

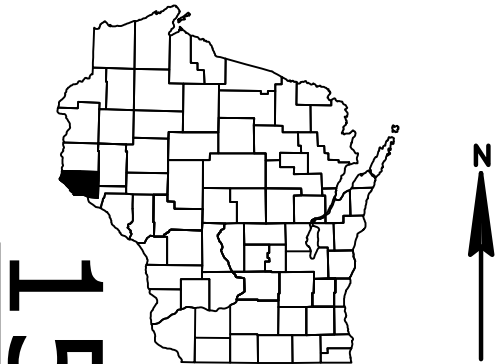
EAU PROJECT ID: 1530-01-75 WITH: N/A COUNTY: PIERCE

JULY 2018

ORDER OF SHEETS

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

TOTAL SHEETS = 64



DESIGN DESIGNATION

A.A.D.T.	2018	=	13,900
A.A.D.T.	2038	=	16,900
D.H.V.		=	1994 (2038)
D.D.		=	60/40
T.		=	14.8%
DESIGN SPEED		=	35 MPH
ESALS		=	N/A

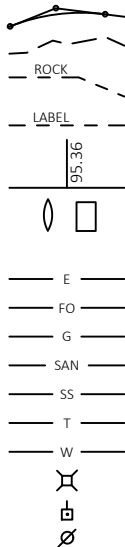
CONVENTIONAL SYMBOLS

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	
MARSH AREA	
WOODED OR SHRUB AREA	

PROFILE

GRADE LINE
ORIGINAL GROUND
MARSH OR ROCK PROFILE (To be noted as such)
SPECIAL DITCH
GRADE ELEVATION
CULVERT (Profile View)
UTILITIES
ELECTRIC
FIBER OPTIC
GAS
SANITARY SEWER
STORM SEWER
TELEPHONE
WATER
UTILITY PEDESTAL
POWER POLE
TELEPHONE POLE



STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

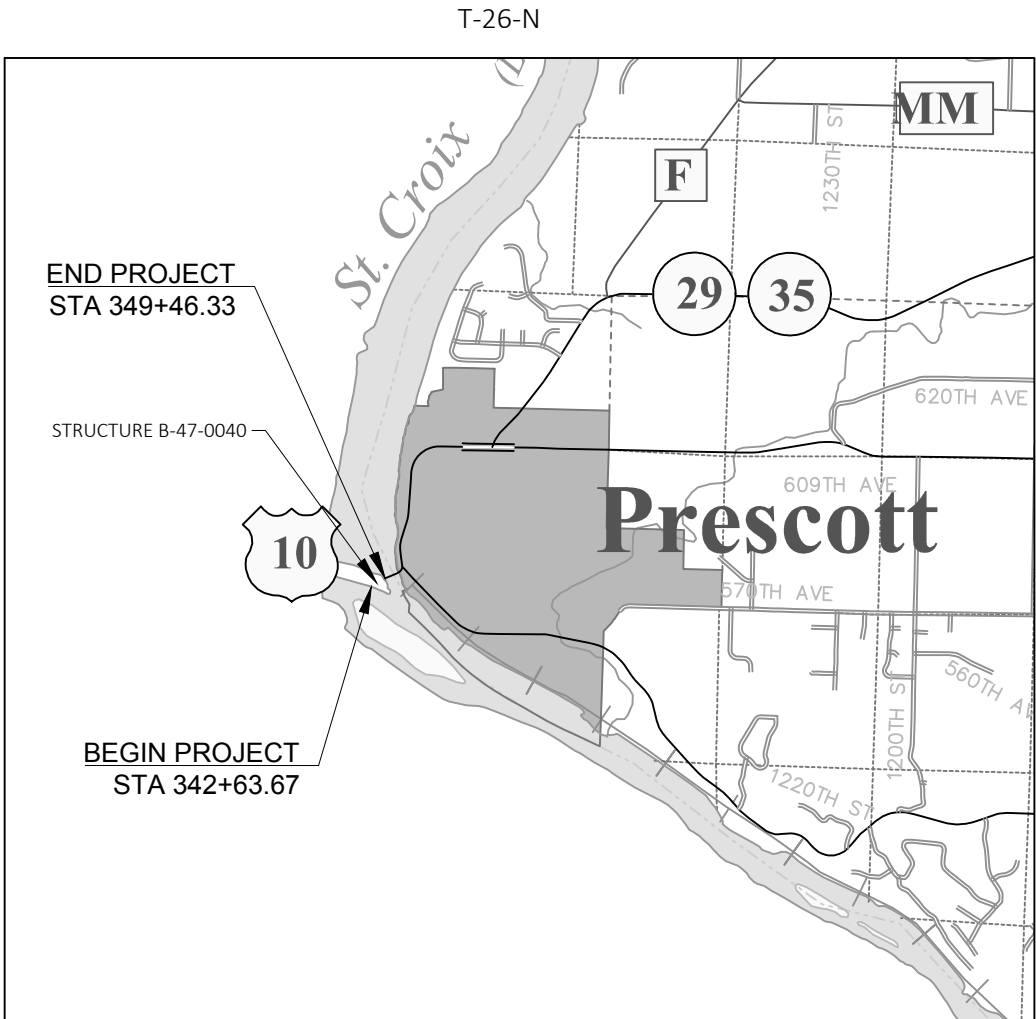
PLAN OF PROPOSED IMPROVEMENT

HASTINGS - PRESCOTT

ST.CROIX RIVER BRIDGE B-47-0040

USH 10
PIERCE COUNTY

STATE PROJECT NUMBER
1530-01-75



LAYOUT
SCALE 0 1 MI
TOTAL NET LENGTH OF CENTERLINE = 0.129 MILES

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

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1530-01-75		

ORIGINAL PLANS PREPARED BY

AECOM 1655 N River Center Drive, Suite 214
Milwaukee, WI 53212
T 414.844.8080
F 414.844.8081



W.R. Schilling 1/11/18
(SIGNATURE) (DATE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY	---
Surveyor	---
Designer	AECOM
Project Manager	MATTHEW PFEIFER
Regional Examiner	JENNIFER OLDENBURG
Regional Supervisor	TIMOTHY MASON

APPROVED FOR THE DEPARTMENT
DATE: 1/16/18 [Signature]
(Signature)

E

GENERAL NOTES

THERE ARE UTILITY FACILITIES WITHIN THE PROJECT AREA THAT ARE NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL COORDINATE HIS CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGERS HOTLINE AND/OR A DIRECT CALL TO THE UTILITIES THAT HAVE FACILITIES IN THE AREA. NOT ALL UTILITIES ARE MEMBERS OF DIGGERS HOTLINE.

PROTECT INLETS WITH PROPER INLET PROTECTION AT LOCATIONS EXHIBITING RISK OF BEING IMPACTED BY CONSTRUCTION OPERATIONS AS SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

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.

ORDER OF SECTION 2 SHEETS

- GENERAL NOTES
- PROJECT OVERVIEW
- PAVEMENT MARKINGS
- TRAFFIC CONTROL

UTILITY CONTACTS

CENTURY LINK
KYLE SCHLAMPP
20 S WILSON AVENUE
RICE LAKE, WI 54868
715-234-5573
KYLE.SCHLAMPP@CENTURYLINK.COM

COMCAST
SCOTT RUPPERT
4255 LEXINGTON AVENUE
ARDEN HILLS, MN 55126
651-493-5127
SCOTT_RUPPERT@CABLE.COMCAST.COM

PRESCOTT WASTEWATER TREATMENT FACILITY
HANK ZWART
800 BORNER STREET
PRESCOTT, WI 54021
715-262-5544
HZWART@PRESCOTTCTY.ORG

DESIGN CONTACTS

WILLIAM SCHILLING
AECOM
1555 N RIVERCENTER DRIVE, STE 214
MILWAUKEE, WI 53212
(414) 944-6201
BILL.SCHILLING@AECOM.COM

MATTHEW PFEBER
WISCONSIN DEPARTMENT OF TRANSPORTATION
715 W. CLAIREMONT AVENUE
EAU CLAIRE, WI 54701
715-855-7667
MATTHEW.PFEBER@DOT.WI.GOV

DNR AREA LIAISON
AMY LESIK
DEPARTMENT OF NATURAL RESOURCES
1300 W CLAIREMONT AVENUE
EAU CLAIRE, WI 54701
715-836-6571
AMY.L.LESIK@WISCONSIN.GOV

RAILROAD LIAISON
BNSF RAILWAY COMPANY





PROJECT NO: 1530-01-75

HWY: USH 10

COUNTY: PIERCE

PROJECT OVERVIEW

SHEET

3

E

FILE NAME : \\172.25.160.16\PROJECTS\TRANSPORTATION\WISDOT_DESIGN_MC_2016-18\WORK ORDER 5 PRESCOTT\15300105\SHEETSP\PLAN\020201_PO.DWG
LAYOUT NAME - 020201_po

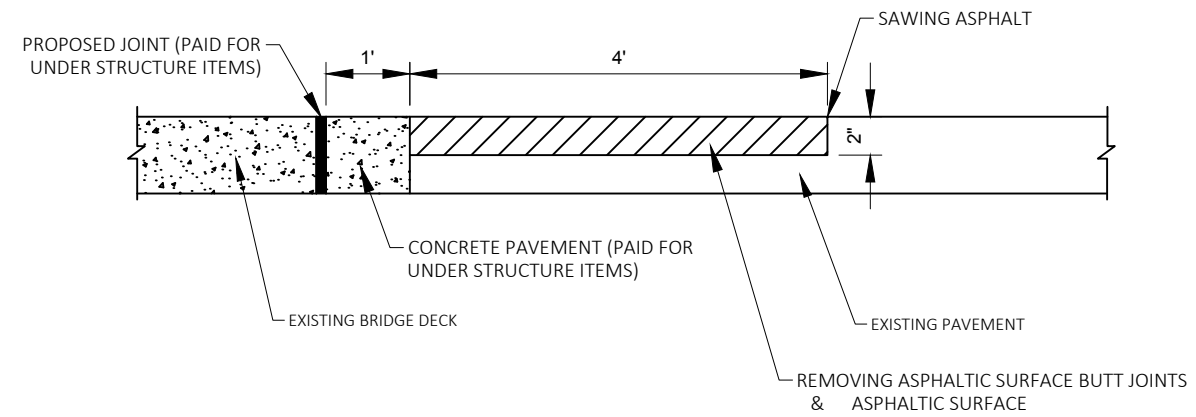
PLOT DATE : 12/19/2017 3:04 PM

PLOT BY : LANCELLE, JESSICA

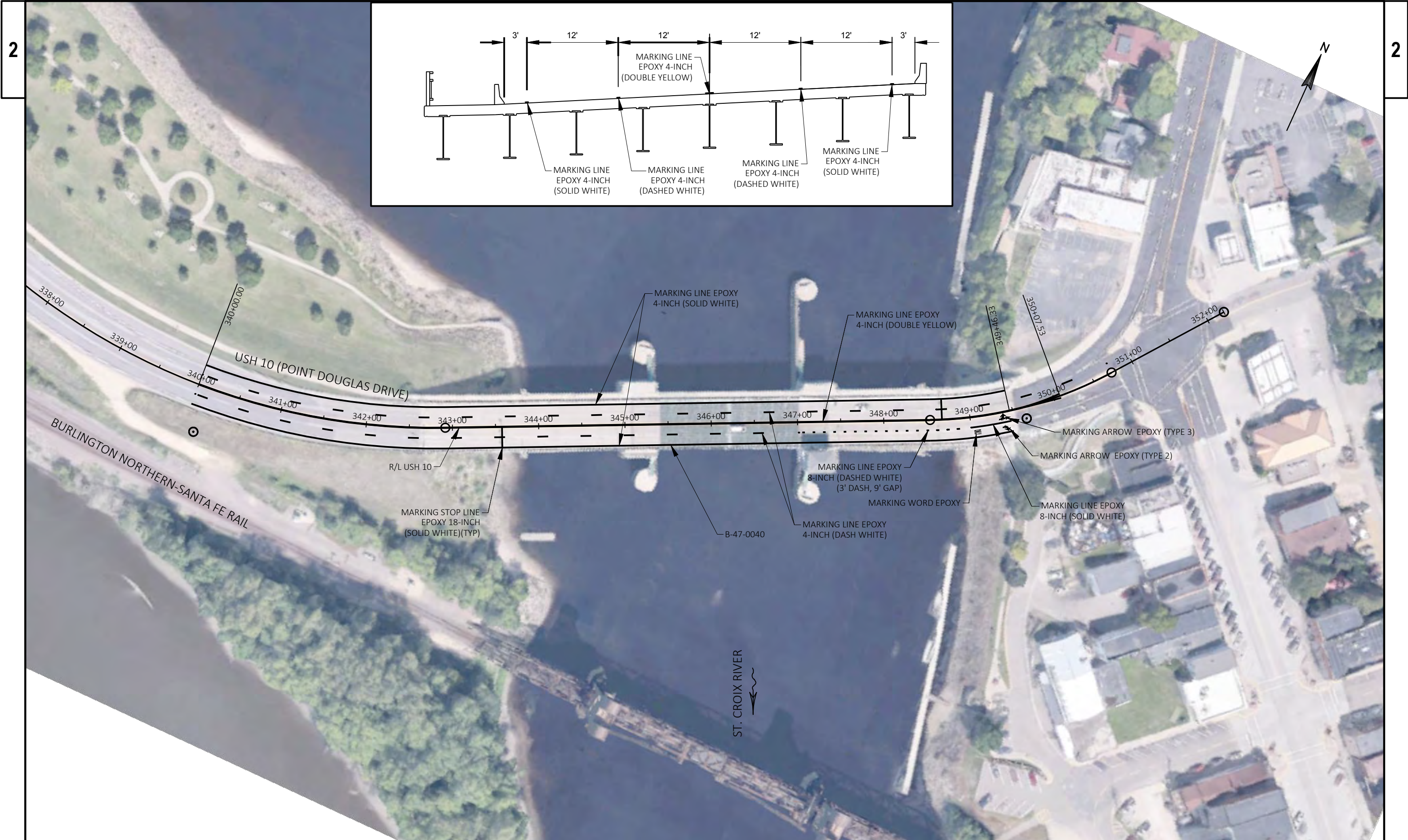
PLOT NAME :

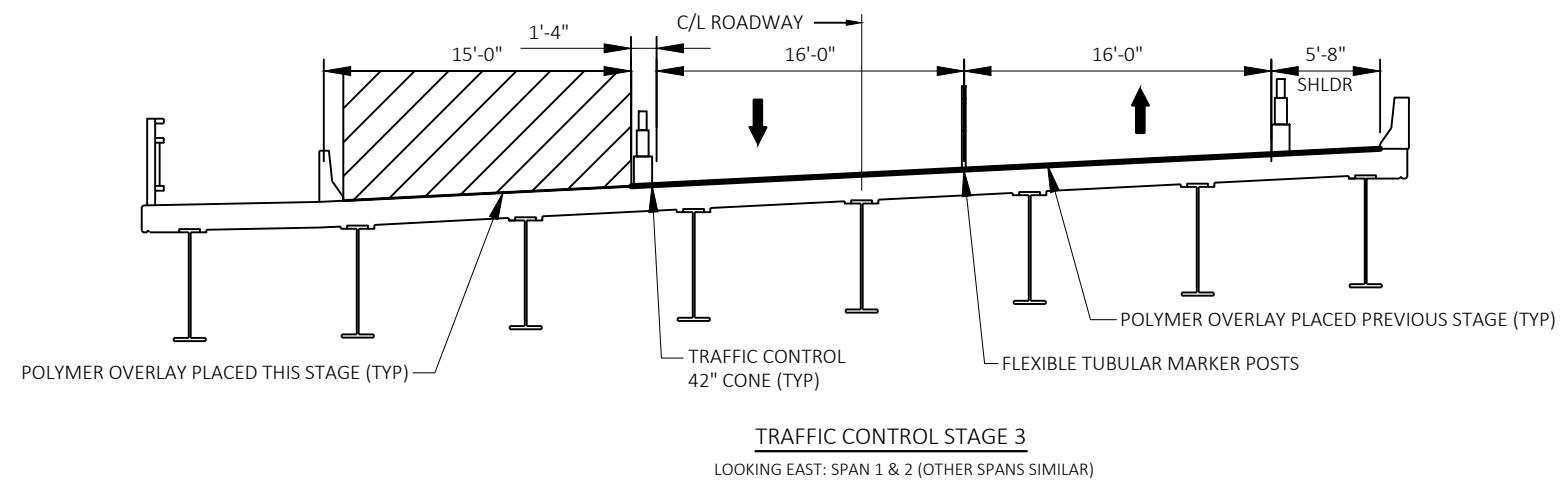
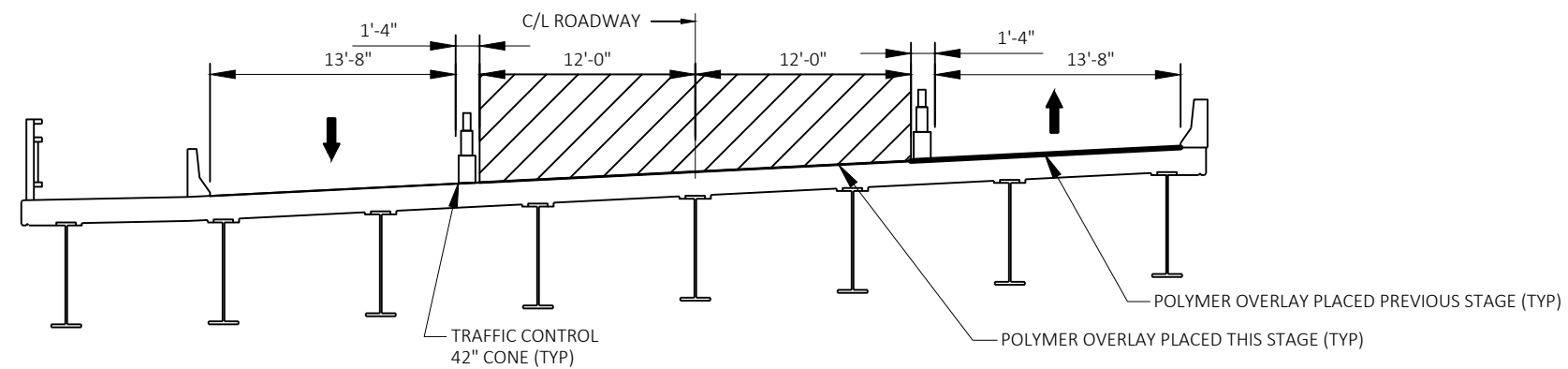
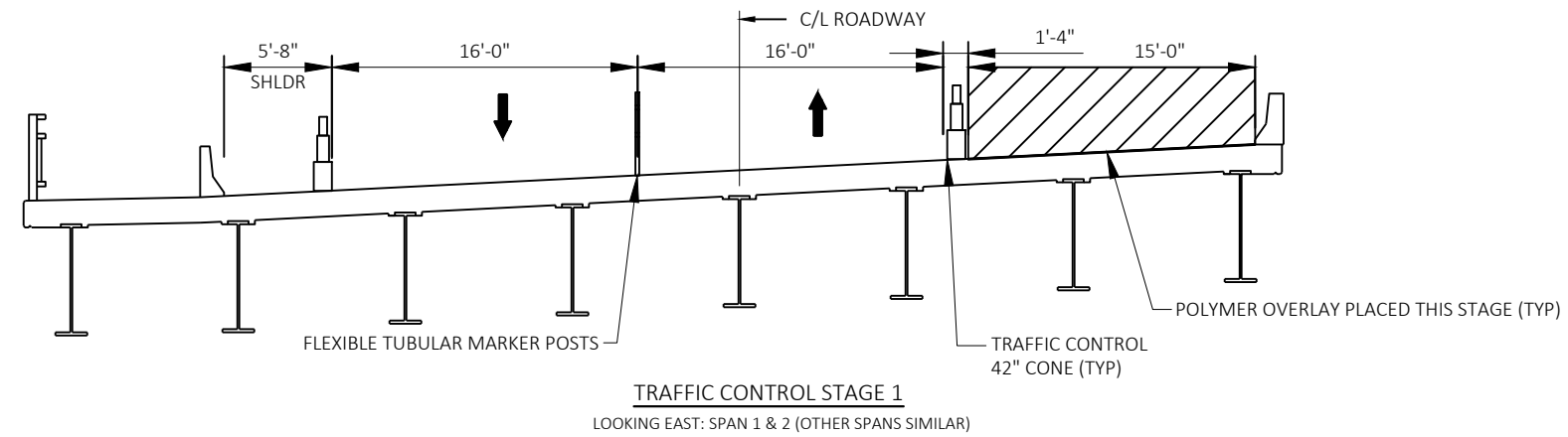
PLOT SCALE : #####

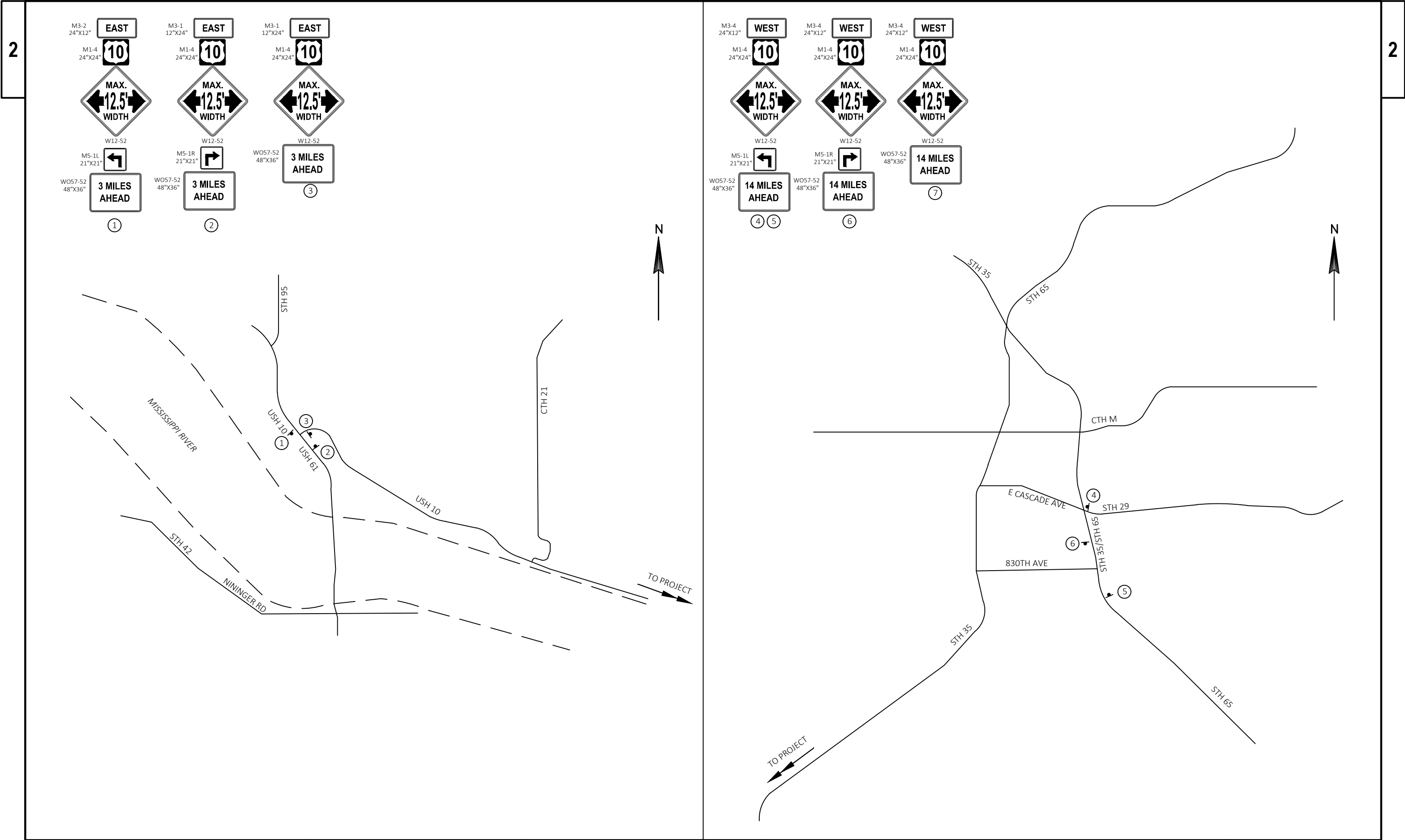
WISDOT/CADD SHEET 42



BUTT JOINT DETAIL
EAST ABUTMENT
(NOT TO SCALE)











- LEGEND
- ↑ TYPE III BARRICADE
 - ↑↓ TYPE III BARRICADE WTH ATTACHED SIGN
 - TRAFFIC CONTROL CONES
 - ⦿ TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
 - ⦿ SIGN ON PERMANENT SUPPORT
 - ⦿ FLEXIBLE TUBULAR MARKER
 - ▨ WORK AREA
 - DIRECTION OF TRAFFIC

NOTE:
LEAVE A GAP BETWEEN DRUMS ON SPAN 2 & 4 , DO NOT
LEAVE DEVICES ON MOVABLE SPAN.

WATER BLAST EXISTING MARKING THAT ARE IN CONFLICT
DURING CURRENT STAGE.

TRAFFIC CONTROL 42"
CONES AT 25' SPACING
ON BRIDGE DECK (TYP)

TRAFFIC CONTROL
DELINEATORS AT 25'
SPACING - SECURE TO
METAL GRID DECK(TYP)

USH 10 (POINT DOUGLAS DRIVE)

100' SHIFTING TAPER

LANE
CLOSED

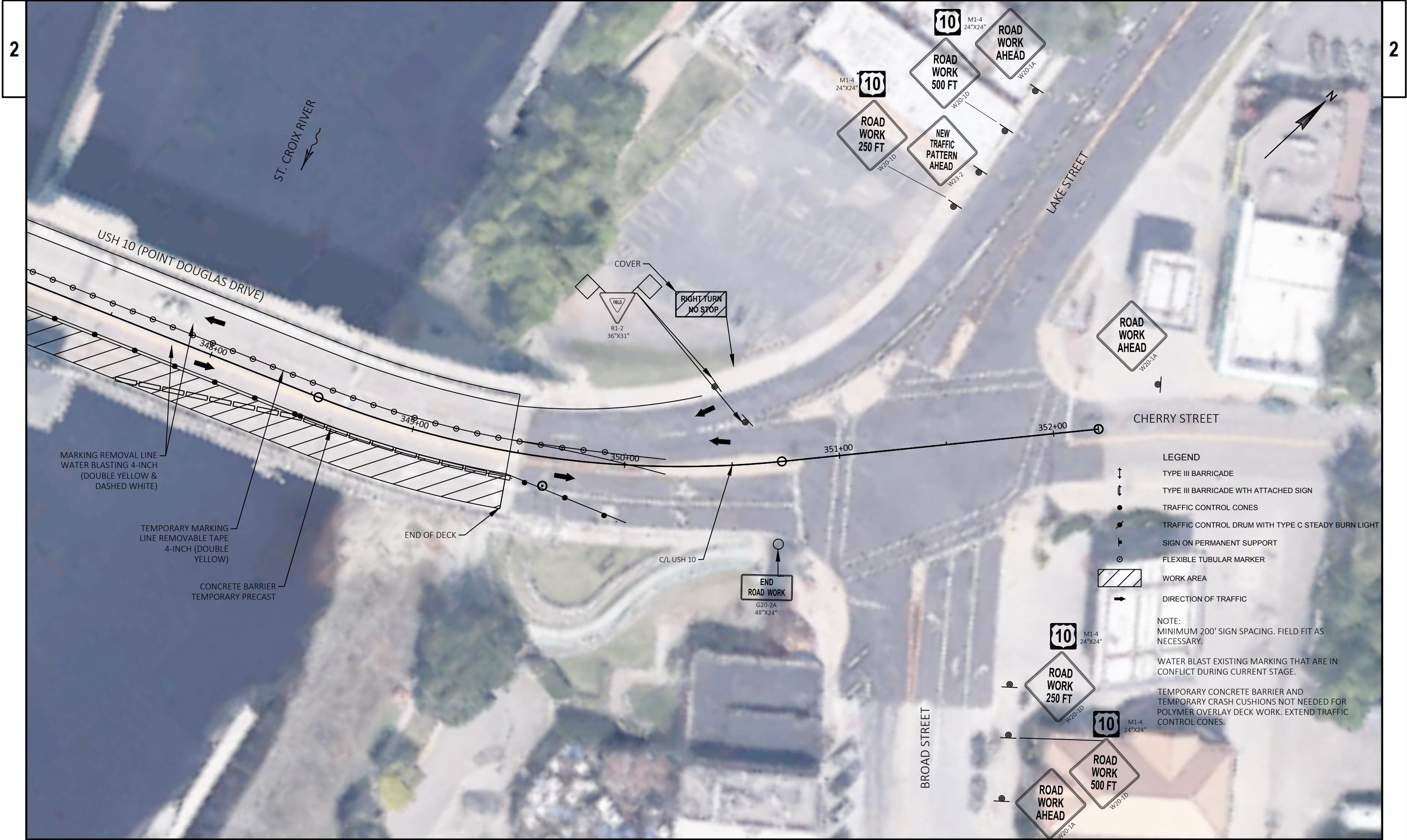
R11-2L
48"x30"

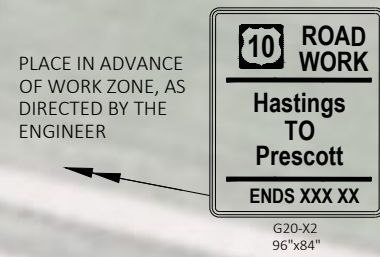
C/L USH 10

MARKING REMOVAL LINE
WATER BLASTING 4-INCH
(DOUBLE YELLOW & DASHED WHITE)

TEMPORARY MARKING
LINE REMOVABLE TAPE
4-INCH (DOUBLE
YELLOW)

NOTE:
SECURE DELINEATORS TO BASCULE SPAN GRID DECK. DO NOT PLACE TRAFFIC
CONTROL DEVICES ON CONCRETE PORTION OF GRID DECK. LEAVE A GAP
BETWEEN DRUMS ON SPAN 2 & 4 AND MOUNTED DELINEATORS ON SPAN 3.

