK POUR
7) BEGIN GIRDER PAINTING

PROJECT NO: 1023-00-83	HWY: IH 94	COUNTY: JACKSON	TRAFFIC CONTROL - STAGE 2A	SHEET 13 E

2



STAGE 2B TC AND OPERATIONS

GENERAL NOTES

1) ADVANCED SIGNING SHOULD FOLLOW WISDOT SDD 15D27 "TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY SPEEDS GREATER THAN 40 MPH"

2) SEE SEPARATE DETAIL SHEET FOR ADVANCED SIGNING FOR CASTLE MOUND ROAD CLOSURE

ANTICIPATED CONTRACTOR OPERATIONS

1) NO WORK IS ANTICIPATED DURING THIS STAGE. TRAFFIC IS SHIFTED DUE TO PEAK HOUR LANE RESTRICTIONS ON IH-94 FOR WEEKENDS. WORKZONE SHOWN IS AVAILABLE IF NEEDED ON CASTLE MOUND ROAD.
2) NO FULL INTERSTATE CLOSURES ARE ALLOWED DURING THIS STAGE AS SPECIFIED FURTHER WITHIN THE SPECIFICATIONS.

PROJECT NO: 1023-00-83	HWY: IH 94	COUNTY: JACKSON	TRAFFIC CONTROL - STAGE 2B	SHEET 14	E

2

N

MAINTAINED FROM PREVIOUS STAGE

TEMP. PAVEMENT MARKING
REMOVABLE TAPE - WHITE

TEMP. PAVEMENT MARKING
REMOVABLE TAPE - YELLOW

TEMP. PAVEMENT MARKING
REMOVABLE TAPE - BLACK
NON-REFLECTIVE

1627WB+00
END TAPER

W05-52L
18" X 54"

1630WB+00
BEGIN TAPER

W024-1R

PLACED AT THE 'END OF LANE CLOSURE TRANSITION' PER "ADVANCED SIGNING - LONG TERM CLOSURE" DETAIL IN THIS SET OF PLANS

SEE ADVANCED SIGNING DETAIL

SEE ADVANCED SIGNING DETAIL

50:1 TAPER

50:1 TAPER

IH-94 WB

1623WB 1624WB 1625WB 1626WB 1627WB 1628WB 1629WB 1630WB 1631WB 1632WB 1633WB 1634WB

50'

25' TYP

100' TYP

8:1 TAPER

50'

5 DRUMS SPACED AT 10-FEET

2' OFFSET FROM EDGE OF TRAVEL LANE

SEE NOTE 1

500'

1623EB 1624EB 1625EB 1626EB 1627EB 1628EB 1629EB 1630EB 1631EB 1632EB 1633EB 1634EB

IH-94 EB

END
ROAD WORK
G20-2A
48" X 24"

CASTLE MOUND ROAD

MAINTAINED FROM PREVIOUS STAGE

STAGE 2C TRAFFIC CONTROL

GENERAL NOTES

1) ADVANCED SIGNING SHOULD FOLLOW WISDOT SDD 15D27 "TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY SPEEDS GREATER THAN 40 MPH"

2) SEE SEPARATE DETAIL SHEET FOR ADVANCED SIGNING FOR CASTLE MOUND ROAD CLOSURE

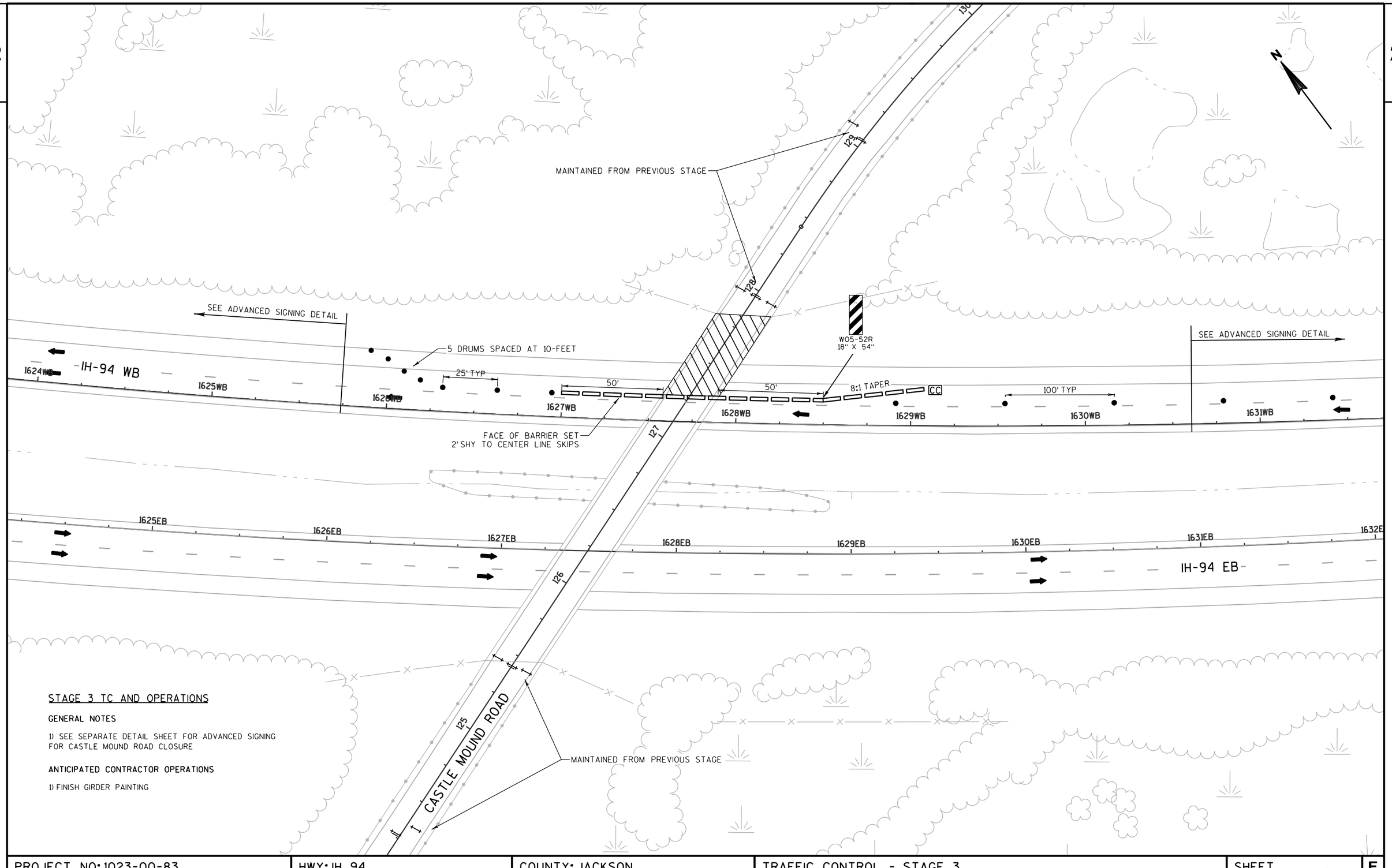
3) STAGE 2C SHALL BE IN USE FOR A MAXIMUM OF 4 CONSECUTIVE DAYS AS DIRECTED WITHIN THE SPECIFICATIONS.

ANTICIPATED CONTRACTOR OPERATIONS

1) OPERATIONS REMAIN THE SAME AS STAGE 2A PLUS ADDITIONAL ITEMS BELOW. THIS SUB-STAGE OPENS UP THE AREA BETWEEN LANES 1 AND 2 WHICH IS NOT DIRECTLY ACCESSIBLE DURING STAGES 1A AND 2A.
2) DECK POUR
3) CONSTRUCT PARAPET

PROJECT NO: 1023-00-83	HWY: IH 94	COUNTY: JACKSON	TRAFFIC CONTROL - STAGE 2C	SHEET 15	E

2



STAGE 3 TC AND OPERATIONS

GENERAL NOTES

1) SEE SEPARATE DETAIL SHEET FOR ADVANCED SIGNING FOR CASTLE MOUND ROAD CLOSURE

ANTICIPATED CONTRACTOR OPERATIONS

1) FINISH GIRDER PAINTING

PROJECT NO: 1023-00-83	HWY: IH 94	COUNTY: JACKSON	TRAFFIC CONTROL - STAGE 3	SHEET	E

FILE NAME : \\milw00\ingrproj\73176\WO-9\t1\cds\026301_st3.dgn PLOT DATE : 5/4/2021 2:00:44 PM PLOT BY : arosemeyer PLOT NAME : PLOT SCALE : 50:1
WISDOT/CADDS SHEET 42

2

BEGIN ALIGNMENT
STA 1604WB+00.00
N: 92753.08
E: 97857.84

BEGIN ALIGNMENT
STA 1604EB+00.00
N: 92702.67
E: 97772.31

PC CURVE WB-1
STA 1607+37.94

PC CURVE EB-1
STA 1606+99.03

1605WB
1605EB
S 30°49'38" E
1610WB
1610EB
IH 94
1615WB
1615EB
1620WB
1620EB
1625WB
1625EB
1630WB
1630EB
1635WB
1635EB
1640WB
1640EB
S 59°49'10" E
1645WB
1645EB

PI CURVE EB-1
STA 1621+80.59

PI CURVE WB-1
STA 1622+23.13

END PROJECT
STA 127+83.50

PI CURVE CMR-1
STA 130+01.29

PT CURVE CMR-1
STA 131+54.63

CASTLE MOUND ROAD

PC CURVE CMR-1
STA 128+44.08

130
125
N 70°33'32" E

BEGIN PROJECT
STA 125+46.30

BEGIN ALIGNMENT
STA 122+00.00
N: 90770.10
E: 98869.92

PT CURVE WB-1
STA 1636+44.43

PT CURVE EB-1
STA 1635+98.64

END ALIGNMENT
STA 1647WB+00.00

END ALIGNMENT
STA 1647EB+00.00

CASTLE MOUND ROAD
CURVE CMR-1
PI 130+01.29
N= 91036.80
E= 99625.52
Delta= 21°58'02.43"
D= 7°04'24.79"
T= 157.21
L= 310.56
R =810.00

IH-94 WB
CURVE WB-1
PI 1622+23.01
N= 91187.64
E= 98792.04
Delta= 28°59'31.19"
D= 0°59'50.96"
T= 1485.07
L= 2906.50
R= 5744.00
SE= 3.30%

IH-94 EB
CURVE EB-1
PI 1621+80.59
N= 91174.86
E= 98686.80
Delta= 28°59'45.64"
D= 1°00'00.00"
T= 1481.56
L= 2899.60
R= 5729.58
SE= 3.30%

N

PROJECT NO: 1023-00-83	HWY: IH 94	COUNTY: JACKSON	ALIGNMENT DETAILS	SHEET	E

FILE NAME : \\milw00\ingrproj\73176\W0-9\t1\cds\027202_ad.dgn PLOT DATE : 2/2/2021 7:42:12 AM PLOT BY : arosemeyer PLOT NAME : PLOT SCALE : 320:1
WISDOT/CADDS SHEET 42

1023-00-83

Line	Item	Item Description	Unit	Total	Qty
0002	203.0200	Removing Old Structure (station) 04. 126+63	LS	1.000	1.000
0004	203.0210.S	Abatement of Asbestos Containing Material (structure) 04. B-27-53	LS	1.000	1.000
0006	213.0100	Finishing Roadway (project) 01. 1023-00-83	EACH	1.000	1.000
0008	502.0100	Concrete Masonry Bridges	CY	19.000	19.000
0010	502.3200	Protective Surface Treatment	SY	66.000	66.000
0012	502.3210	Pigmented Surface Sealer	SY	22.000	22.000
0014	502.4106	Adhesive Anchors 3/4-inch	EACH	1.000	1.000
0016	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	5,710.000	5,710.000
0018	506.0105	Structural Steel Carbon	LB	4,400.000	4,400.000
0020	506.0605	Structural Steel HS	LB	12,640.000	12,640.000
0022	513.9005.S	Removing and Resetting Tubular Railing (structure) 01. B-27-53	LS	1.000	1.000
0024	517.0600	Painting Epoxy System (structure) 01. B-27-53	LS	1.000	1.000
0026	517.3000.S	Structure Overcoating Cleaning and Priming (structure) 01. B-27-53	LS	1.000	1.000
0028	517.4000.S	Containment and Collection of Waste Materials (structure) 01. B-27-53	LS	1.000	1.000
0030	603.8000	Concrete Barrier Temporary Precast Delivered	LF	810.000	810.000
0032	603.8125	Concrete Barrier Temporary Precast Installed	LF	3,040.000	3,040.000
0034	614.0905	Crash Cushions Temporary	EACH	3.000	3.000
0036	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1023-00-83	EACH	1.000	1.000
0038	619.1000	Mobilization	EACH	1.000	1.000
0040	627.0200	Mulching	SY	890.000	890.000
0042	628.1910	Mobilizations Emergency Erosion Control	EACH	1.000	1.000
0044	629.0210	Fertilizer Type B	CWT	0.600	0.600
0046	630.0120	Seeding Mixture No. 20	LB	24.000	24.000
0048	630.0200	Seeding Temporary	LB	24.000	24.000
0050	642.5001	Field Office Type B	EACH	1.000	1.000
0052	643.0300	Traffic Control Drums	DAY	5,220.000	5,220.000
0054	643.0420	Traffic Control Barricades Type III	DAY	847.000	847.000
0056	643.0705	Traffic Control Warning Lights Type A	DAY	2,665.000	2,665.000
0058	643.0715	Traffic Control Warning Lights Type C	DAY	1,694.000	1,694.000
0060	643.0800	Traffic Control Arrow Boards	DAY	112.000	112.000
0062	643.0900	Traffic Control Signs	DAY	2,009.000	2,009.000
0064	643.0920	Traffic Control Covering Signs Type II	EACH	10.000	10.000
0066	643.1051	Traffic Control Signs PCMS with Cellular Communications	DAY	34.000	34.000
0068	643.1205.S	Basic Traffic Queue Warning System	DAY	70.000	70.000
0070	643.4100.S	Traffic Control Interim Lane Closure	EACH	10.000	10.000

1023-00-83

Line	Item	Item Description	Unit	Total	Qty
0072	643.5000	Traffic Control	EACH	1.000	1.000
0074	649.0150	Temporary Marking Line Removable Tape 4-Inch	LF	3,300.000	3,300.000
0076	650.9910	Construction Staking Supplemental Control (project) 01. 1023-00-83	LS	1.000	1.000
0078	715.0502	Incentive Strength Concrete Structures	DOL	190.000	190.000
0080	SPV.0060	Special 01. Welded Stud Shear Connectors 3/4x3-INCH	EACH	342.000	342.000
0082	SPV.0105	Special 01. Heat Straightening Of Damaged Girders	LS	1.000	1.000
0084	SPV.0105	Special 02. Counterweight Structure	LS	1.000	1.000

3

FINISHING ROADWAY

ROADWAY	213.0100 EACH
CASTLE MOUND ROAD	1
PROJECT 1023-00-83 TOTAL	1

MOBILIZATION

ROADWAY	619.1000 EACH
CASTLE MOUND ROAD	1
PROJECT 1023-00-83 TOTAL	1

FIELD OFFICE TYPE B

ROADWAY	642.5001 EACH
CASTLE MOUND ROAD	1
PROJECT 1023-00-83 TOTAL	1

3

RESTORATION ITEMS

ROADWAY	627.0200 MULCHING SY	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LBS	630.0200 SEEDING TEMPORARY LBS
I-94 MEDIAN	890	1	0.6	24	24
PROJECT 1023-00-83 TOTAL	890	1	0.6	24	24

* RESTORATION ITEMS SHALL BE APPLIED AS REQUESTED BY THE ENGINEER

CONCRETE BARRIER TEMPORARY PRECAST

ROADWAY	STATION RANGE			OFFSET	NO. OF MOVES	603.8000 DELIVERED LF	603.8125 INSTALLED LF
PHASE 1A							
I-94 WB	1627WB+00	to	1630WB+20	LEFT	--	320	320
PHASE 1B							
I-94 WB	1627WB+00	to	1630WB+20	LEFT	4	--	1,080
PHASE 2A							
I-94 WB	1627WB+00	to	1629WB+80	LT/RT	--	280	280
PHASE 2B							
I-94 WB	1627WB+00	to	1629WB+80	RT	4	--	920
PHASE 2C							
I-94 WB	1627WB+00	to	1629WB+80	RT	1	--	230
PHASE 3							
I-94 WB	1627WB+00	to	1629WB+80	RT	1	210	210
PROJECT 1023-00-83 TOTAL						810	3,040

TEMPORARY MARKINGS

ROADWAY	STATION RANGE			649.0150 TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH LF	COMMENTS
I-94 WB	1625WB+00	to	1632WB+00	1100	WHITE
	1625WB+00	to	1632WB+00	1100	YELLOW
	1625WB+00	to	1632WB+00	1100	BLACK NON-REFLECTIVE
PROJECT 1023-00-83 TOTAL				3,300	--

CRASH CUSHION

ROADWAY	PHASE	614.0905 CRASH CUSHION TEMPORARY EACH	DESIGN SPEED	OBJECT MARKING PATTERN	TRAFFIC DIRECTION	CRASH CUSHION SHIELDS
IH 94 WB	1A+1B	1	60	OM-3R (W5-58R SIGN PLATE)	ONE-DIRECTION	TEMPORARY CONCRETE BARRIER ON SHOULDER
IH 94 WB	2A+2B+2C	1	60	OM-3L (W5-58L SIGN PLATE)	ONE-DIRECTION	TEMPORARY CONCRETE BARRIER ON SHOULDER
IH 94 WB	3	1	60	OM-3R (W5-58R SIGN PLATE)	ONE-DIRECTION	TEMPORARY CONCRETE BARRIER ON SHOULDER
PROJECT 1023-00-83 TOTAL		3				

FILE NAME: I:\56537\1517-75-71\t1\cds\020101_gn.ppt PLOT DATE : 3/31/2021 11:25:00 AM PLOT BY : HNTB Corp. PLOT NAME : 020101_gn1 PLOT SCALE : 1:1

TRAFFIC CONTROL ITEMS

ROADWAY	DURATION DAYS	643.5000 TRAFFIC CONTROL (1023-00-83) EACH	643.0300 TRAFFIC CONTROL DRUMS EACH*	DAYS	643.0420 TRAFFIC CONTROL BARRICADES TYPE III EACH*	DAYS	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A EACH*	DAYS	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C EACH*	DAYS	643.0800 TRAFFIC CONTROL ARROW BOARDS EACH*	DAYS	643.0900 TRAFFIC CONTROL SIGNS EACH*	DAYS	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II CYCLES	EACH	643.1051 TRAFFIC CONTROL SIGNS PCMS EACH*	DAYS	643.1205.S BASIC TRAFFIC QUEUE WARNING SYSTEM DAYS	643.4100.S TRAFFIC CONTROL INTERIM LANE CLOSURE EACH*
PRECONSTRUCTION	7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4	28	--	--
STAGE 1A																				
ADVANCED SIGNS	10	--	--	--	3	30	--	--	6	60	--	--	12	120	--	--	--	--	--	--
CASTLE MOUND ROAD	10	--	--	--	10	100	--	--	20	200	--	--	4	40	--	--	--	--	--	--
IH-94 WB	10	--	65	650	--	--	40	400	--	--	2	20	15	150	--	--	--	--	10	--
STAGE 1B																				
ADVANCED SIGNS	16	--	--	--	3	48	--	--	6	96	--	--	12	192	--	--	--	--	--	--
CASTLE MOUND ROAD	16	--	--	--	10	160	--	--	20	320	--	--	4	64	--	--	--	--	--	--
IH-94 WB	16	--	65	1,040	--	--	40	640	--	--	1	16	8	128	--	--	--	--	16	4
STAGE 2A																				
ADVANCED SIGNS	10	--	--	--	3	30	--	--	6	60	--	--	12	120	--	--	--	--	--	--
CASTLE MOUND ROAD	10	--	--	--	10	100	--	--	20	200	--	--	4	40	--	--	--	--	--	--
IH-94 WB	10	--	65	650	--	--	40	400	--	--	2	20	15	150	--	--	--	--	10	--
IH-94 EB	10	--	25	250	--	--	--	--	--	--	1	10	8	80	--	--	--	--	--	--
FULL CLOSURE	3	--	70	210	5	15	35	105	10	30	2	6	11	33	--	--	2	6	--	--
STAGE 2B																				
ADVANCED SIGNS	20	--	--	--	3	60	--	--	6	120	--	--	12	240	--	--	--	--	--	--
CASTLE MOUND ROAD	20	--	--	--	10	200	--	--	20	400	--	--	4	80	--	--	--	--	--	--
IH-94 WB	20	--	65	1,300	--	--	40	800	--	--	1	20	8	160	--	--	--	--	20	4
IH-94 EB	20	--	25	500	--	--	--	--	--	--	1	20	8	160	--	--	--	--	--	--
STAGE 2C																				
ADVANCED SIGNS	4	--	--	--	3	12	--	--	6	24	--	--	12	48	--	--	--	--	--	--
CASTLE MOUND ROAD	4	--	--	--	10	40	--	--	20	80	--	--	4	16	--	--	--	--	--	--
IH-94 WB	4	--	65	260	--	--	40	160	--	--	1	4	8	32	--	--	--	--	4	1
IH-94 EB	4	--	25	100	--	--	--	--	--	--	1	4	8	32	--	--	--	--	--	--
STAGE 3																				
ADVANCED SIGNS	4	--	--	--	3	12	--	--	6	24	--	--	12	48	--	--	--	--	--	--
CASTLE MOUND ROAD	4	--	--	--	10	40	--	--	20	80	--	--	4	16	--	--	--	--	--	--
IH-94 WB	4	--	65	260	--	--	40	160	--	--	2	8	15	60	--	--	--	--	4	1
UNDISTRIBUTED	--	1		--		--		--		--		--		--		10		--	6	--
PROJECT 1023-00-83 TOTAL		1		5,220		847		2,665		1,694		112		2,009		10		34	70	10