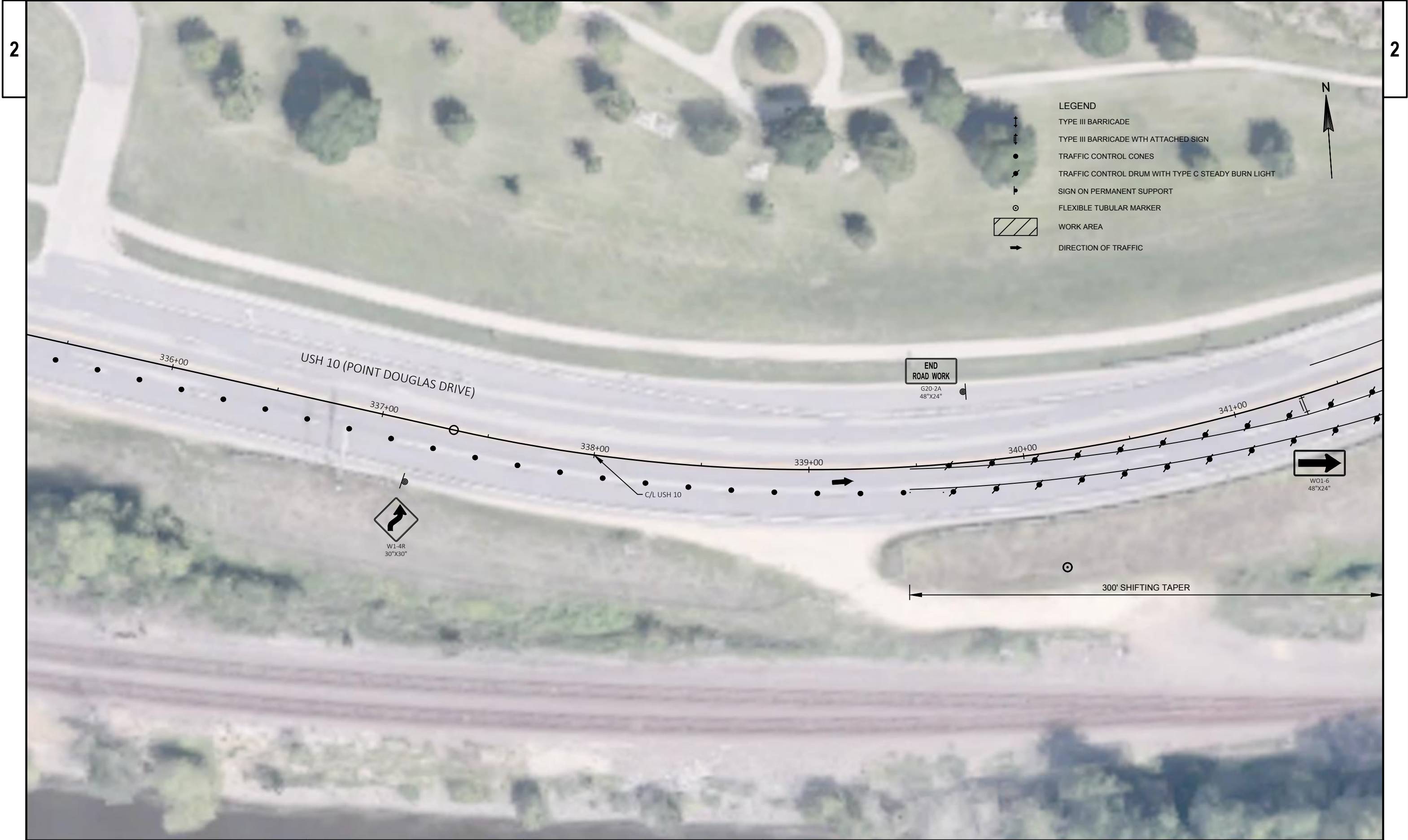


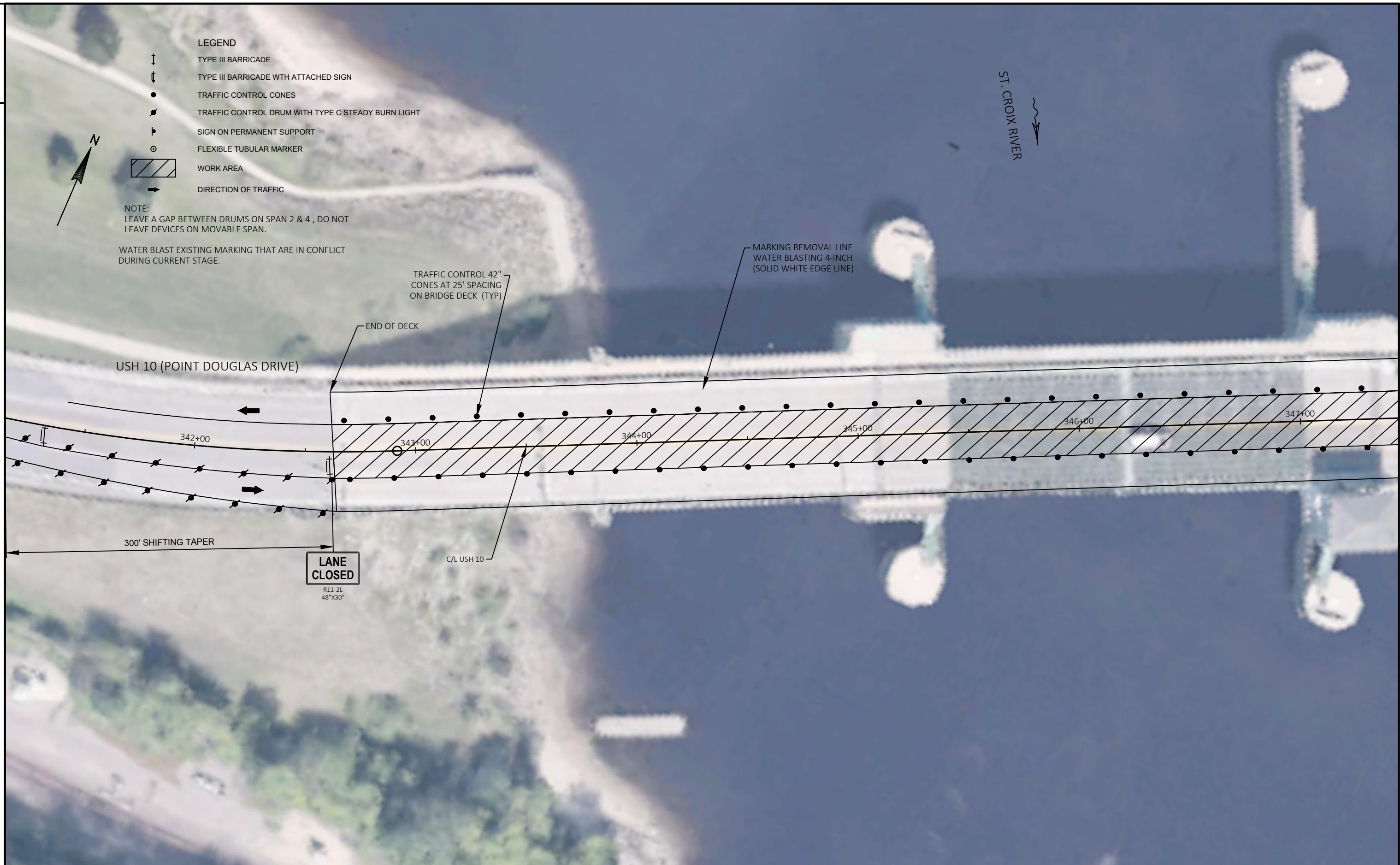


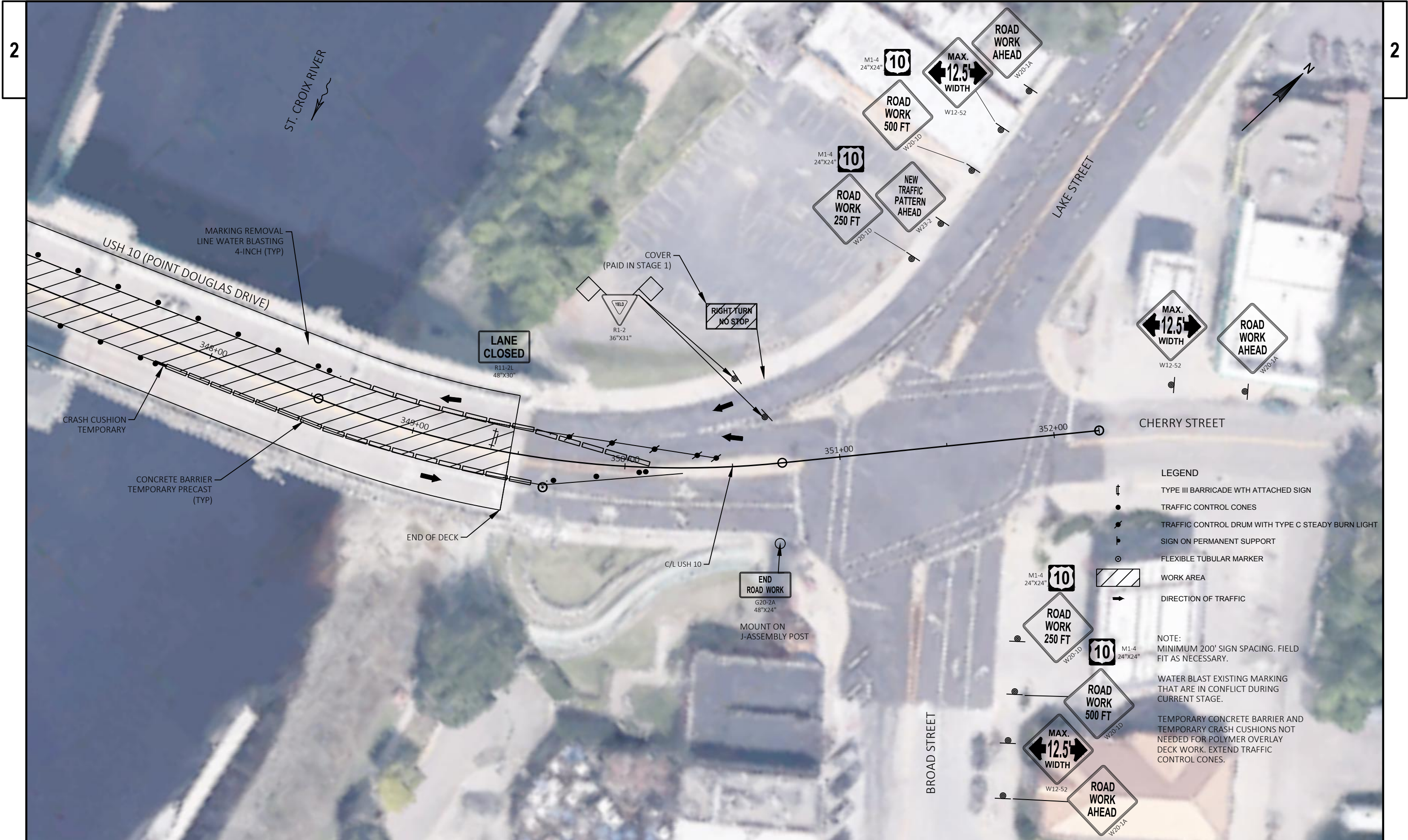
- LEGEND
- TYPE III BARRICADE
 - TYPE III BARRICADE WITH ATTACHED SIGN
 - TRAFFIC CONTROL CONES
 - TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
 - SIGN ON PERMANENT SUPPORT
 - FLEXIBLE TUBULAR MARKER
 - WORK AREA
 - DIRECTION OF TRAFFIC

NOTE: MINIMUM 500' SIGN SPACING.
FIELD FIT AS NECESSARY.



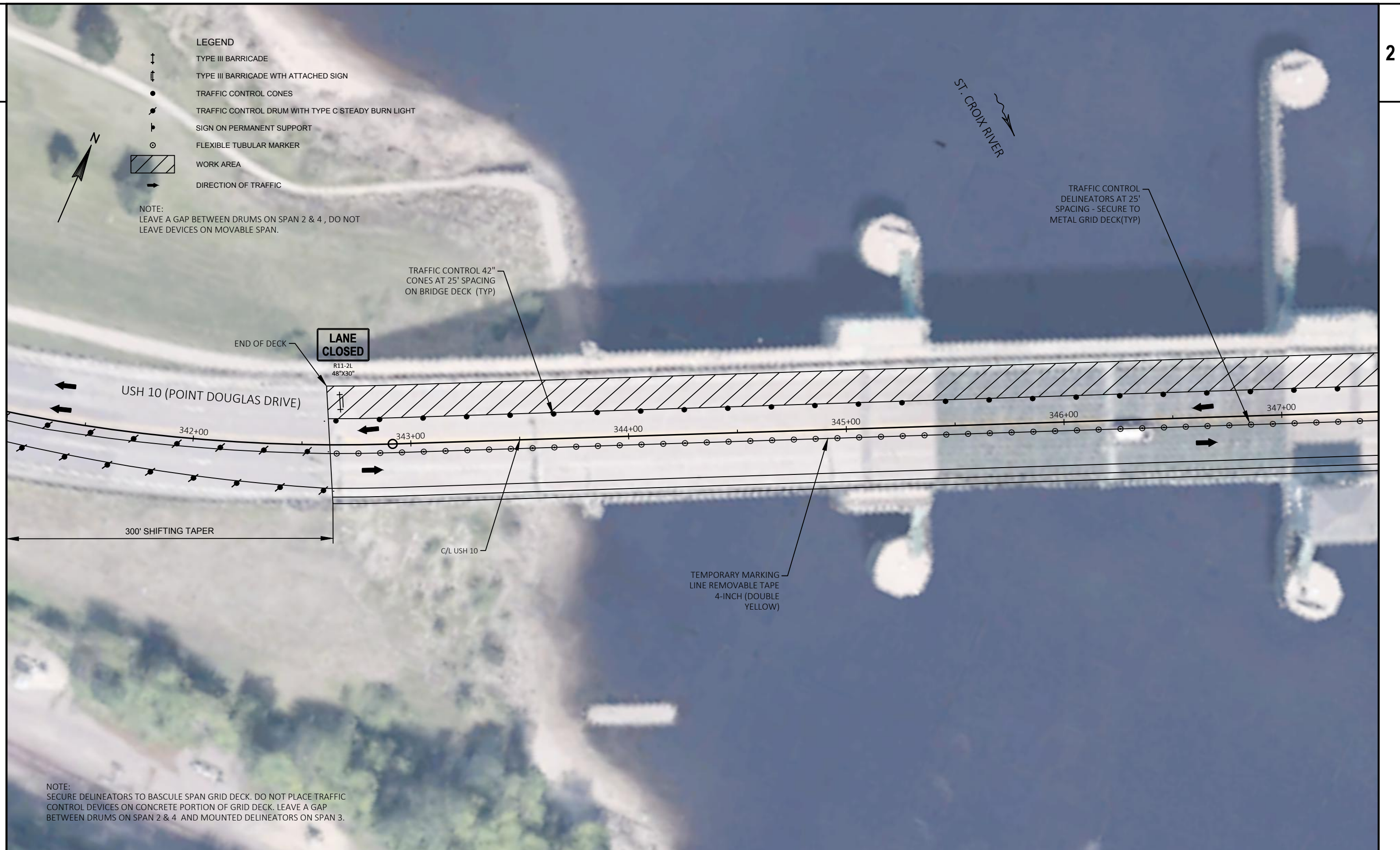












PROJECT NO: 1530-01-75

HWY: USH 10

COUNTY: PIERCE

TRAFFIC CONTROL - STAGE 3

SHEET

18

E

FILE NAME : \\172.25.160.16\PROJECTS\TRANSPORTATION\WISDOT_DESIGN_MC_2016-18\WORK ORDER 5 PRESCOTT\15300105\SHEETSPLAN\025003_TC.DWG
LAYOUT NAME - 2

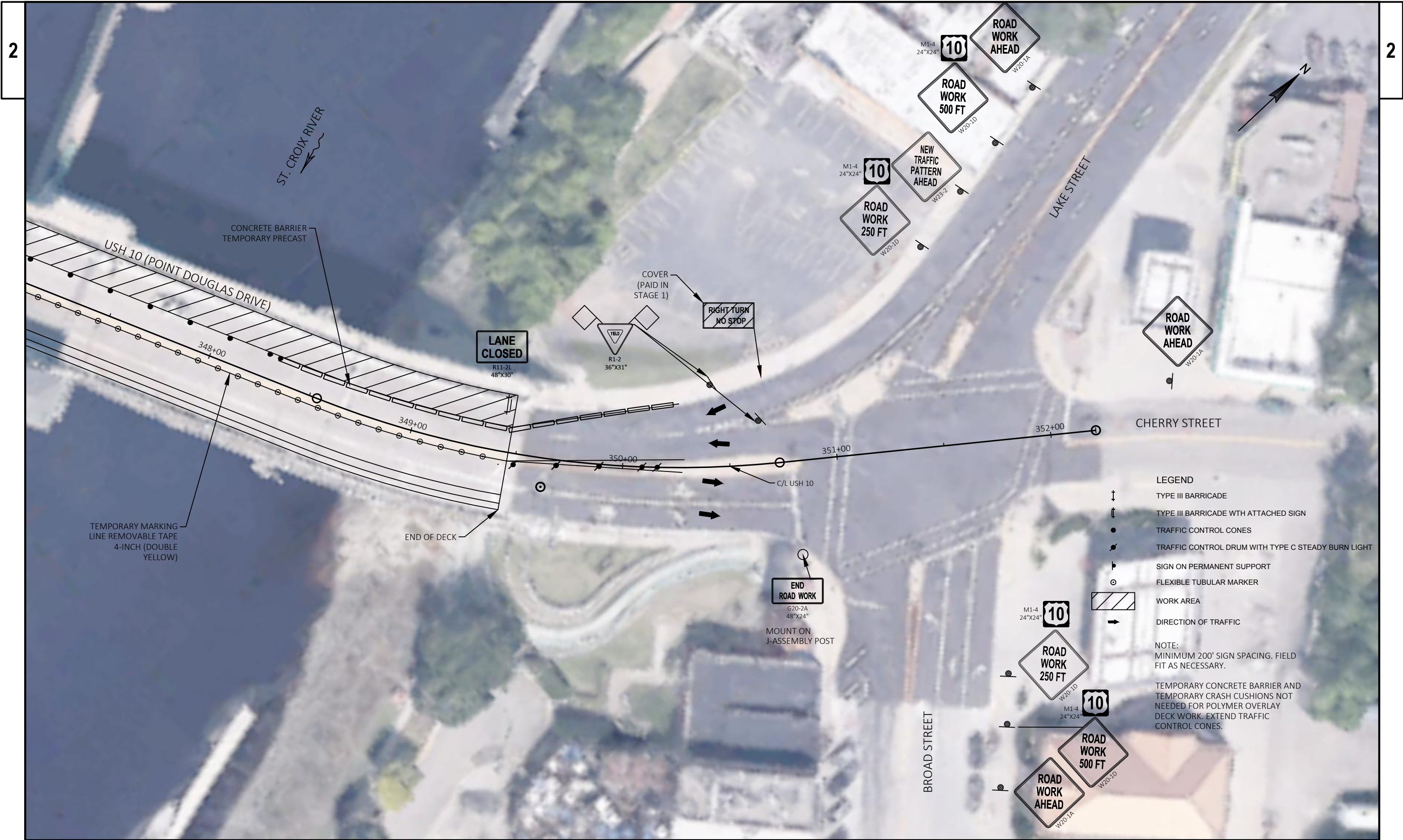
PLOT DATE : 4/2/2018 11:12 AM

PLOT BY : LANCELLE, JESSICA

PLOT NAME :

PLOT SCALE : #####

WISDOT/CADDs SHEET 42



Estimate Of Quantities

1530-01-75

Line	Item	Item Description	Unit	Total	Qty
0002	204.0115	Removing Asphaltic Surface Butt Joints	SY	25.000	25.000
0004	455.0605	Tack Coat	GAL	2.000	2.000
0006	465.0105	Asphaltic Surface	TON	3.000	3.000
0008	502.3100	Expansion Device (structure) 01. B-47-40	LS	1.000	1.000
0010	502.3200	Protective Surface Treatment	SY	7.000	7.000
0012	502.3210	Pigmented Surface Sealer	SY	6.000	6.000
0014	502.4204	Adhesive Anchors No. 4 Bar	EACH	336.000	336.000
0016	502.4205	Adhesive Anchors No. 5 Bar	EACH	55.000	55.000
0018	505.0400	Bar Steel Reinforcement HS Structures	LB	480.000	480.000
0020	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	1,770.000	1,770.000
0022	505.0905	Bar Couplers No. 5	EACH	6.000	6.000
0024	505.0906	Bar Couplers No. 6	EACH	16.000	16.000
0026	509.0301	Preparation Decks Type 1	SY	155.000	155.000
0028	509.0302	Preparation Decks Type 2	SY	62.000	62.000
0030	509.0310.S	Sawing Pavement Deck Preparation Areas	LF	1,550.000	1,550.000
0032	509.1000	Joint Repair	SY	24.000	24.000
0034	509.1500	Concrete Surface Repair	SF	698.000	698.000
0036	509.2000	Full-Depth Deck Repair	SY	8.000	8.000
0038	509.2100.S	Concrete Masonry Deck Repair	CY	21.000	21.000
0040	509.5100.S	Polymer Overlay	SY	3,085.000	3,085.000
0042	509.9020.S	Epoxy Crack Sealing	LF	400.000	400.000
0044	517.3000.S	Structure Overcoating Cleaning and Priming (structure) 01. B-47-40	LS	1.000	1.000
0046	517.4000.S	Containment and Collection of Waste Materials (structure) 01. B-47-40	LS	1.000	1.000
0048	603.8000	Concrete Barrier Temporary Precast Delivered	LF	400.000	400.000
0050	603.8125	Concrete Barrier Temporary Precast Installed	LF	800.000	800.000
0052	614.0905	Crash Cushions Temporary	EACH	1.000	1.000
0054	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1530-01-75	EACH	1.000	1.000
0056	619.1000	Mobilization	EACH	1.000	1.000
0058	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0060	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0062	628.7015	Inlet Protection Type C	EACH	6.000	6.000
0064	628.7570	Rock Bags	EACH	120.000	120.000
0066	642.5001	Field Office Type B	EACH	1.000	1.000
0068	643.0300	Traffic Control Drums	DAY	4,263.000	4,263.000
0070	643.0420	Traffic Control Barricades Type III	DAY	177.000	177.000
0072	643.0500	Traffic Control Flexible Tubular Marker Posts	EACH	120.000	120.000
0074	643.0600	Traffic Control Flexible Tubular Marker Bases	EACH	120.000	120.000

Estimate Of Quantities

1530-01-75

Line	Item	Item Description	Unit	Total	Qty
0076	643.0705	Traffic Control Warning Lights Type A	DAY	308.000	308.000
0078	643.0715	Traffic Control Warning Lights Type C	DAY	1,684.000	1,684.000
0080	643.0900	Traffic Control Signs	DAY	1,979.000	1,979.000
0082	643.0920	Traffic Control Covering Signs Type II	EACH	2.000	2.000
0084	643.1000	Traffic Control Signs Fixed Message	SF	56.000	56.000
0086	643.1050	Traffic Control Signs PCMS	DAY	56.000	56.000
0088	643.1070	Traffic Control Cones 42-Inch	DAY	2,606.000	2,606.000
0090	643.5000	Traffic Control	EACH	1.000	1.000
0092	646.1020	Marking Line Epoxy 4-Inch	LF	4,360.000	4,360.000
0094	646.3020	Marking Line Epoxy 8-Inch	LF	100.000	100.000
0096	646.5020	Marking Arrow Epoxy	EACH	2.000	2.000
0098	646.5120	Marking Word Epoxy	EACH	1.000	1.000
0100	646.6120	Marking Stop Line Epoxy 18-Inch	LF	48.000	48.000
0102	646.9010	Marking Removal Line Water Blasting 4-Inch	LF	2,925.000	2,925.000
0104	649.0150	Temporary Marking Line Removable Tape 4-Inch	LF	3,600.000	3,600.000
0106	690.0150	Sawing Asphalt	LF	54.000	54.000
0108	690.0250	Sawing Concrete	LF	174.000	174.000
0110	SPV.0035	Special 01. Concrete Masonry Counterweight Pit Floor Repair	CY	28.000	28.000
0112	SPV.0060	Special 01. Embedded Galvanic Anodes	EACH	672.000	672.000
0114	SPV.0070	Special 01. Counterweight Protective Coating	GAL	122.000	122.000
0116	SPV.0085	Special 01. Stainless Steel Flashing	LB	650.000	650.000
0118	SPV.0105	Special 01. Counterweight Calculations and Span Balancing	LS	1.000	1.000
0120	SPV.0180	Special 01. Preparation Counterweight Pit Floors	SY	168.000	168.000
0122	SPV.0180	Special 02. Polymer Overlay Counterweight Pit Floor	SY	369.000	369.000

3

BUTT JOINT				
204.0115	455.0605	465.0105	690.0150	
REMOVING				
ASPHALTIC	TACK	ASPHALTIC	SAWING	
SURFACE	COAT	SURFACE	ASPHALT	
BUTT JOINTS				
LOCATION	SY	GAL	TON	LF
EAST ABUTMENT	25	2	3	54
TOTAL	25	2	3	54

TEMPORARY CONCRETE BARRIER			
	603.8000	603.8125	614.0905**
	CONCRETE	BARRIER	CRASH
	TEMPORARY	PRECAST	CUSHION
	DELIVERED	INSTALLED	TEMPORARY
LOCATION	LF	LF	EACH
FALL - STAGE 1	200	200	-
FALL - STAGE 2	200	400	1
FALL - STAGE 3	-	200	-
TOTAL	400	800	1
**BACK WIDTH: 2', OBJECT MARKING PATTERN: OM-3C (W05-58M), CRASH TEST LEVEL: TL-2, TRAFFIC: BIDIRECTIONAL, TRAFFIC LOCATION: LEFT, SHIELDS: TEMPORARY BARRIER			

MAINTENANCE AND REPAIR OF HAUL ROADS	
	618.0100
	MAINTENANCE
	AND REPAIR
	OF HAUL ROADS
LOCATION	EACH
1530-01-75	1.0
TOTAL	1.0

EROSION CONTROL				
	628.1905	628.1910	628.7015	628.7570
	MOBILIZATION			
	MOBILIZATION	EMERGENCY	INLET	
	EROSION	EROSION	PROTECTION	ROCK
	CONTROL	CONTROL	TYPE C	BAGS
LOCATION	EACH	EACH	EACH	EACH
FALL CONST.	2	1	3	60
SPRING CONST.	2	1	3	60
TOTAL	4	2	6	120

3

TRAFFIC CONTROL																		
	643.5000	643.0300		643.0420		643.0500		643.0600		643.0705		643.0715		643.0900		643.1050	643.1070	643.0920
				TRAFFIC		TRAFFIC		TRAFFIC		TRAFFIC		TRAFFIC				TRAFFIC	TRAFFIC	TRAFFIC
		TRAFFIC		CONTROL		CONTROL		CONTROL		CONTROL		CONTROL		TRAFFIC		CONTROL	CONTROL	CONTROL
	TRAFFIC	CONTROL		BARRICADES		FLEXIBLE TUBULAR		FLEXIBLE TUBULAR		WARNING LIGHTS		WARNING LIGHTS		CONTROL		SIGNS	CONES	COVERING SIGNS
	CONTROL	DRUMS		TYPE III		MARKER POSTS		MARKER BASES		TYPE A		TYPE C		SIGNS		PCMS	42-INCH	TYPE II
LOCATION	EACH	EACH	DAY	EACH	DAY	EACH		EACH		EACH	DAY	EACH	DAY	EACH	DAY	DAY	EACH	DAY
PROJECT	1	-	-	-	-	-		-		-	-	-	-	-	-	-	-	-
FALL -STAGE 1	-	75	750	2	20	30		30		4	40	12	120	20	200	28	30	300
FALL -STAGE 2	-	90	1,170	4	52	-		-		6	78	37	481	55	715	-	58	754
FALL -STAGE 3	-	54	540	3	30	30		30		6	60	37	370	22	220	-	30	300
SPRING -STAGE 1	-	75	525	2	14	30		30		4	28	12	84	20	140	28	36	252
SPRING -STAGE 2	-	90	900	4	40	-		-		6	60	37	370	55	550	-	72	720
SPRING -STAGE 3	-	54	378	3	21	30		30		6	42	37	259	22	154	-	40	280
TOTAL	1		4,263		177	120		120		308		1,684		1,979	56		2,606	2
NOTE: COVER SIGNS IN STAGE 1 - KEEP COVERED THROUGH STAGE 2 & 3																		

TRAFFIC CONTROL SIGNS FIXED MESSAGE		
	643.1000	
	TRAFFIC CONTROL	
	SIGNS	
	FIXED MESSAGE	
LOCATION	STAGE	SF
WEST APPROACH	1	56.0
TOTAL		56.0

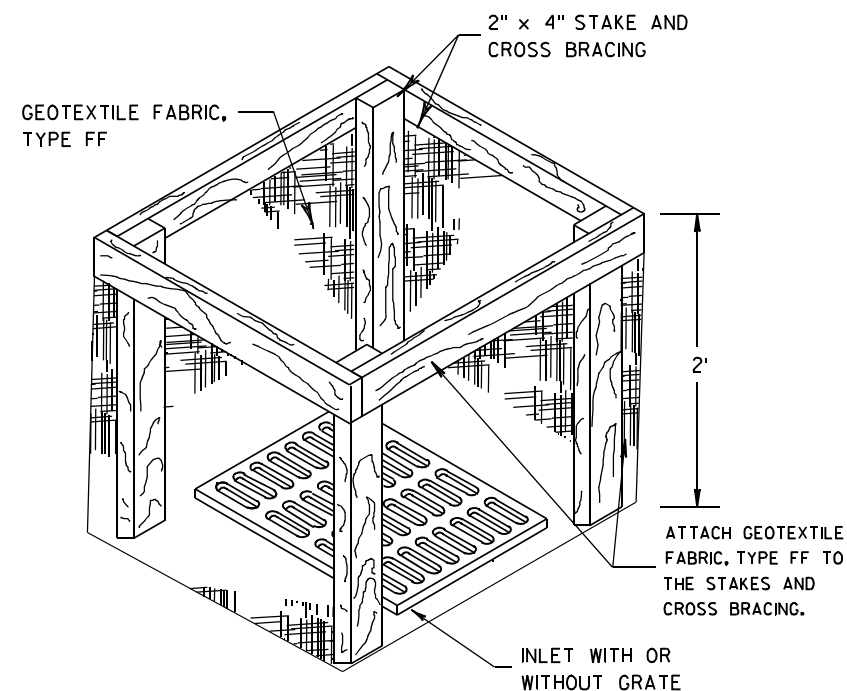
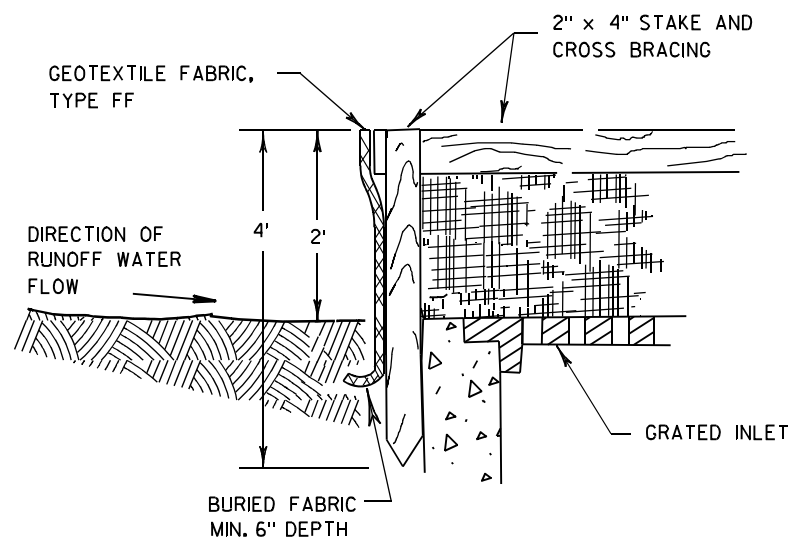
MARKING LINE									
		646.1020		646.3020		646.5120	646.5020	646.6120	
		MARKING LINE		MARKING LINE				MARKING	
		EPOXY		EPOXY		MARKING	MARKING	STOP LINE	
		4-INCH		8-INCH		WORD	ARROW	EPOXY	
		SOLID	SOLID	DASH		SOLID	DASHED	18-INCH	
		YELLOW	WHITE	WHITE		WHITE	WHITE	WHITE	
STA	STA	LF	LF	LF	LF	LF	LF	LF	
340+00	350+07	2020	1895	445	50	50	1	2	48
TOTAL			4,360			100	1	2	48