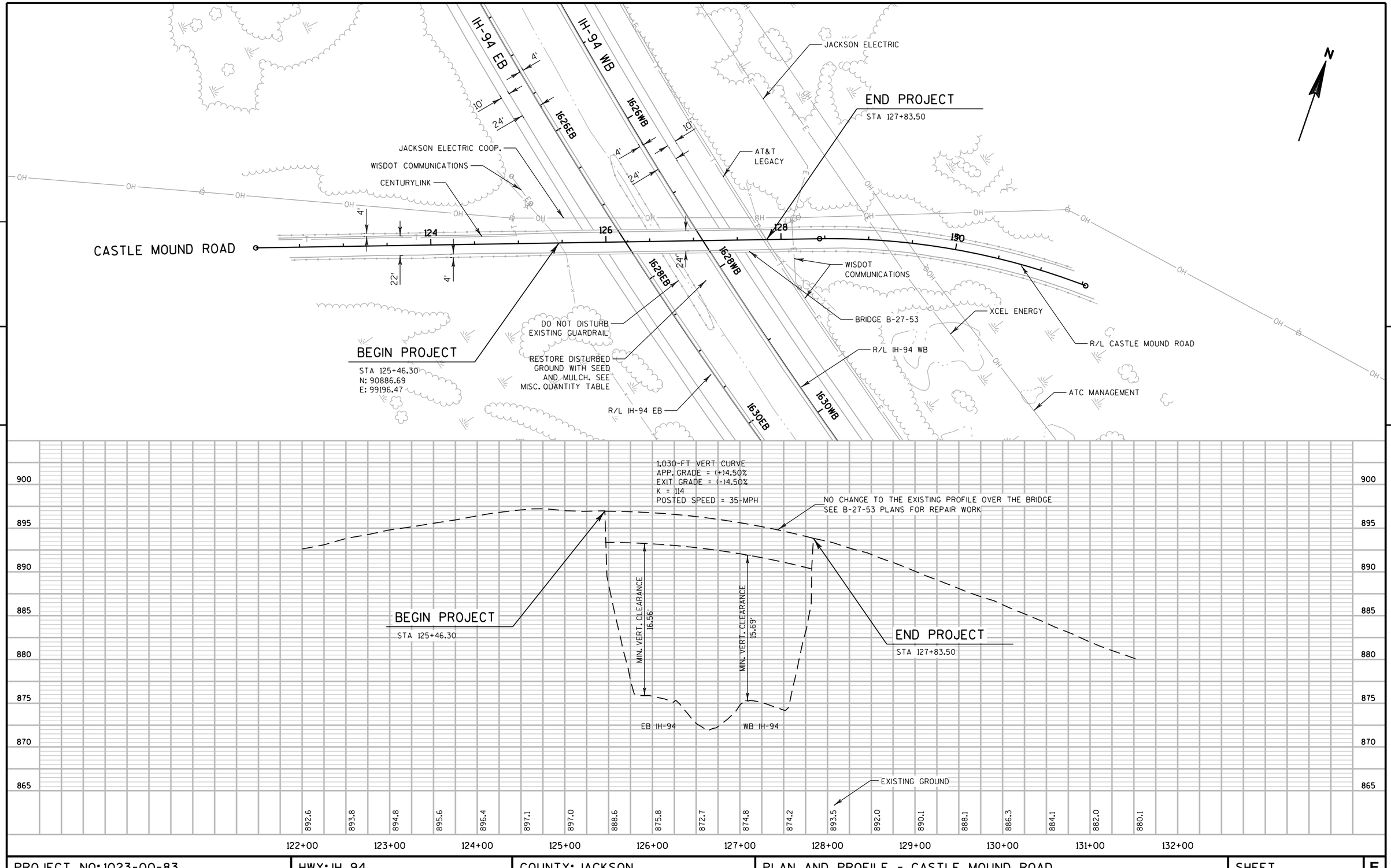
* PROVIDED FOR INFORMATION ONLY

MAINTENANCE AND REPAIR OF HAUL ROADS (1023-00-83)

ROADWAY	618.0100 EACH
PROJECT 1023-00-83	1
PROJECT TOTAL	1

CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (1023-00-83)

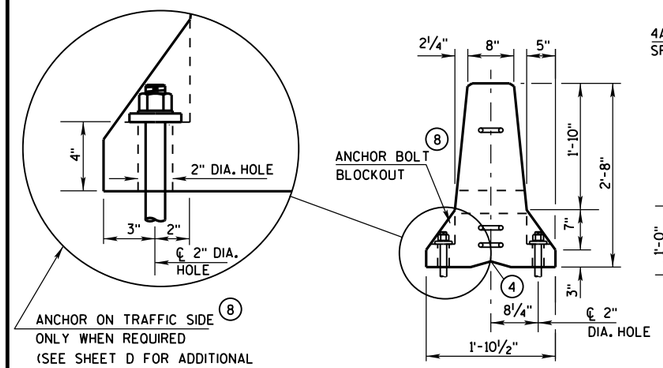
ROADWAY	650.9910 LS
CASTLE MOUND ROAD	1
PROJECT 1023-00-83 TOTAL	1



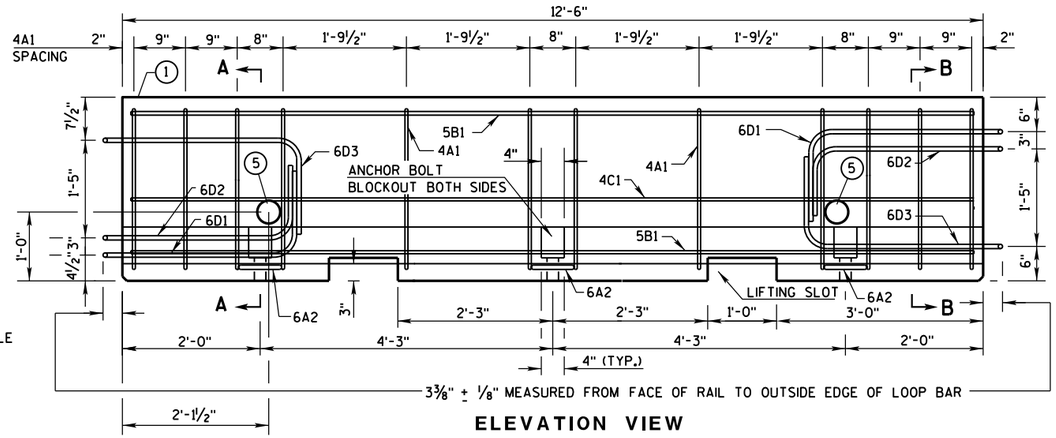
PROJECT NO: 1023-00-83	HWY: IH 94	COUNTY: JACKSON	PLAN AND PROFILE - CASTLE MOUND ROAD	SHEET 22	E

Standard Detail Drawing List

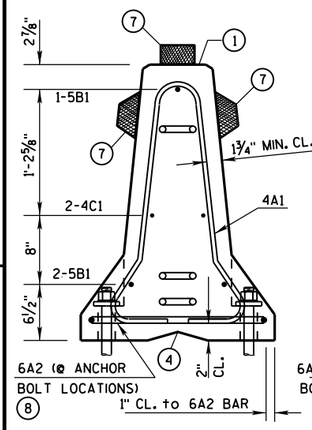
14B07-15A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15I	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C11-08B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15D03-05	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER
15D12-09B	TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION
15D12-09D	TRAFFIC CONTROL, LANE CLOSURE, BASIC TRAFFIC QUEUE WARNING SYSTEM
15D27-03	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS
15D40-02B	TRAFFIC CONTROL, FULL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER
15D40-02D	TRAFFIC CONTROL, PARTIAL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER
15D42-01	TRAFFIC CONTROL, TWO LANE FULL FREEWAY CLOSURE



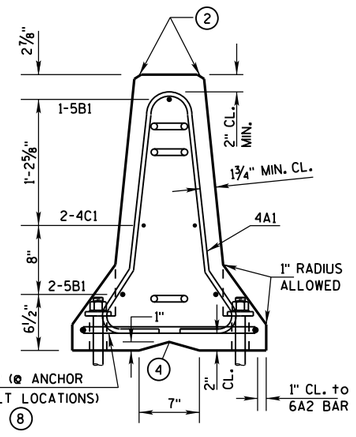
END VIEW



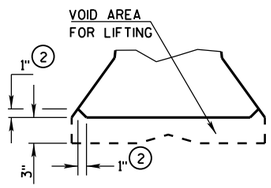
ELEVATION VIEW



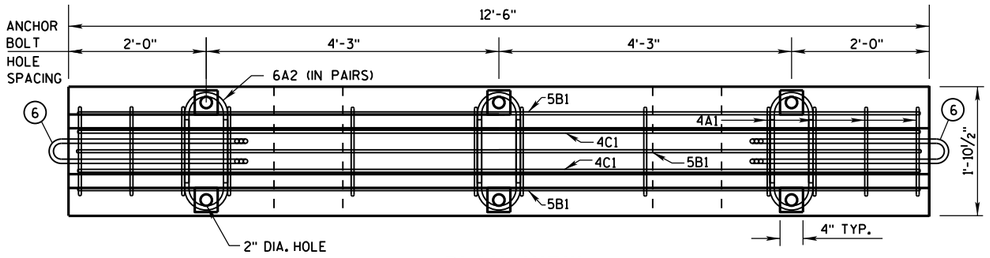
SECTION A-A
(STIRRUP PLACEMENT)



SECTION B-B
(STIRRUP PLACEMENT)

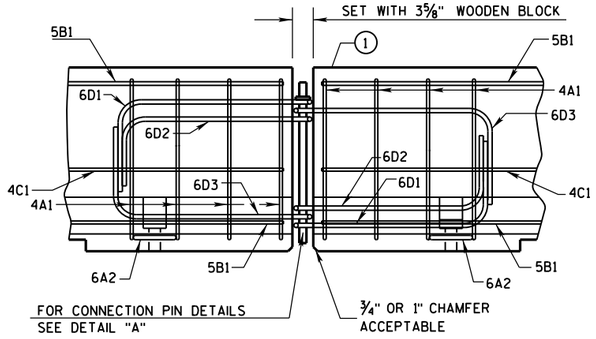


DETAIL "B"
LIFTING SLOT DETAIL

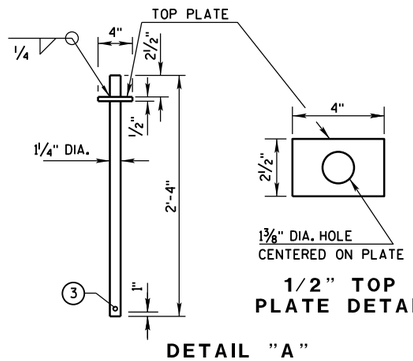


PLAN VIEW

DETAILS OF BARRIER SECTION

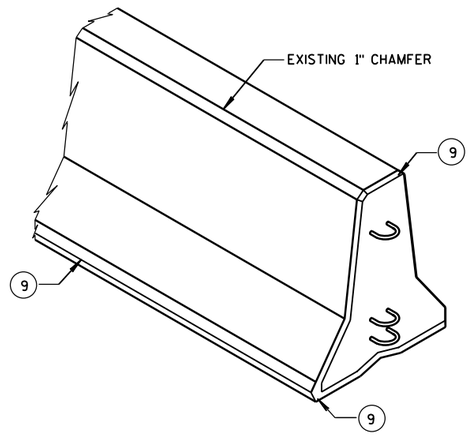


DETAILS OF BARRIER CONNECTION



1/2" TOP
PLATE DETAIL

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



GENERAL NOTES

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

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

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

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

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

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

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

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

(2) 1" CHAMFER TO PREVENT SPALLING.

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

(4) "V" NOTCH IS OPTIONAL.

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

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

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

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

(9) 1" CHAMFER OPTIONAL.

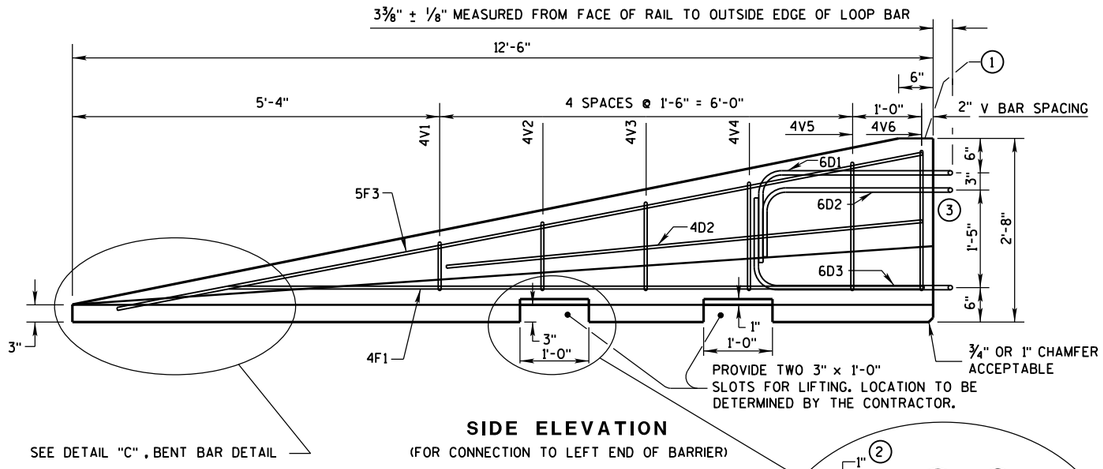
f'c = 4,000 psi

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

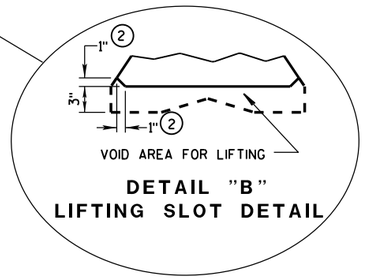
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

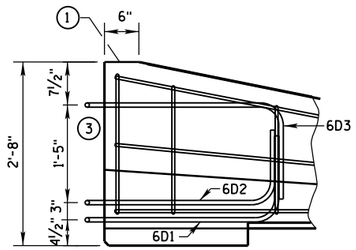
S.D.D. 14 B 7-15a



SIDE ELEVATION
(FOR CONNECTION TO LEFT END OF BARRIER)



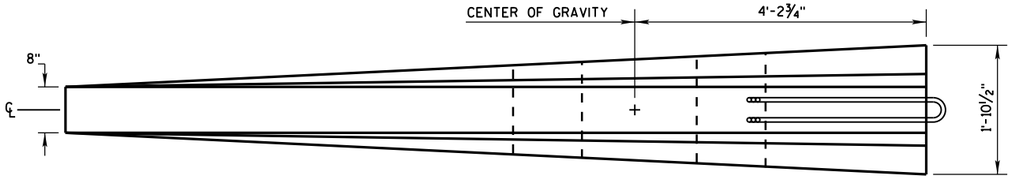
DETAIL "B"
LIFTING SLOT DETAIL



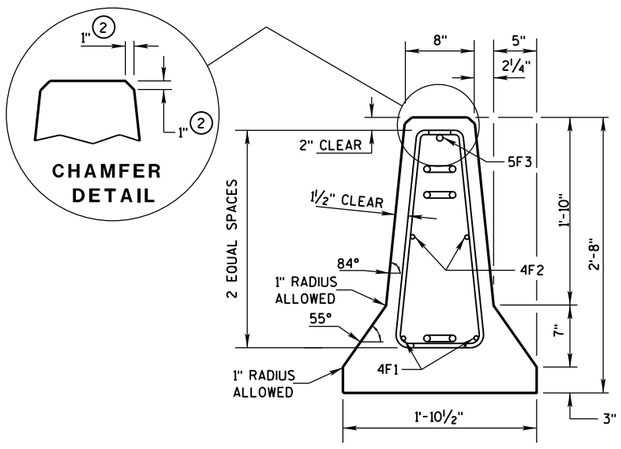
SIDE ELEVATION
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

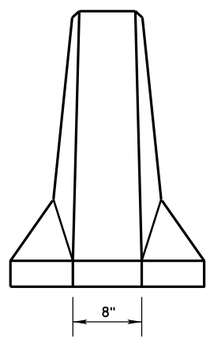
1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



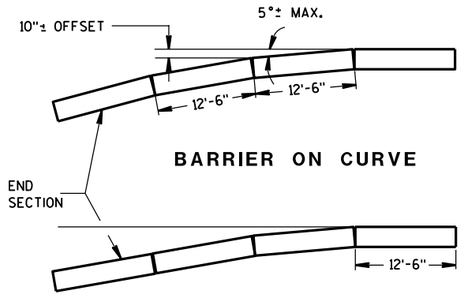
PLAN VIEW



END SECTION



FRONT ELEVATION



BARRIER ON CURVE

FLARE AT BARRIER END

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

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

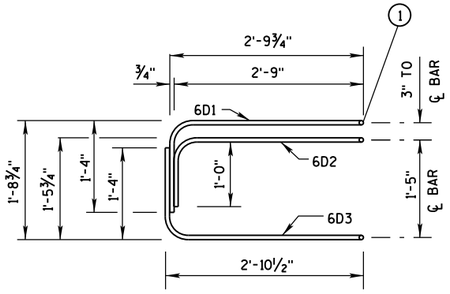
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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

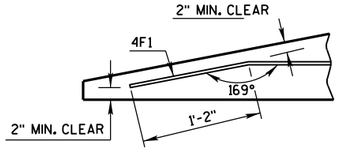
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

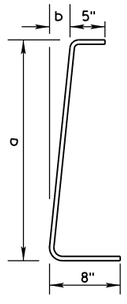
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



ELEVATION
LOOP BAR ASSEMBLY



DETAIL "C"
BENT BAR DETAIL



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

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

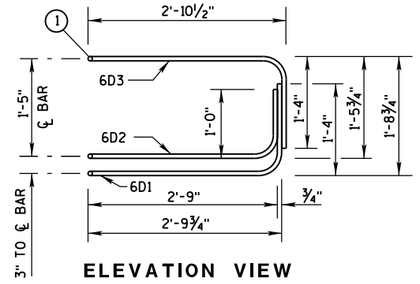
GENERAL NOTES

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

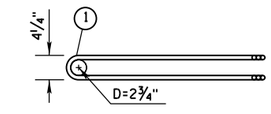
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

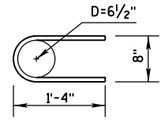
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



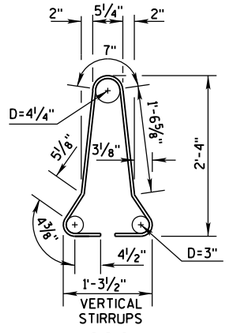
ELEVATION VIEW



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



6A2



4A1

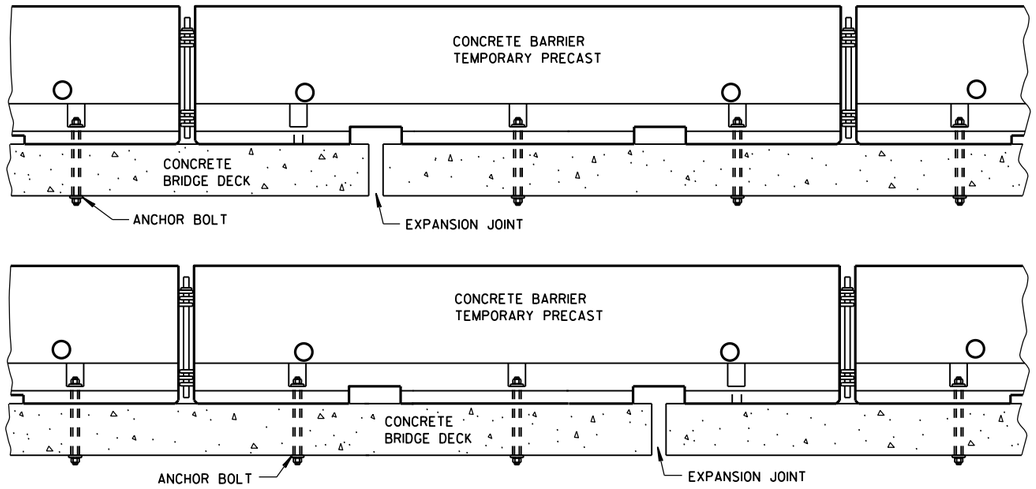
BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

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



TREATMENT AT BRIDGE DECK EXPANSION JOINTS

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

GENERAL NOTES

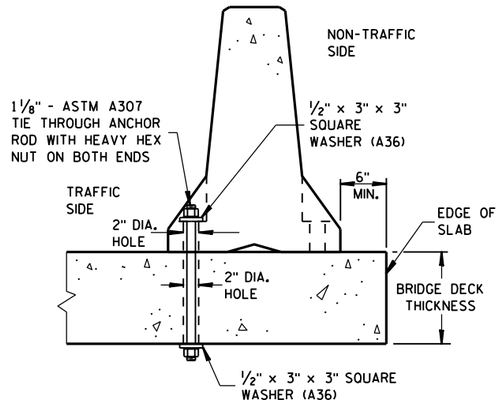
SEE SHEET E FOR WHEN TO ANCHOR. OTHER PARTS OF THE PLAN MAY SHOW ADDITIONAL LOCATIONS REQUIRING ANCHORING.

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

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

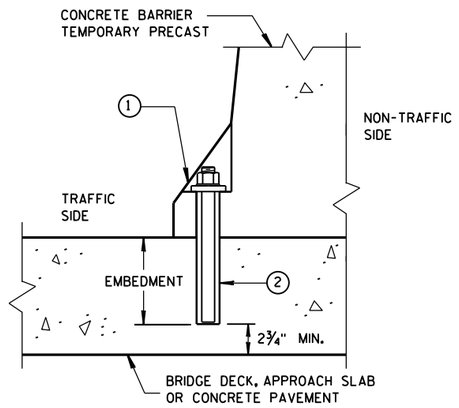
(2) ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5¼" EMBEDMENT. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.

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



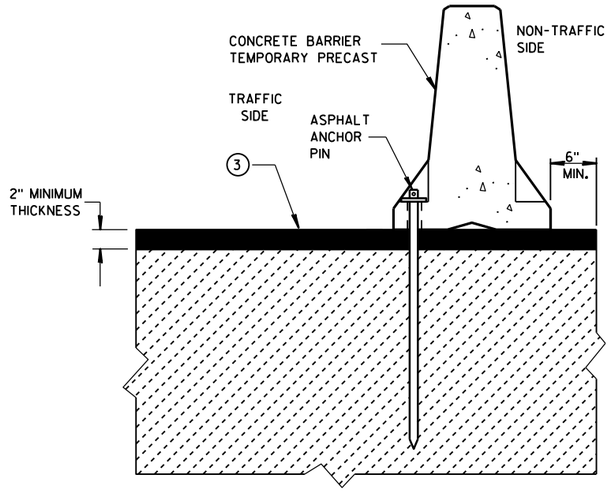
THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)

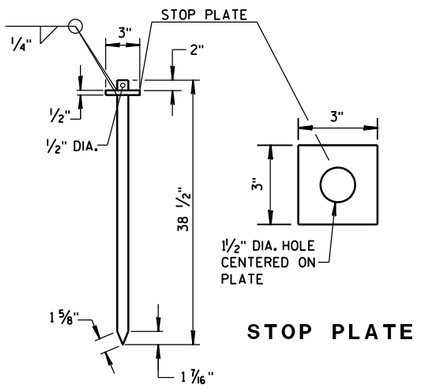


REMOVABLE ADHESIVE ANCHOR INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)



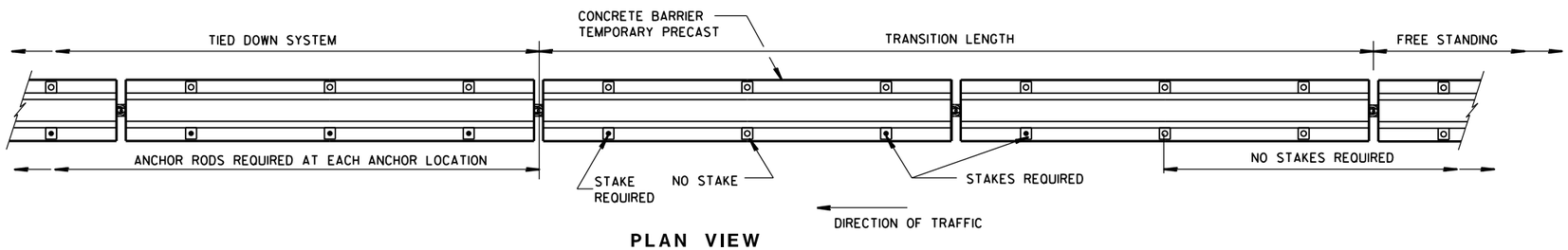
STAKE DOWN INSTALLATION FOR ASPHALTIC SURFACE



STOP PLATE

ASPHALT ANCHOR PIN

(ASTM A36 STEEL)



PLAN VIEW

FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

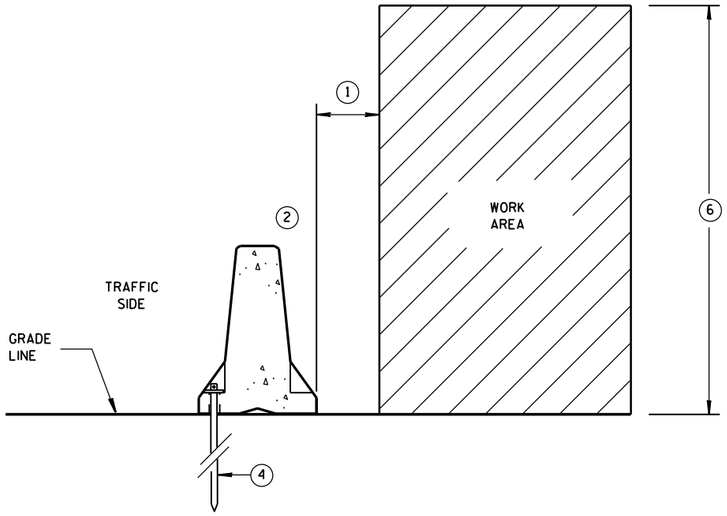
(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

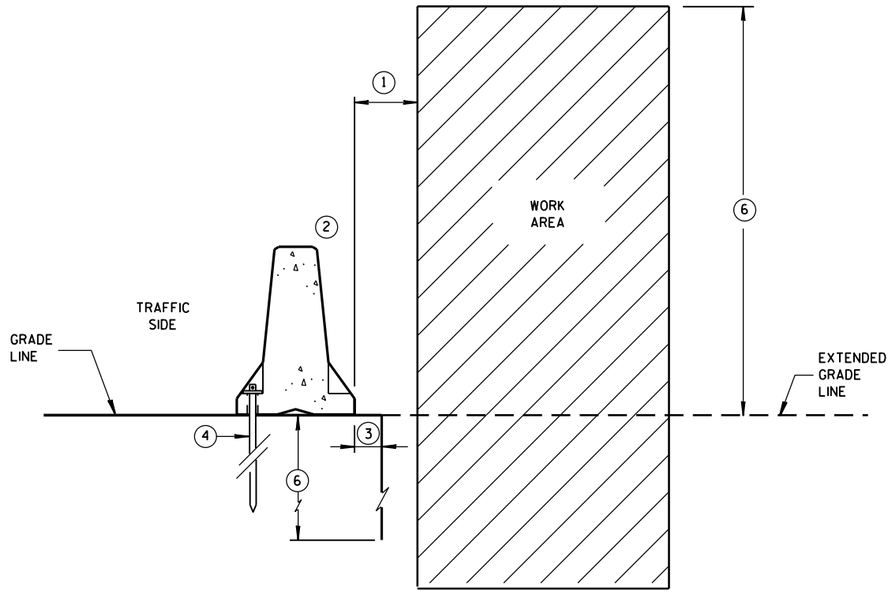
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

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



ANCHORED BARRIER SPACE REQUIREMENTS FOR HAZARDS EXTENDED ABOVE THE GRADE LINE

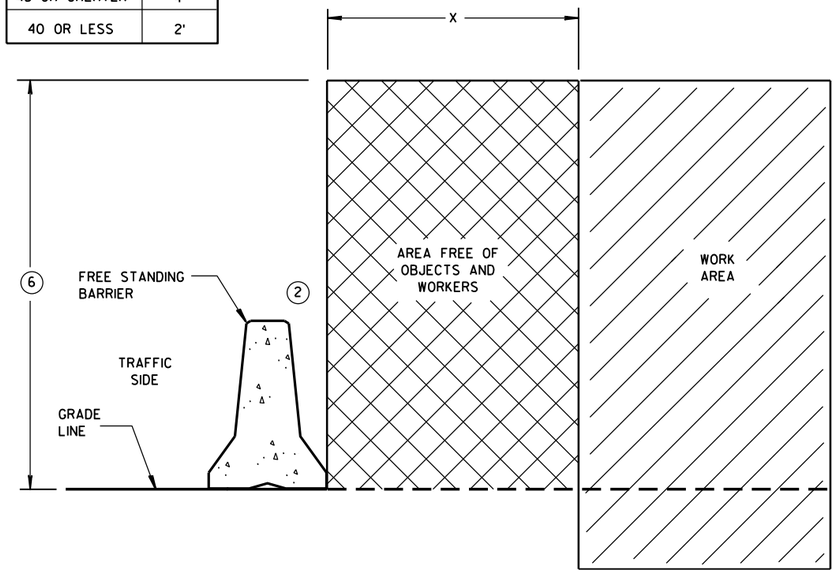


ANCHORED BARRIER SPACE REQUIREMENTS ON VERTICAL DROP OFFS

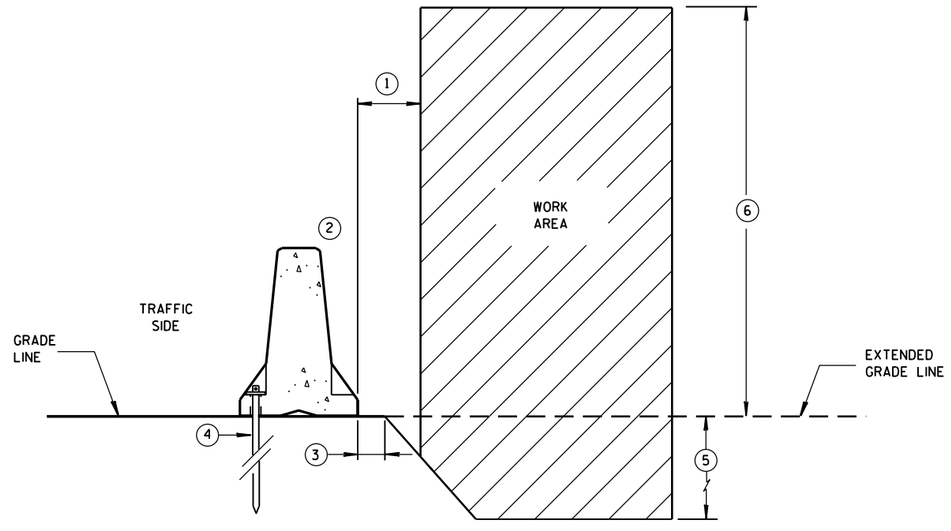
GENERAL NOTES

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

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



FREE STANDING BARRIER SPACE REQUIREMENTS



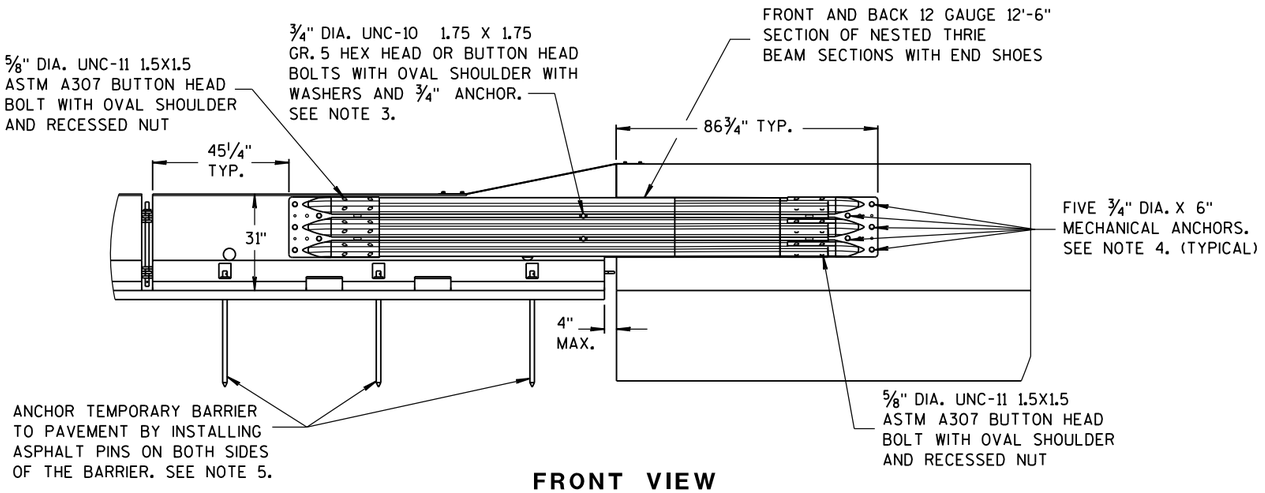
ANCHORED BARRIER SPACE REQUIREMENTS ON SLOPES

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

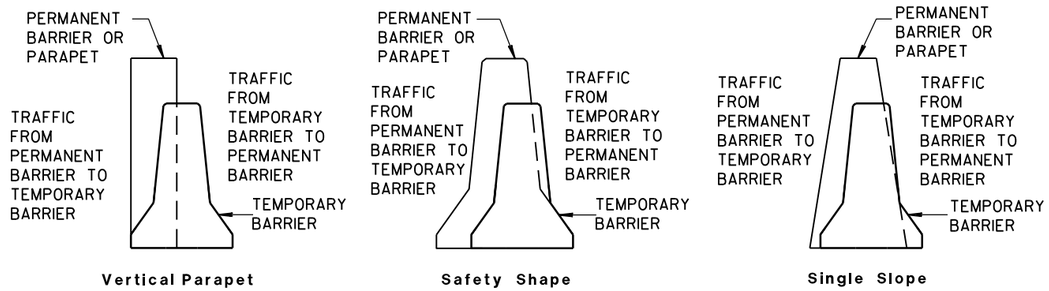
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

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



FRONT VIEW

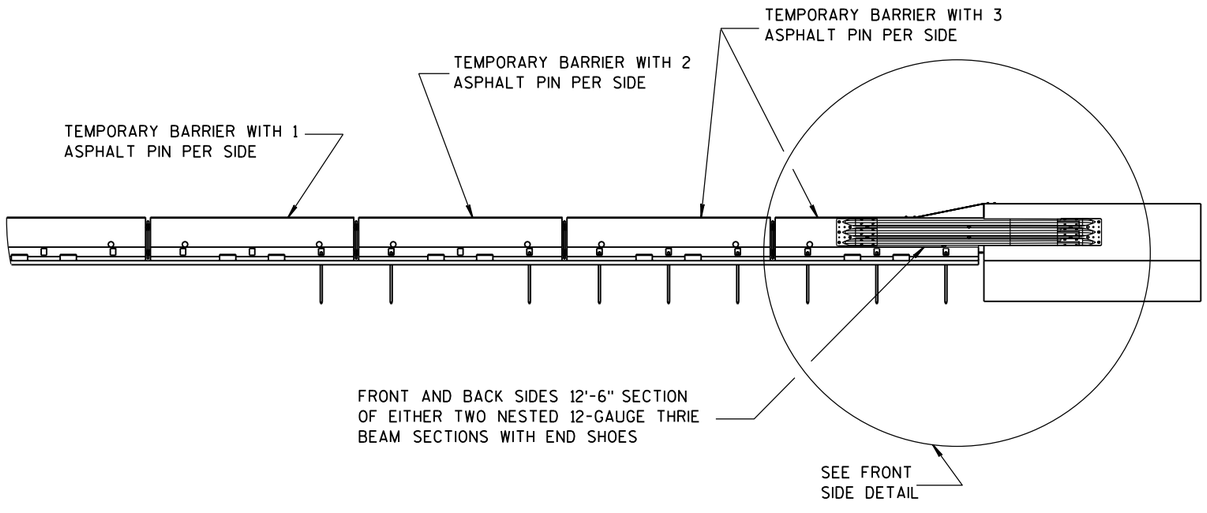


TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

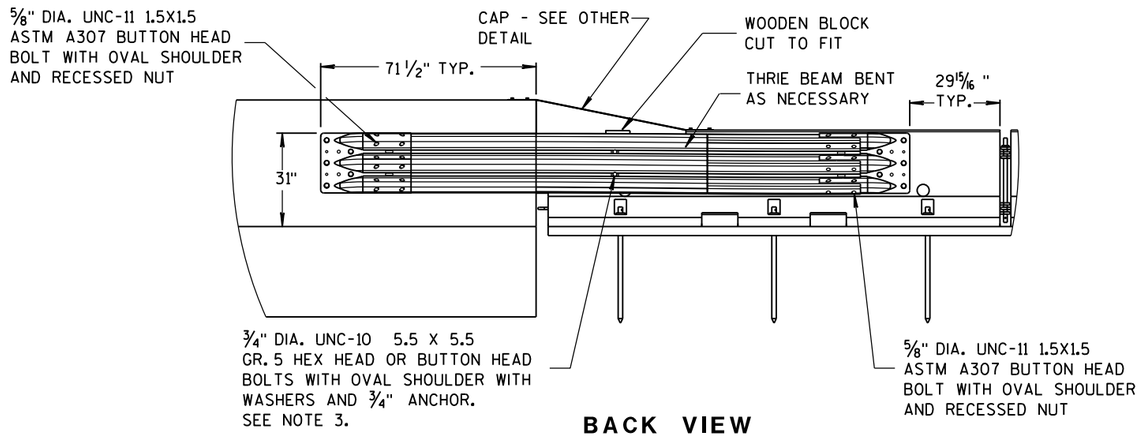
NOTES

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

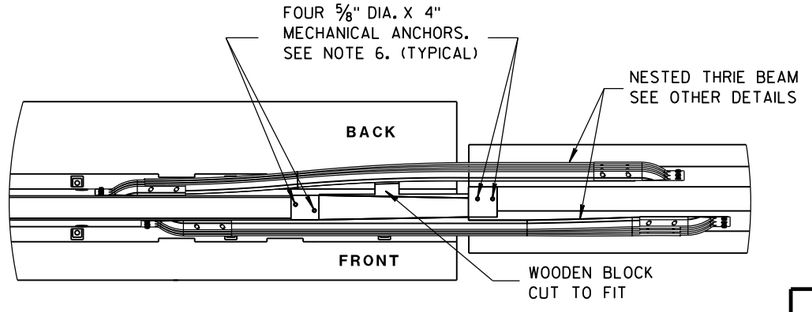
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD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



FRONT VIEW



BACK VIEW



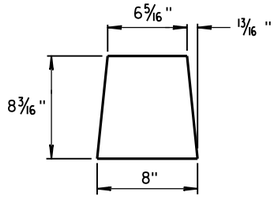
PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

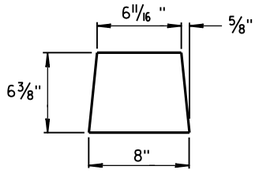
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

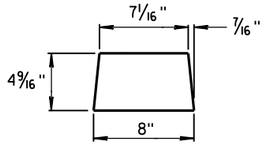
6
S.D.D. 14 B 7-15f



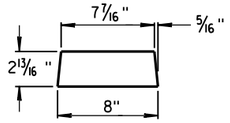
GUSSET 1



GUSSET 2

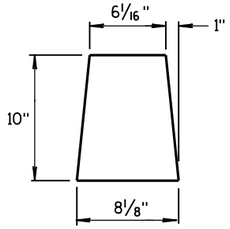


GUSSET 3

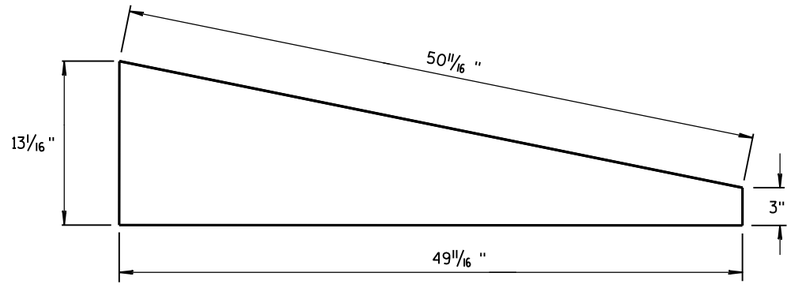


GUSSET 4

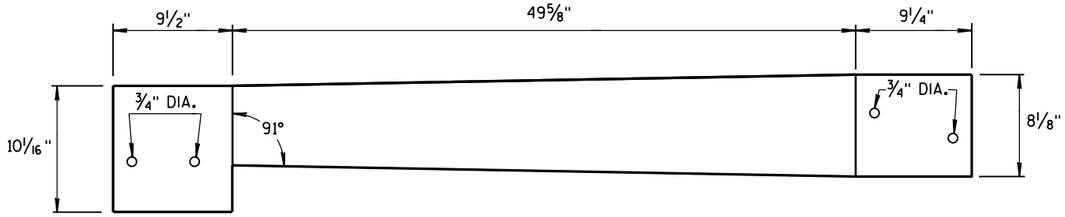
GUSSETS

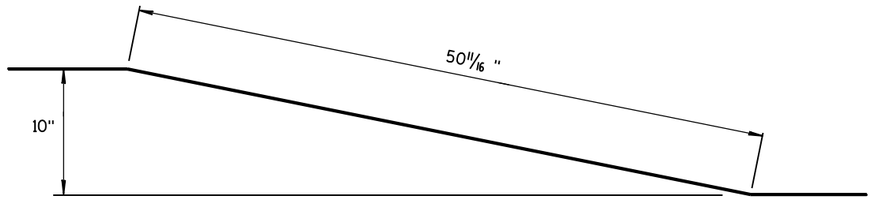


END PLATE



SIDE PLATE

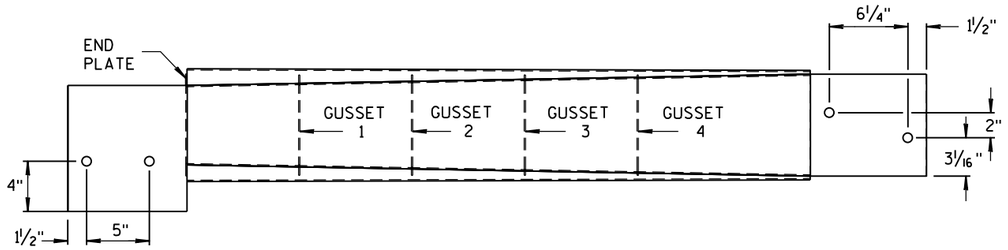


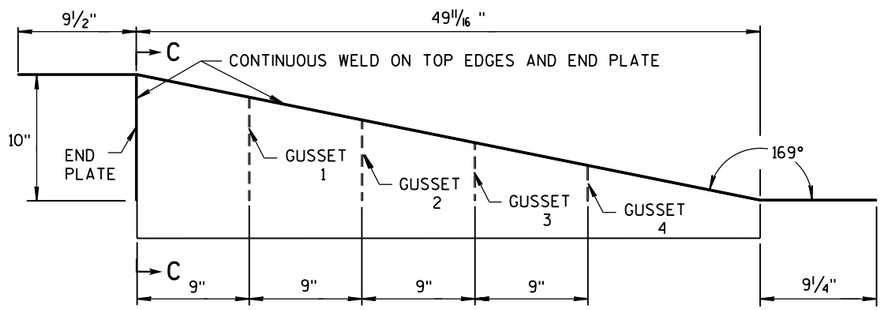


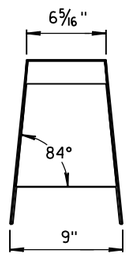
TOP PLATE

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

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







SECTION C-C

NOTES

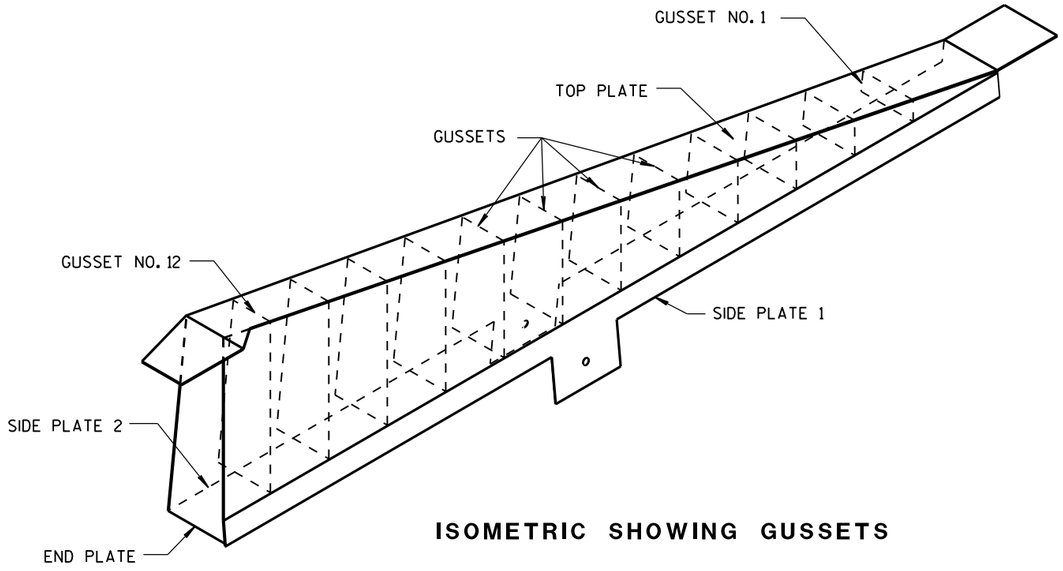
1. FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
2. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

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

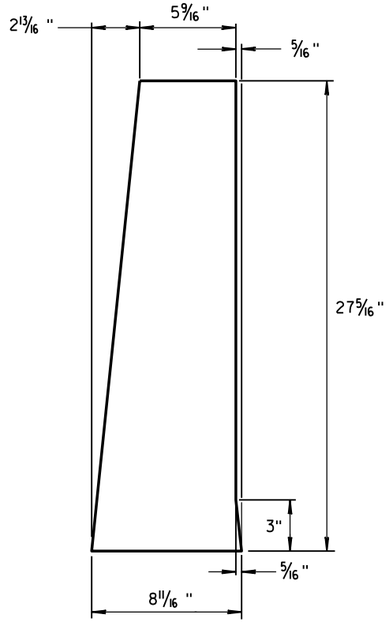
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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

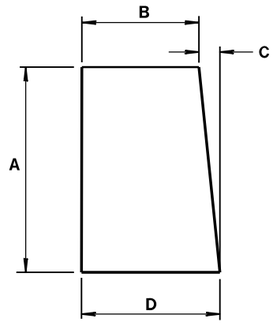


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



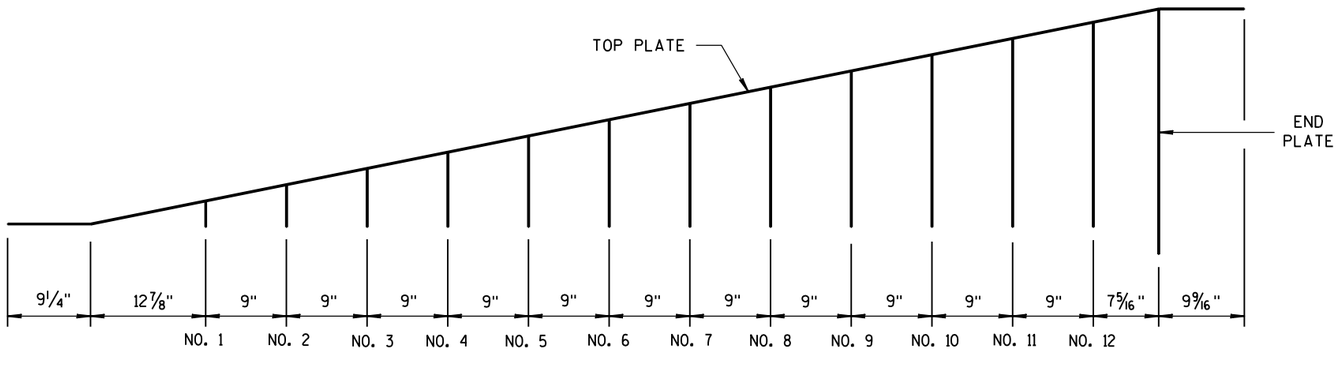
GUSSETS 1 - 12

ALL GUSSETS 1/8" STEEL PLATE

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

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

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



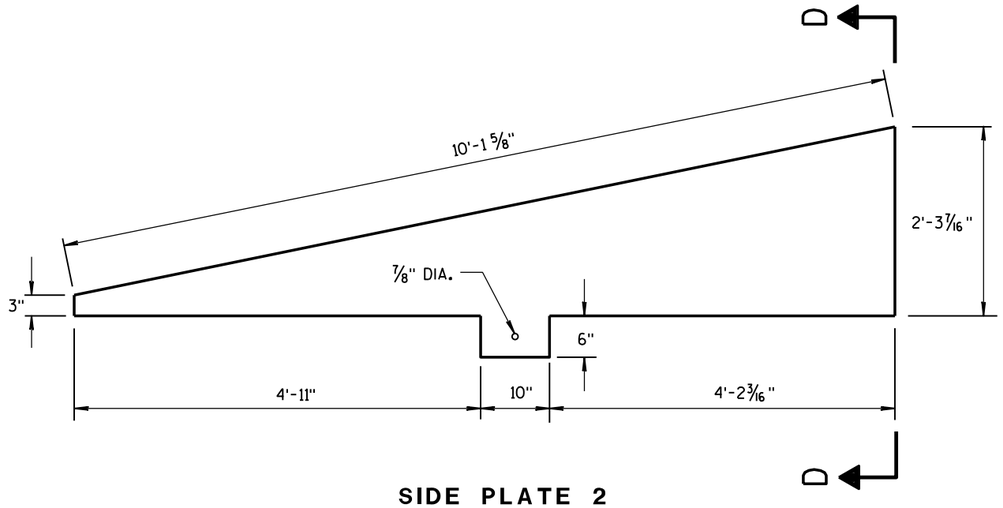
GUSSET LOCATION

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

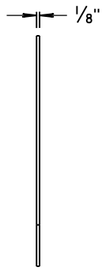
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