TEMPORARY MARKING LINE		
	646.9010	649.0150
	MARKING	TEMPORARY
	REMOVAL LINE	MARKING LINE
	WATER BLASTING	REMOVABLE TAPE 4-INCH
	4-INCH	SOLID YELLOW
STAGE	LF	LF
1	2025	1800
2	900	-
3	-	1800
TOTAL	2,925	3,600



Standard Detail Drawing List

08E10-02	INLET PROTECTION TYPE A, B, C AND D
14B07-15A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15I	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B08-02A	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02B	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02C	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02D	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02E	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
15C04-04	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C05-04	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C07-14B	PAVEMENT MARKING WORDS
15C07-14C	PAVEMENT MARKING ARROWS
15C08-18A	LONGITUDINAL MARKING (MAINLINE)
15C11-07A	CHANNELIZING DEVICES FLEXIBLE TUBULAR MARKER POST
15C11-07B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15D20-04	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS



INLET PROTECTION, TYPE A

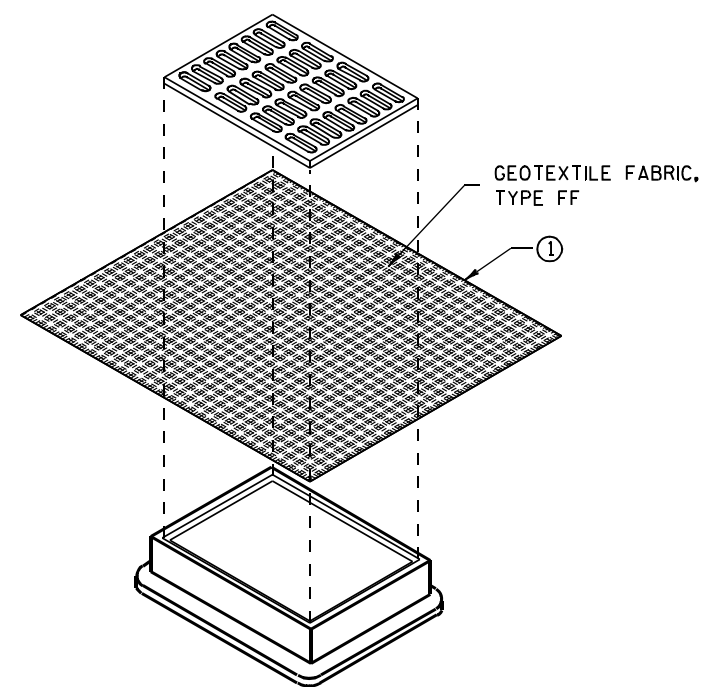
GENERAL NOTES

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

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

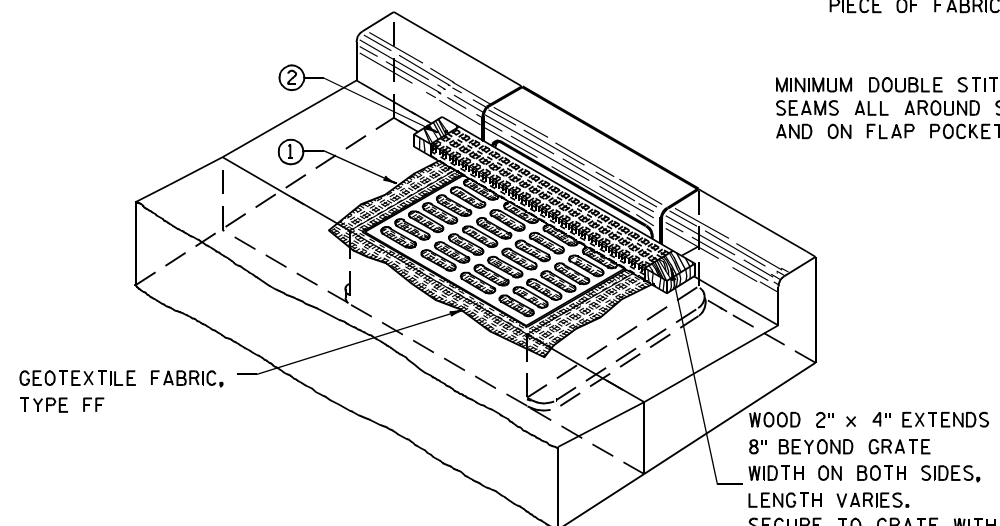
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- ① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- ② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
- ③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.



**INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)**

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

INSTALLATION NOTES

TYPE B & C

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

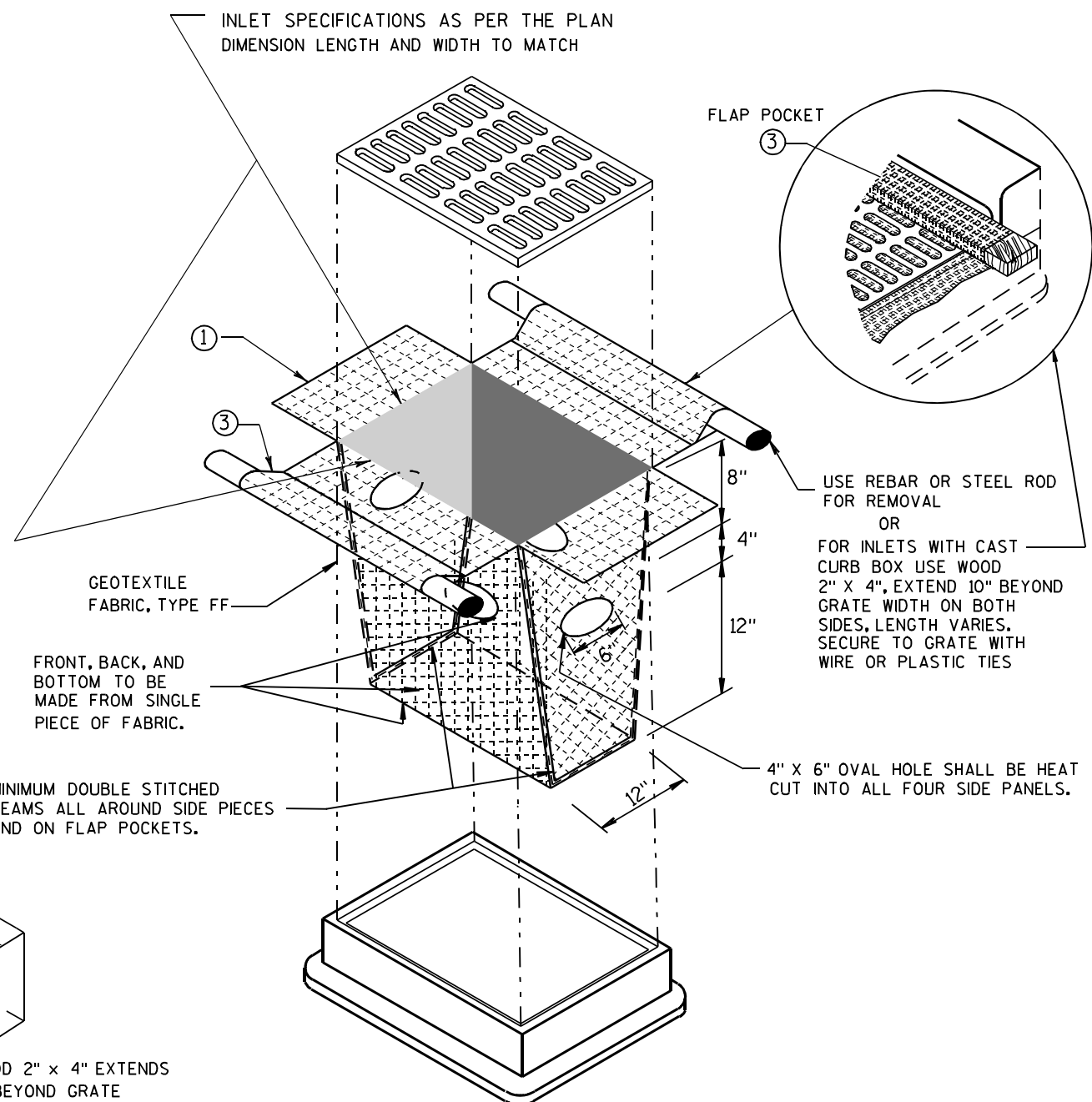
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

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

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

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



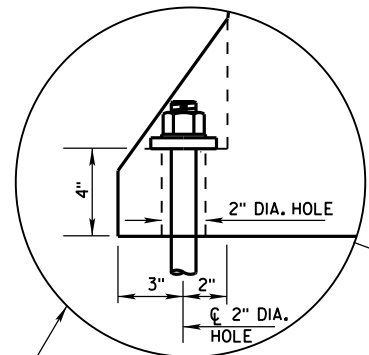
INLET PROTECTION, TYPE D

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

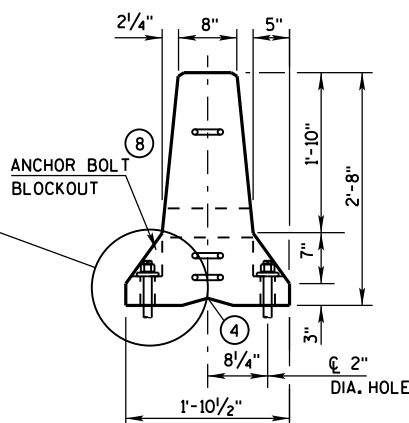
**INLET PROTECTION
TYPE A, B, C, AND D**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

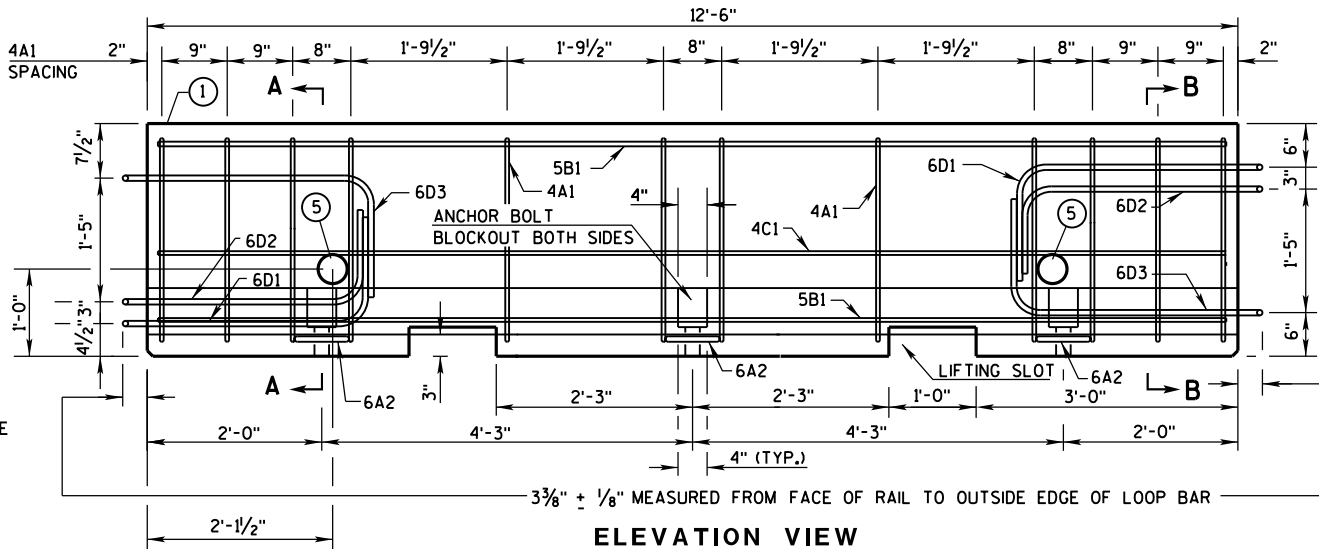
APPROVED
10/16/02 /S/ Beth Connolly
DATE 25
FHWA CHIEF ROADWAY DEVELOPMENT ENGINEER



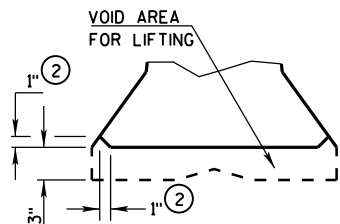
ANCHOR ON TRAFFIC SIDE
ONLY WHEN REQUIRED
(SEE SHEET D FOR ADDITIONAL
ANCHOR DETAIL)



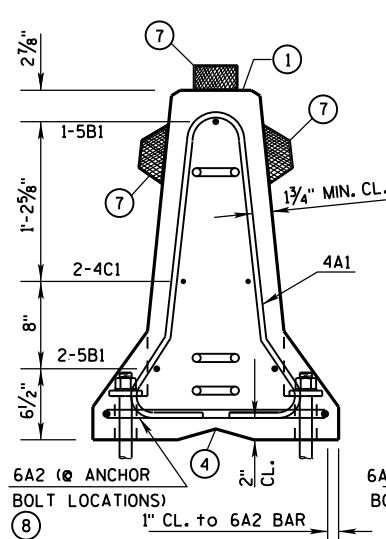
END VIEW



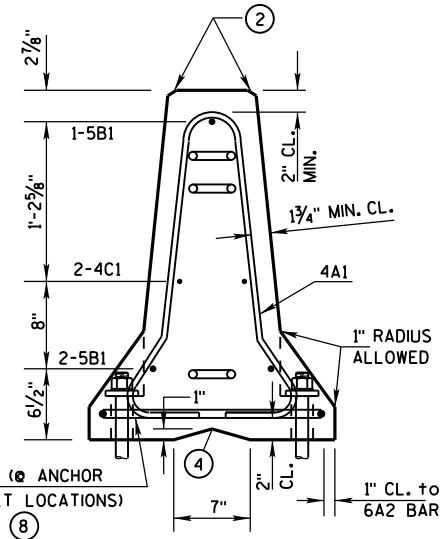
ELEVATION VIEW



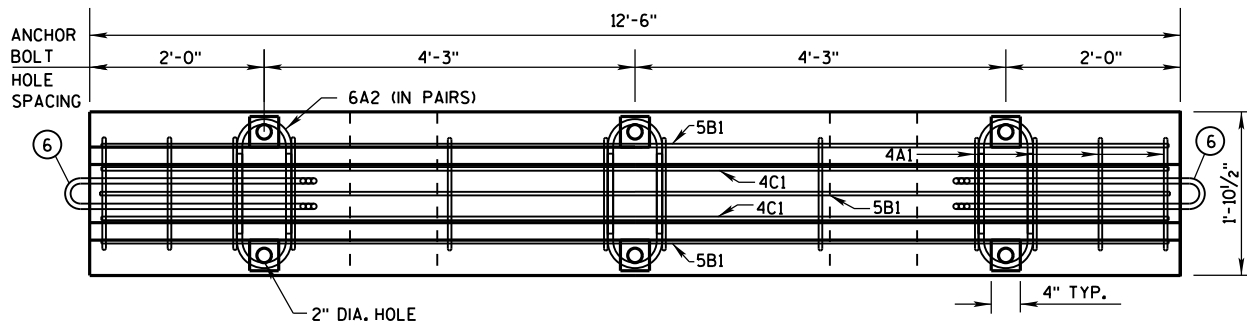
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)

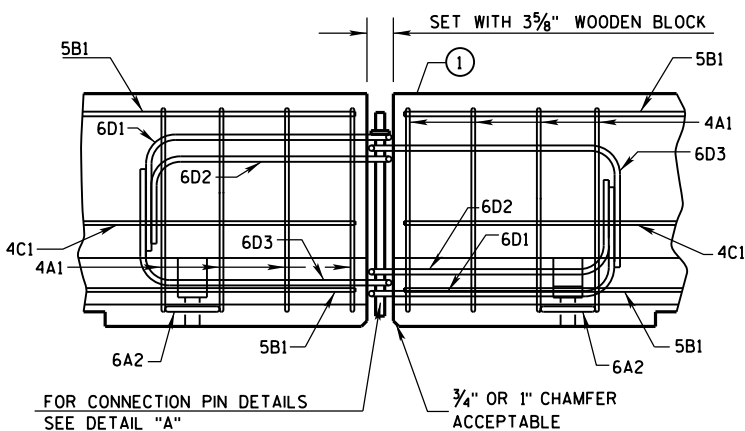


SECTION B-B
(STIRRUP PLACEMENT)

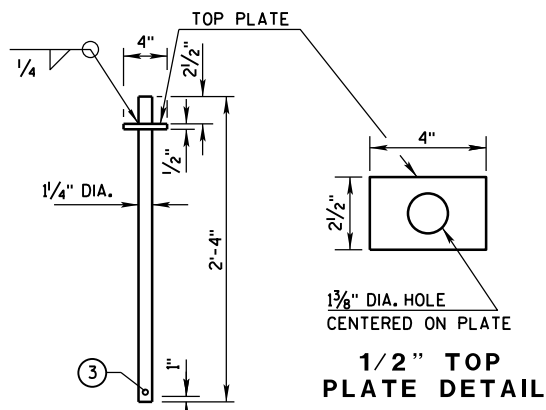


PLAN VIEW

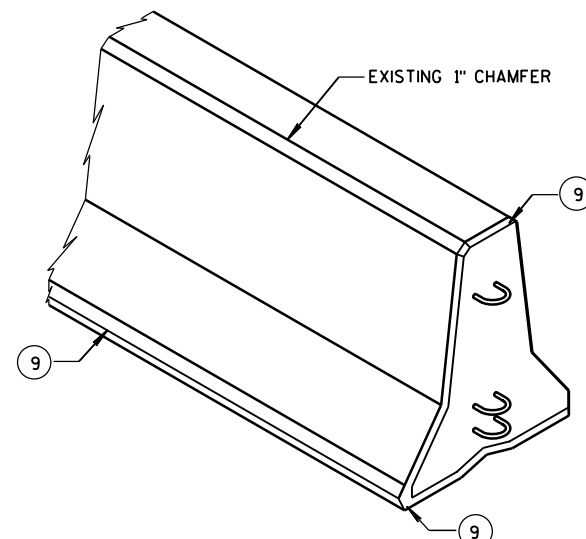
DETAILS OF BARRIER SECTION



DETAILS OF BARRIER CONNECTION



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 PRECAST, 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 3/4" 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 3-1/2" PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN 1/8" 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.

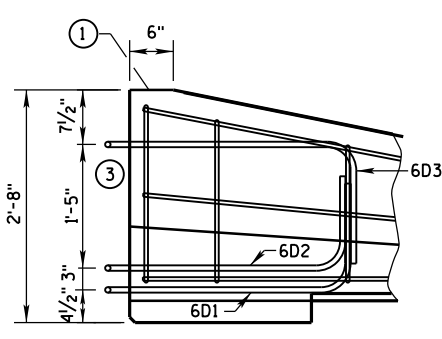
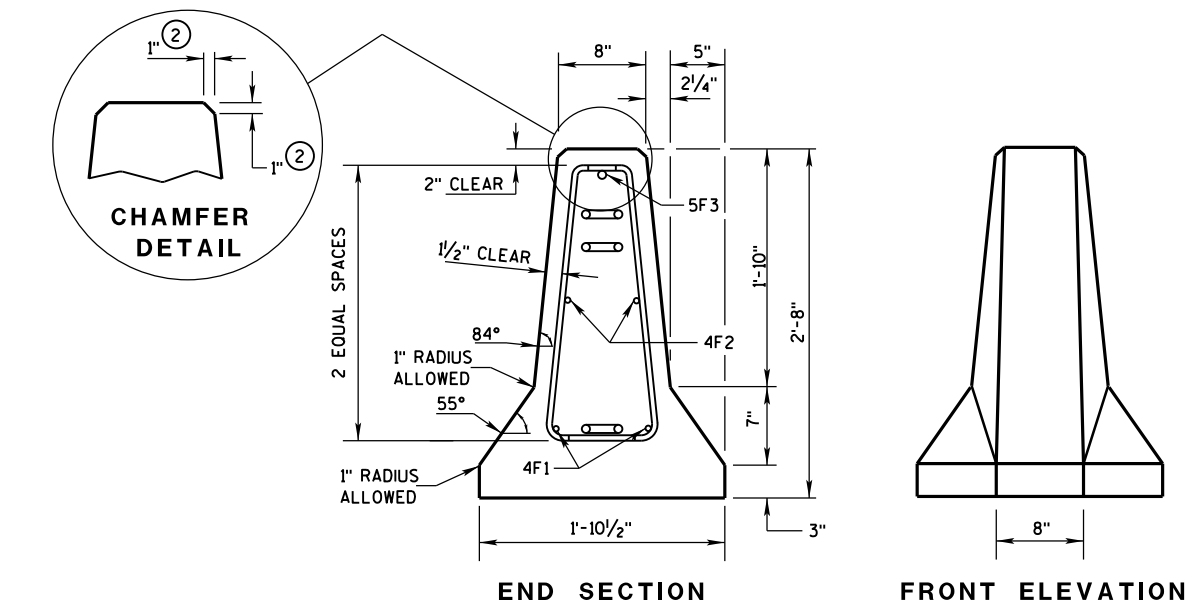
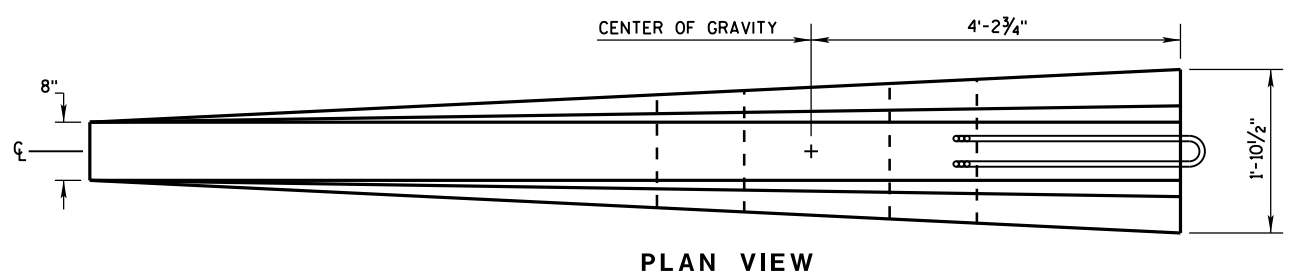
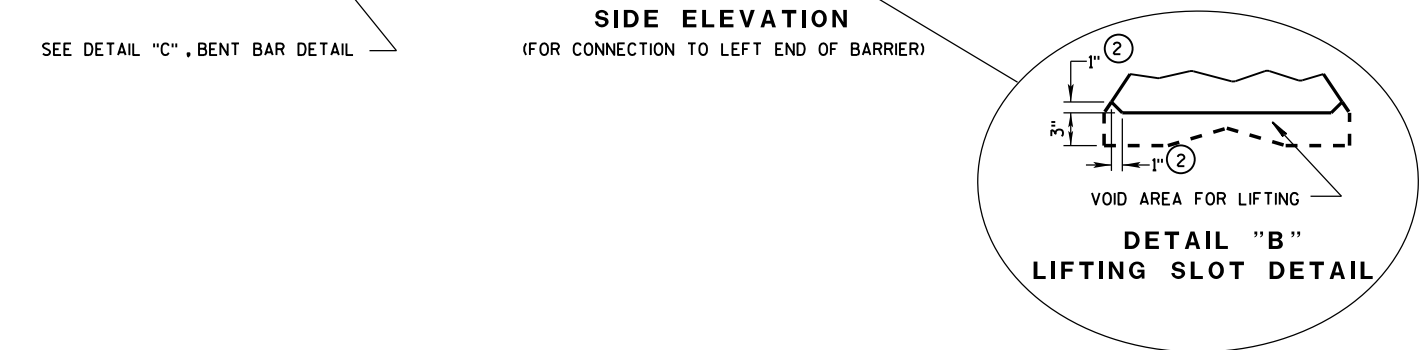
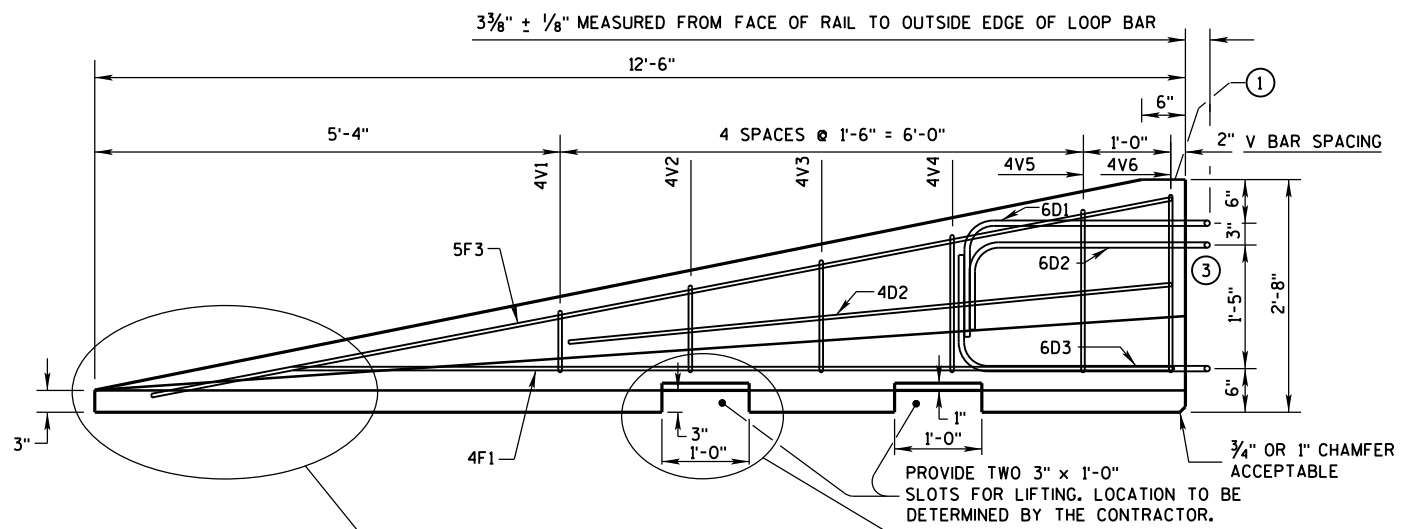
INSTALL MECHANICAL OR ADHESIVE ANCHORS PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE MANUFACTURER'S INFORMATION TO PROJECT ENGINEER.

- MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
 - TYPE: WICBTP
 - MANUFACTURER
 - DATE MANUFACTURED (MONTH AND YEAR)
- 1" CHAMFER TO PREVENT SPALLING.
- A 3/8" HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..
- "V" NOTCH IS OPTIONAL.
- THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).
- NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.
- USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURER'S 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.
- SEE SHEET D FOR HOW TO ANCHOR BARRIER. SEE SHEET E FOR WHEN TO ANCHOR BARRIER.
- 1" CHAMFER OPTIONAL.

f'c = 4,000 psi

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

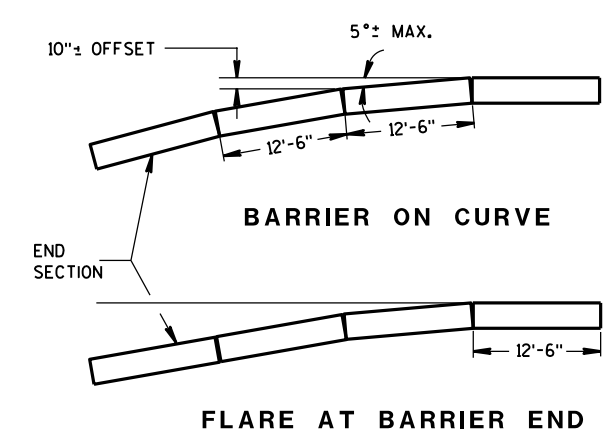
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



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.