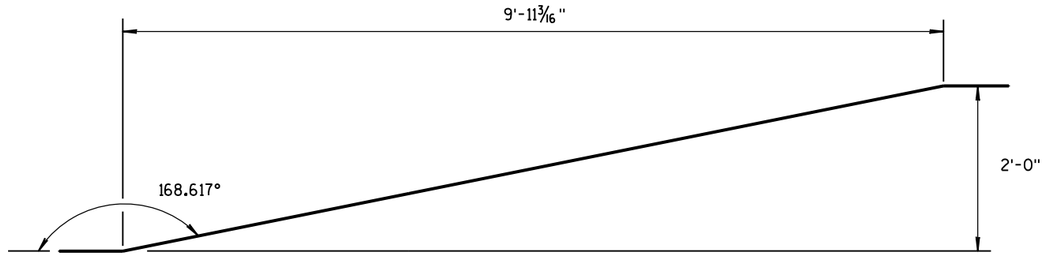
6
S.D.D. 14 B 7-15h



SIDE PLATE 2

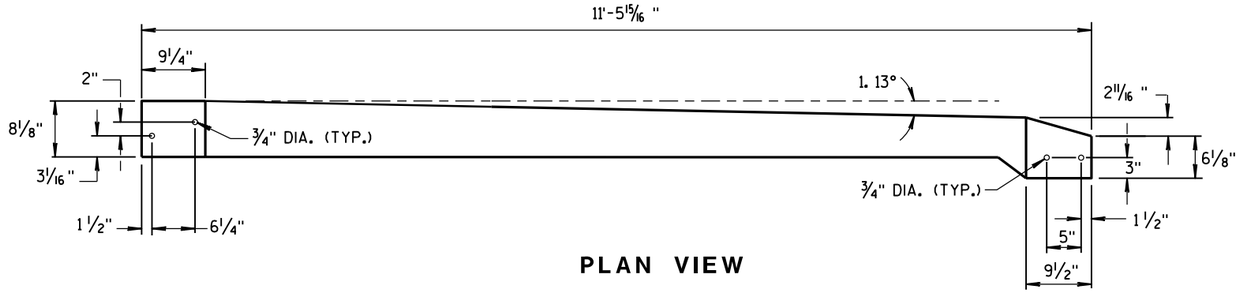


END VIEW



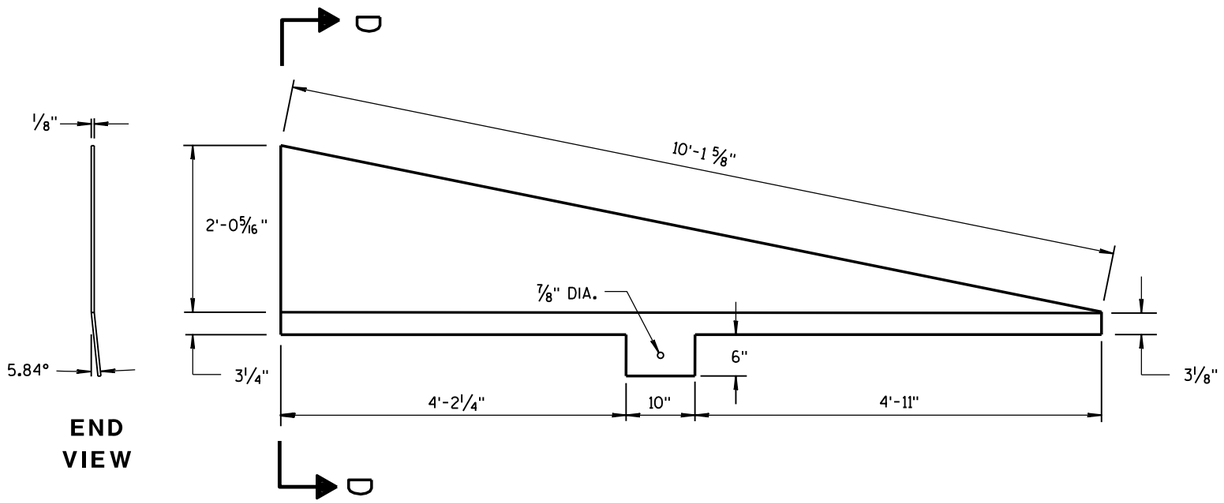
SIDE VIEW

TOP PLATE



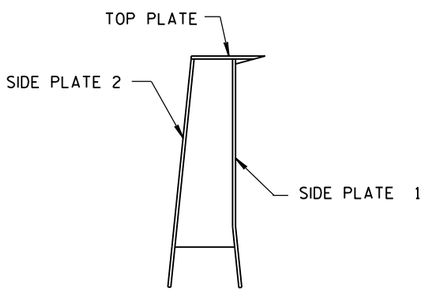
PLAN VIEW

TOP PLATE



END VIEW

SIDE PLATE 1



SECTION D-D

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

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT ENGINEER

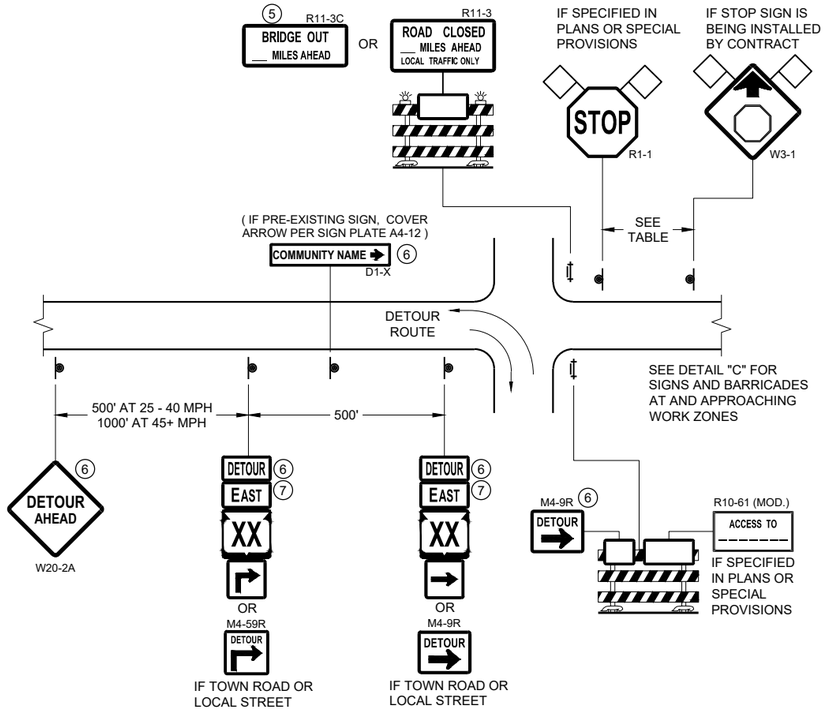
FHWA

6

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

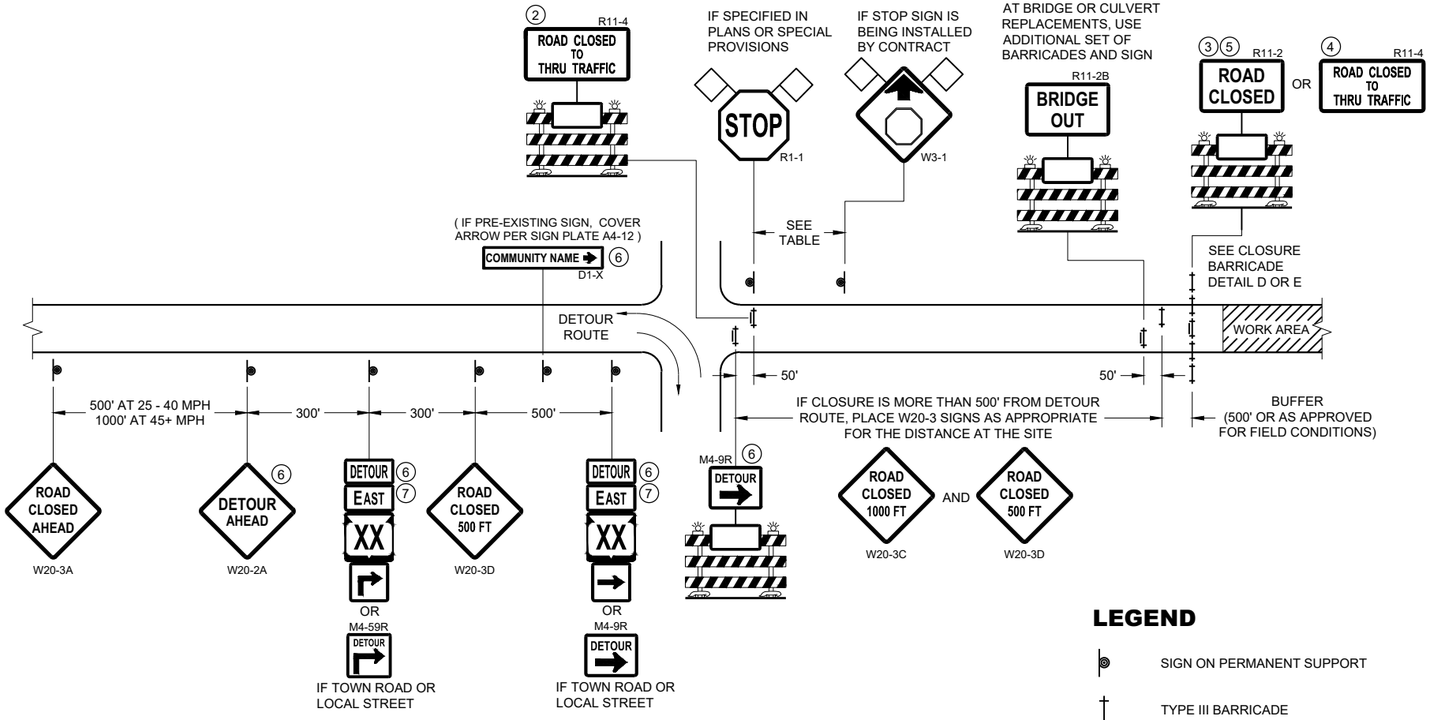
6

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



DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN OR EQUAL TO ½ □ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



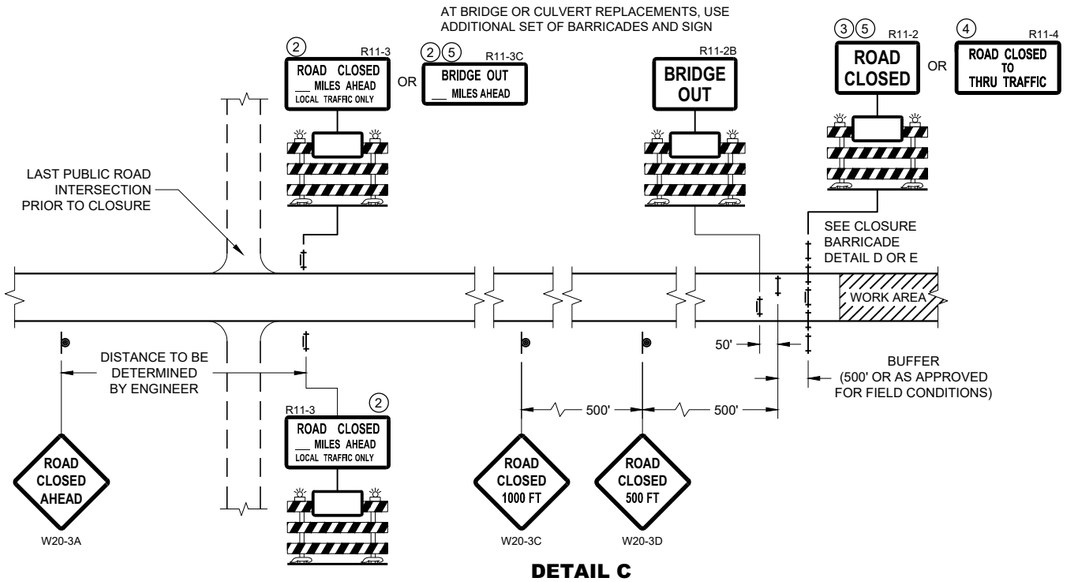
DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ □ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)

DETOUR M4 - 8
EAST M3 - X
XX M1 - 4 OR XX M1 - 6 OR COUNTY X M1 - 5A
M05 - 1 OR M06 - 1



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

SEE SDD 15C2-SHEET "b"
FOR GENERAL NOTES
AND FOOTNOTES ① THROUGH ⑦

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

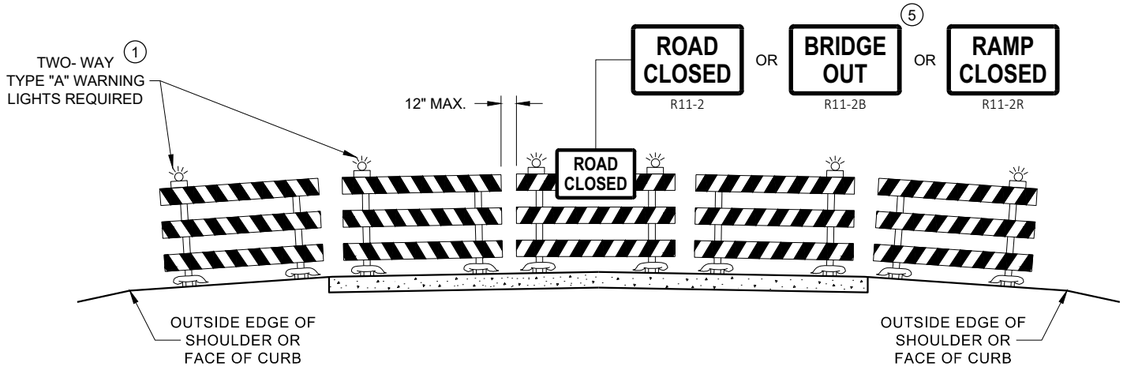
APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

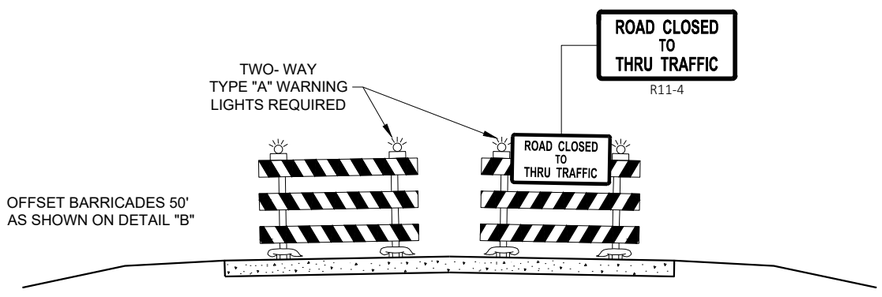
6

SDD 15C02 - 08a

SDD 15C02 - 08a



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

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

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.

TYPE "A" LOW - INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11 - 2, R11 - 3, M4 - 9, R11 - 4, AND R10 - 61 SIGNS PLACED ON THE BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE RAIL OR BOTTOM RAILS.

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60 " X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

(1) TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING.

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER
FHWA

6

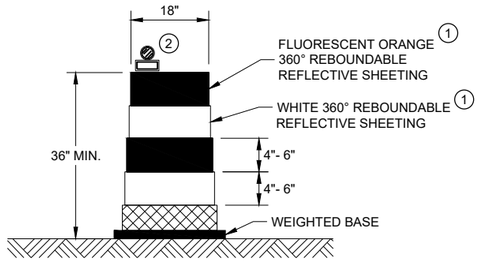
SDD 15C02 - 08b

6

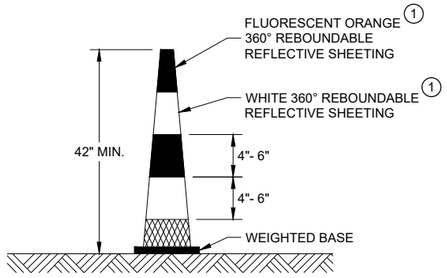
SDD 15C02 - 08b

GENERAL NOTES

1. REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
2. LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.

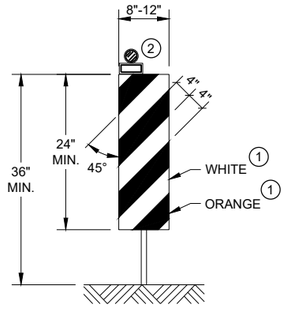


DRUM



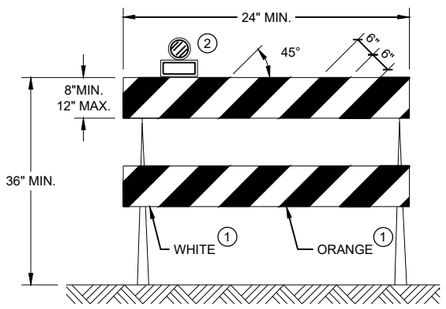
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



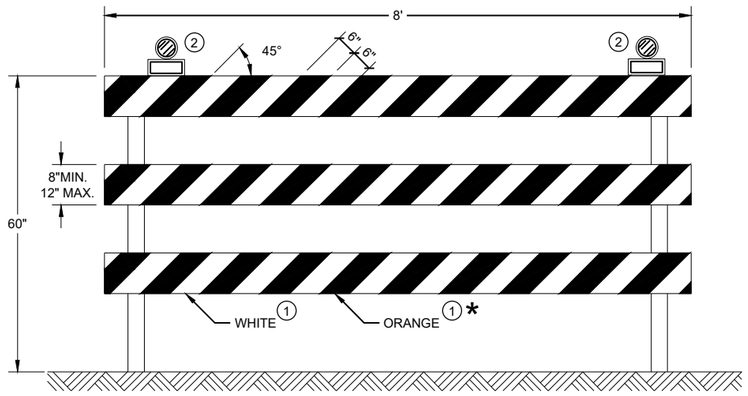
VERTICAL PANEL

THE STRIPES SHALL SLOPE DOWNWARD TO
THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE II BARRICADE

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES
MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD
TO THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE III BARRICADE

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP
TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER
FHWA

6

SDD 15C11 - 08b

6

SDD 15C11 - 08b

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" x 48" UNLESS OTHERWISE NOTED.

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

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

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

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

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

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

(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.

(2) IF NEEDED. USE ONLY IF DESIGN SPEED IS 10 MPH LESS THAN POSTED SPEED.

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

OR

LOCATED 400 FEET BEYOND THE W20- 5G SIGN.

SEE SDD 15D12b FOR SIGN PLACEMENT.

R2-1
48"X60"

OR

R2-1
48"X60"

(BLACK AND WHITE)

LOCATED 700 FEET BEYOND W03-5 SIGN

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. PLACE A SPEED LIMIT SIGN A MINIMUM OF EVERY 3 MILES.

(2)

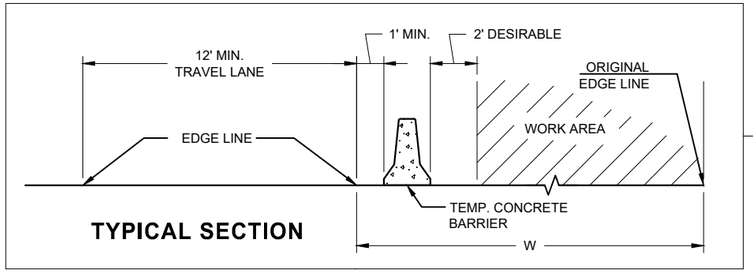
WO13-1
36"X36"

WO13-1
36"X36"

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

* G20-2A
48"X24"

L, TAPER LENGTH (MPH)												
SPEED (MPH)	W, LATERAL OFFSET (FT)											
	1	2	3	4	5	6	7	8	9	10	11	12
45	45	90	135	180	225	270	315	360	405	450	495	540
50	50	100	150	200	250	300	350	400	450	500	550	600
55	55	110	165	220	275	330	385	440	495	550	605	660
60	60	120	180	240	300	360	420	480	540	600	660	720
65	65	130	195	260	325	390	455	520	585	650	715	780
70	70	140	210	280	350	420	490	560	630	700	770	840



TYPICAL SECTION

TRAFFIC CONTROL LANE CLOSURE, SPEEDS GREATER THAN 40 MPH WITH BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINE

FHWA

SDD 15D03-05

SDD 15D03-05

GENERAL NOTES

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

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

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

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

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

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

CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

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

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

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

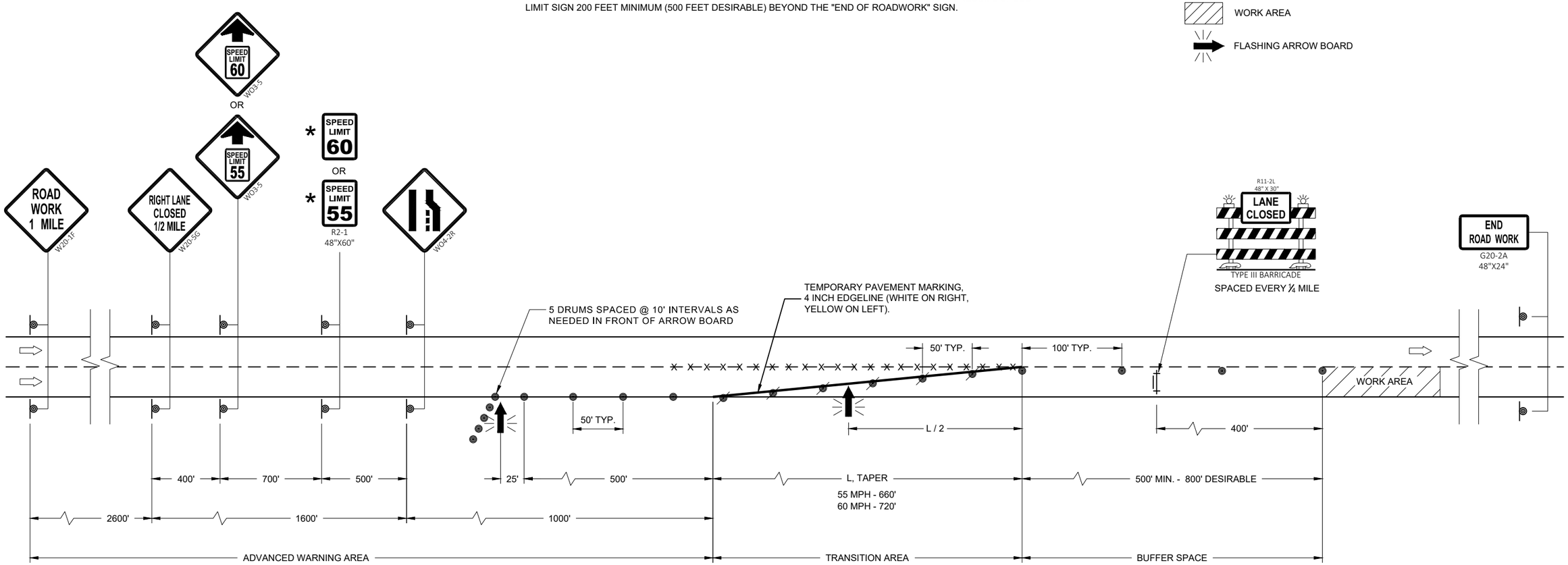
IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

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

* A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. PLACE A SPEED LIMIT SIGN A MINIMUM OF EVERY 3 MILES. INCLUDE A RESUME SPEED LIMIT SIGN 200 FEET MINIMUM (500 FEET DESIRABLE) BEYOND THE "END OF ROADWORK" SIGN.

LEGEND

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



TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2020
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

SDD 15D12 - 09b

6
SDD 15D12 - 09b

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKINGS
- DIRECTION OF TRAFFIC
- WORK AREA
- FLASHING ARROW BOARD
- (S) PORTABLE TRAFFIC SENSOR (PTS)
- FBS FLASHING BEACON SIGN

GENERAL NOTES

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

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

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

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

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

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

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

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

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

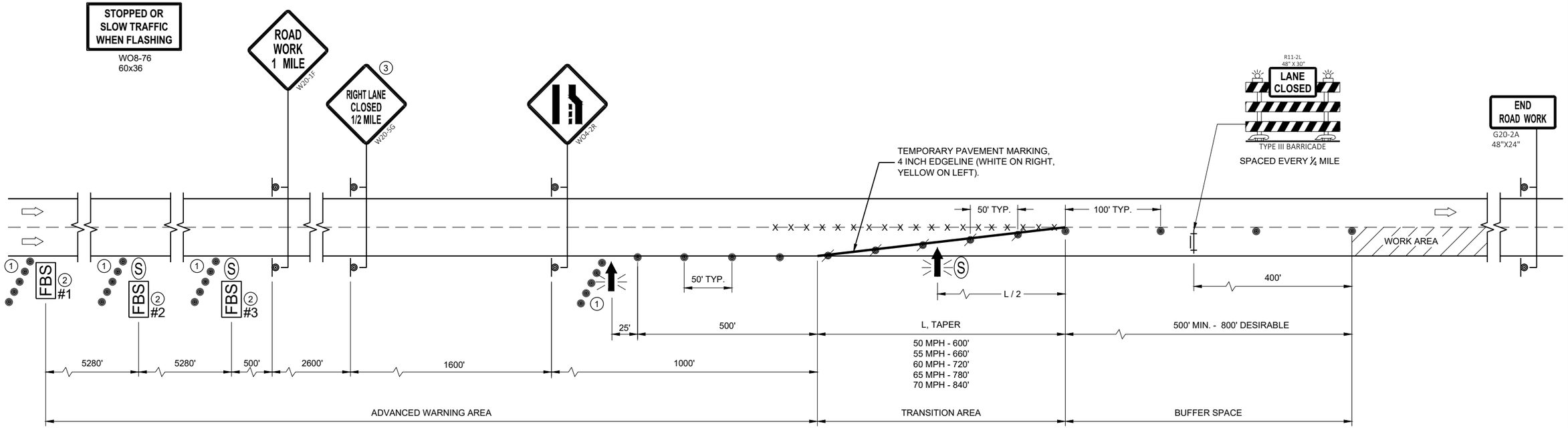
IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

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

CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

PORTABLE TRAFFIC SENSOR (PTS) MAY BE MOUNTED ON THE FBS, ARROW BOARD OR OTHER TRAILER DEVICES.

1. 5 DRUMS SPACED AT 10 FOOT INTERVALS AS NEEDED.
2. IF THERE ARE MORE THAN TWO LANES OR IF SPECIFIED IN THE PLANS, PLACE FBS ON BOTH SIDES OF THE ROADWAY.
3. IF THERE IS AN APPROVED TEMPORARY SPEED DECLARATION, ADD WO-3-5 SIGNS 400 FEET AFTER THE W20-5G SIGNS AND ADD R2-1 SIGNS (48"x60") 700 FEET AFTER THE WO3-5 SIGNS. A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. PLACE A SPEED LIMIT SIGN A MINIMUM OF EVERY 3 MILES. INCLUDE A "RESUME SPEED LIMIT" SIGN 200 FEET MINIMUM (800 FEET DESIRABLE) BEYOND THE G30-3A "END ROAD WORK" SIGN.



TRAFFIC CONTROL, LANE CLOSURE, BASIC TRAFFIC QUEUE WARNING SYSTEM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2020
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

SDD 15D12 - 09d

SDD 15D12 - 09d

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.

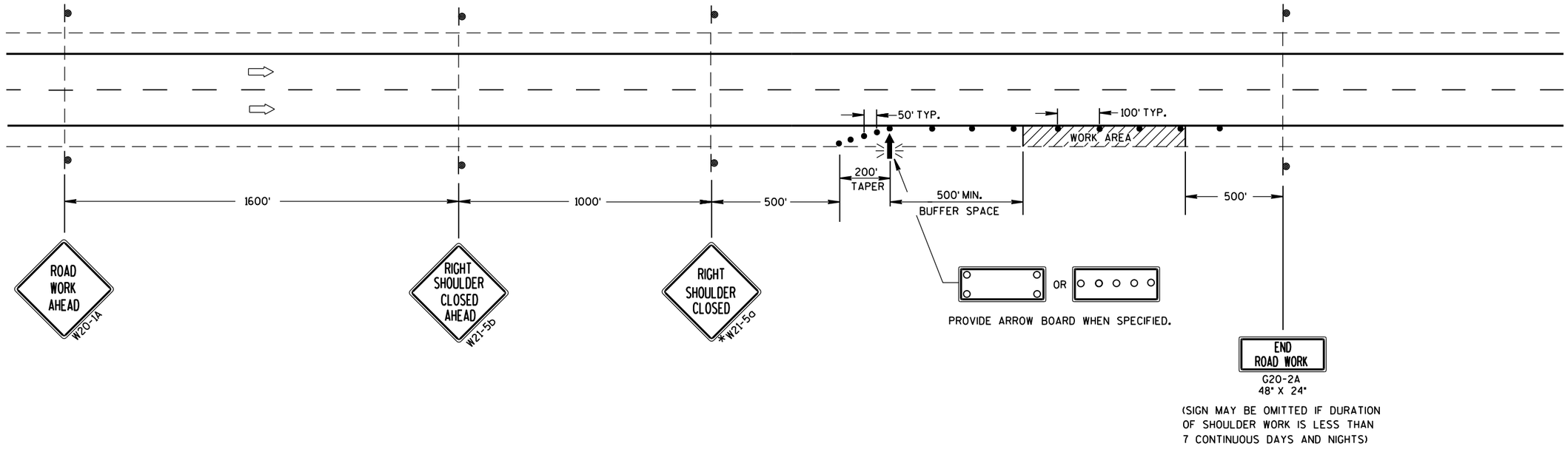
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

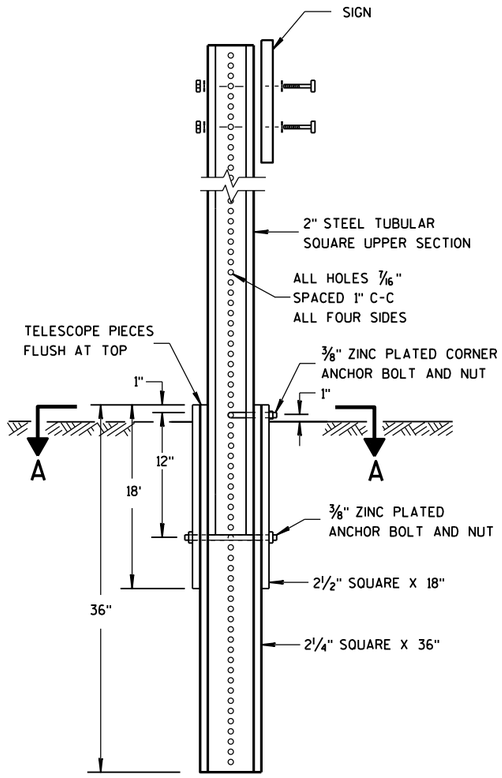
June 2016 — DATE

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO[illegible] SAFETY ENGI[illegible]

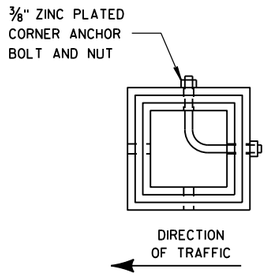
FHWA

6

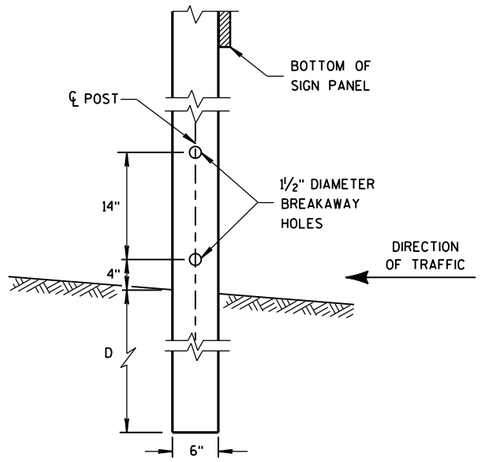
S.D.D. 15 D 27-3



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



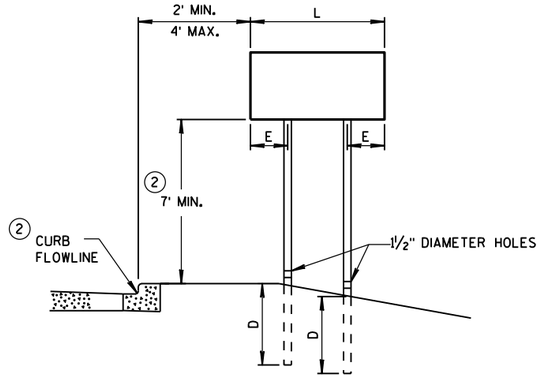
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

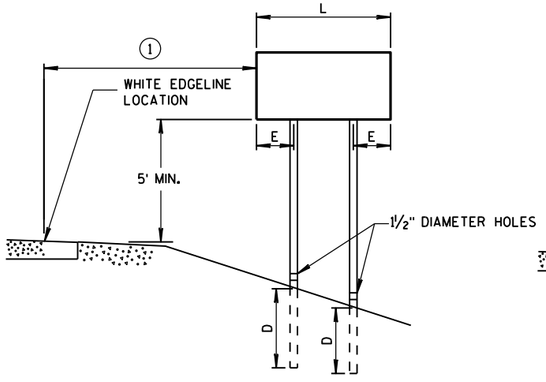
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

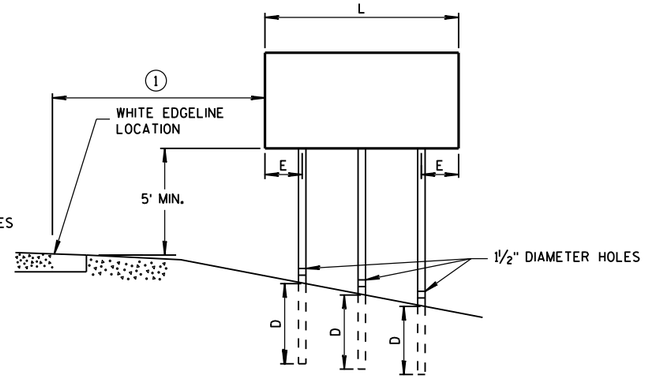
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.

(3) FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL POSTS
9 OR LESS	1
GREATER THAN 9 LESS THAN OR EQUAL TO 18	2
GREATER THAN 18 LESS THAN OR EQUAL TO 27	3

SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).

SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.

WOOD POST EMBEDMENT DEPTH

AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'

4" X 6" WOOD POST

POST SPACING REQUIREMENTS		NUMBER OF WOOD POSTS REQUIRED
L	E	
48" OR LESS AND LESS THAN 20 SQ. FT.	-	1
LESS THAN 60"	12"	2
60" TO 120"	L/5	2
GREATER THAN 120" LESS THAN 168"	12"	3
168" AND GREATER	12"	4

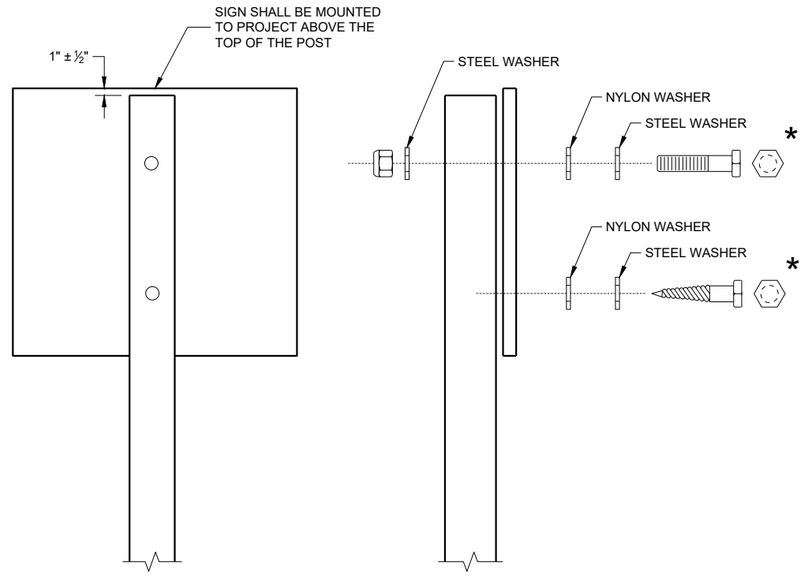
SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 15 D 38-2a



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 POST (4" x 6")
LAG SCREWS - ⅜" x 3"
MACHINE BOLTS - 5/16" x 6 ½" OR 7" LENGTH W/NUTS

SQUARE STEEL POST (2" x 2")
MACHINE BOLTS - ⅜" x 3 ¼" LENGTH W/NUTS
RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE 0.720 - 0.765 INCH, GRIP RANGE 0.042 - 0.375 INCH

WASHERS (ALL POSTS) -
1 ¼" O.D. x ⅜" I.D. x 1/16" STEEL
1 ¼" O.D. x ⅜" I.D. x 0.080 NYLON

* TWO DIFFERENT FASTENING SYSTEMS ARE SHOWN FOR ILLUSTRATION PURPOSES. ON ANY INDIVIDUAL SIGN, EITHER ONE OR THE OTHER SYSTEM SHALL BE USED. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

6

6

SDD 15D38 - 02b

SDD 15D38 - 02b

ATTACHMENT OF SIGNS TO POSTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

LEGEND

TYPE III BARRICADE WITH ATTACHED SIGN

SIGN ON PERMANENT SUPPORT

TRAFFIC CONTROL DRUM

TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT

TYPE "A" WARNING LIGHT (FLASHING)

DIRECTION OF TRAFFIC

WORK AREA

REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)

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 LANE SHIFT RIGHT - REVERSE FOR SHIFTING LEFT.

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 AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON ANY "COVERED" OR "DOWNED" SIGNS.

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

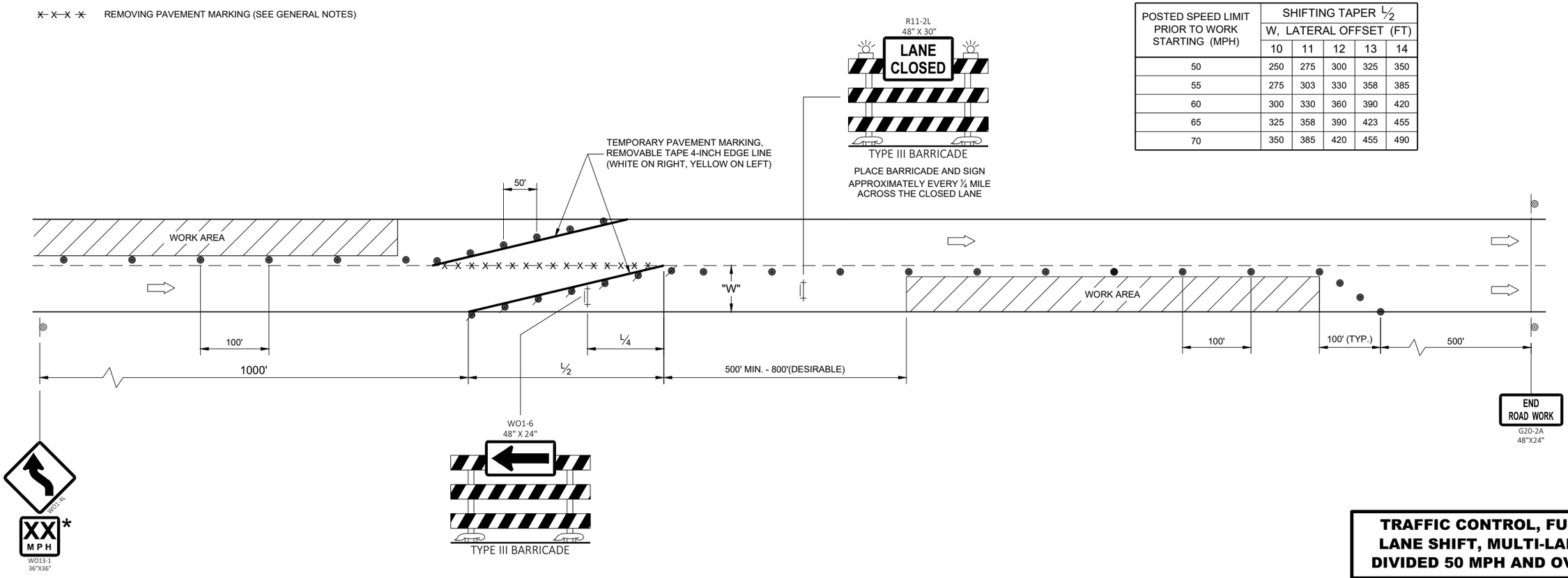
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 4 OR MORE DAYS AND NIGHTS.

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 SHIFT OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE SHIFT 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.

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	SHIFTING TAPER L½ W, LATERAL OFFSET (FT)				
	10	11	12	13	14
50	250	275	300	325	350
55	275	303	330	358	385
60	300	330	360	390	420
65	325	358	390	423	455
70	350	385	420	455	490



TRAFFIC CONTROL, FULL LANE SHIFT, MULTI-LANE DIVIDED 50 MPH AND OVER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2021
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

SDD 15D40 - 02b

SDD 15D40 - 02b

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA
- REMOVE PAVEMENT MARKING

GENERAL NOTES

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

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

THIS LANE CLOSURE IS TYPICAL FOR LANE SHIFT LEFT - REVERSE FOR SHIFTING RIGHT.

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 AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON ANY "COVERED" OR "DOWNED" SIGNS.

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

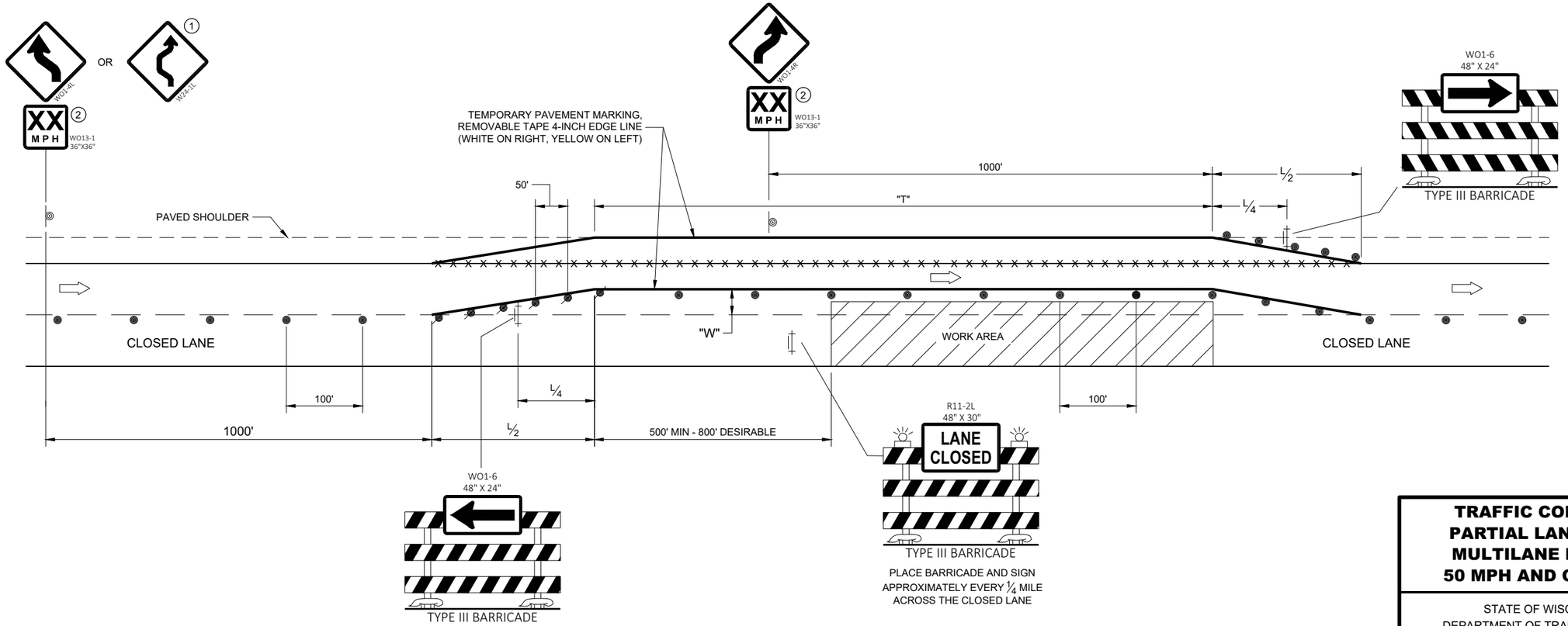
IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE SHIFT OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE SHIFT 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.

(1) USE ONLY WHEN T<600', OMIT WO1-4R.

(2) IF NEEDED, USE ONLY IF DESIGN SPEED IS 10 MPH BELOW POSTED SPEED.