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

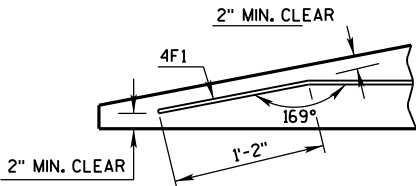
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

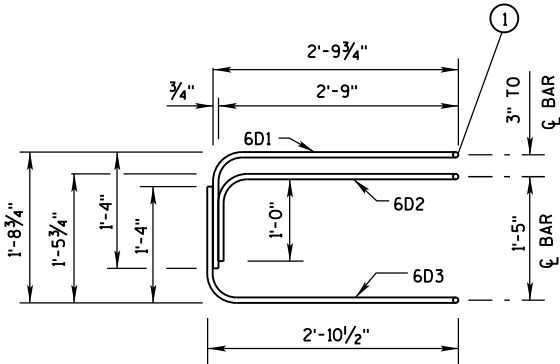
BARRIER TAPER SECTION
BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

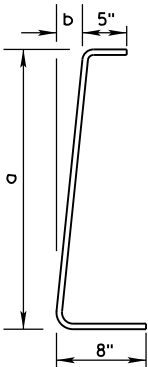
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



DETAIL "C"
BENT BAR DETAIL



ELEVATION
LOOP BAR ASSEMBLY



4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

BAR	a	b
V1	10"	1"
V2	1'-1"	1 1/4"
V3	1'-5"	1 5/8"
V4	1'-8"	1 7/8"
V5	2'-0 1/2"	2 3/8"
V6	2'-3"	2 3/4"

TAPER BARRIER SECTION

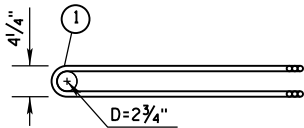
GENERAL NOTES

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

BARRIER SECTION
BILL OF MATERIALS

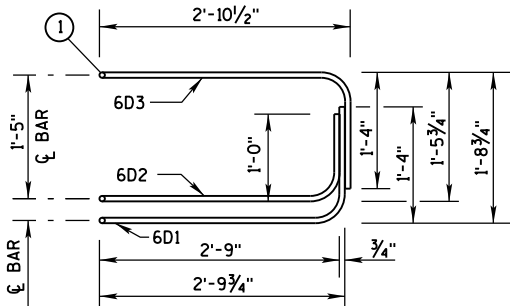
(PER 12'-6" BARRIER SECTION)

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

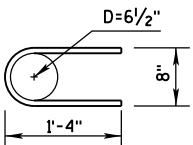


PLAN VIEW
LOOP BAR ASSEMBLY

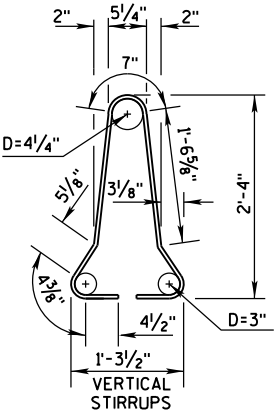
(MARKED END SHOWN, INVERT FOR OTHER END)



ELEVATION VIEW



6A2

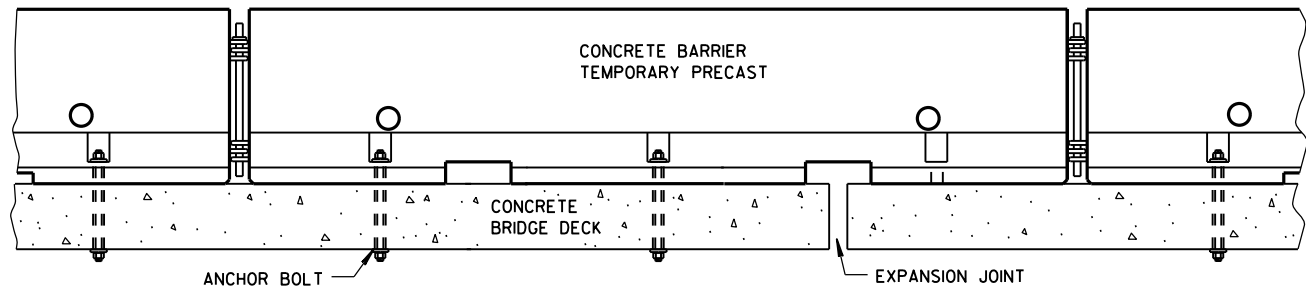
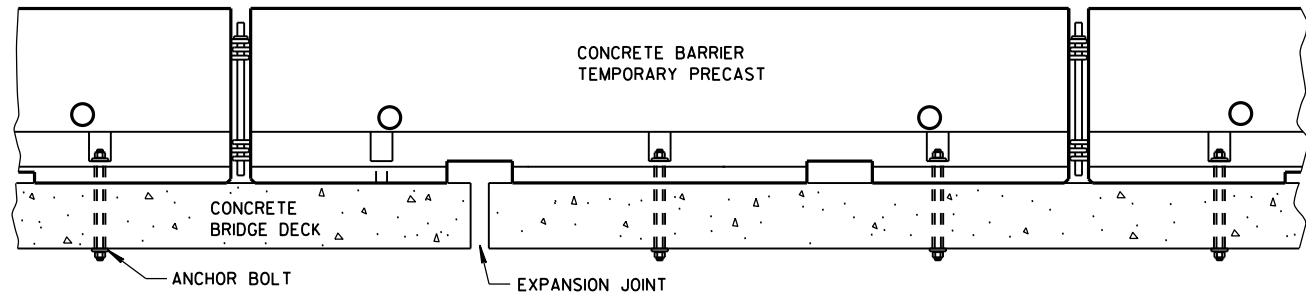


4A1

BARRIER SECTION

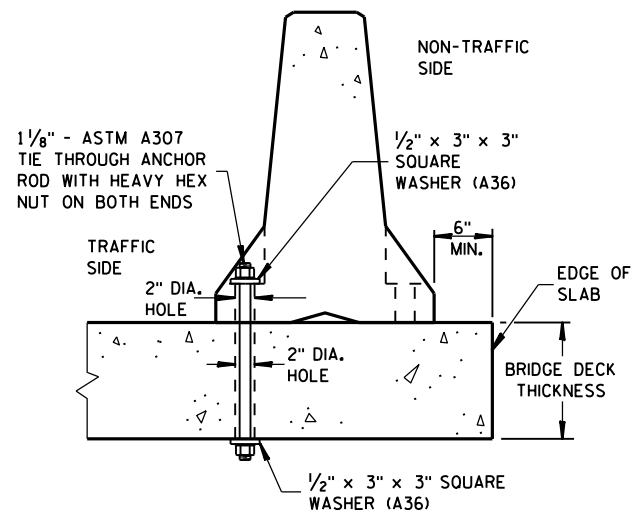
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



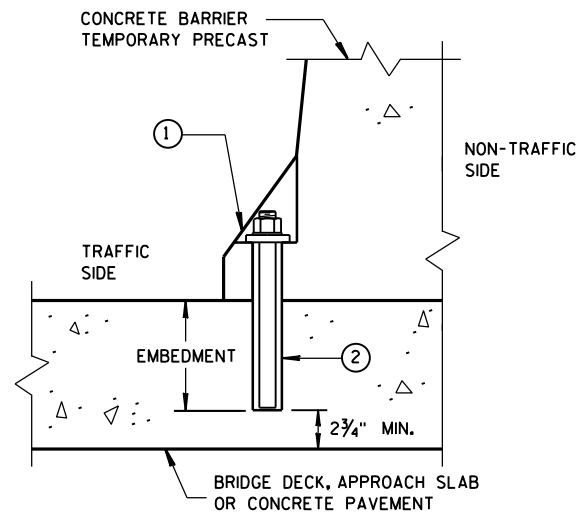
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

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



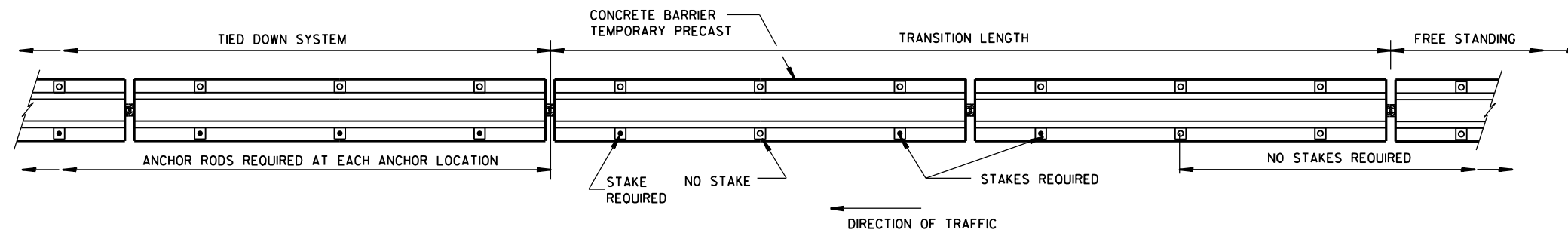
THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOT USE 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)



PLAN VIEW

FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

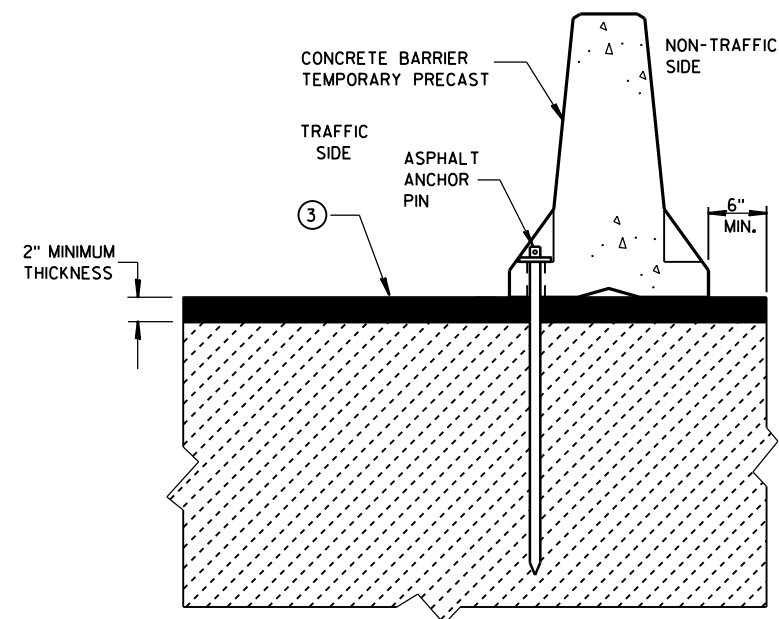
(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

GENERAL NOTES

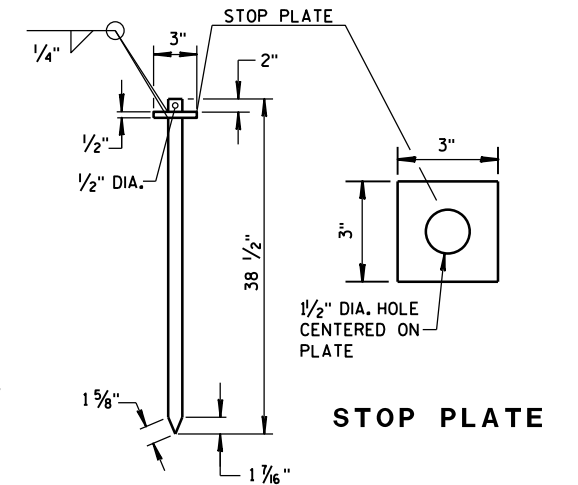
SEE SHEET E FOR WHEN TO ANCHOR. OTHER PARTS OF THE PLAN MAY SHOW ADDITIONAL LOCATIONS REQUIRING ANCHORING.

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

- ① 1/8" DIAMETER A307 THREADED ROD, 1/2" 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 5/4" EMBEDMENT. SEE 603.2 AND 603.3.12 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.
- ③ ASPHALT SURFACE SHOWN. CONTRACTOR MAY DRILL THROUGH CONCRETE PAVEMENT AND THEN DRIVE ASPHALT ANCHOR PIN.



STAKE DOWN INSTALLATION FOR ASPHALTIC SURFACE

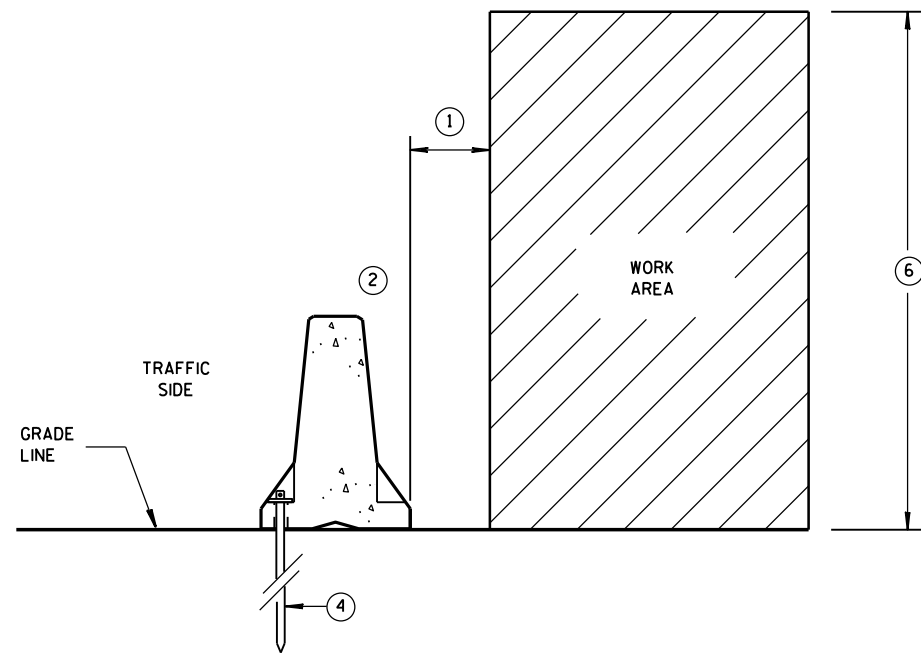


ASPHALT ANCHOR PIN

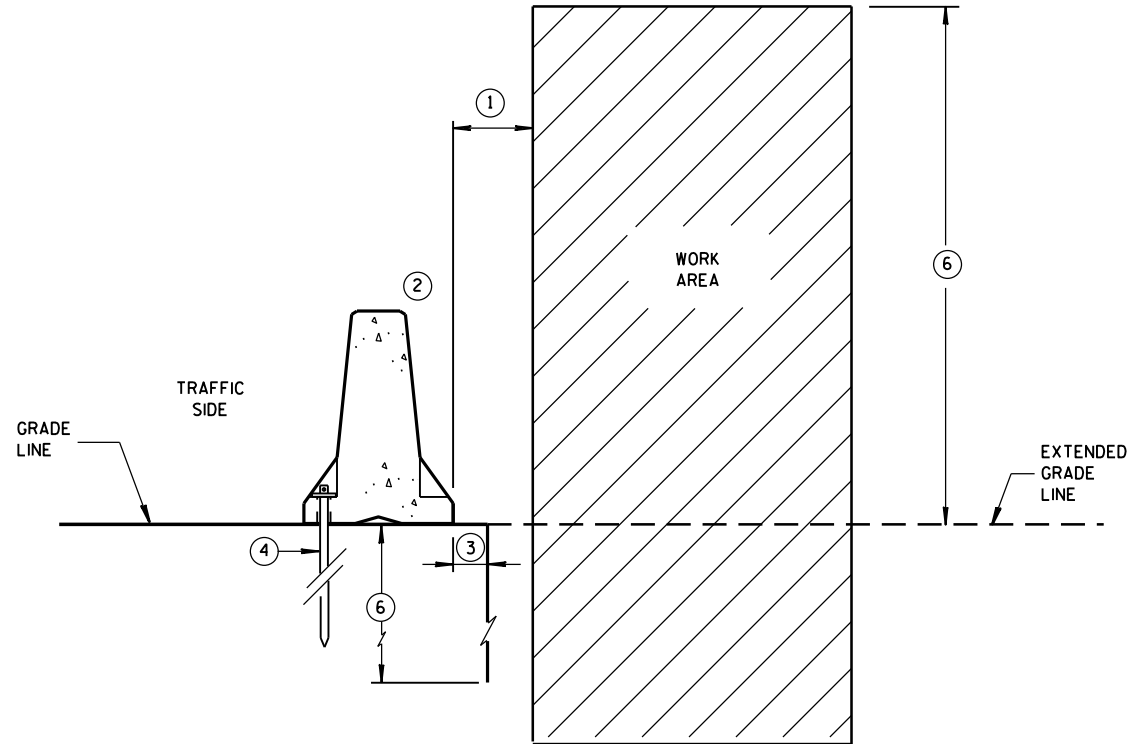
(ASTM A36 STEEL)

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION²⁹



**ANCHORED BARRIER SPACE REQUIREMENTS
FOR HAZARDS EXTENDED
ABOVE THE GRADE LINE**

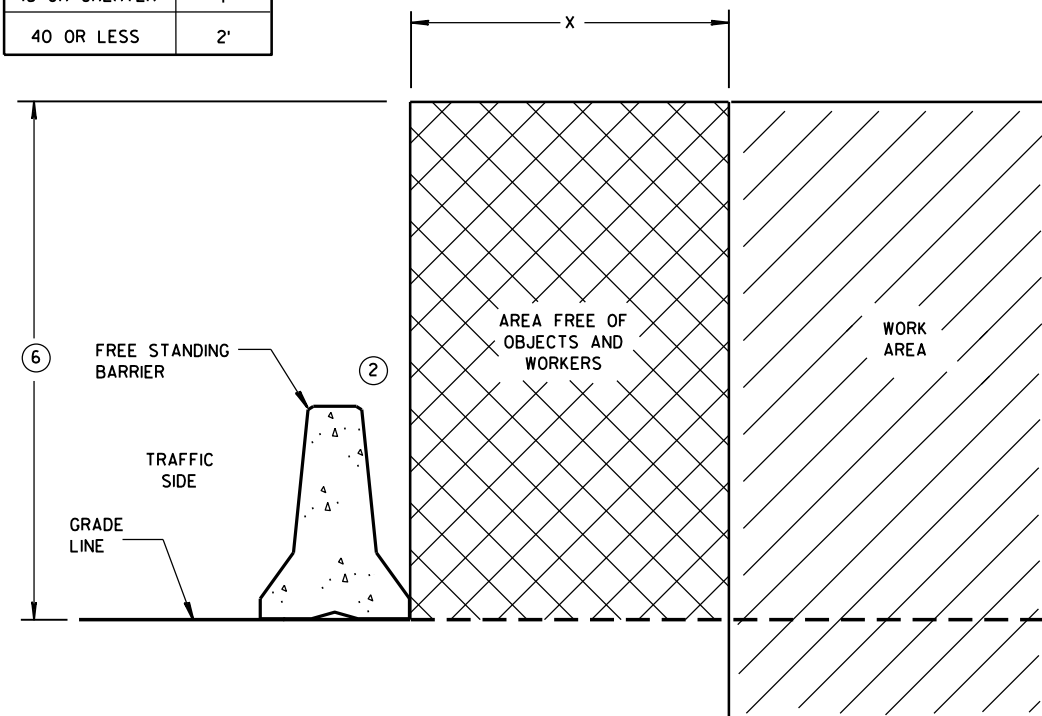


**ANCHORED BARRIER SPACE REQUIREMENTS
ON VERTICAL DROP OFFS**

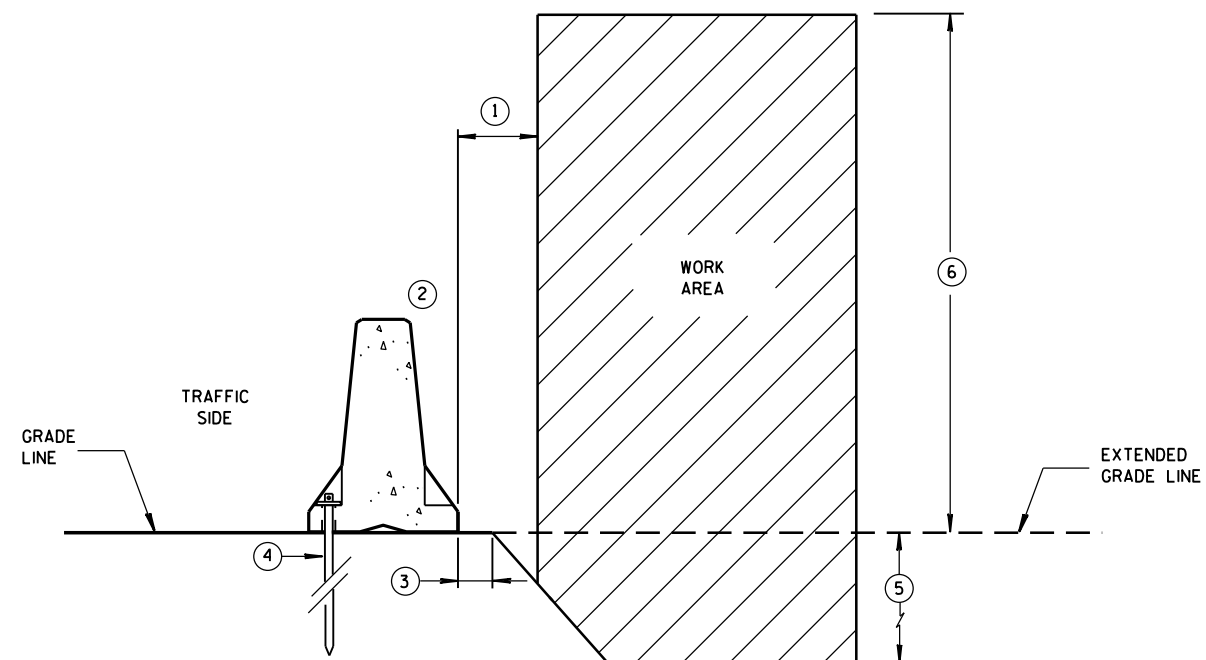
GENERAL NOTES

- ① WHEN OBJECTS EXTEND ABOVE THE GRADE, A MINIMUM OF 1 FOOT IS REQUIRED FROM BACK OF BARRIER TO OBJECT. SEE OTHER DETAILS FOR 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'



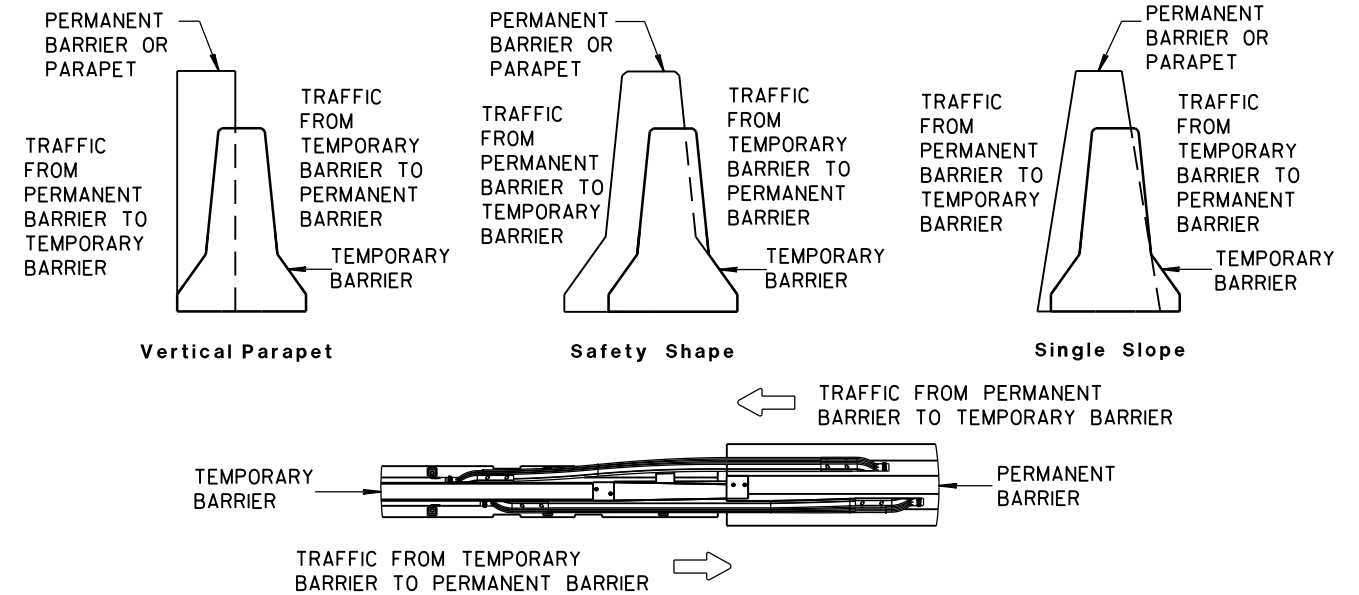
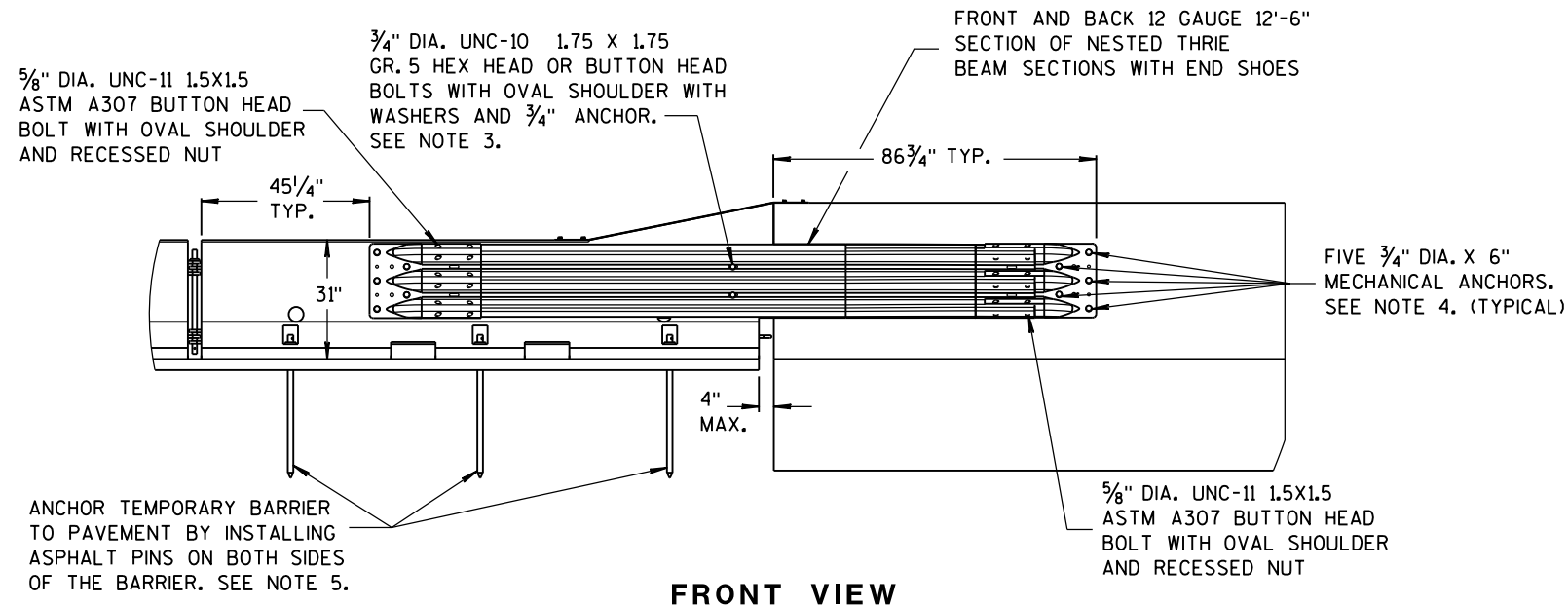
FREE STANDING BARRIER SPACE REQUIREMENTS



**ANCHORED BARRIER SPACE REQUIREMENTS
ON SLOPES**

**CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



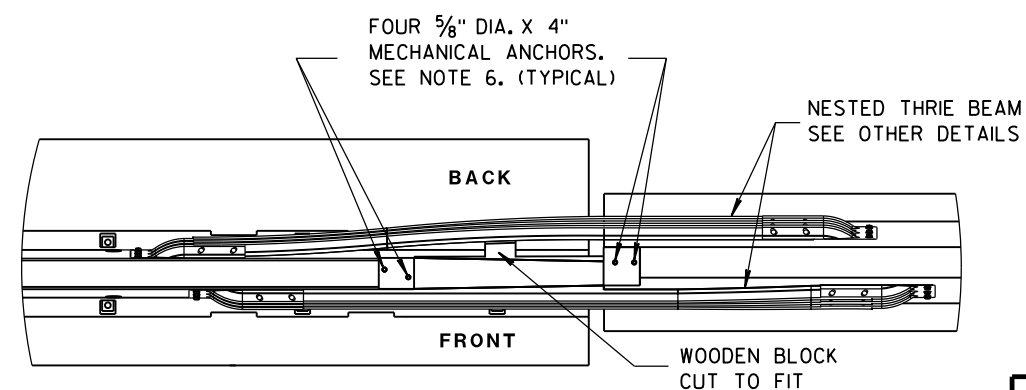
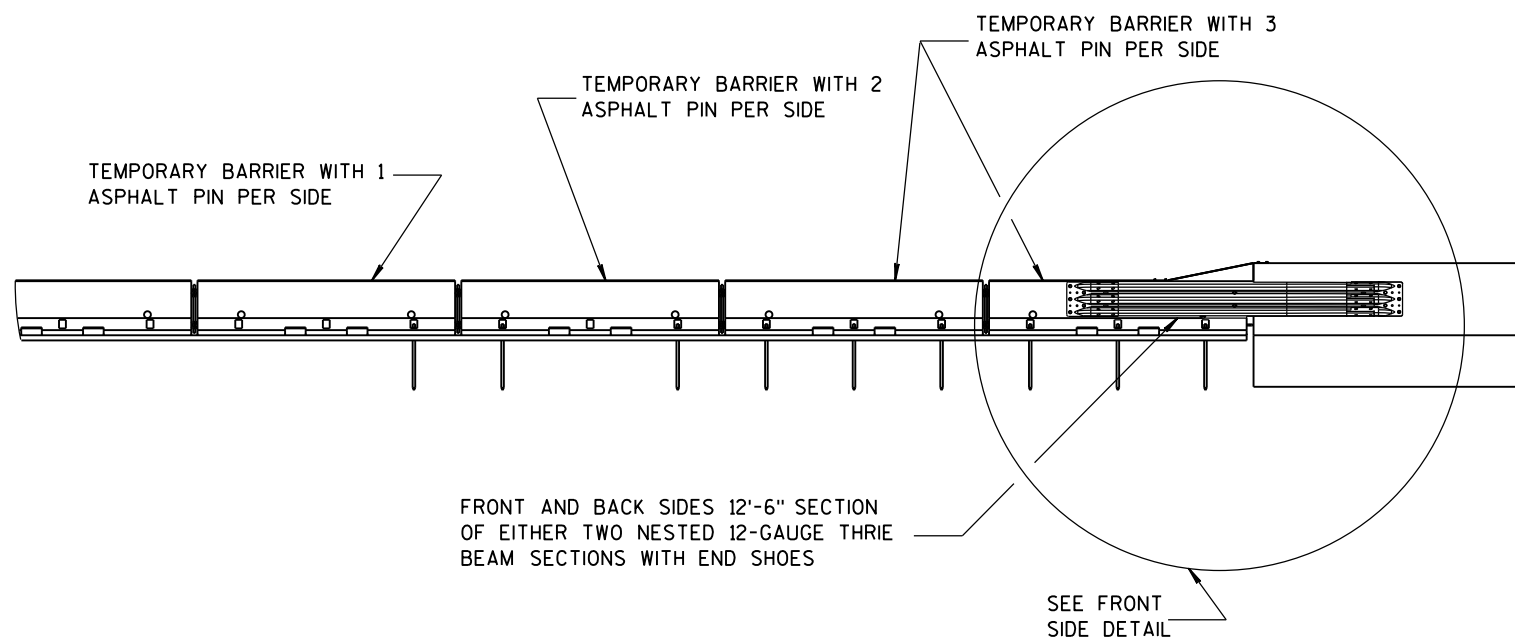
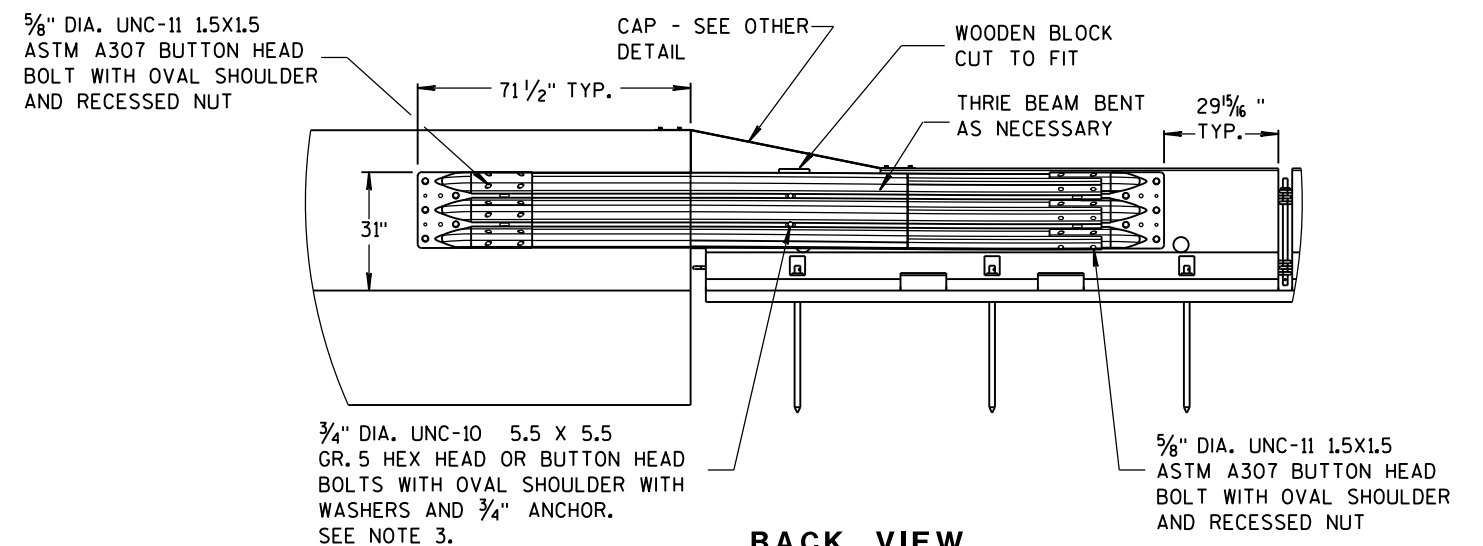
TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

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.