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	SHIFTING TAPER L/2 W, LATERAL OFFSET (FT)								
	1	2	3	4	5	6	7	8	9
50	25	50	75	100	125	150	175	200	225
55	28	55	83	110	138	165	193	220	248
60	30	60	90	120	150	180	210	240	270
65	33	65	98	130	163	195	228	260	293
70	35	70	105	140	175	210	245	280	315



PLACE BARRICADE AND SIGN APPROXIMATELY EVERY 1/4 MILE ACROSS THE CLOSED LANE

TRAFFIC CONTROL, PARTIAL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2021 — DATE
/S/ Andrew Heidtke — ROADWAY STANDARDS DEVE ENGINEER

FHWA

6
SDD 15D40 - 02d

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA
- FLASHING ARROW BOARD
- PCMS — PORTABLE CHANGEABLE MESSAGE SIGN

GENERAL NOTES

RIGHT CLOSURE SHOWN (LEFT LANE CLOSURE SIMILAR)

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

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

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

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

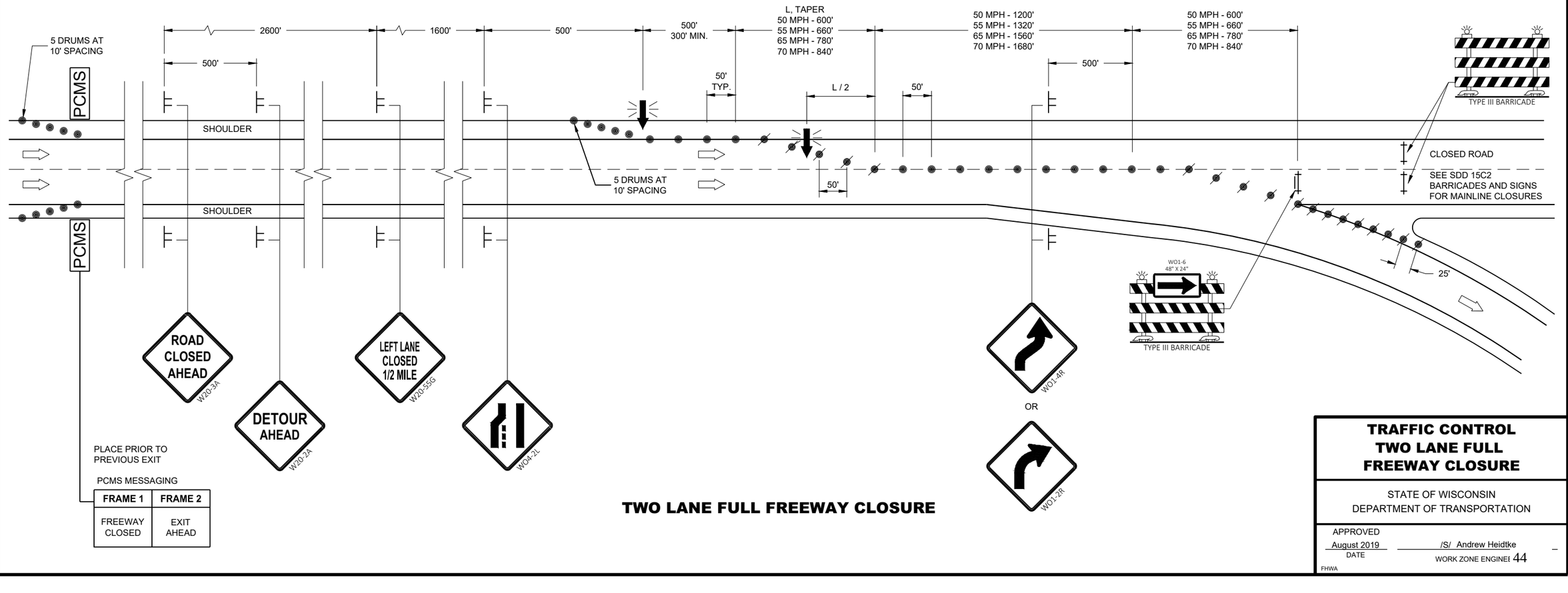
WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROL SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND / OR THE SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.

PLACE A TYPE III BARRICADE APPROXIMATELY EVERY 1000' ACROSS EACH CLOSED LANE TO HELP REINFORCE THE DRUM LINE.

CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

REFER TO DETOUR ROUTES FOR TRAFFIC GUIDANCE SIGNING.

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



PLACE PRIOR TO PREVIOUS EXIT

PCMS MESSAGING

FRAME 1	FRAME 2
FREEWAY CLOSED	EXIT AHEAD

TWO LANE FULL FREEWAY CLOSURE

TRAFFIC CONTROL
TWO LANE FULL
FREEWAY CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

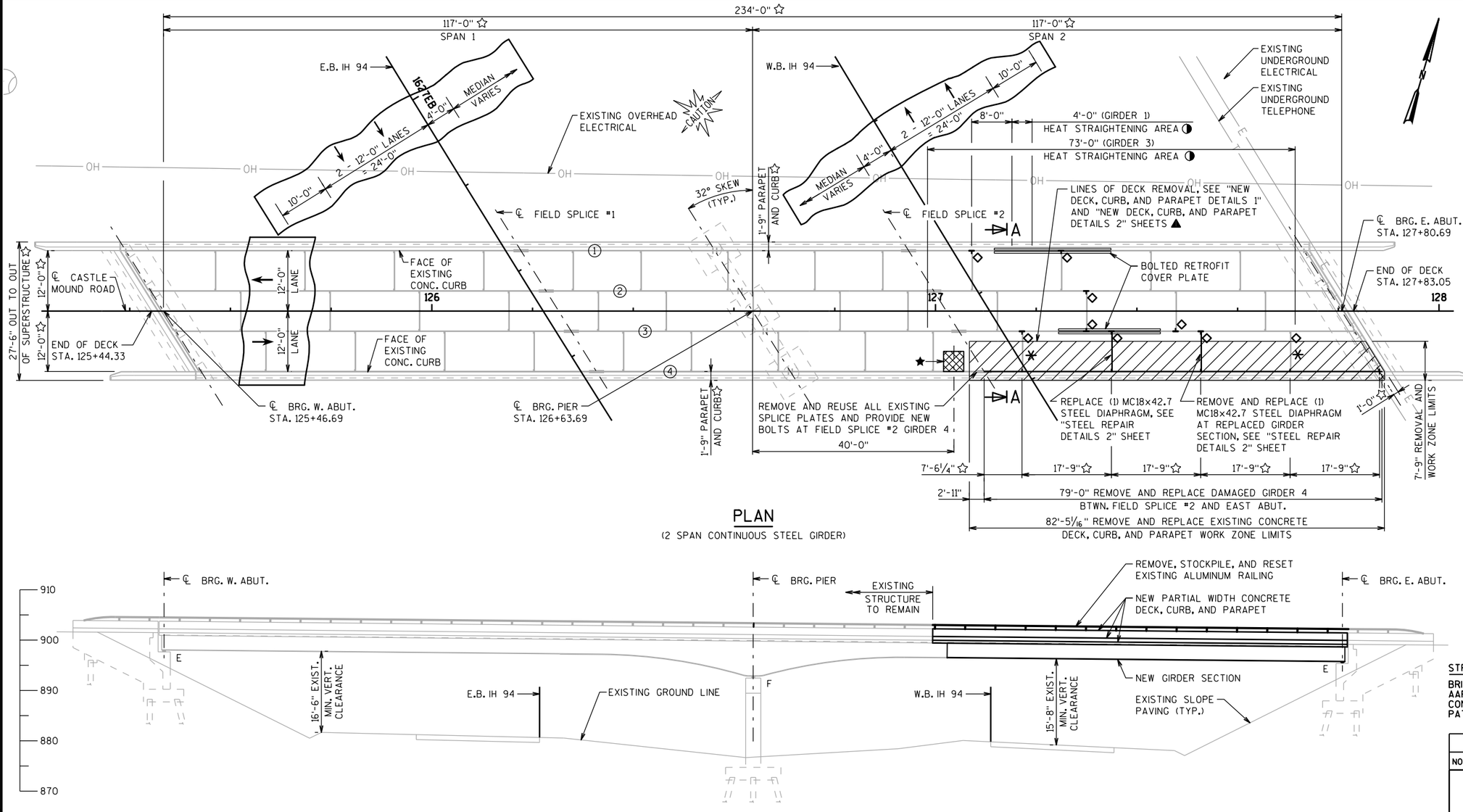
APPROVED
August 2019
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

SDD 15D42 - 01

SDD 15D42 - 01



PLAN
(2 SPAN CONTINUOUS STEEL GIRDER)

ELEVATION
(LOOKING NORTH)

DESIGN DATA

LIVE LOAD: LFD

DESIGN RATING: HS-20
INVENTORY RATING: HS-13
OPERATING RATING: HS-22
WISCONSIN STANDARD PERMIT VEHICLE LOAD: 139 KIPS

MATERIAL PROPERTIES:

CONCRETE MASONRY:
SUPERSTRUCTURE ..... f'c = 4,000 PSI
BAR STEEL REINFORCEMENT:
GRADE 60 ..... Fy = 60,000 PSI
STRUCTURAL CARBON STEEL:
ASTM A709, GRADE 36 ..... Fy = 36,000 PSI
HIGH STRENGTH STRUCTURAL STEEL:
ASTM A709, GRADE 50 ..... Fy = 50,000 PSI

TRAFFIC DATA

IH 94

2020 AADT = 25,240
2040 AADT = 27,900
RDS = 70 MPH

CASTLE MOUND ROAD

2020 AADT = 110
2040 AADT = 110
RDS = 35 MPH

STATE PROJECT NUMBER
1023-00-83

LIST OF DRAWINGS

LEGEND

◑ HEAT STRAIGHTEN EXISTING GIRDER

★ 4'-0" x 4'-0" COUNTER WEIGHT LOCATION TOTAL WEIGHT = 10,000 LBS.

▲ DEFINE LINES OF REMOVAL WITH A ½" MIN. SAW CUT. TYPICAL AT EDGES OF DECK AND TOP AND BOTH SIDES OF CURB AND PARAPET. DEPTH OF SAW CUT SHALL BE LIMITED TO 1½" AT ALL LOCATIONS IN ORDER TO PREVENT DAMAGE TO EXISTING REINFORCING TO BE INCORPORATED INTO NEW WORK

→ TRAFFIC DIRECTION

☆ TAKEN FROM EXISTING AS-BUILT STRUCTURE PLAN

◇ REMOVE AND REPLACE EXISTING CONNECTION PLATE

✱ REMOVE AND REUSE EXISTING STEEL DIAPHRAGM

RACM REGULATED ASBESTOS CONTAINING MATERIAL

STRUCTURES DESIGN CONTACTS
BRIDGE OFFICE:
AARON BONK (608) 261-0261
CONSULTANT:
PAT CASHIN (414) 359-2300

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY
HNTB (414) 359-2300

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED NK 4/2/2021
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-27-53

CASTLE MOUND ROAD OVER IH 94

COUNTY	TOWN
JACKSON	BROCKWAY

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
CNK	MPM	BPV	CNK

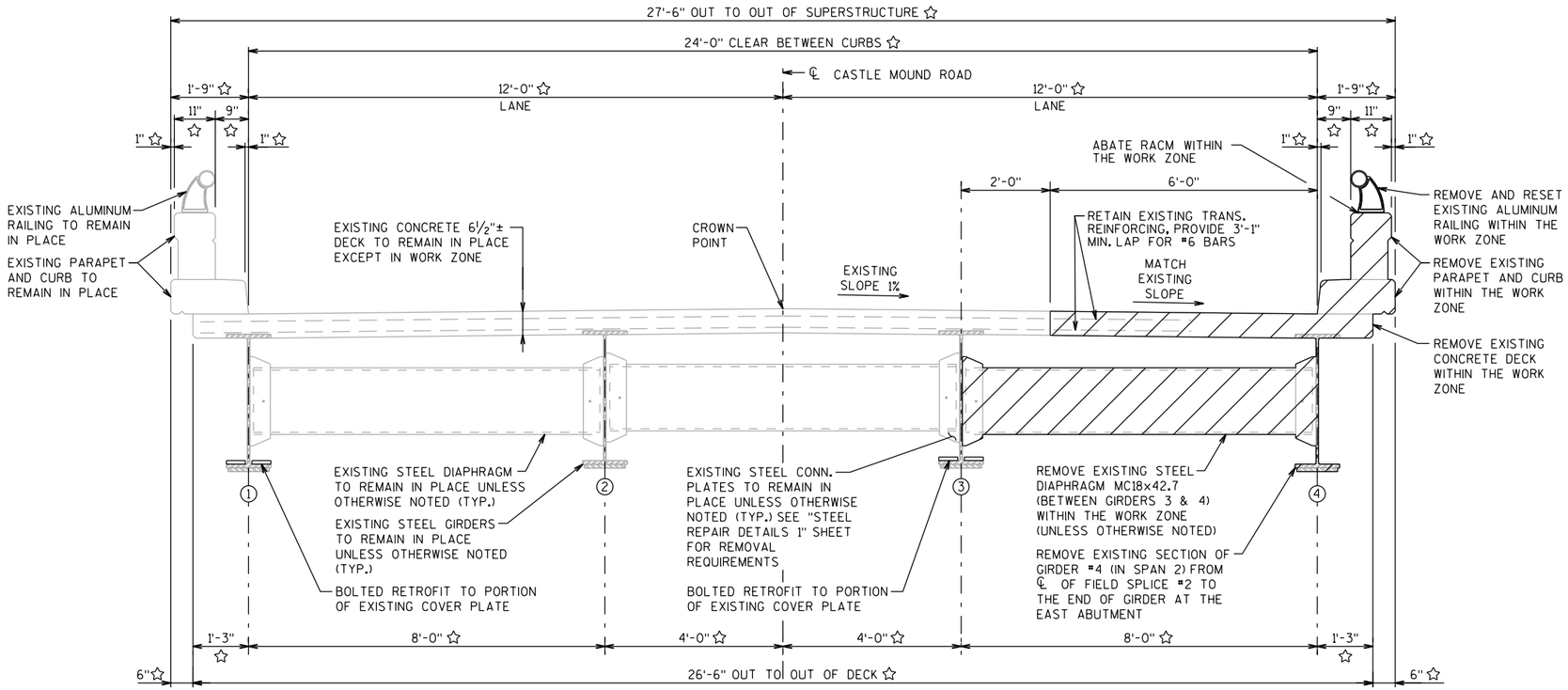
GENERAL PLAN AND ELEVATION

SHEET 1 OF 9

WISCONSIN CHRISTOPHER N. KADERA 41781 BROOKFIELD, WI PROFESSIONAL ENGINEER April 1, 2021

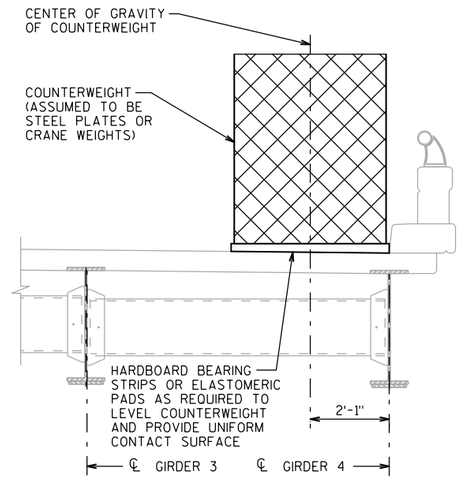
FILE NAME : \\milw00\ingrproj\73176\WO-9\b1\B-27-53\cds\B053_080101_gp.dgn PLOT DATE : 2/15/2021 7:56:54 AM PLOT BY : bvaughn PLOT NAME : $FILE$ PLOT SCALE : 21.8182:1

STATE PROJECT NUMBER
1023-00-83

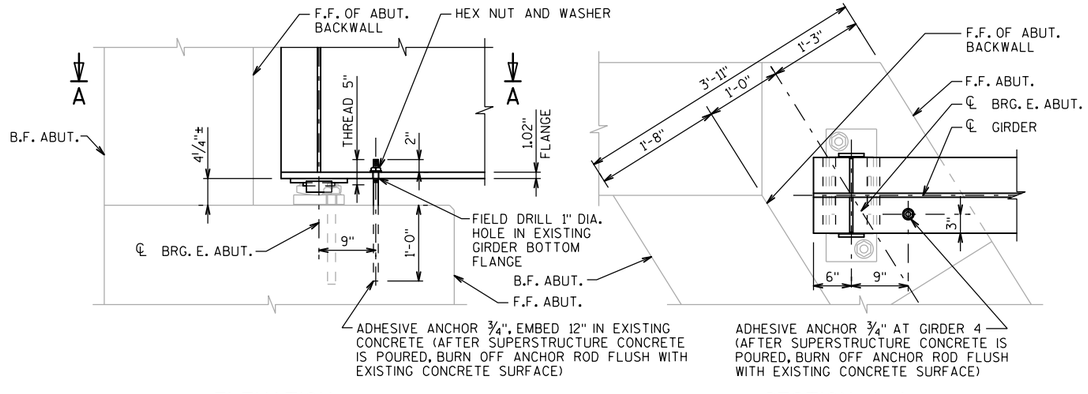


CROSS SECTION A-A THRU EXISTING - SHOWING REMOVAL

(LOOKING EAST)



PARTIAL SECTION SHOWING COUNTERWEIGHT LOCATION



ELEVATION

SECTION A-A

TEMPORARY HOLD DOWN DEVICE

(THIS SHALL BE INCLUDED IN BID ITEM "ADHESIVE ANCHORS 3/4-INCH")

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-27-53

DRAWN BY	BPV	PLANS CK'D.	CNK

TYPICAL SECTION AND DETAILS

SHEET 2 OF 9

FILE NAME : \\milw00\ingrproj\73176\WO-9\b1\B-27-53\cds\B053_080102_ts.dgn
PLOT DATE : 2/13/2021 3:20:55 PM
PLOT BY : bvaughn
PLOT NAME : $FILE$
PLOT SCALE : 3.99877:1

STATE PROJECT NUMBER
1023-00-83

SEQUENCING NOTES

1. REMOVE THE 4TH DIAPHRAGM FROM THE EAST ABUTMENT ALONG GIRDER 3, BAY 3 AND DRILL OUT ANY MARKED CRACK TIPS PRIOR TO HEAT STRAIGHTENING. REFERENCE REPORT BY FICKETT STRUCTURAL SOLUTIONS, INC. DATED JAN. 8, 2021. DRILL OUT ANY MARKED CRACK TIPS ON GIRDERS 1 AND 3 WEB PLATES AT THE DIAPHRAGMS INDICATED ON THE "PARTIAL DECK/GIRDER REPLACEMENT" SHEET PRIOR TO HEAT STRAIGHTENING. THIS WORK SHALL BE PAID FOR UNDER THE BID ITEM "HEAT STRAIGHTENING OF DAMAGED GIRDERS".

2. REMOVE PORTION OF BOTTOM FLANGE COVER PLATES FROM GIRDERS 1 AND 3 AS INDICATED AND GRIND REMAINING WELDS AT REMOVED LOCATIONS SMOOTH. PERFORM HEAT STRAIGHTENING TO INDICATED LOCATIONS OF GIRDERS 1 AND 3 TO BRING WEB AND FLANGES WITHIN DIMENSIONAL TOLERANCES REQUIRED. SEE SPECIAL PROVISIONS FOR REQUIREMENTS. EXISTING DEFLECTIONS AT GIRDER 2 ARE ANTICIPATED TO RECOVER TO WITHIN TOLERANCES AFTER DIAPHRAGM CONNECTION BOLTS ARE REMOVED BETWEEN DAMAGED GIRDERS 1 AND 3 AND GIRDER 2. IF GIRDER 2 DOES NOT RECOVER AS ANTICIPATED, CONTACT THE DEPARTMENT FOR DIRECTION.

3. CLAMP BOTTOM FLANGE COVER PLATE RETROFIT PLATES INTO PLACE. USING THE SHOP DRILLED BOLT HOLE PATTERNS IN THE RETROFIT PLATES AS TEMPLATES, FIELD DRILL BOLT HOLES IN BOTTOM FLANGE AND COVER PLATE. INSTALL BOLTS AND TIGHTEN.

4. IN LOCATIONS INDICATED, REMOVE DAMAGED DIAPHRAGM CONNECTIONS AND GRIND WELDS SMOOTH. INSTALL NEW DIAPHRAGM CONNECTIONS AND DIAPHRAGMS AS INDICATED ON "STEEL REPAIR DETAILS 2" SHEET.

5. TAKE/RECORD TOP OF DECK ELEVATIONS AT SPAN 2 TENTH POINTS ALONG GIRDER 4. THESE ELEVATIONS WILL BE USED TO DETERMINE THE DECK THICKENING DIMENSION, 'T'.

6. PRIOR TO PERFORMING ANY OTHER WORK RELATED TO THE TUBULAR RAILING, ABATE REGULATED ASBESTOS CONTAINING MATERIAL (RACM) WITHIN THE WORK ZONE LIMITS BY A LICENSED ABATEMENT CONTRACTOR. REFERENCE REPORT BY TRC ENVIRONMENTAL CORPORATION DATED DECEMBER 14, 2020. THIS WORK SHALL BE PAID FOR UNDER THE BID ITEM "ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-27-53".

7. REMOVE AND STOCKPILE ALUMINUM RAILING TO THE EXTENTS SHOWN ON THE PLANS. PAD/GASKETS UNDER RAILING POST CONTAIN ASBESTOS. ABATEMENT PAID FOR UNDER BID ITEM "ASBESTOS ABATEMENT" (SEE ASSOCIATED NOTE).

8. REMOVE PARAPET AND CURB TO THE EXTENTS SHOWN ON THE PLAN.

9. ADD THE COUNTERWEIGHT AS SHOWN ON "TYPICAL SECTION AND DETAILS" SHEET. THE CENTER OF GRAVITY OF THE COUNTERWEIGHT MUST BE LOCATED AS SHOWN ON "GENERAL PLAN AND ELEVATION" SHEET FROM THE CENTER OF PIER AND GIRDER.

10. REMOVE THE DECK TO THE EXTENTS SHOWN ON THE PLAN.

11. REMOVE THE (3) EXISTING DIAPHRAGMS ATTACHED TO GIRDER 4 BETWEEN FIELD SPLICE #2 AND EAST ABUTMENT. GRIND WELDS AT THE EXISTING CONNECTION STIFFENERS OF GIRDER 3 SMOOTH AT INDICATED DIAPHRAGM LOCATIONS. NON-INDICATED EXISTING CONNECTION STIFFENERS AT GIRDER 3 TO REMAIN. ALSO INSTALL BLOCKING TO VERTICALLY SUPPORT THE EAST ABUTMENT DIAPHRAGM LOCATED BETWEEN GIRDER 3 AND GIRDER 4 AND THEN REMOVE THE BOLTS CONNECTING THE ABUTMENT DIAPHRAGM TO THE BEARING STIFFENER ON GIRDER LINE 4. ABUTMENT DIAPHRAGM TO REMAIN IN PLACE.

12. SUPPORT THE SECTION OF GIRDER 4 TO BE REMOVED. REMOVE BOLTS FROM THE TOP AND BOTTOM FLANGE SPLICE PLATES AND THE WEB SPLICE PLATES ON THE REPLACEMENT SIDE OF THE FIELD SPLICE ONLY AT GIRDER 4.

13. REMOVE THE REMAINING BOLTS AT FIELD SPLICE #2 AND REMOVE THE SPLICE PLATES.

14. REMOVE DAMAGED PORTION OF GIRDER 4 BETWEEN FIELD SPLICE #2 AND THE EAST ABUTMENT.

15. REMOVE BEARING ASSEMBLY FROM GIRDER 4, GRIND WELDS AT THE SOLE PLATE SMOOTH, INSTALL EXISTING BEARING ASSEMBLY ON NEW SECTION OF GIRDER 4 AND FIELD WELD IN PLACE. (ALTERNATIVELY, FIELD WELD EXISTING BEARING ASSEMBLY TO THE NEW SECTION OF GIRDER 4 AFTER SWINGING NEW SECTION INTO PLACE). GRIND EXISTING GIRDER 4 KEEPER BAR WELDS TO ROCKER PLATE AND FIELD WELD NEW KEEPER BAR TO ROCKER PLATE. COST INCIDENTAL TO "STRUCTURAL STEEL CARBON".

16. LOOSEN BOLTS ON THE EXISTING SPLICE PLATES CONNECTION TO THE REMAINING PORTION OF GIRDER 4 AS REQUIRED TO ALLOW CONNECTION OF THE NEW GIRDER SECTION. SWING NEW SECTION OF GIRDER 4 INTO PLACE AND CONNECT TO THE EXISTING SPLICE PLATES BY INSTALLING ALL THE BOLTS INTO NEW GIRDER PORTION/SIDE OF THE FIELD SPLICE WHILE THE NEW GIRDER SECTION IS SUPPORTED BY THE CRANE OR LIFT.

17. CLAMP THE SPLICE PLATES AT GIRDER 4 TO THE NEW GIRDER SECTION TO BRING THEM TIGHT TO THE TOP AND BOTTOM FLANGES OF THE NEW GIRDER SECTION. AFTER PLATES ARE CLAMPED AT FIELD SPLICE #2 ALLOW THE GIRDERS TO REST ON THE SPLICE PLATES AND BE SUPPORTED BY THE STRUCTURE.

18. AFTER REMOVING GIRDER FROM THE CRANE/LIFT, FIELD DRILL ALL THE SPLICE BOLT HOLES THROUGH THE NEW PORTION OF GIRDER 4 USING THE REUSED SPLICE PLATES AS TEMPLATES. INSTALL NEW BOLTS THROUGH THE FIELD DRILLED HOLES ON THE NEW GIRDER SIDE OF THE SPLICE AND REMOVE CLAMPS.