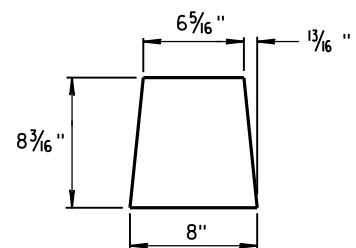
FRONT VIEW

PLAN VIEW

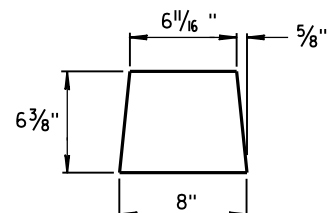
BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

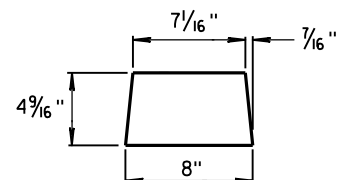
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



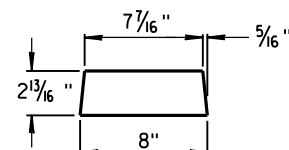
GUSSET 1



GUSSET 2

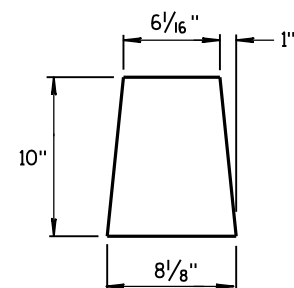


GUSSET 3

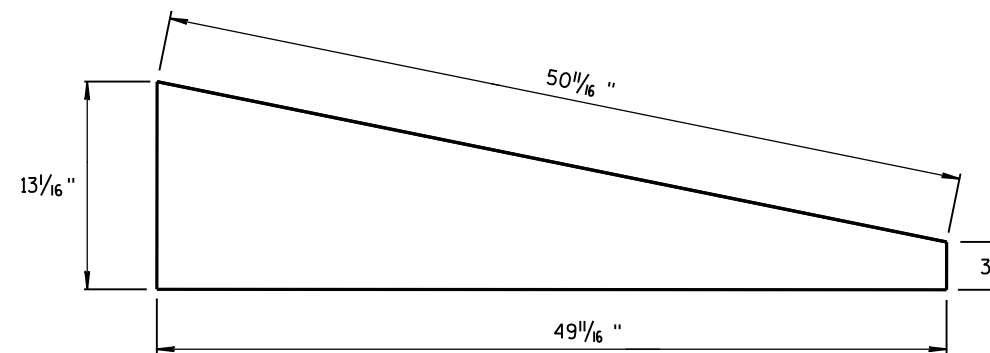


GUSSET 4

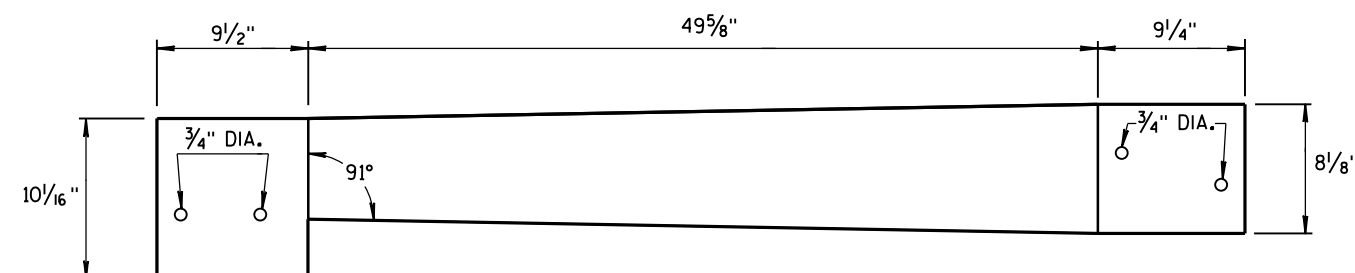
GUSSETS



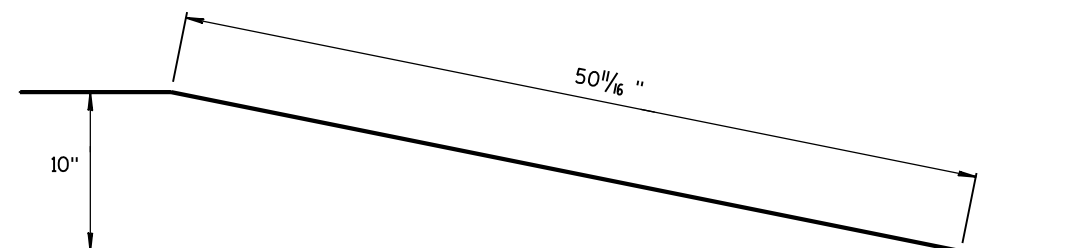
END PLATE



SIDE PLATE

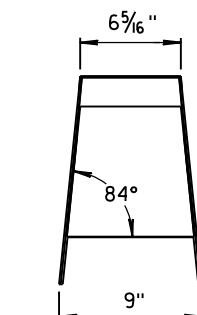
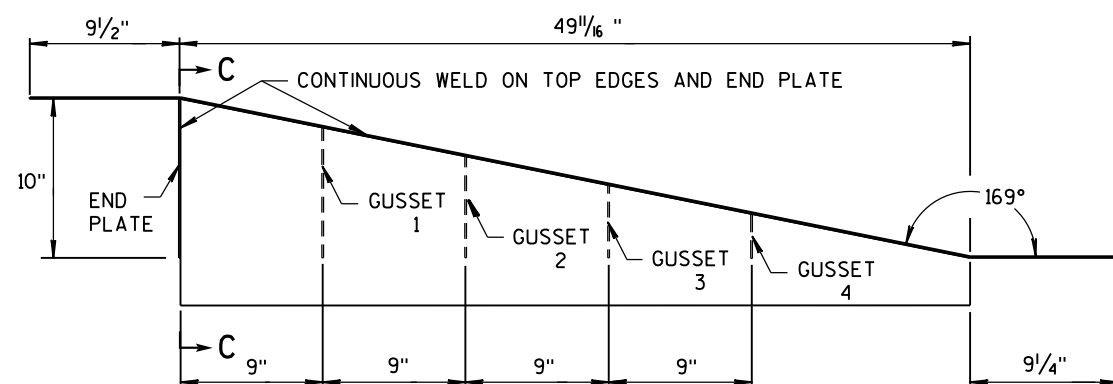
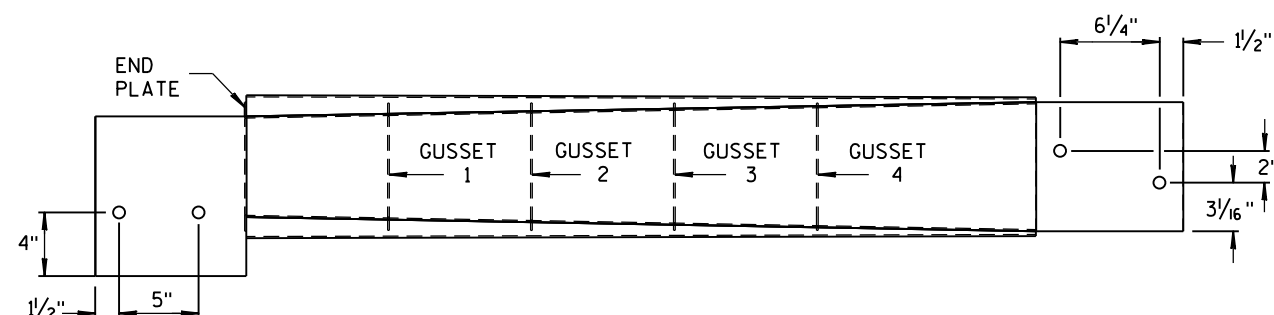


TOP PLATE



**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

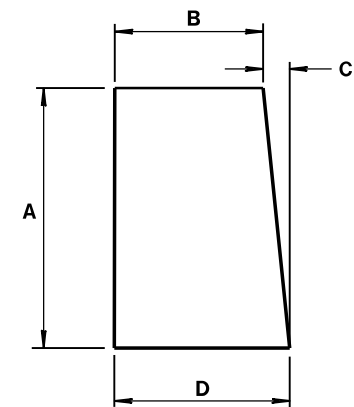
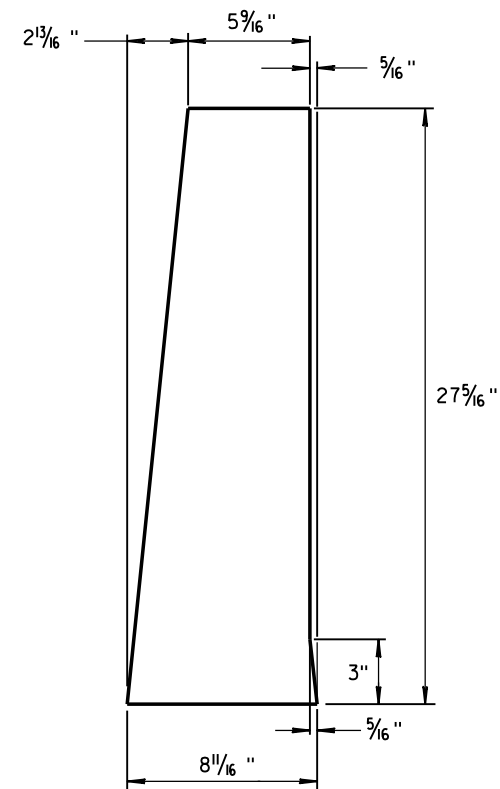
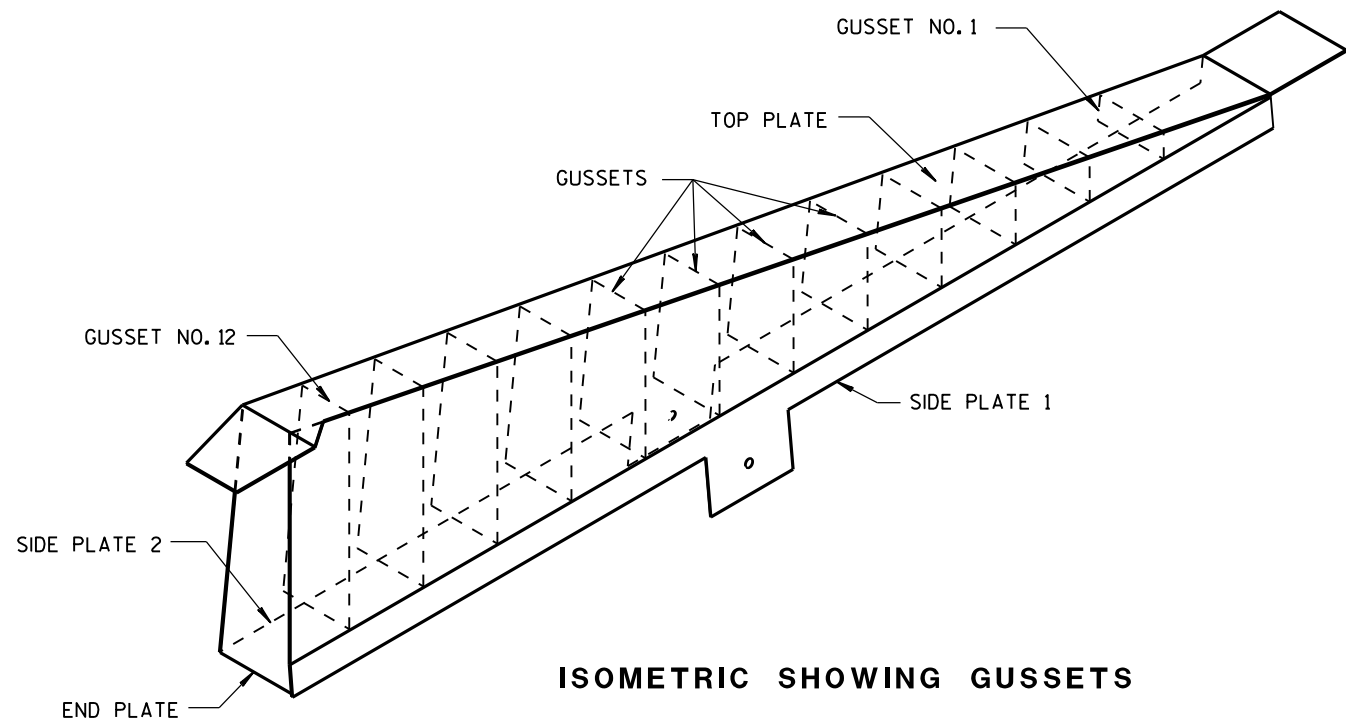
NOTES

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 TRANSPORTATION

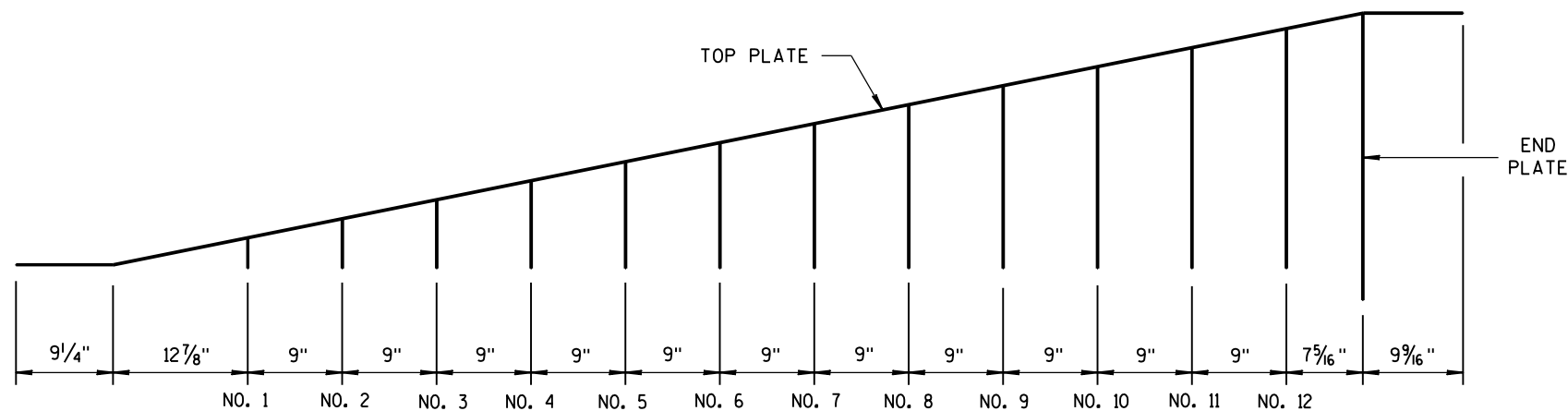


GUSSETS 1 - 12
ALL GUSSETS 1/8" STEEL PLATE

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

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

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

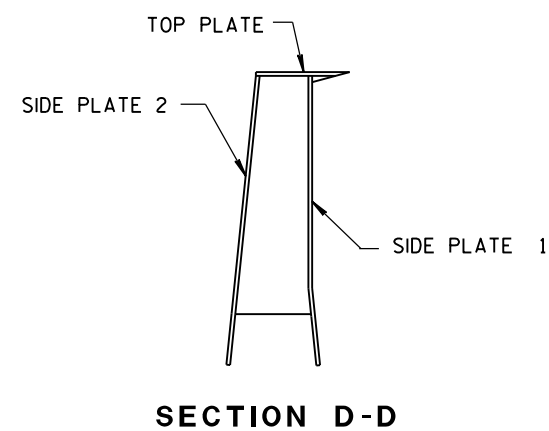
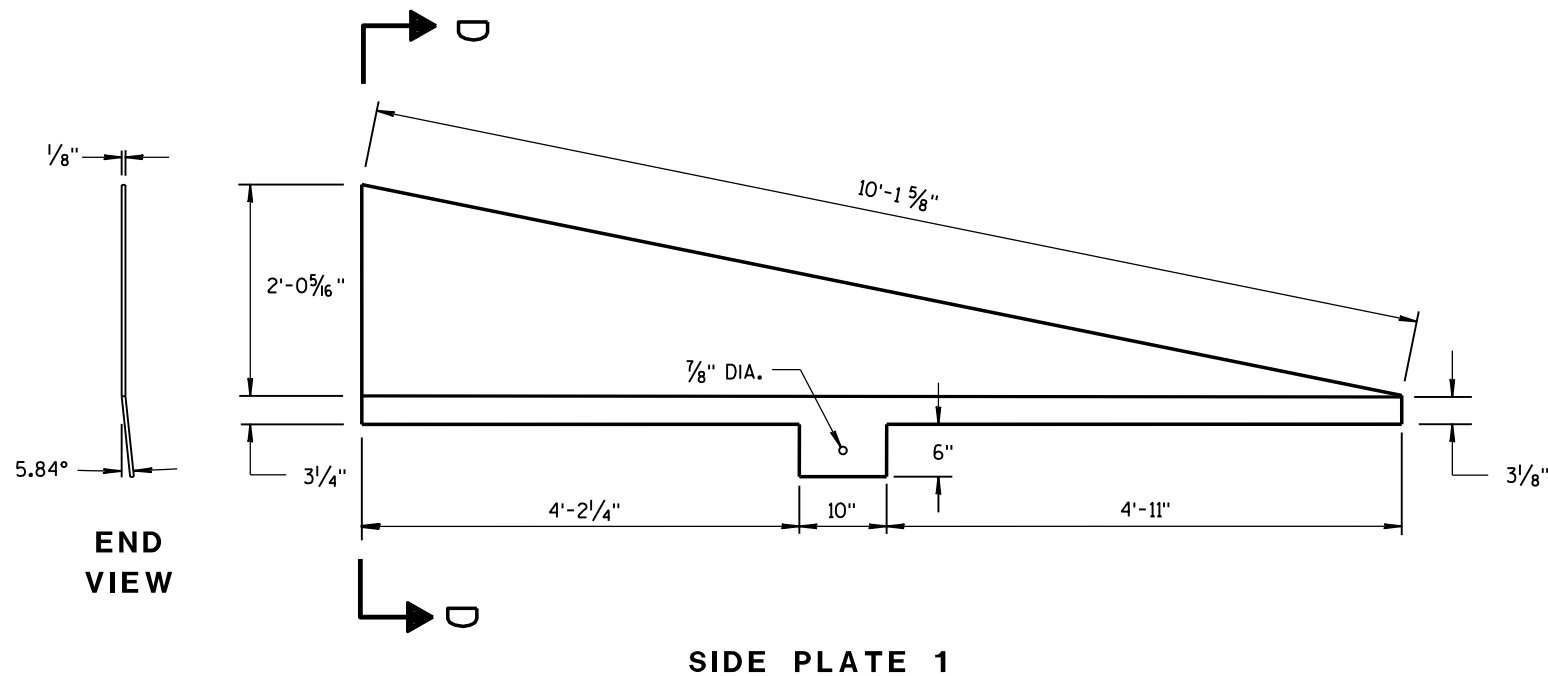
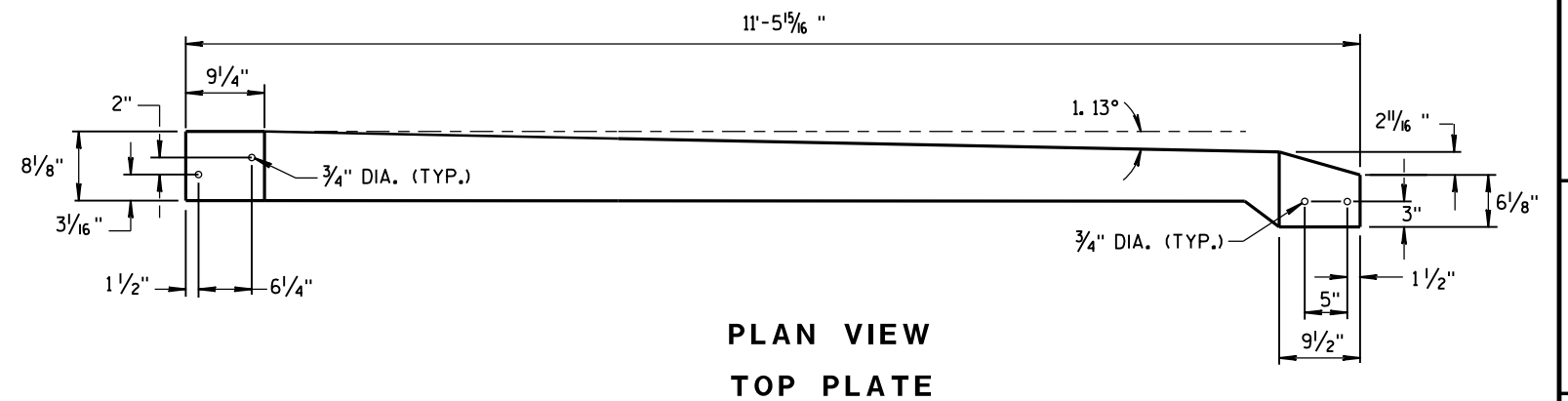
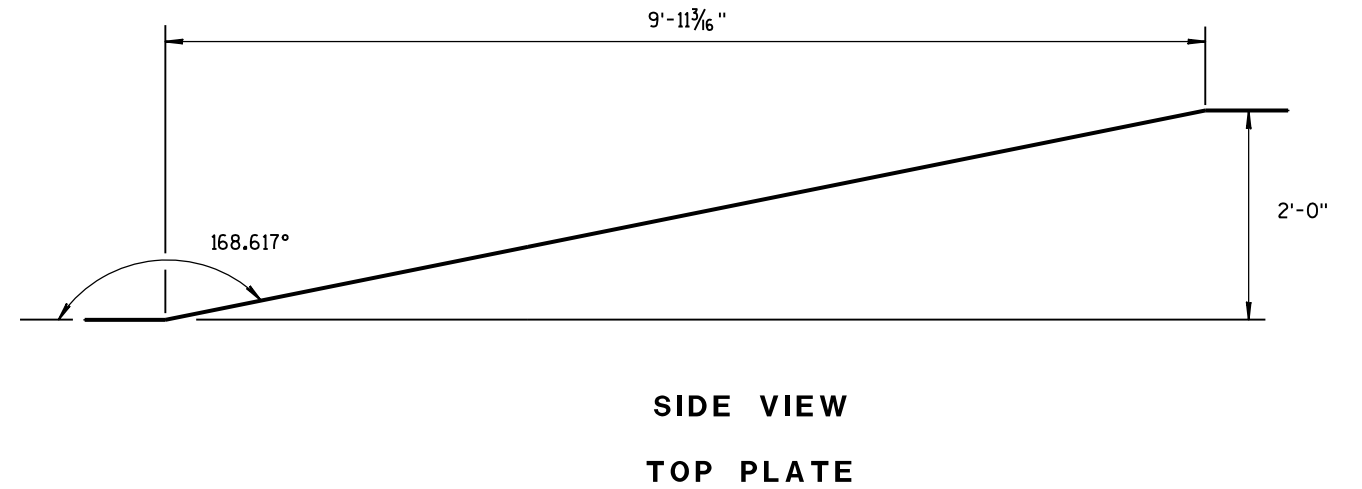
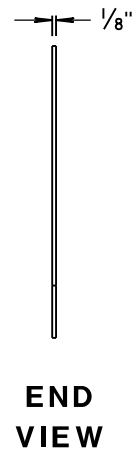
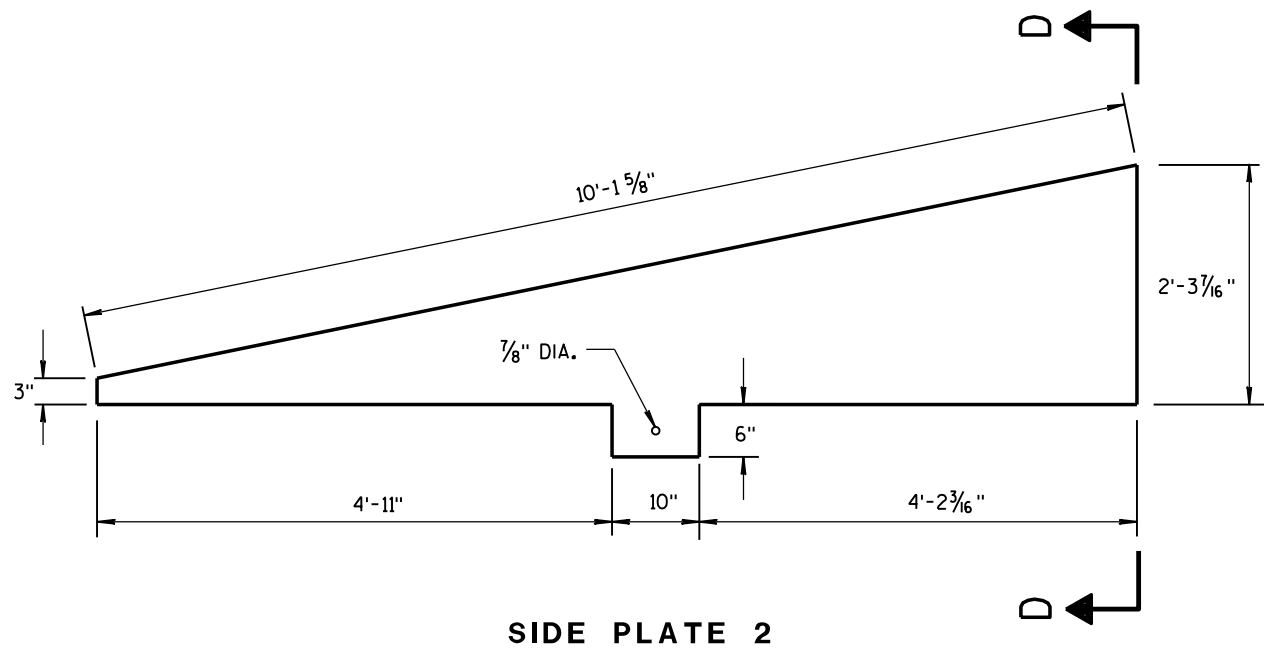


GUSSET LOCATION

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

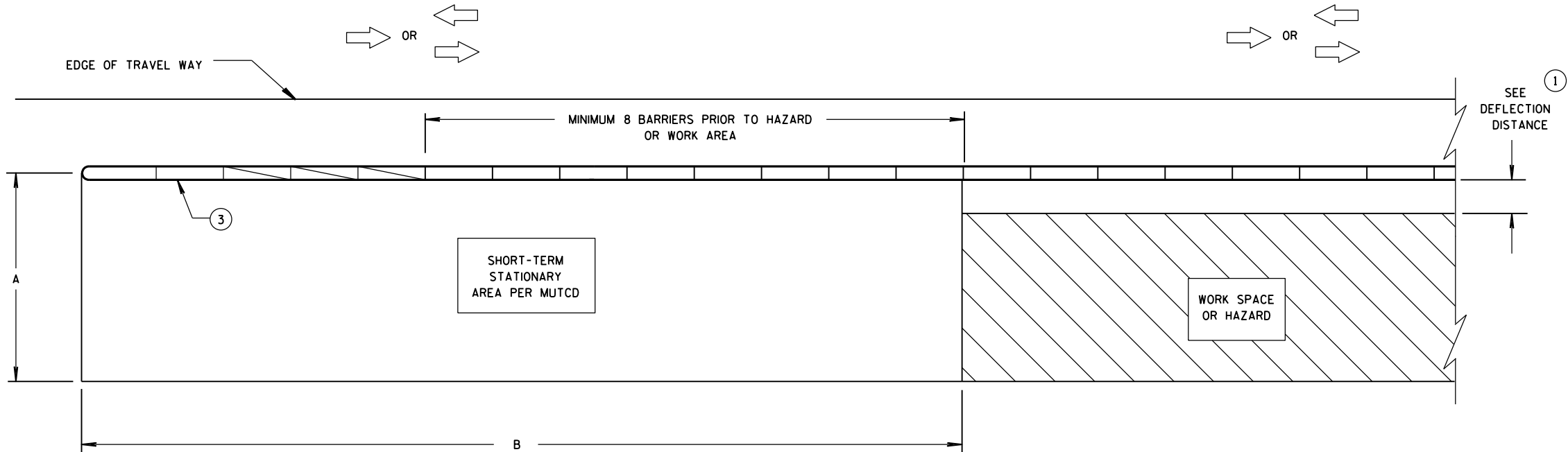
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



**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	/S/ Rodney Taylor		
DATE	ROADWAY STANDARD	34	ENT
FHWA	UNIT SUPERV		



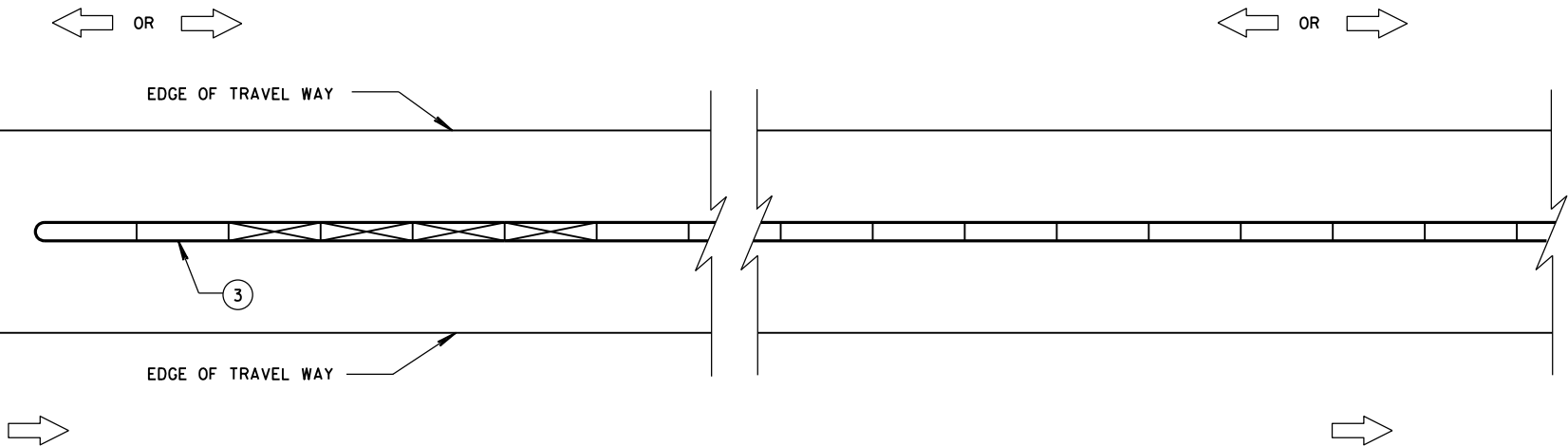
CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER
INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER

DIMENSION A TABLE ②

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

DIMENSION B TABLE ②

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



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

LEGEND

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

GENERAL NOTES

SEE STANDARD DETAIL DRAWING 14B7 FOR MORE INFORMATION.

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

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

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

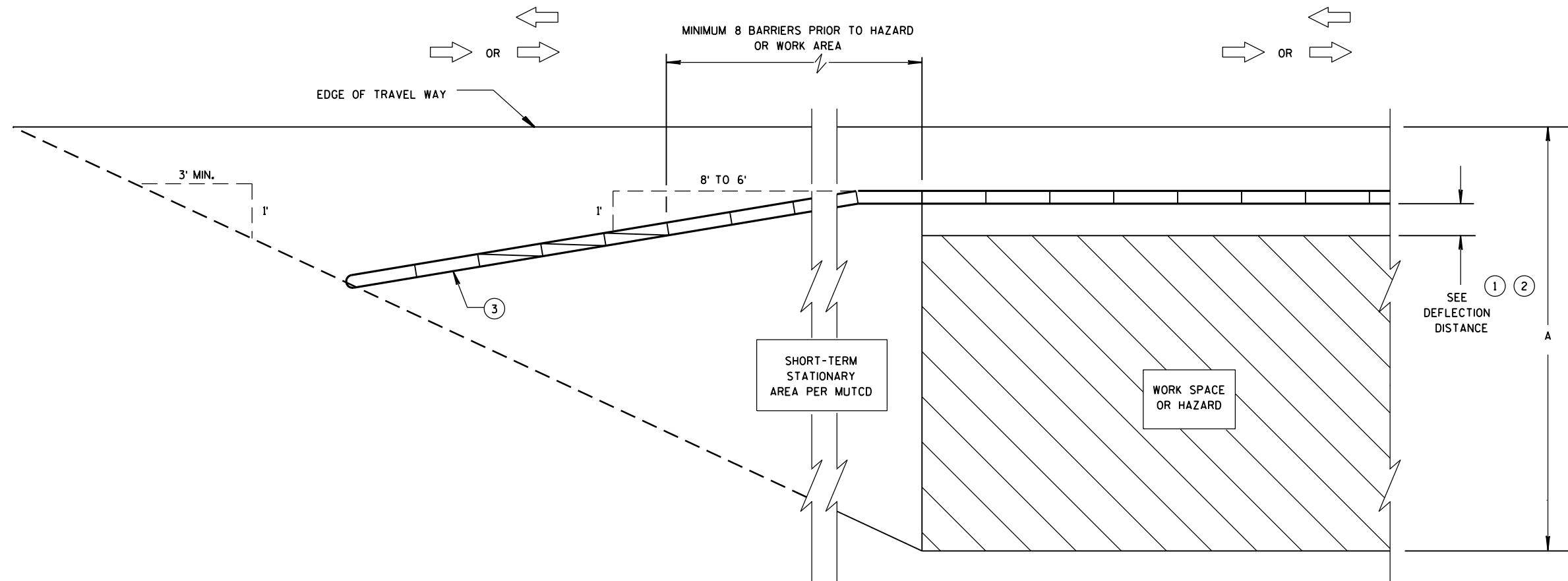
FOR DETAILS ON CRASH CUSHION OR SAND BARREL ARRAYS SEE OTHER SECTIONS OF THE PLAN AND MANUFACTURE'S DETAILS.

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

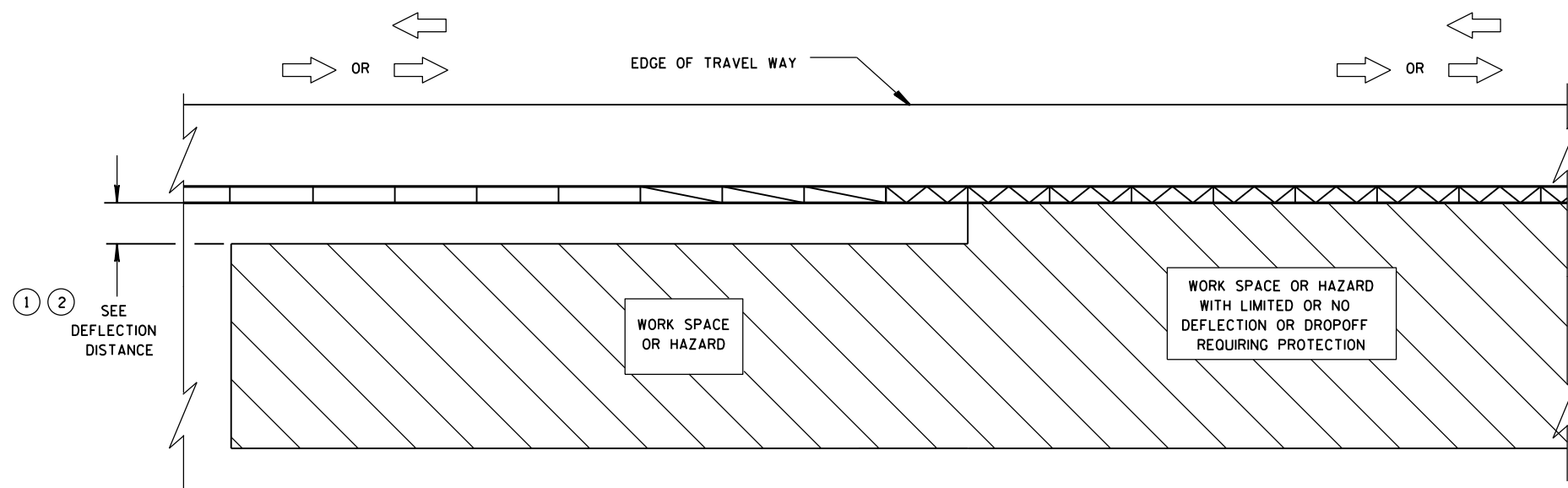
- ① FOR DEFLECTION INFORMATION SEE STANDARD DETAIL DRAWING 14B7.
- ② VALUES PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.
- ③ ANCHOR TEMPORARY BARRIER ACCORDING TO CRASH CUSHION OR SAND BARREL MANUFACTURER'S RECOMMENDATIONS. IF MANUFACTURER'S RECOMMENDATIONS ARE NOT PROVIDED, ANCHOR 3 PINS ON TRAFFIC SIDE.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



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



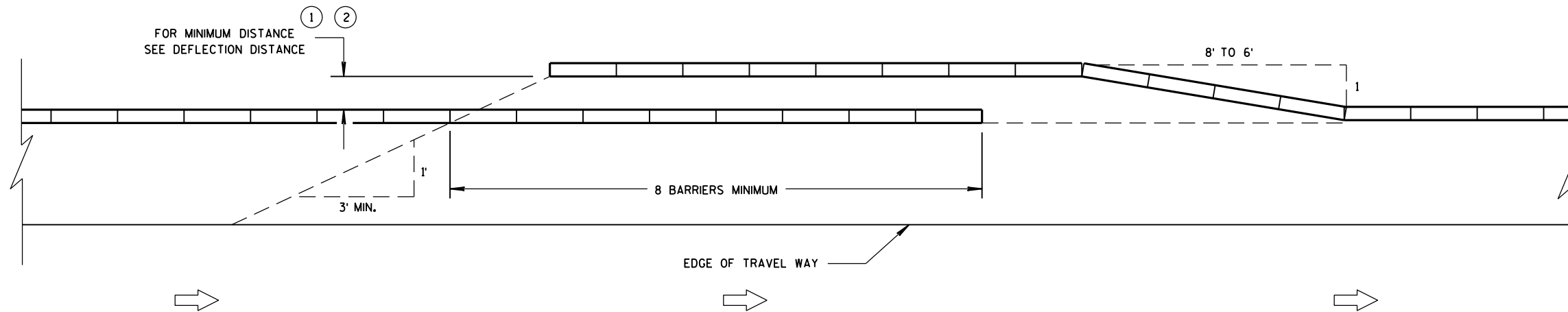
**TRANSITION FROM FREE STANDING TEMPORARY BARRIER
TO ANCHORED BARRIER**

LEGEND

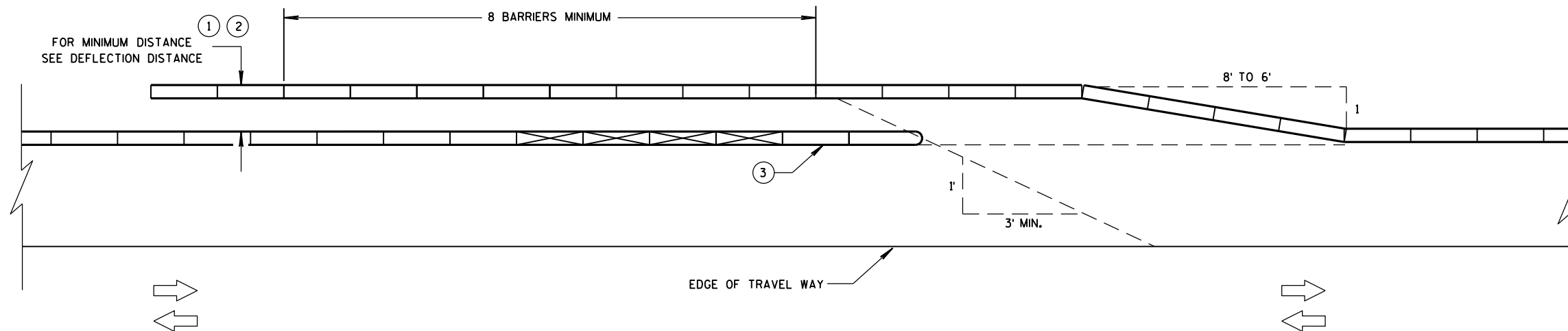
DIRECTION OF TRAVEL	
CRASH CUSHION OR SAND BARREL ARRAY	
SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS	
SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS	
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER	
PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET	
FREE STANDING TEMPORARY BARRIER	

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

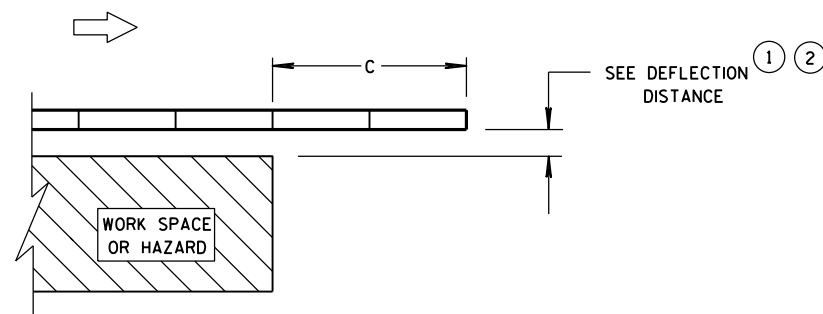
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



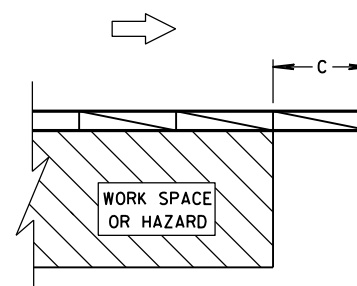
TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC



TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC



**ENDING TEMPORARY BARRIER
DOWNSTREAM - UNANCHORED**



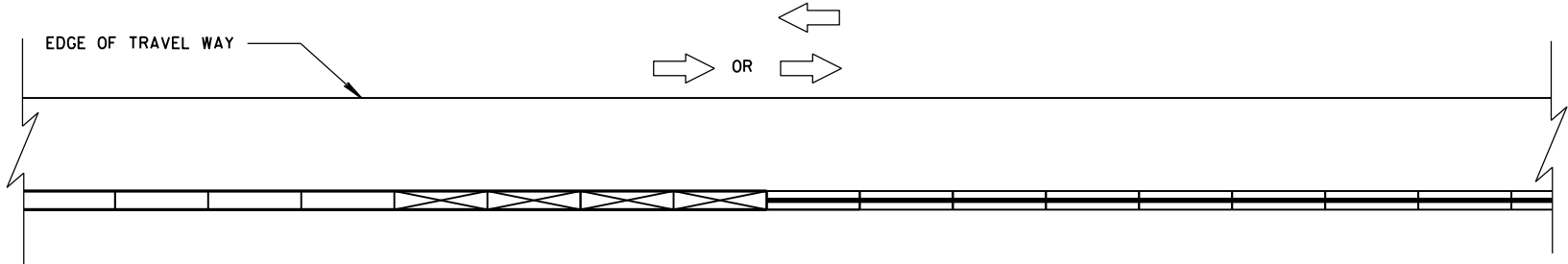
**ENDING TEMPORARY BARRIER
DOWNSTREAM - ANCHORED**

LEGEND

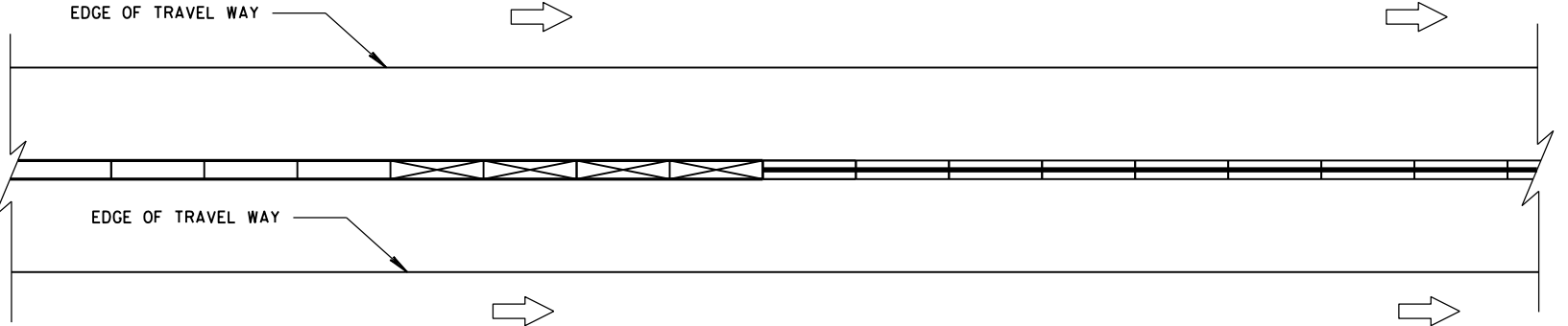
DIRECTION OF TRAVEL	
CRASH CUSHION OR SAND BARREL ARRAY	
SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS	
SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS	
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER	
PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET	
FREE STANDING TEMPORARY BARRIER	

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



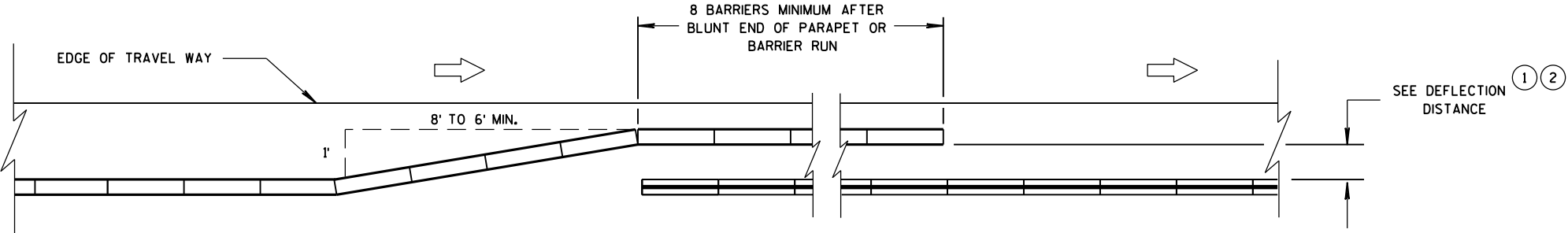
CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON ONE SIDE



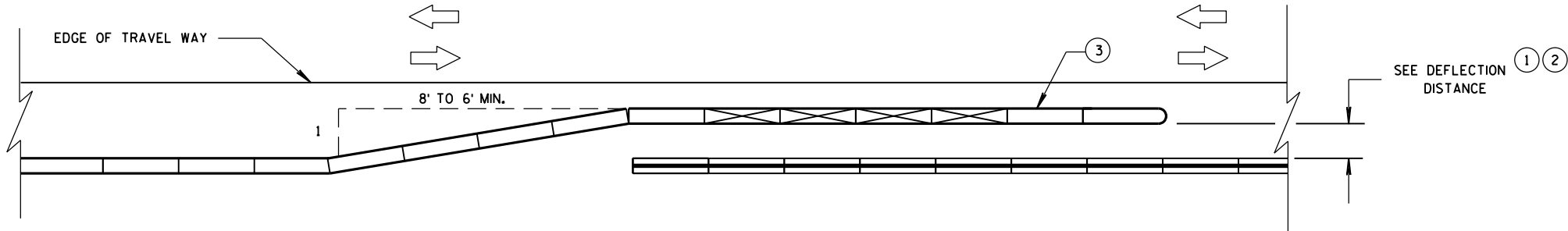
CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON BOTH SIDES

LEGEND

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



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
ONE WAY TRAFFIC



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
TWO WAY TRAFFIC

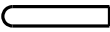
CRASH CUSHION/SAND BARREL
ARRAY AND OTHER TEMPORARY
BARRIER LAYOUT DETAILS

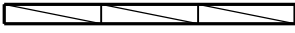
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

LEGEND

- DIRECTION OF TRAVEL

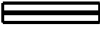

- CRASH CUSHION OR SAND BARREL ARRAY

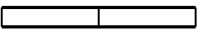

- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS


- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS


- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER


- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET


- FREE STANDING TEMPORARY BARRIER



DIMENSION C TABLE

2

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

6

6

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June, 2015

DATE

FHWA

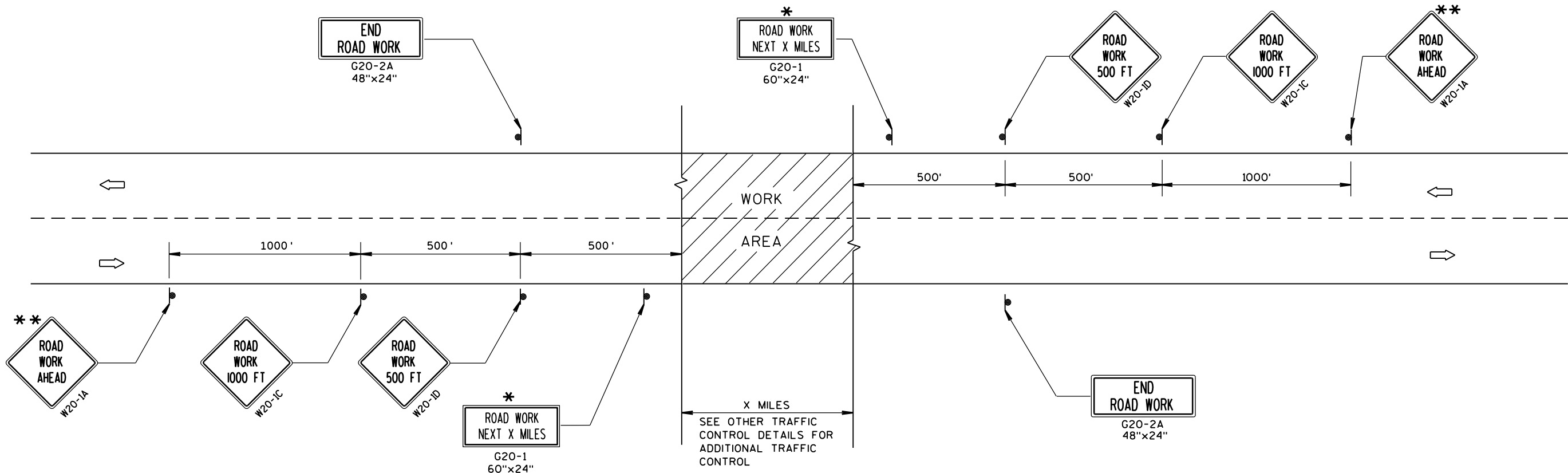
/S/ Jerry H. Zogg

ROADWAY STANDARDS

ENGINEER

39

ENT



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

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

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

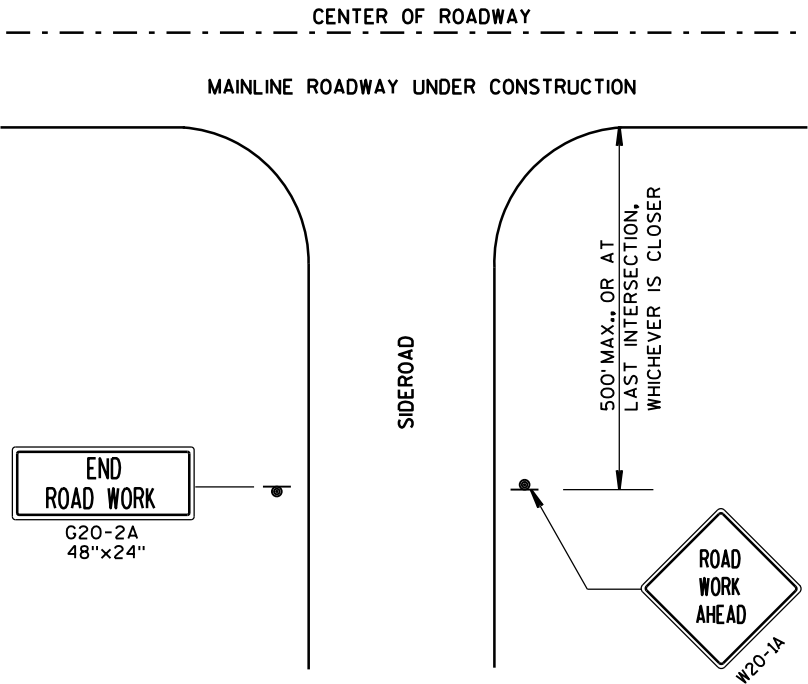
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS RE-ESTABLISHED.

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

** PLACE ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



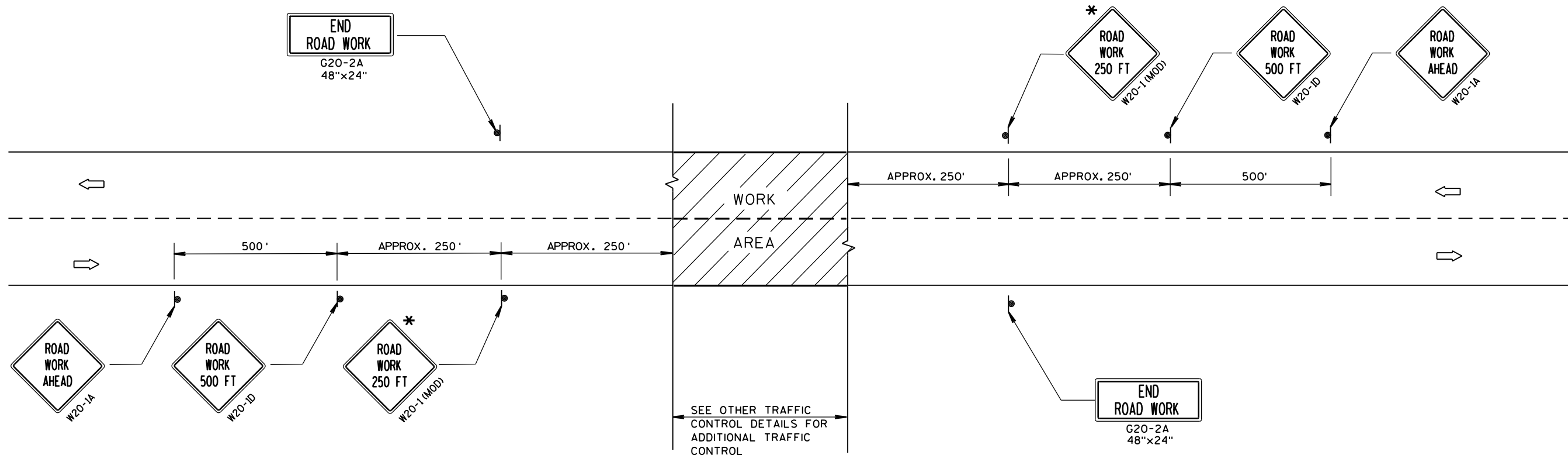
LEGEND

- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL, ADVANCE
WARNING SIGNS 45 M.P.H.
OR GREATER TWO-WAY
UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2017 /S/ Andrew Heidtke
DATE WORK ZONE ENG 40
FHWA



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

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

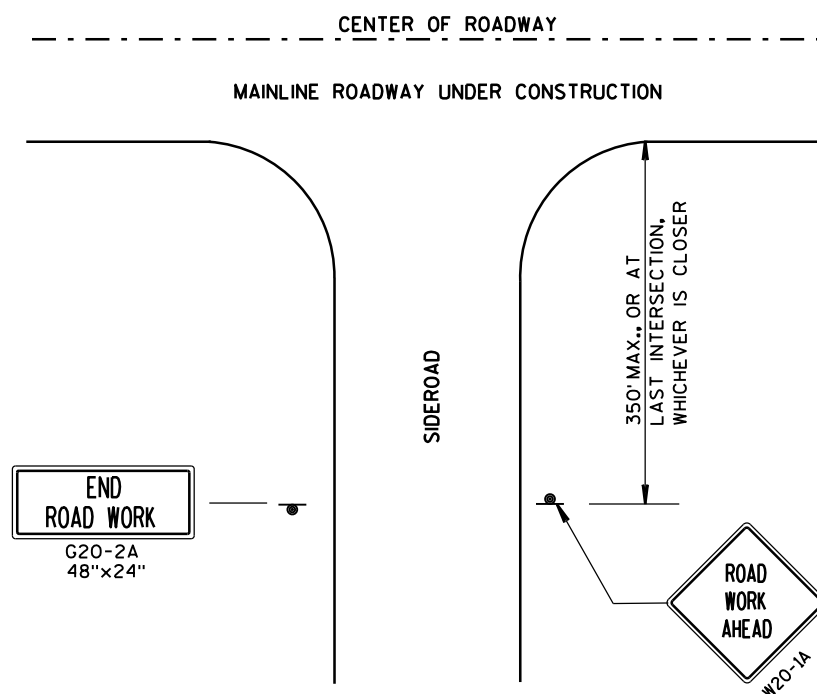
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"x36" SIGNS MAY BE USED INSTEAD OF 48"x48" SIGNS.

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

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS RE-ESTABLISHED.

* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FT" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.