19. INSTALL THE NEW DIAPHRAGMS BETWEEN GIRDERS 3 AND 4 AS DETAILED ON THE "STEEL DIAPHRAGM DETAILS 2" SHEET. PAY PARTICULAR ATTENTION TO THE INSTALLATION PROCEDURE/DETAIL FOR THE CONNECTION AT GIRDER 3, AS NOT ALL BOLTS WILL BE INSTALLED AT THESE LOCATIONS UNTIL AFTER THE NEW DECK IS POURED. REATTACH THE EAST ABUTMENT DIAPHRAGM TO THE NEW GIRDER BEARING STIFFENER WITH BOLTS AS DETAILED AND REMOVE BLOCKING.

20. INSTALL TEMPORARY HOLD DOWN AT GIRDER 4. SEE THIS SHEET FOR DETAILS.

21. REMOVE COUNTERWEIGHT.

22. FORM THE NEW PORTION OF DECK, INSTALL SHEAR STUDS, AND INSTALL DECK AND EMBEDDED PARAPET AND CURB REINFORCING. POUR CONCRETE DECK.

23. INSTALL REMAINDER OF CONNECTION BOLTS AT THE DIAPHRAGMS AT GIRDER 3 (SEE "STEEL DIAPHRAGM DETAILS 2" SHEET).

24. FORM PARAPET AND CURB AND INSTALL PARAPET AND CURB REINFORCING. POUR CONCRETE PARAPET AND CURB.

25. REMOVE TEMPORARY HOLD DOWN. CUT/BURN OFF ANCHOR BOLT FLUSH WITH TOP OF EXISTING CONCRETE.

26. FIELD PAINT PORTIONS OF STRUCTURE IN HEAT STRAIGHTENED AREAS AND OTHER AREAS WHERE PAINT WAS REMOVED AND APPLY FINISH COATS AT FIELD SPLICE LOCATIONS.

27. RESET STOCKPILED ALUMINUM RAILING TO THE EXTENTS SHOWN ON THE PLANS. PROVIDE NEW NEOPRENE PAD/GASKETS UNDER RAILING POST.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING STRUCTURE PLANS.

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

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

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF REPLACED DECK SURFACE.

PIGMENTED SURFACE SEALER TO BE APPLIED TO THE FRONT FACE AND THE TOP OF NEW PARAPET.

THE COLOR OF THE FINISH EPOXY TOP COAT SHALL BE LIGHT GRAY (AMS STANDARD COLOR NO. 26293) OR SIMILAR COLOR APPROVED BY THE ENGINEER.

ALL FIELD CONNECTIONS SHALL BE MADE WITH ¾" DIAMETER A325 HIGH-TENSILE STRENGTH BOLTS UNLESS OTHERWISE SHOWN OR NOTED.

TEMPORARY HOLD DOWN REQUIRED AT EAST ABUTMENT - GIRDER 4 (INSTALL PRIOR TO REMOVING COUNTERWEIGHT).

MATCH NEW PARAPET AND CURB TO EXISTING PARAPET AND CURB.

MATCH NEW DECK TO EXISTING DECK.

NEW STEEL PIECES TO BE SHOP PAINTED AND PAID FOR UNDER BID ITEM "PAINTING EPOXY SYSTEM B-27-53".

FIELD PAINTING OF EXISTING STEEL SHALL BE PAID FOR UNDER THE BID ITEM "STRUCTURE OVERCOATING CLEANING AND PRIMING B-27-53".

SALVAGE THE EXISTING EXPANSION DEVICE AND INCORPORATE INTO THE NEW PORTION OF THE DECK. INCLUDE COST TO INCORPORATE INTO THE NEW DECK UNDER BID ITEM "CONCRETE MASONRY BRIDGES".

ALL CONSTRUCTION RELATED MATERIALS AND EQUIPMENT, SHALL BE REMOVED FROM THE STRUCTURE DURING THE FOLLOWING PERIODS:

1. FROM THE TIME JUST BEFORE THE EXISTING FIELD SPLICE PLATES/BOLTS OF THE GIRDER ARE REMOVED UNTIL THE NEW GIRDER SECTION WITH ALL NEW FIELD SPLICE PLATES/BOLTS HAVE BEEN INSTALLED.
2. FROM THE TIME JUST BEFORE THE EXISTING DIAPHRAGMS ARE DISCONNECTED UNTIL THE NEW DIAPHRAGM CONNECTIONS AND DIAPHRAGMS ARE INSTALLED.
3. FROM THE TIME JUST BEFORE THE BOTTOM COVER PLATES ARE PARTIALLY REMOVED UNTIL AFTER THE RETROFIT COVER PLATES ARE FULLY INSTALLED.
4. FROM THE TIME JUST AFTER THE DECK POUR (PRIOR TO DECK TAKING ITS INITIAL SET) UNTIL THE REQUIREMENTS OF SECTION 502.3.10 OF THE STANDARD SPECIFICATIONS ARE MET.

SEE ROADWAY PLANS FOR TRAFFIC CONTROL REQUIREMENTS AND CLOSURES. WORK THESE STRUCTURE PLANS AND CONSTRUCTION SEQUENCING WITH TRAFFIC CONTROL REQUIREMENTS AND CLOSURES LISTED THEREIN.

A DAMAGE INSPECTION REPORT FOR B-27-0053, INCLUDING NON-DESTRUCTIVE TESTING RESULTS, WAS PREPARED BY FICKETT STRUCTURAL SOLUTIONS DATED JANUARY 8, 2021 AND IS AVAILABLE FROM THE DEPARTMENT UPON REQUEST.

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

TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEM	UNIT	TOTAL
203.0200	REMOVING OLD STRUCTURE STA. 126+63	LS	1
203.0215.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-27-53	LS	1
502.0100	CONCRETE MASONRY BRIDGES	CY	19
502.3200	PROTECTIVE SURFACE TREATMENT	SY	66
502.3210	PIGMENTED SURFACE SEALER	SY	22
502.4106	ADHESIVE ANCHORS 3/4-INCH	EACH	1
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	5,710
506.0105	STRUCTURAL STEEL CARBON	LB	4,400
506.0605	STRUCTURAL STEEL HS	LB	12,640
513.9005.S	REMOVING AND RESETTING TUBULAR RAILING B-27-53	LS	1
517.0600	PAINTING EPOXY SYSTEM B-27-53	LS	1
517.3000.S	STRUCTURE OVERCOATING CLEANING AND PRIMING B-27-53	LS	1
517.4000.S	CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-27-53	LS	1
SPV.0060.01	WELDED STUD SHEAR CONNECTORS 3/4x3-INCH	EACH	342
SPV.0105.01	HEAT STRAIGHTENING OF DAMAGED GIRDERS	LS	1
SPV.0105.02	COUNTERWEIGHT STRUCTURE	LS	1

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

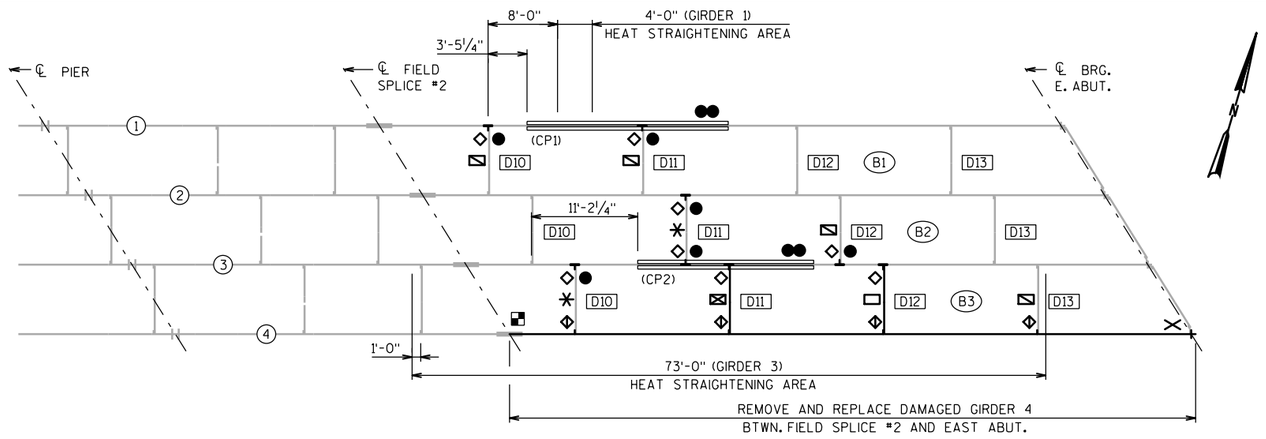
STRUCTURE B-27-53

DRAWN BY BPV | PLANS CK'D. CNK

GENERAL AND SEQUENCING NOTES, AND QUANTITIES

SHEET 3 OF 9

STATE PROJECT NUMBER
1023-00-83

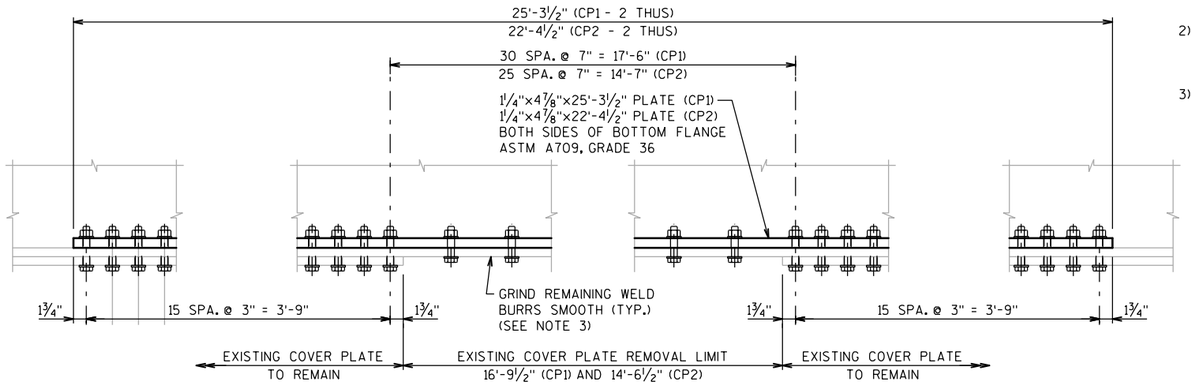


STEEL REPAIR LOCATION PLAN

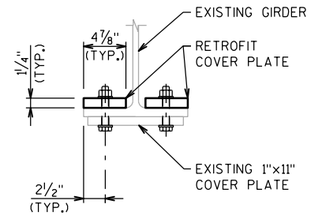
LEGEND

- HEAT STRAIGHTEN EXISTING GIRDER
- EXISTING DIAPHRAGM TO REMAIN IN PLACE THROUGHOUT PROJECT DURATION
- REMOVE AND REUSE EXISTING STEEL DIAPHRAGM
- REMOVE EXISTING STEEL DIAPHRAGM AND REPLACE WITH NEW STEEL DIAPHRAGM
- NEW STEEL DIAPHRAGM
- REMOVE AND REPLACE EXISTING CONNECTION PLATE
- NEW CONNECTION PLATE
- NEW BEARING STIFFENER PLATES
- REMOVE 1" OF EXISTING DIAPHRAGM THIS END
- REUSE EXISTING SPLICE PLATES
- BOLTED RETROFIT COVER PLATE (CPX)
- (X) GIRDER NUMBER
- (BX) BAY NUMBER
- DXX DIAPHRAGM NUMBER

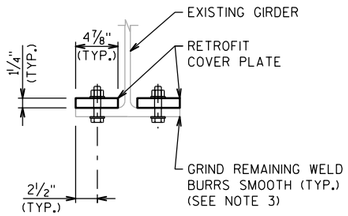
NOTES:
1) ALL BOLT HOLES SHALL BE 1⅛" DIA. FOR 1" DIA. BOLTS.
2) BLAST CLEAN NEWLY EXPOSED BOTTOM FLANGE AREA AND PAINT ACCORDING TO PROJECT SPECIFICATIONS
3) ALL WORK TO PREPARE AND INSTALL THE BOLTED RETROFIT COVER PLATE SHALL BE INCIDENTAL TO "STRUCTURAL STEEL CARBON".



ELEVATION

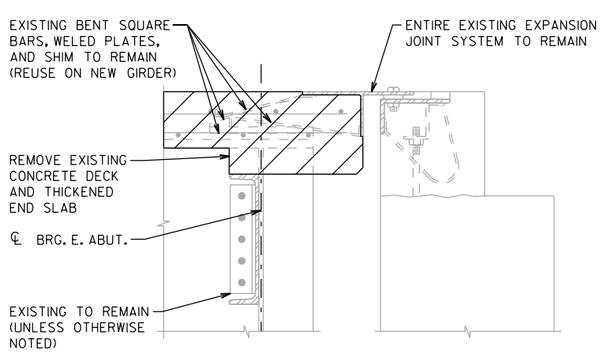


SECTION AT EXISTING COVER PLATE



SECTION AT EXISTING COVER PLATE REMOVED

BOLTED RETROFIT COVER PLATE DETAILS



SECTION AT EXP. JOINT (GIRDER 4)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-27-53

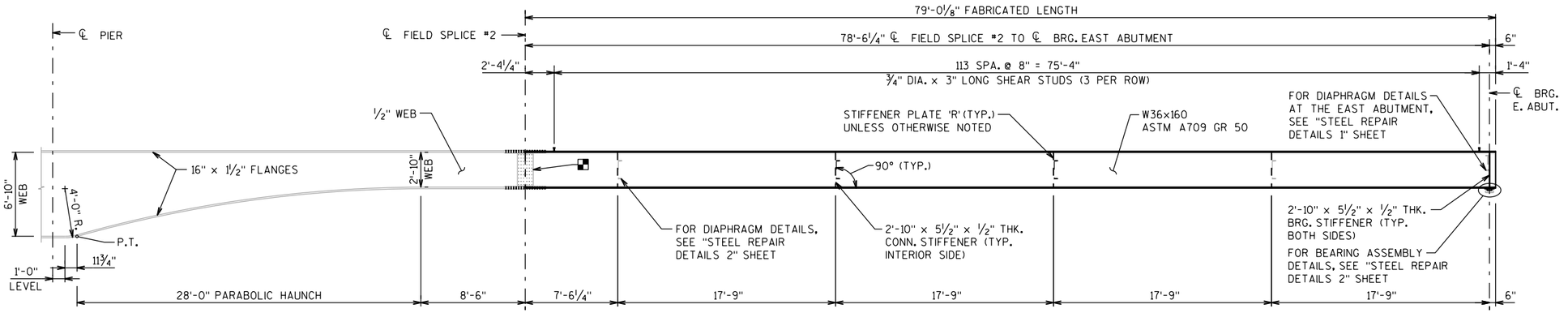
DRAWN BY BPV | PLANS CK'D. CNK

STEEL REPAIR LOCATION PLAN

SHEET 4 OF 9

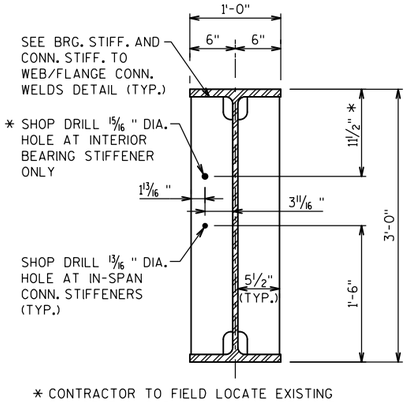
FILE NAME : \\milw00\ingrproj\73176\WO-9\b1\B-27-53\cds\B053_080504_ss_repairlocation.dgn
PLOT DATE : 3/31/2021 2:59:15 PM PLOT BY : bvaughn PLOT NAME : $FILE$ PLOT SCALE : 17.4533:1

STATE PROJECT NUMBER
1023-00-83



■ - FIELD DRILL ALL HOLES THROUGH THE NEW GIRDER SECTION USING THE EXISTING SPLICE PLATES AS A TEMPLATE.
BOLTS IN CONNECTION:
TOP FLANGE SPLICE: 32 BOLTS
WEB SPLICE: 60 BOLTS
BOTTOM FLANGE SPLICE: 32 BOLTS

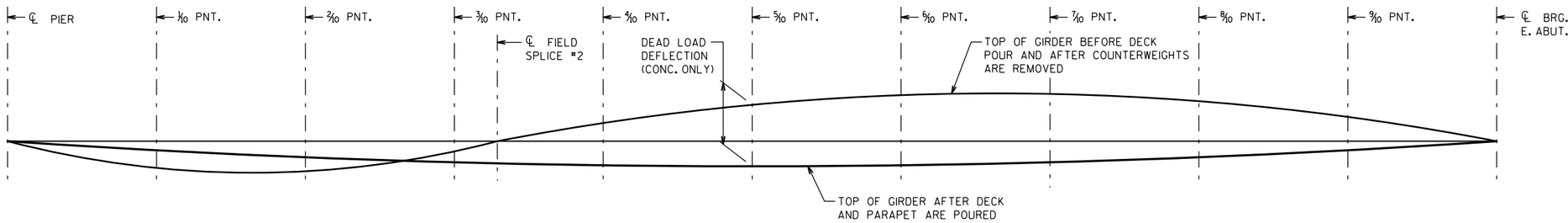
GIRDER 4 ELEVATION



* CONTRACTOR TO FIELD LOCATE EXISTING END BENT DIAPHRAGM AND LOCATE HOLE TO ACHIEVE LEVEL END DIAPHRAGM

SECTION THRU GIRDER

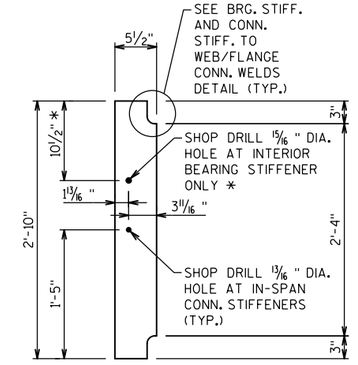
(BRG. STIFFENERS AT BOTH SIDES)
(IN-SPAN CONN. STIFFENERS AT INTERIOR SIDE ONLY)



	℄ PIER	1/10 PNT.	2/10 PNT.	3/10 PNT.	℄ F.S.#2	4/10 PNT.	5/10 PNT.	6/10 PNT.	7/10 PNT.	8/10 PNT.	9/10 PNT.	℄ BRG. E. ABUT.
CONC. ONLY (INCHES)	0.0	0.1	0.4	0.9	1.0	1.4	1.9	2.1	2.0	1.6	0.9	0.0

SPAN 2 DEAD LOAD DEFLECTIONS - GIRDER 4

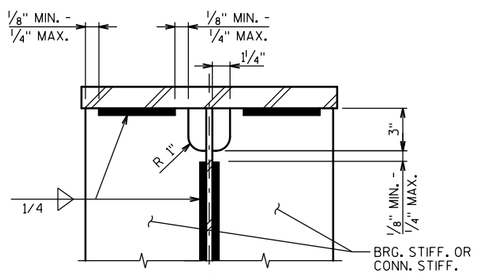
NOTE:
DEFLECTIONS SHOWN ARE APPROXIMATE AND MAY VARY SLIGHTLY FROM ACTUAL DEFLECTIONS DUE TO LOAD SHEDDING TO THE UNAFFECTED GIRDERS (GIRDERS 1 THRU 3) IN THE ADJACENT SPANS.



STIFFENER PLATE 'R' DETAIL

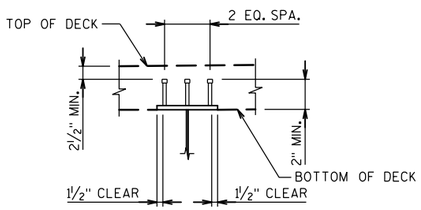
(2 - 1/2" THK. BRG. STIFF. PLATES REQUIRED)
(4 - 1/2" THK. IN-SPAN CONN. STIFF. PLATES REQUIRED)

NOTE:
ALL STIFFENER PLATES SHALL BE ASTM A709, GRADE 36.



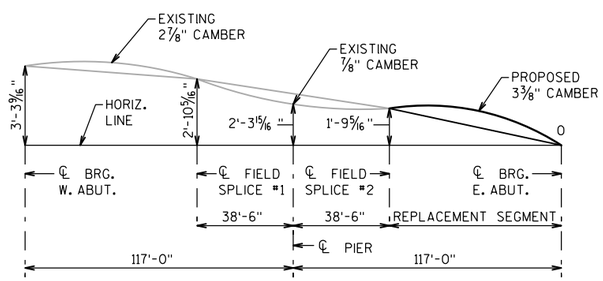
BRG. STIFF. AND CONN. STIFF. TO WEB/FLANGE CONN. WELDS DETAIL

NOTE:
USE THREE FIELD WELDED 3/4" DIA. x 3" LONG STUDS EQUALLY SPACED WITH A MINIMUM OF 1 1/2" CLEAR FROM THE FLANGE EDGE. STUDS SHALL NOT BE PLACED OVER FIELD SPLICE PLATES.



SHEAR CONNECTOR DETAIL

NOTE:
THE SEGMENTS WEST OF FIELD SPLICE 2 ARE SHOWN FOR INFORMATION ONLY TO SUPPORT THE SHOP DRAWING DEVELOPMENT AND FACILITATE ERECTION FIT.



CAMBER AND BLOCKING DIAGRAM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

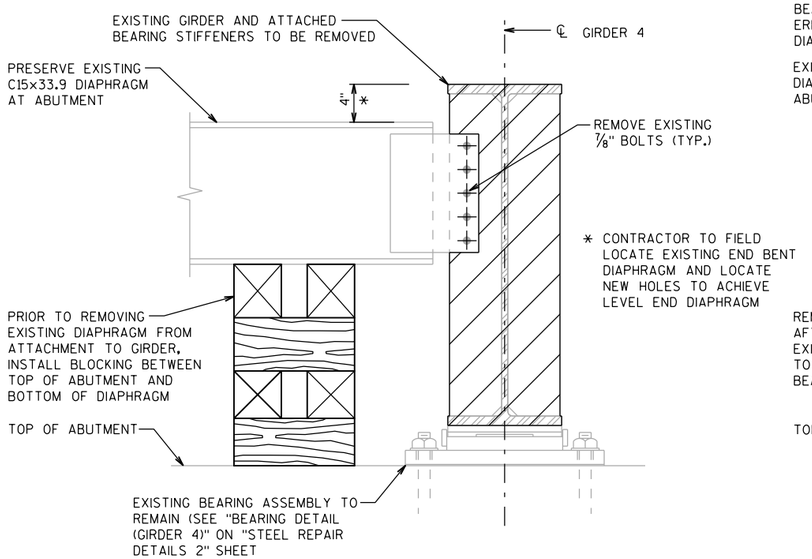
STRUCTURE B-27-53

DRAWN BY BPV | PLANS CK'D. CNK

NEW GIRDER DETAILS

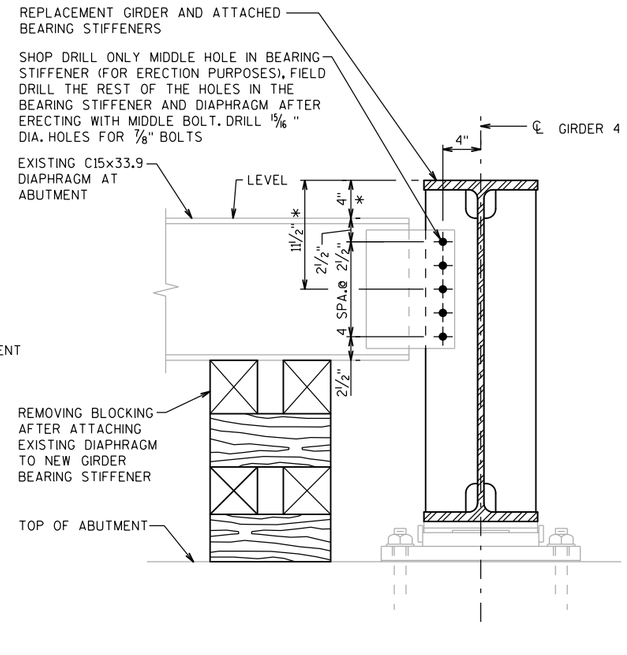
SHEET 5 OF 9

STATE PROJECT NUMBER
1023-00-83



REMOVAL DETAIL AT ABUTMENT DIAPHRAGM

(THIS SHALL BE INCLUDED IN BID ITEM "REMOVING OLD STRUCTURE STA. 126+63")



REPLACEMENT DETAIL AT ABUTMENT DIAPHRAGM

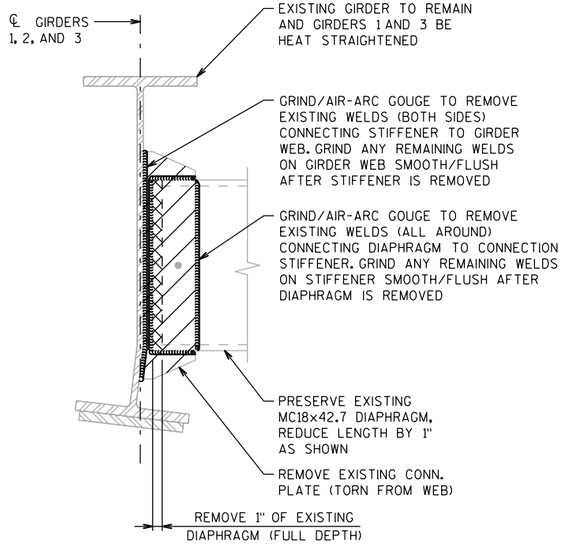
NOTES

FOR STEEL REPAIR LOCATIONS, SEE "STEEL REPAIR LOCATION PLAN" SHEET.