LEGEND

- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

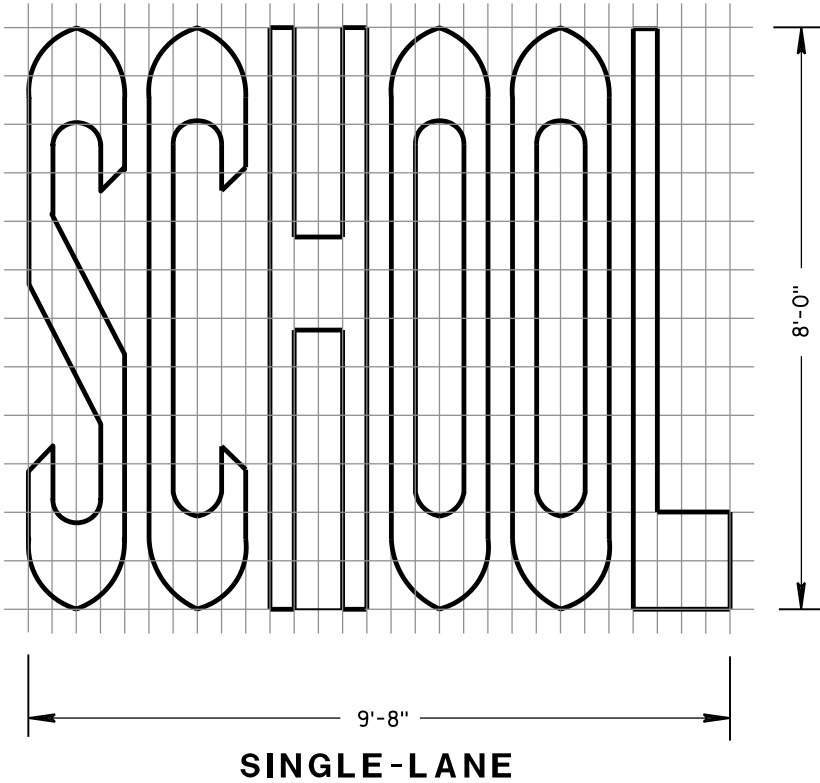
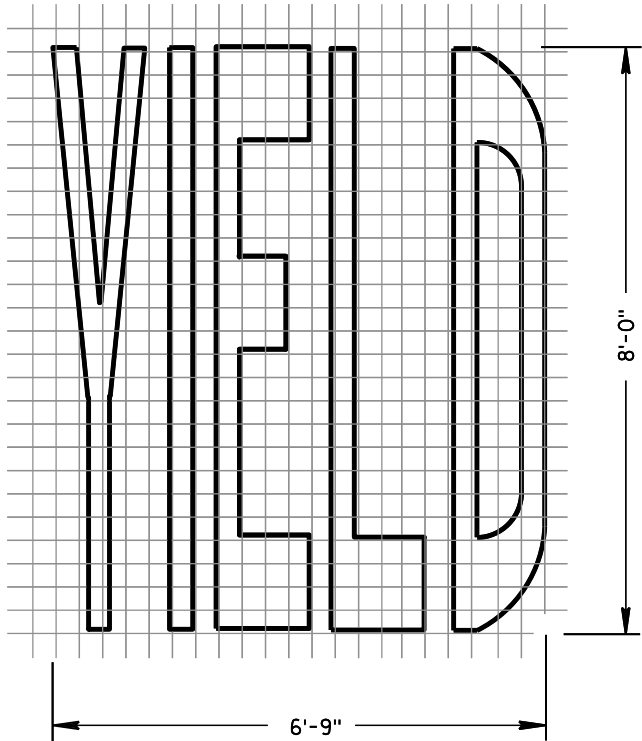
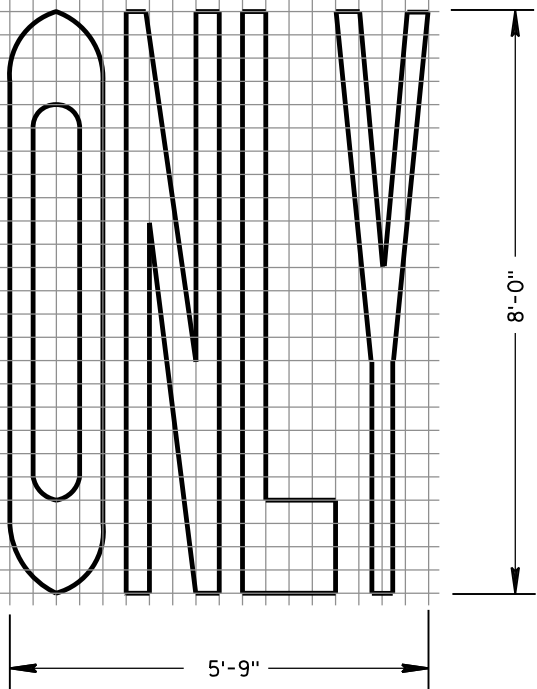
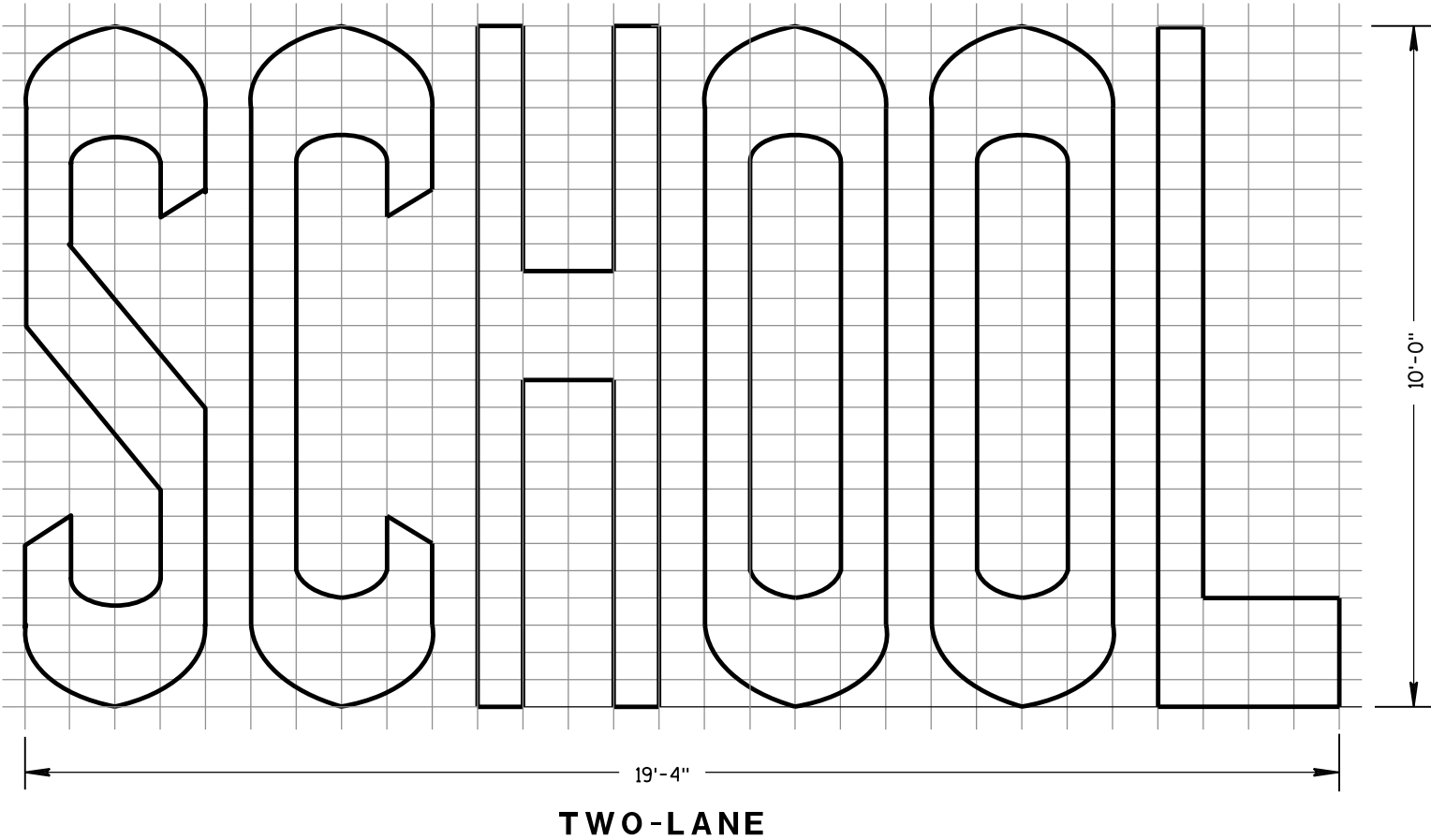
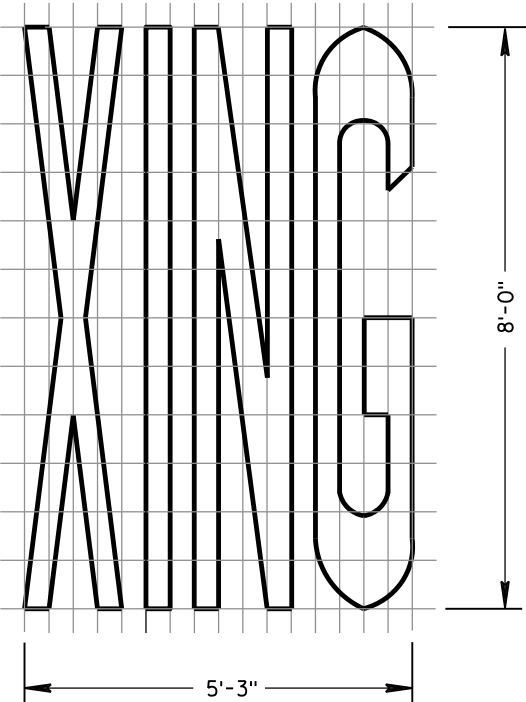
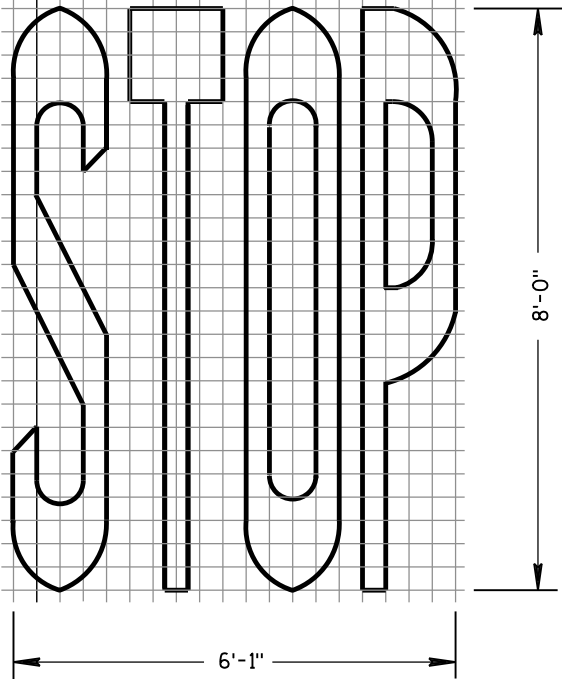
TRAFFIC CONTROL, ADVANCE
WARNING SIGNS 40 M.P.H.
OR LESS TWO-WAY UNDIVIDED
ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

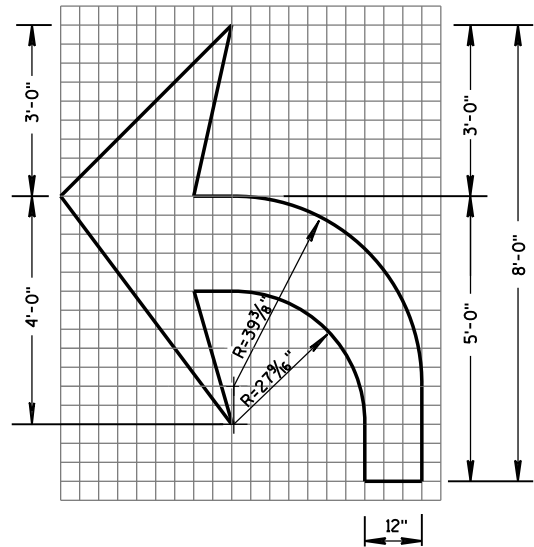
APPROVED
Sept. 2017 /S/ Andrew Heidtke
DATE WORK ZONE ENG 41
FHWA

GENERAL NOTES

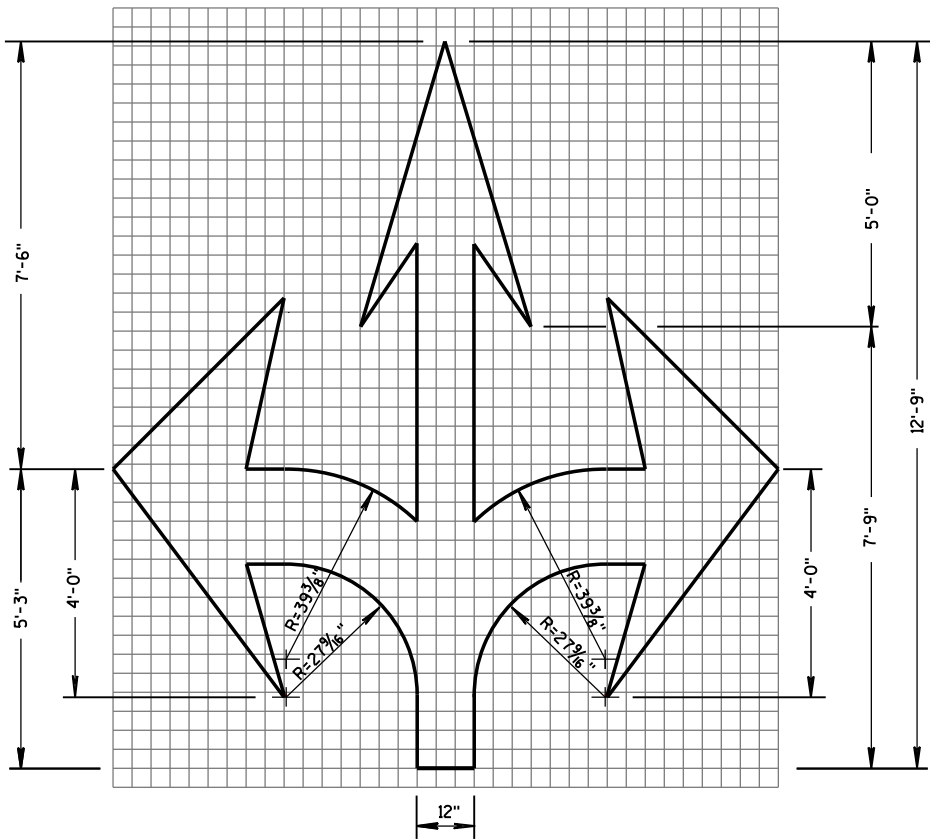
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.



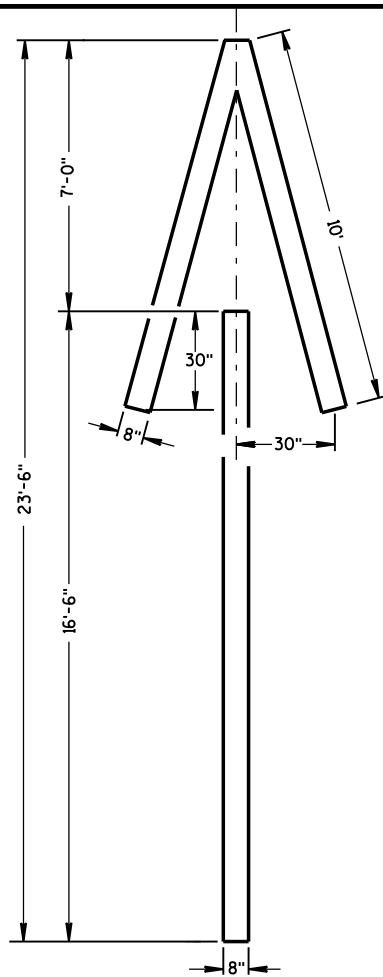
PAVEMENT MARKING WORDS			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
APPROVED			
June 2017	/S/ Matthew R. Rauch		
DATE	STATE SIGNING AND MARK 42 EER		
FHWA			



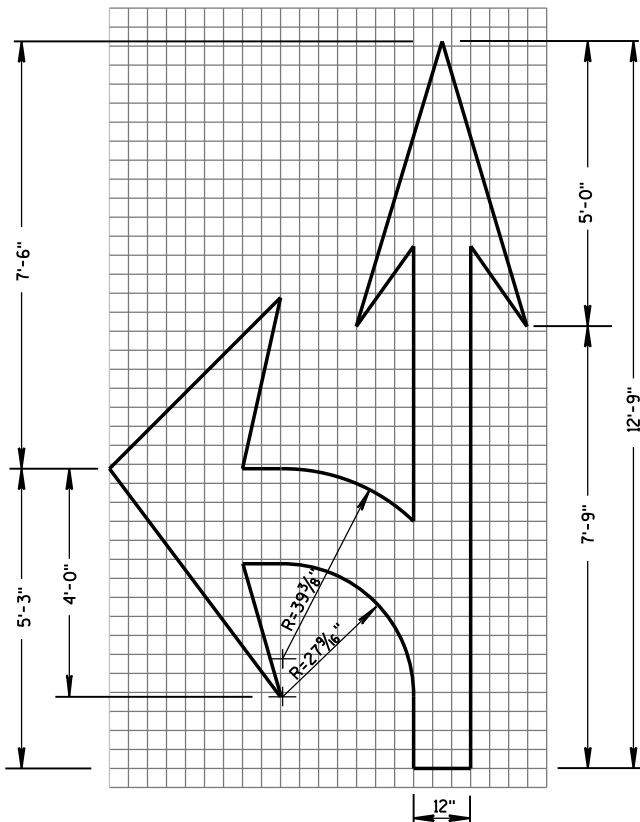
TYPE 2



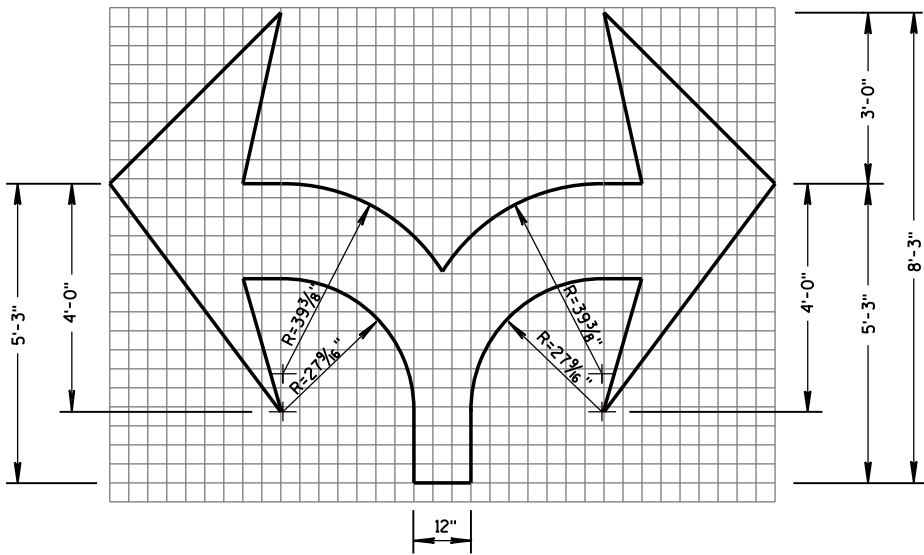
TYPE 6



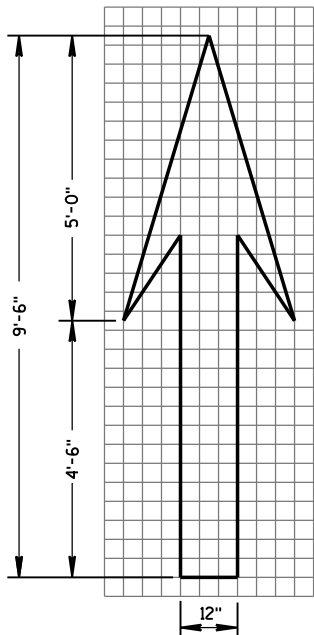
TYPE 4



TYPE 3



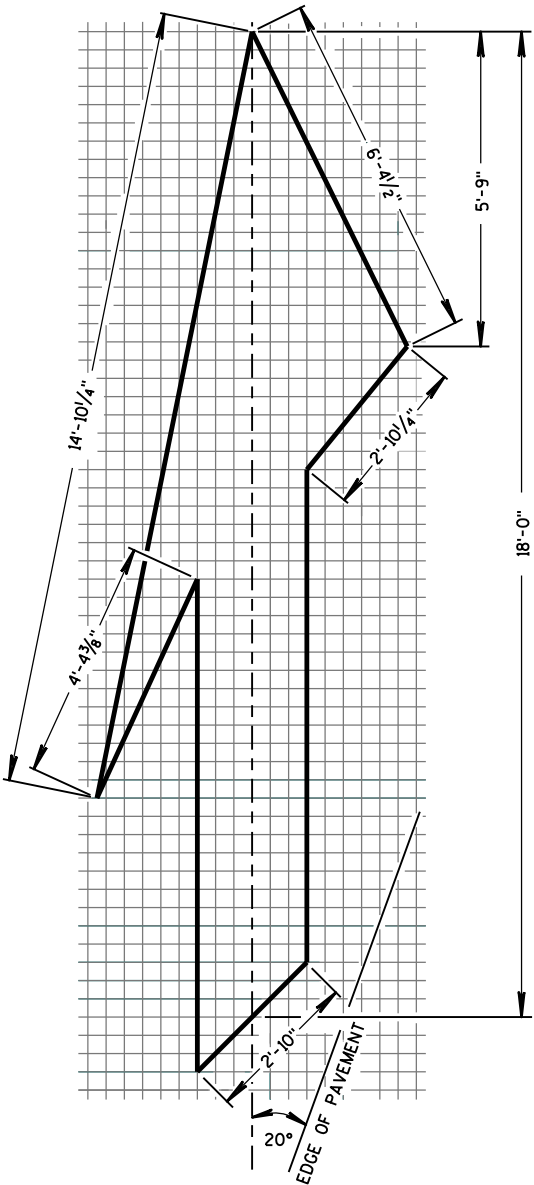
TYPE 7



TYPE 1

GENERAL NOTES

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

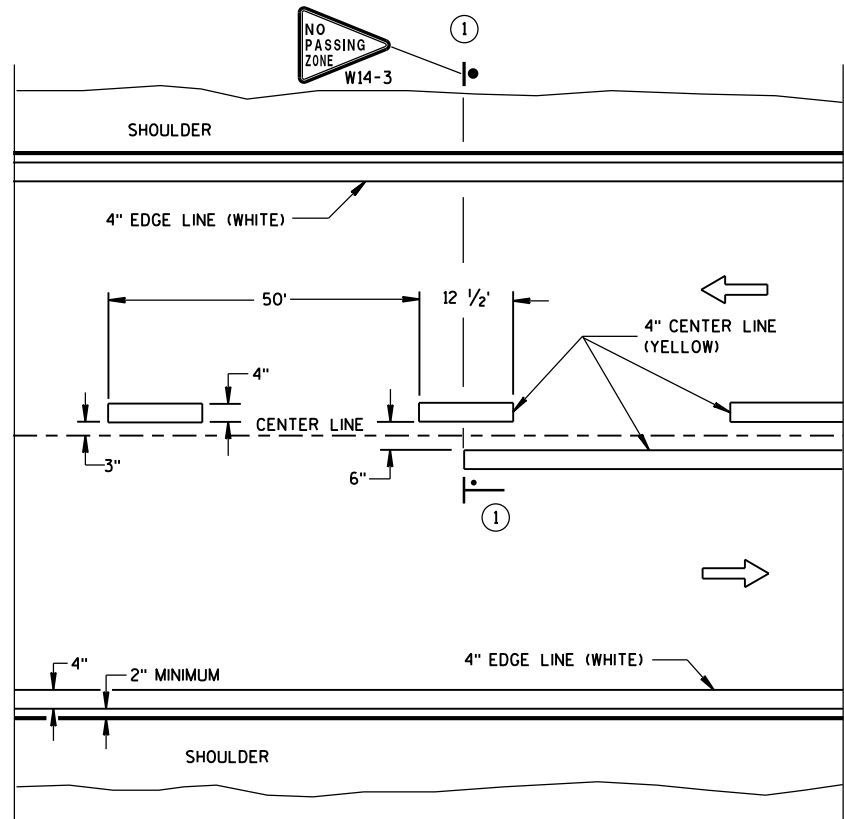


TYPE 5 LANE DROP ARROW

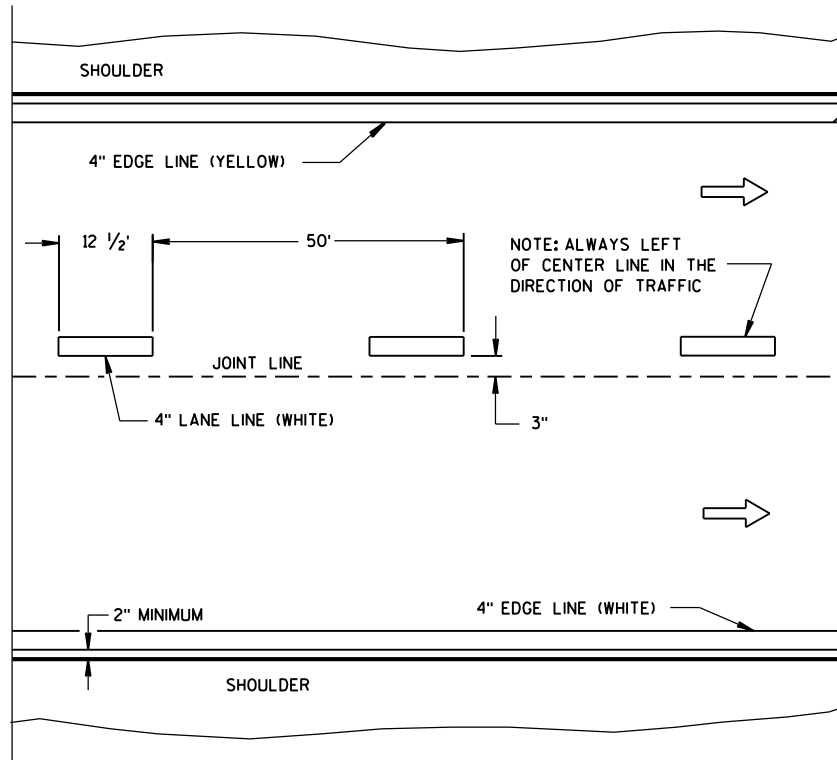
PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 /S/ Matthew R. Rauch
DATE STATE SIGNING AND MAR 43
FHWA VER

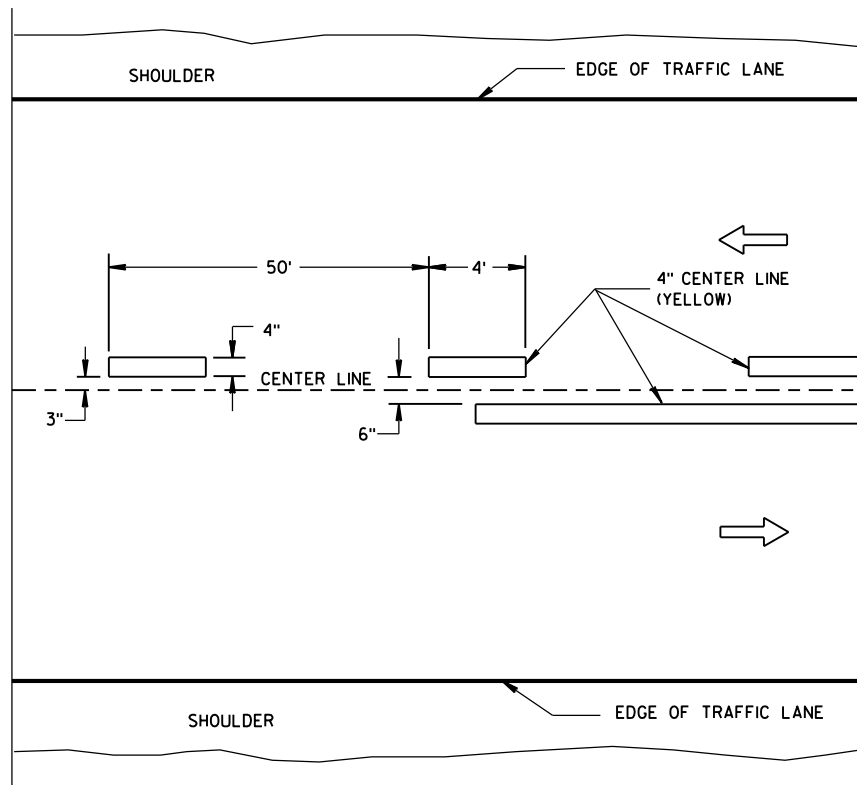


TWO WAY TRAFFIC

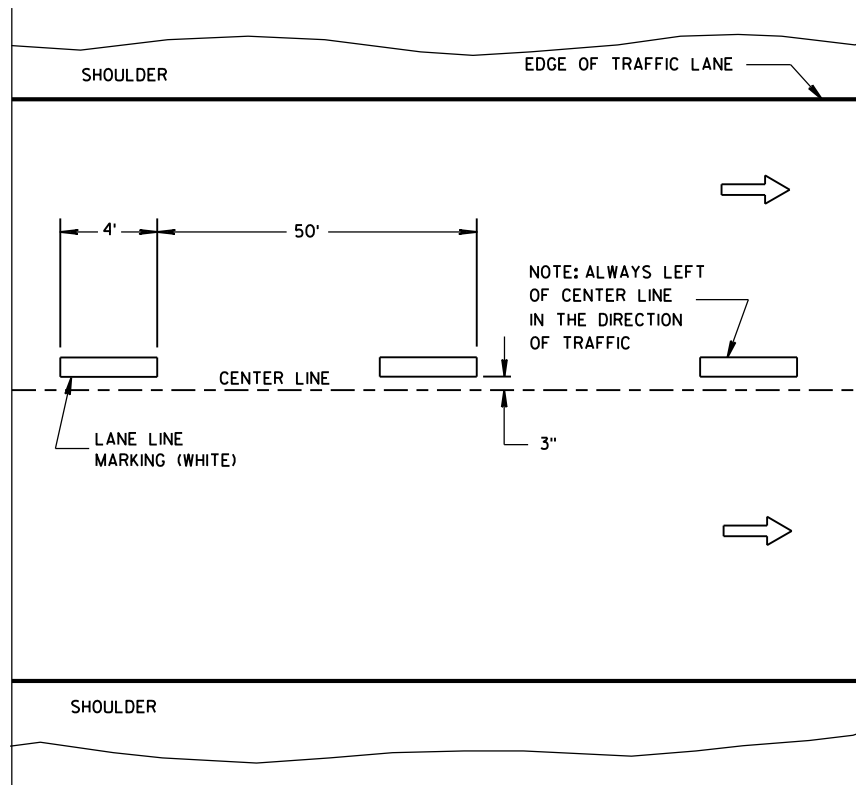


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

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

① LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING.

NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL

LEGEND

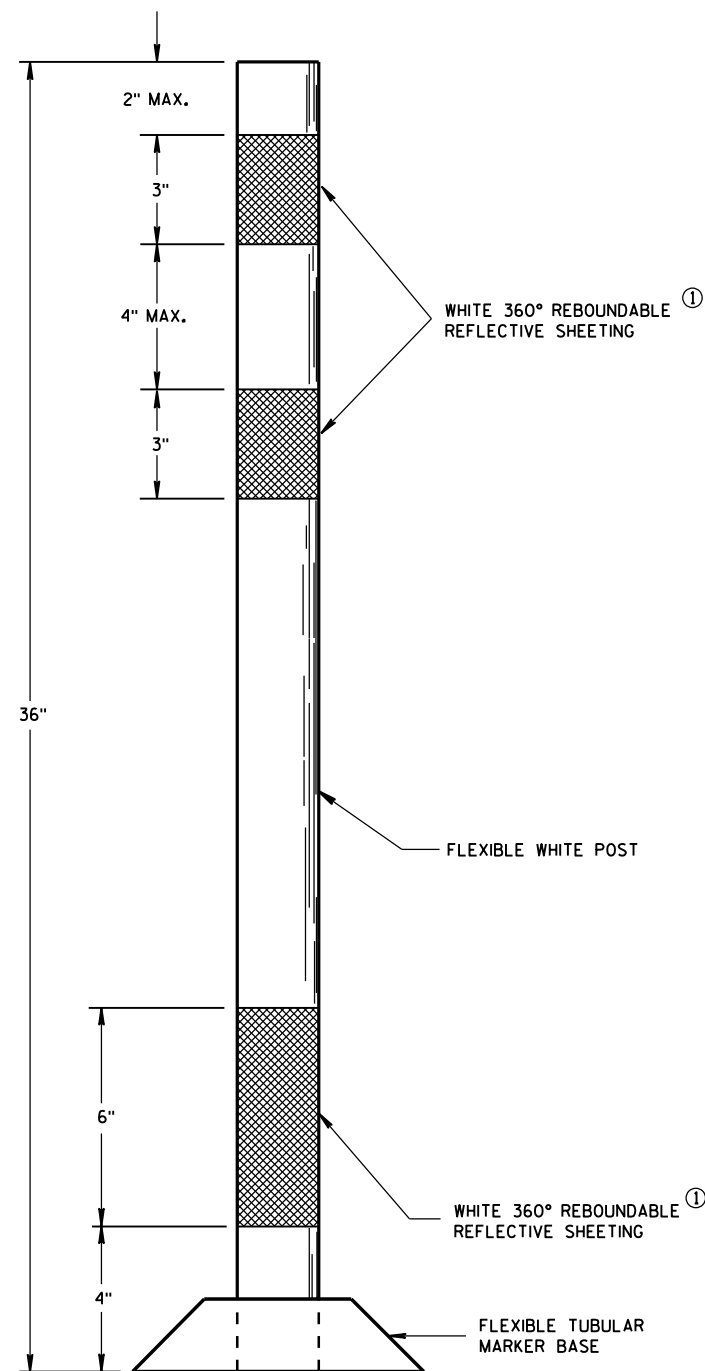
—•—"T" MARKING

● POST MOUNTED SIGN

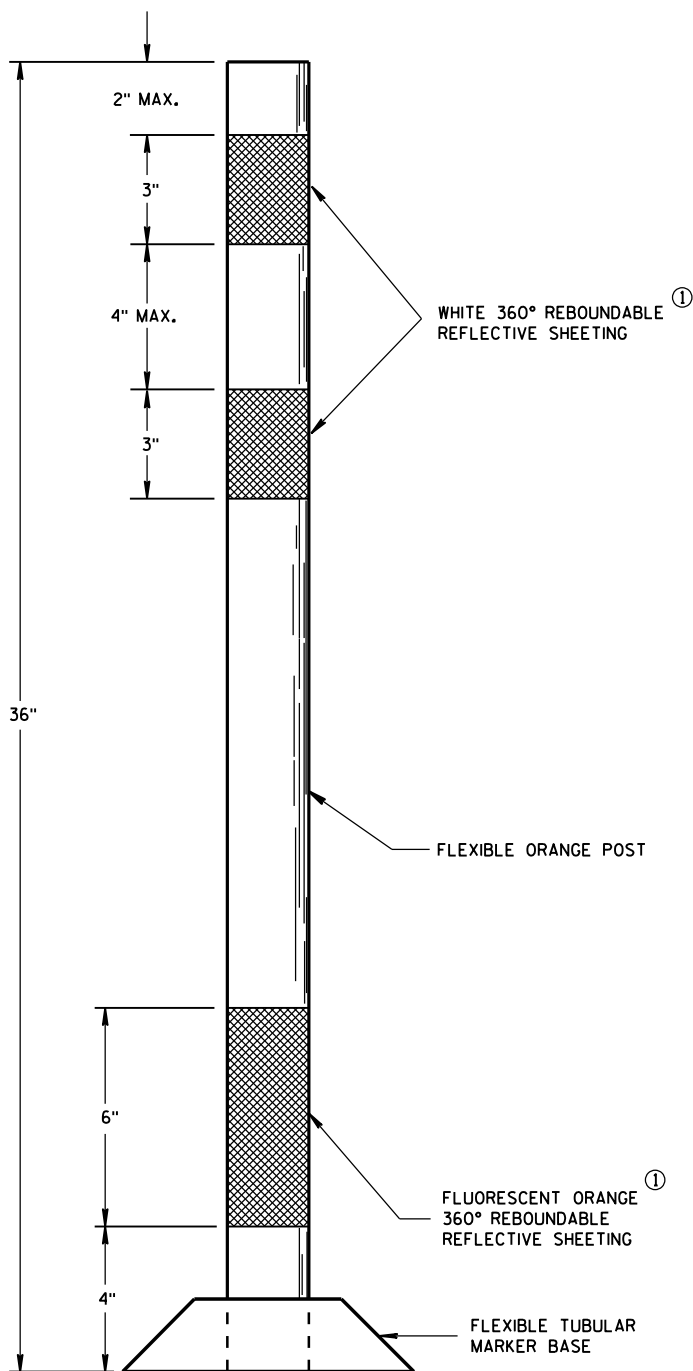
LONGITUDINAL MARKING
(MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 /S/ Matthew R. Rauch
DATE STATE SIGNING AND MAP 44 ENGINEER
FHWA



**FLEXIBLE
TUBULAR MARKER POST
PERMANENT CROSSOVER**



**FLEXIBLE
TUBULAR MARKER POST
WORK ZONE**

GENERAL NOTES

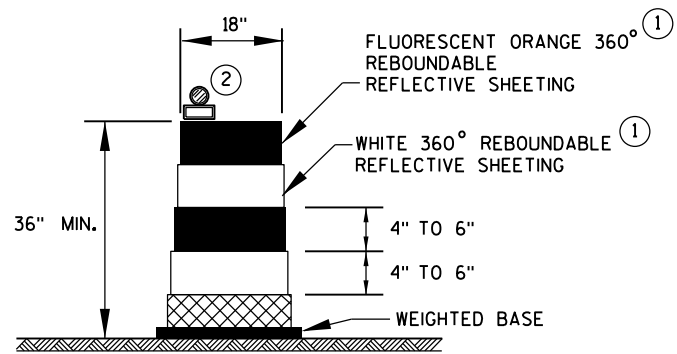
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST FOUNDATION WHEN SECURED TO THE PAVEMENT.

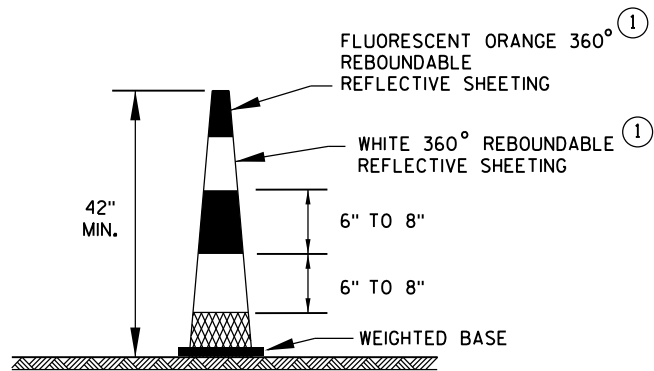
THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS, UNLESS DIRECTED BY THE ENGINEER TO USE BOLTS.

- ① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

CHANNELIZING DEVICES FLEXIBLE TUBULAR MARKER POST		
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION		
APPROVED		
June 2017	/S/ Andrew Heidtke	
DATE	WORK ZONE ENGINEER	45
FHWA		



DRUM

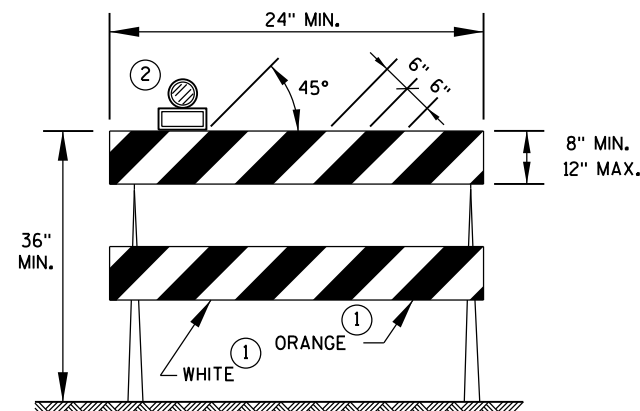


42" CONE

DO NOT USE IN TAPERS
1/2 SPACING OF DRUMS

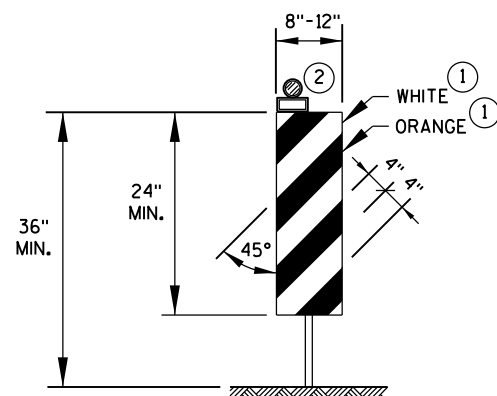
GENERAL NOTES

- 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.



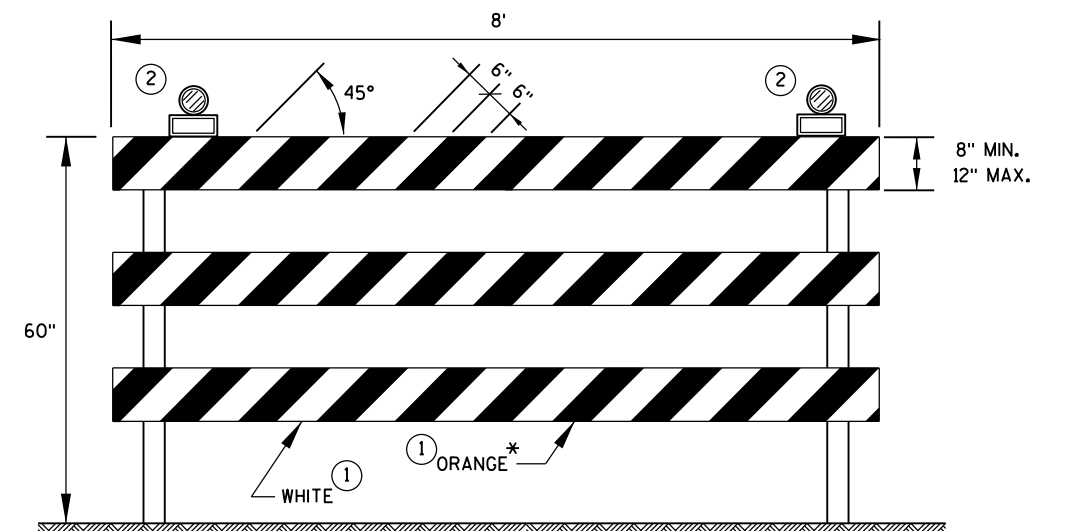
TYPE 2 BARRICADE

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



VERTICAL PANEL

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

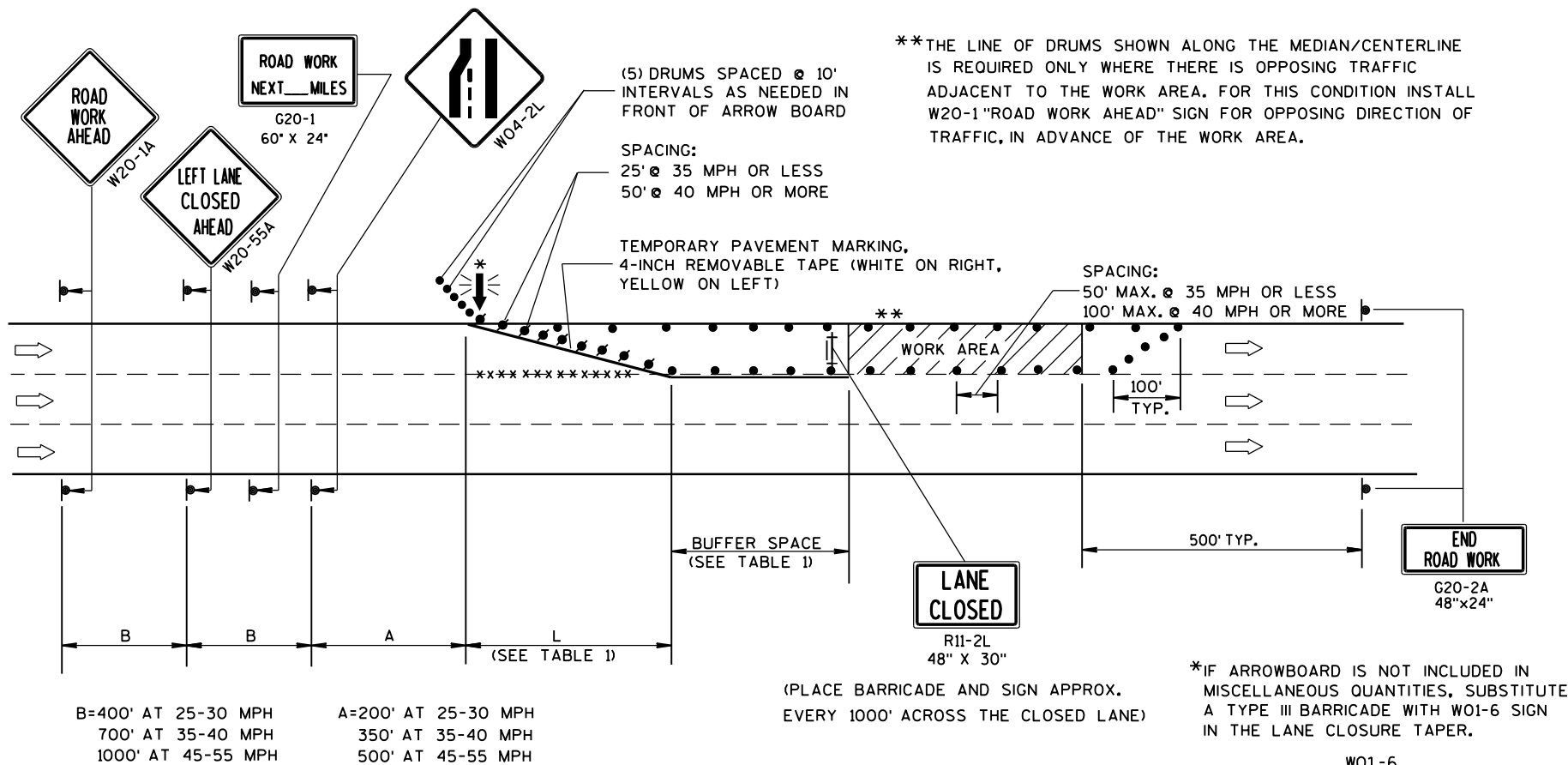


TYPE 3 BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION, USE RED SHEETING.

CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/S/ Andrew Heidtke WORK ZONE ENG 46
FHWA	



GENERAL NOTES

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

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

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

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

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

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

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

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

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

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

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

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

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

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

TABLE 1
TAPER AND BUFFER SPACE
FOR 12' LANE WIDTH

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

FOR LANE WIDTH OTHER THAN 12':

L = WS AT 45 MPH OR GREATER

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

L = TAPER LENGTH IN FEET

S = NON-CONSTRUCTION SPEED LIMIT (MPH)

W = WIDTH OF LANE CLOSURE

LEGEND

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

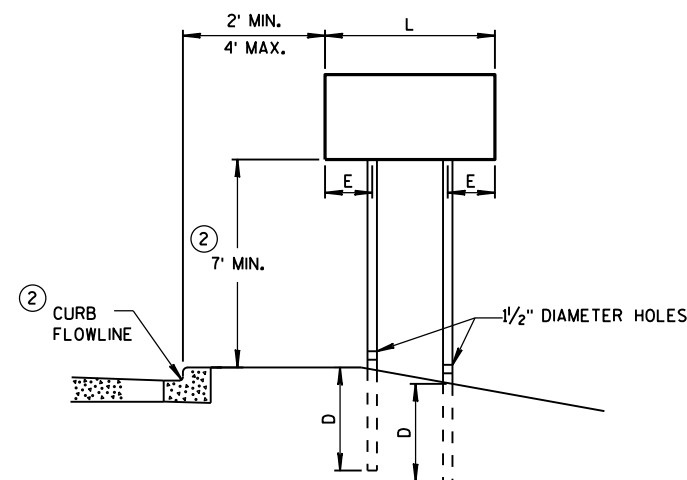
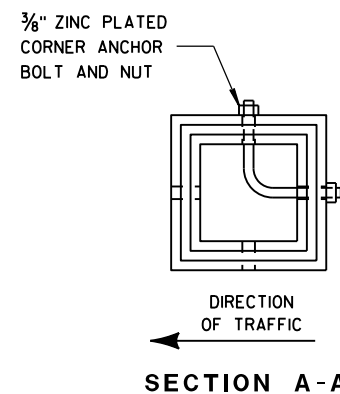
TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY		
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION		
APPROVED June 2016	/S/ Peter Amakobe Atepe	
DATE	STATEWIDE WORK ZONE	IC
FHWA	SAFETY ENGIN	47



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

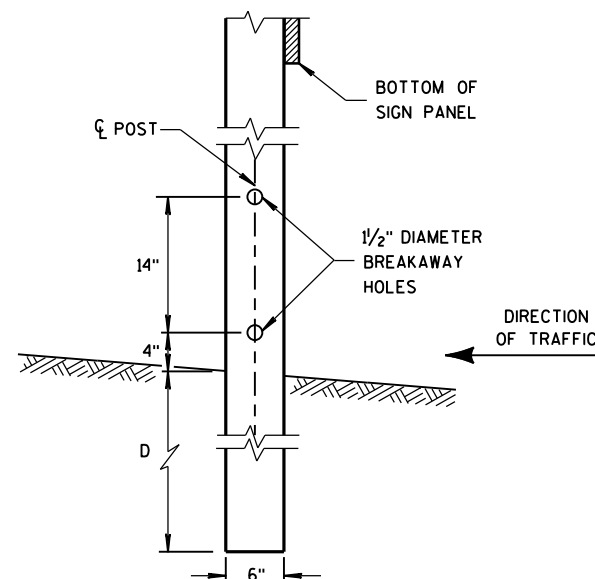


URBAN AREA

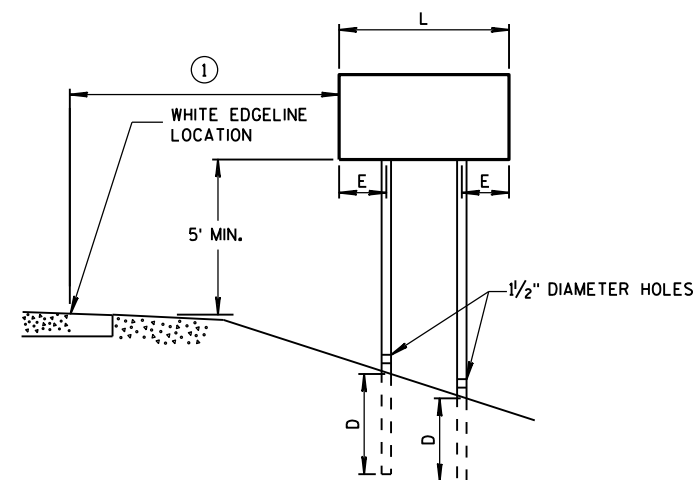
POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

WOOD POST
EMBEDMENT DEPTH

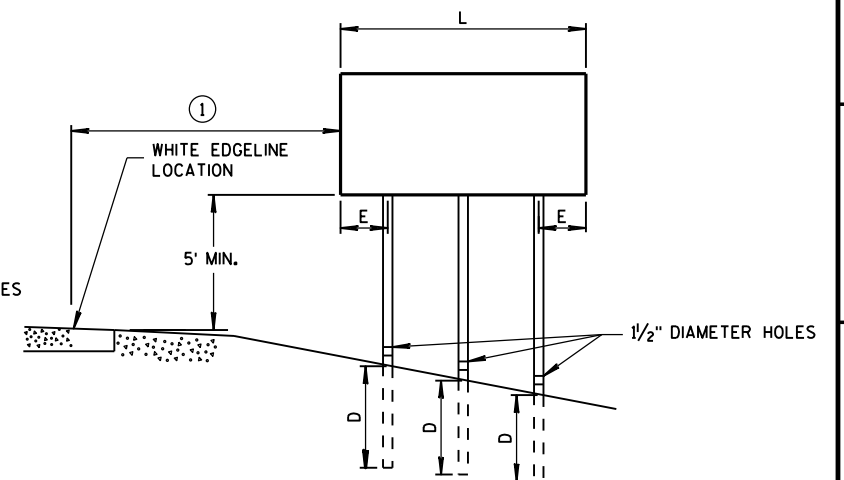
AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'



4"x6" WOOD POST MODIFICATION



RURAL AREA



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.

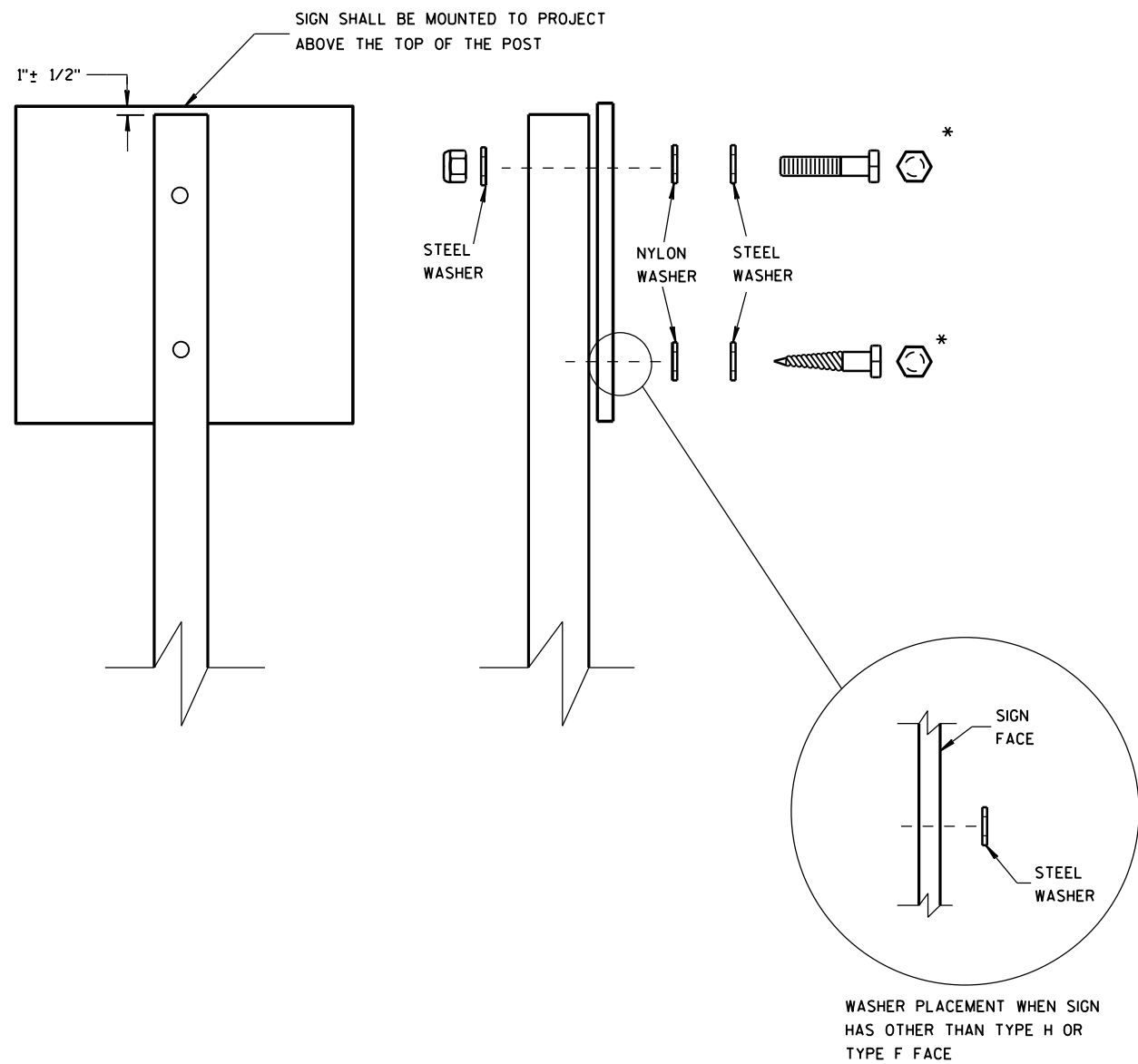
4" X 6" WOOD POST

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 TRANSPORTATION⁴⁸



NUTS, BOLTS AND LAGS USED FOR MOUNTING SIGNS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

- A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3
- B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - 3/8" x 3"
 - MACHINE BOLTS - 5/16" x 6-1/2" OR 7" LENGTH W/ NUTS

- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - 3/8" x 3-1/4" LENGTH W/ NUTS
 - RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

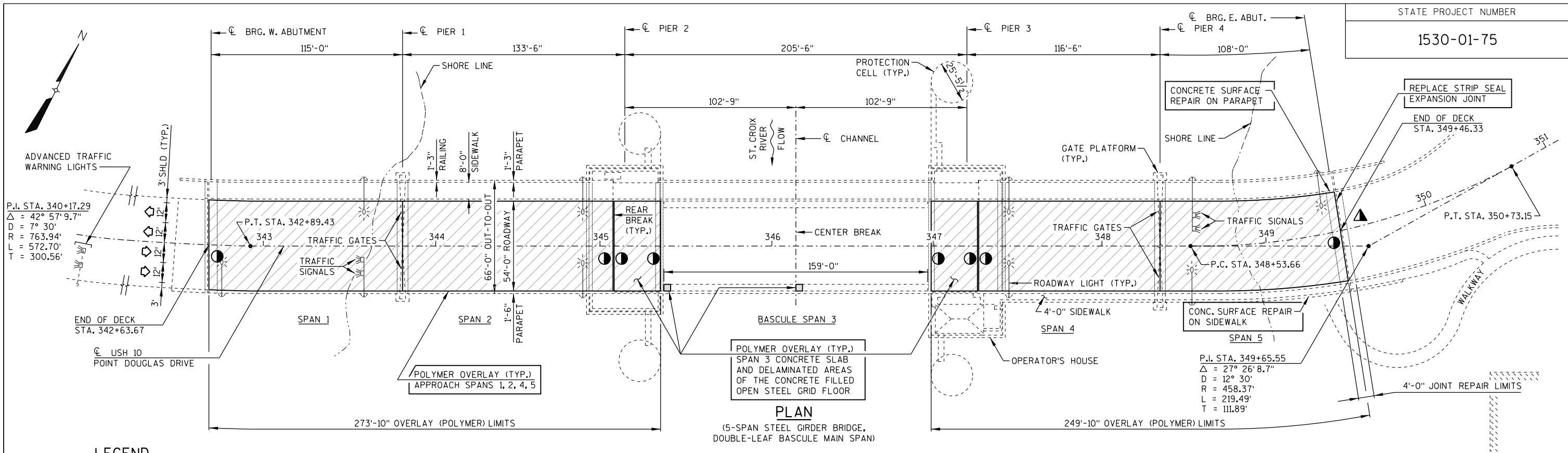
- WASHERS (ALL POSTS) -
- 1-1/4" O.D. x 3/8" I.D. x 1/16" STEEL
 - 1-1/4" O.D. x 3/8" I.D. x .080 NYLON FOR ALL TYPE H SIGNS

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

ATTACHMENT OF SIGNS TO POSTS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/S/ Andrew Heidtke WORK ZONE ENC 49
FHWA	

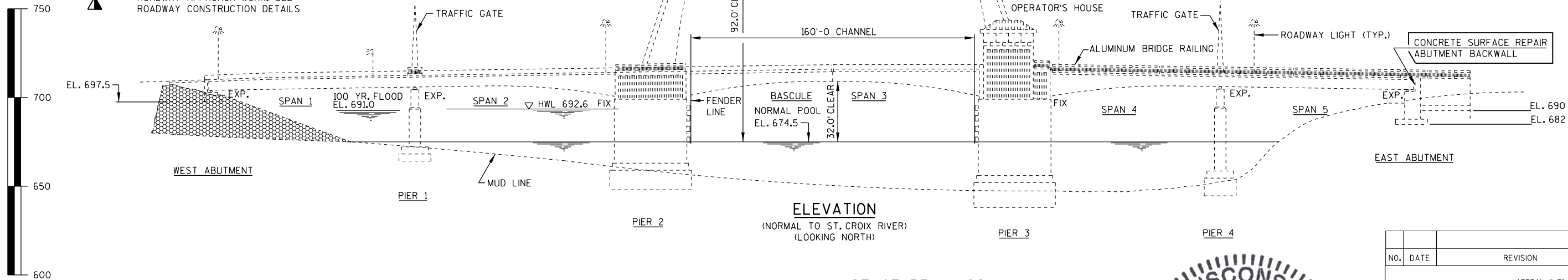
FILE NAME: \\S102K306\projects\Transportation\WisDOT\design\MC_2016-18\Work Order 5 Prescott\1900 Working Docs CAD\CADD\Sheets\01 General Plan and Elevation.dgn
PLOT DATE: 1/25/2018
PLOT TIME: 2:22:17 PM

8



LEGEND

- POLYMER OVERLAY
- POLYMER OVERLAY TRANSITION AREA. TYPICAL AT JOINTS AND BREAKS.
- ROADWAY APPROACH WORK. SEE ROADWAY CONSTRUCTION DETAILS



ELEVATION

(NORMAL TO ST. CROIX RIVER)
(LOOKING NORTH)

LIST OF DRAWINGS

1. GENERAL PLAN AND ELEVATION
2. GENERAL NOTES AND QUANTITIES
3. TYPICAL SECTION APPROACH SPANS 1, 2, 4, & 5
4. TYPICAL SECTION BASCULE SPAN 3
5. COUNTERWEIGHT CONCRETE REPAIR DETAILS 1
6. COUNTERWEIGHT CONCRETE REPAIR DETAILS 2
7. COUNTERWEIGHT ADJUSTMENT
8. COUNTERWEIGHT PIT FLOOR REPAIR
9. COUNTERWEIGHT FLASHING
10. EXPANSION JOINT (1 OF 2)
11. EXPANSION JOINT (2 OF 2)
12. BAR SPlicer (COUPLER) DETAILS
13. PAINTING DETAILS



STRUCTURES DESIGN CONTACTS

NW REGION CONTACT - MATTHEW PFEIFER (715) 855-7667
BUREAU OF STRUCTURES CONTACT - WILLIAM DREHER (608) 266-