FOR ADDITIONAL DIAPHRAGM DETAILS, SEE "STEEL REPAIR DETAILS 2" SHEET.

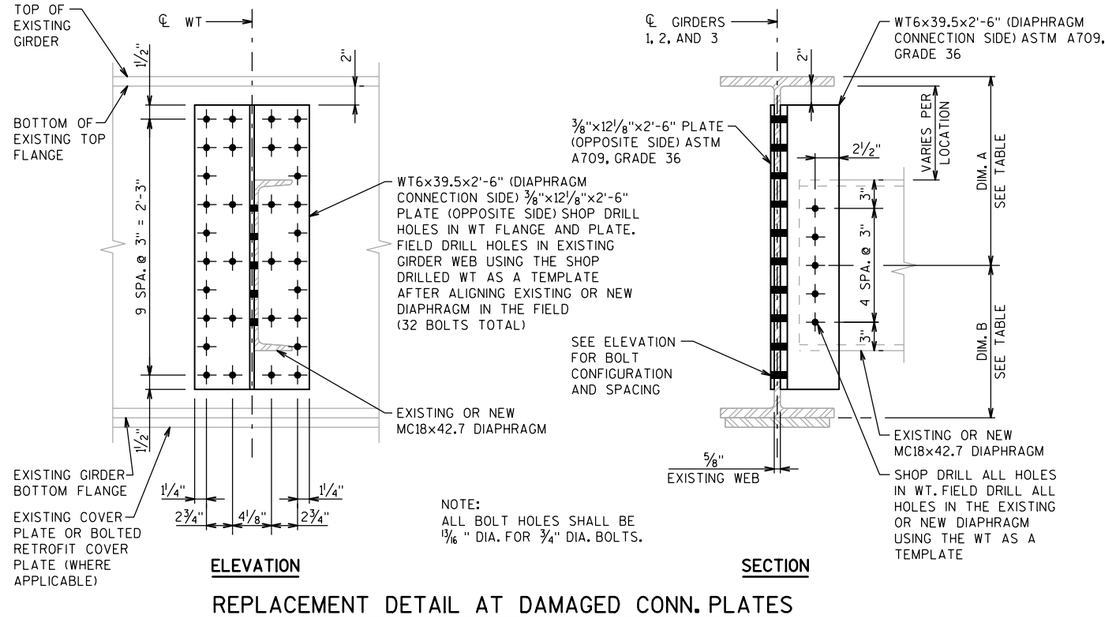
DIAPHRAGM DIMENSION TABLE

BEAM NO.	DIAPHRAGM NO.	BAY NO.	DIM. A	DIM. B
1	D10	B1	1'-6"	1'-6"
1	D11	B1	1'-6"	1'-6"
2	D11	B2	1'-6"	1'-6"
3	D11	B2	1'-6"	1'-6"
3	D12	B2	1'-6"	1'-6"
3	D10	B3	1'-6 15/16 "	1'-4 1/16 "
3	D11	B3	1'-6 15/16 "	1'-4 1/16 "
3	D12	B3	1'-6 15/16 "	1'-4 1/16 "



REMOVAL DETAIL AT DAMAGED CONN. PLATES

(THIS SHALL BE INCLUDED IN BID ITEM "REMOVING OLD STRUCTURE STA. 126+63")



REPLACEMENT DETAIL AT DAMAGED CONN. PLATES

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

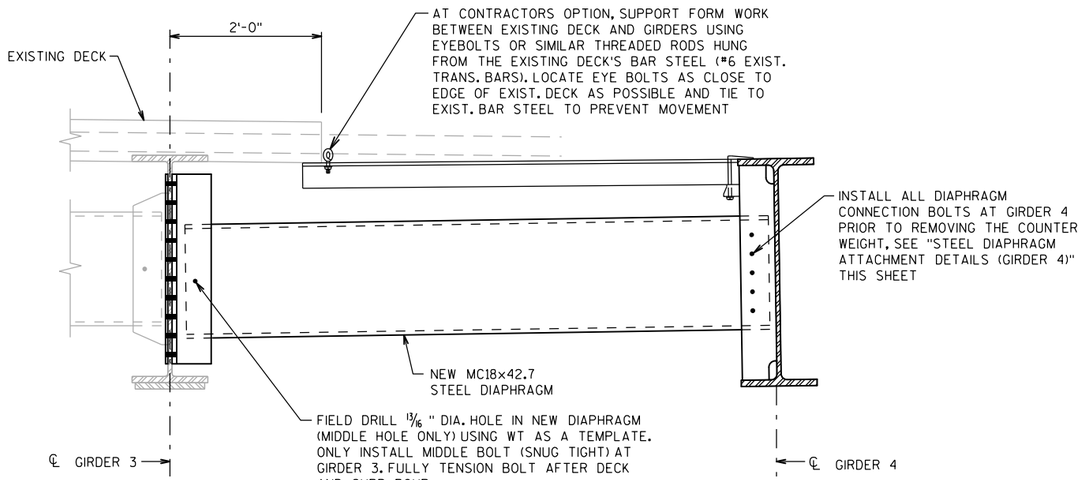
STRUCTURE B-27-53

DRAWN BY BPV | PLANS CK'D. CNK

STEEL REPAIR DETAILS 1

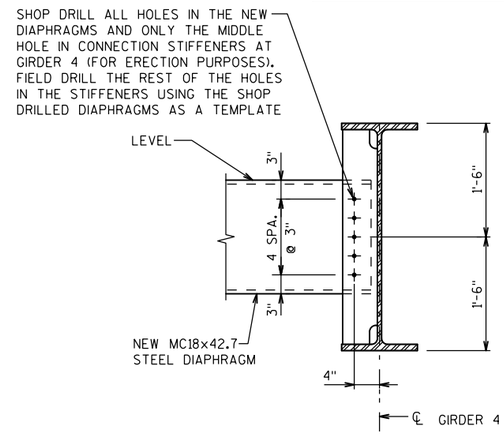
SHEET 6 OF 9

STATE PROJECT NUMBER
1023-00-83

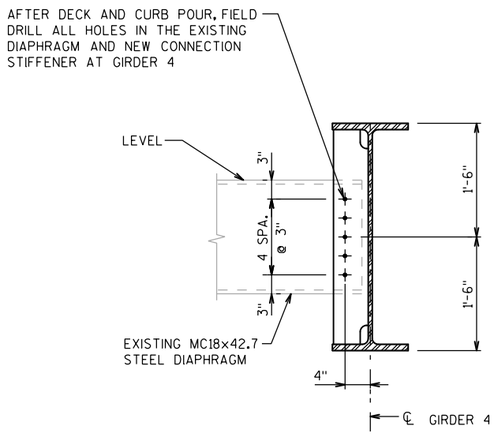


PARTIAL SECTION - BEFORE DECK POUR

NOTE:
ALL DIAPHRAGM STEEL SHALL BE ASTM A709, GRADE 36.

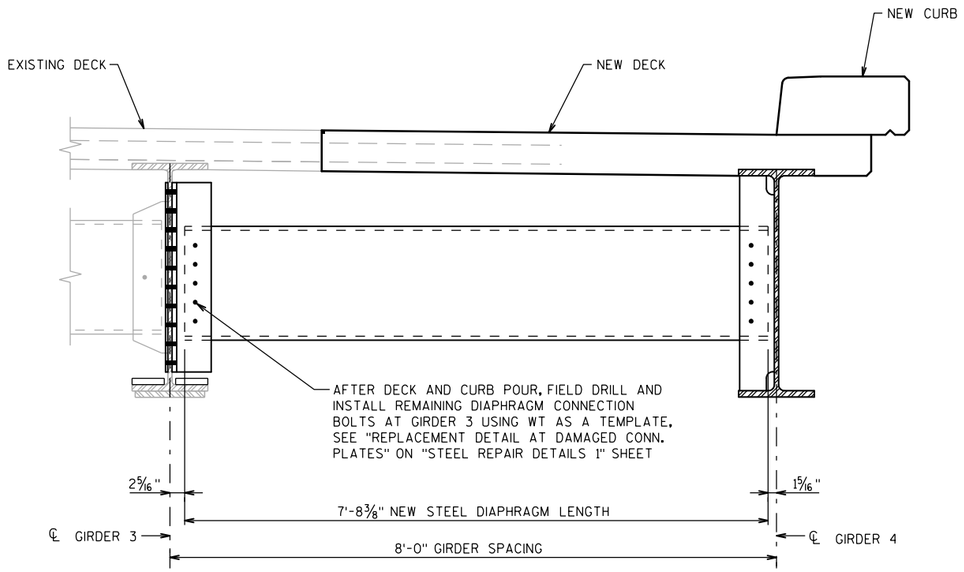


NEW DIAPHRAGMS D10, D11, AND D12

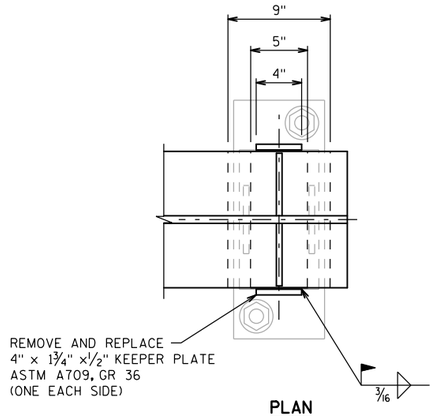


EXISTING DIAPHRAGM D13

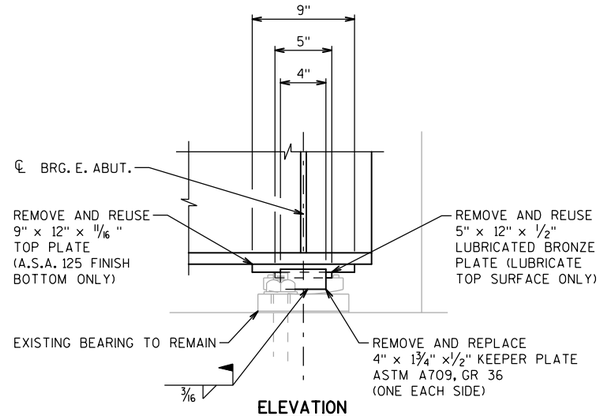
STEEL DIAPHRAGM ATTACHMENT DETAILS (GIRDER 4)



PARTIAL SECTION - AFTER DECK AND CURB POUR



PLAN



ELEVATION

BEARING DETAIL (GIRDER 4)

NOTES

FOR STEEL REPAIR LOCATIONS, SEE "STEEL REPAIR LOCATION PLAN" SHEET.

FOR ADDITIONAL DIAPHRAGM DETAILS, SEE "STEEL REPAIR DETAILS 1" SHEET.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-27-53

DRAWN BY BPV | PLANS CK'D. CNK

STEEL REPAIR DETAILS 2

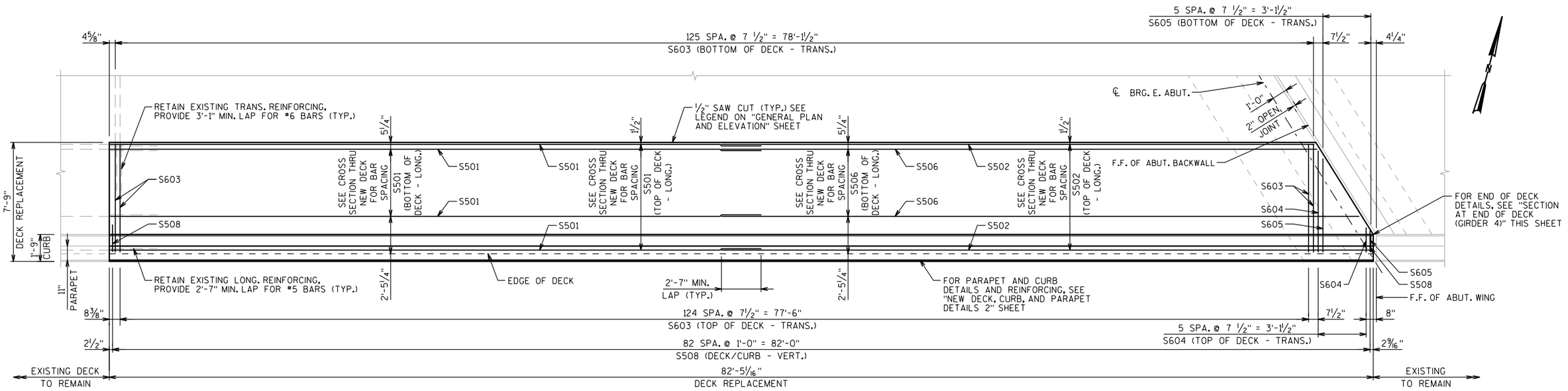
SHEET 7 OF 9

8

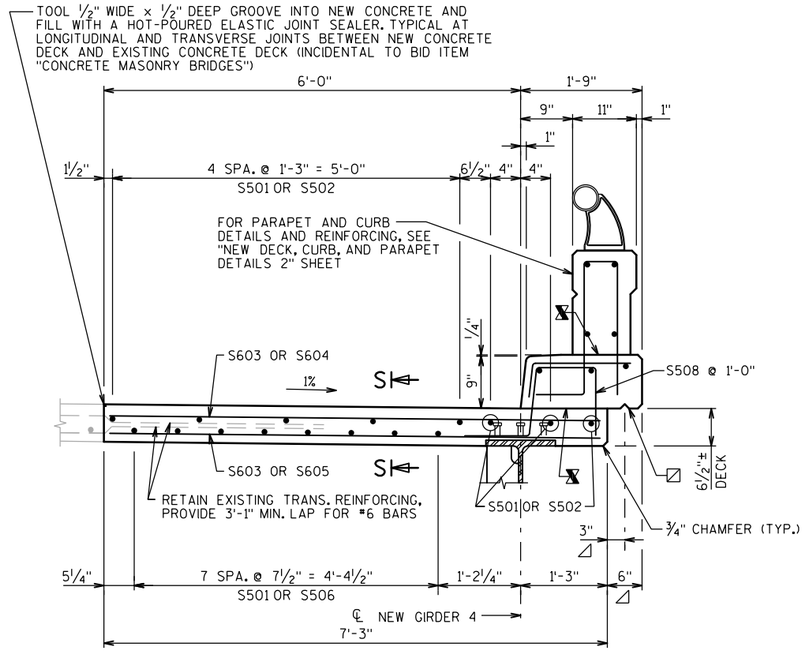
8

FILE NAME : \\milw00\ingrproj\73176\W0-9\b1\B-27-53\cds\B053_080507_ss_repairdet.dgn
PLOT DATE : 2/13/2021 4:11:05 PM PLOT BY : bvaughn PLOT NAME : $FILE$ PLOT SCALE : 1.99877:1

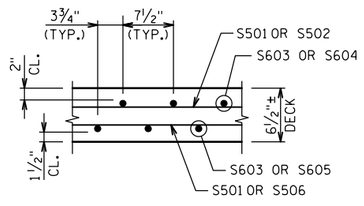
STATE PROJECT NUMBER
1023-00-83



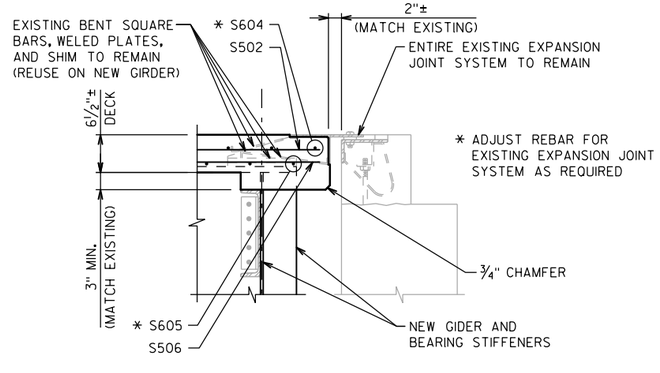
PLAN VIEW OF DECK REINFORCEMENT



CROSS SECTION THRU NEW DECK



SECTION S-S



SECTION AT END OF DECK (GIRDER 4)

NOTES

FOR PARAPET AND CURB DETAILS, SEE "NEW DECK, CURB, AND PARAPET DETAILS 2" SHEET.

FOR BILL OF BARS, SEE "NEW DECK, CURB, AND PARAPET DETAILS 2" SHEET.

LEGEND

X - CONST. JOINT - LEVEL AND LEAVE ROUGH

▨ - 3/4" GROOVE REQUIRED EXTEND TO 2'-0" FROM FRONT FACE ABUTMENT

◿ - MATCH EXISTING

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-27-53

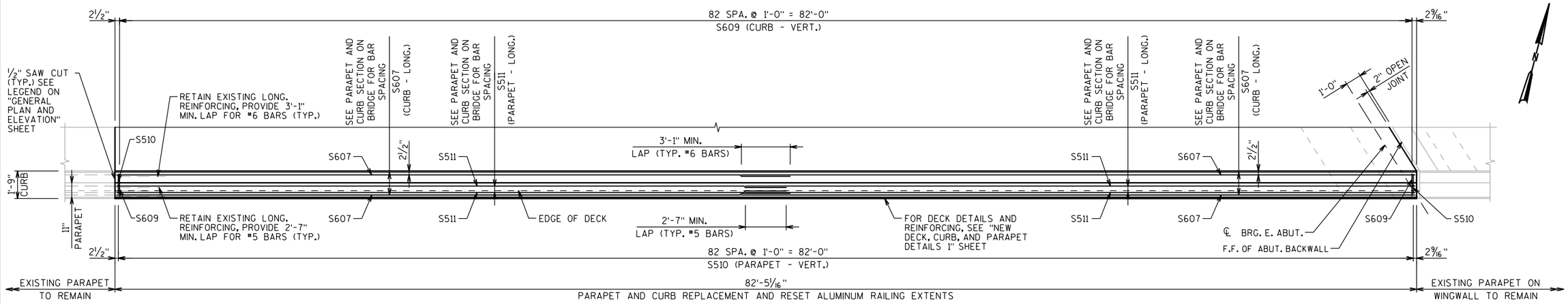
DRAWN BY BPV | PLANS CK'D. CNK

NEW DECK, CURB, AND PARAPET DETAILS 1

SHEET 8 OF 9

FILE NAME : \\milw00\ingrproj\73176\W0-9\b1\B-27-53\cds\B053_080508_ss_deckdet.dgn
PLOT DATE : 2/15/2021 8:12:01 AM PLOT BY : bvaughn PLOT NAME : $FILE$ PLOT SCALE : 6.54545:1

STATE PROJECT NUMBER
1023-00-83



PLAN VIEW OF PARAPET AND CURB REINFORCEMENT

BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	SERIES	LOCATION
S501	X	16	42'-4"			DECK - TOP AND BOTTOM LONG.
S502	X	8	40'-10"		△	DECK - TOP LONG.
S603	X	251	6'-9"			DECK - TOP AND BOTTOM TRANS.
S604	X	6	4'-1"		△	DECK - TOP TRANS.
S605	X	6	3'-7"		△	DECK - BOTTOM TRANS.
S506	X	8	40'-2"		△	DECK - BOTTOM LONG.
S607	X	6	42'-7"			CURB - LONG.
S508	X	83	3'-9"	X		DECK/CURB - VERT.
S609	X	83	1'-9"	X		CURB - VERT.
S510	X	83	5'-0"	X		CURB/PARAPET - VERT.
S511	X	8	42'-4"			PARAPET - LONG.

BAR SERIES TABLE

BAR MARK	NO. REQ'D.	LENGTH
S502	1 SET OF 8	38'-8" TO 43'-0"
S604	1 SET OF 6	1'-7" TO 6'-7"
S605	1 SET OF 6	1'-1" TO 6'-1"
S506	1 SET OF 8	38'-9" TO 41'-7"

BUNDLE AND TAG EACH SERIES SEPARATELY.

NOTE

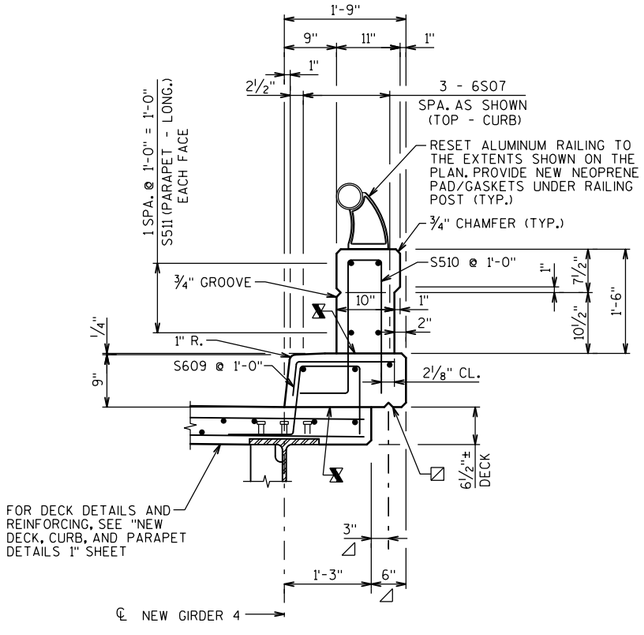
FOR DECK DETAILS, SEE "NEW DECK, CURB, AND PARAPET DETAILS 1" SHEET.

LEGEND

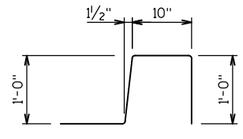
X - CONST. JOINT - LEVEL AND LEAVE ROUGH

▨ - ¾" GROOVE REQUIRED EXTEND TO 2'-0" FROM FRONT FACE ABUTMENT

◿ - VERIFY DIMENSION IN FIELD

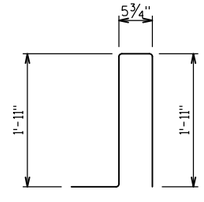


PARAPET AND CURB SECTION ON BRIDGE



S508

S609



S510

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-27-53

DRAWN BY BPV | PLANS CK'D. CNK

NEW DECK, CURB, AND PARAPET DETAILS 2

SHEET 9 OF 9

FILE NAME : \\milw00\ingrproj\73176\W0-9\b1\B-27-53\cds\B053_080509_ss_deckdet.dgn
PLOT DATE : 2/15/2021 8:35:14 AM
PLOT BY : bvaughn
PLOT NAME : $FILE$
PLOT SCALE : 6.54423:1

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov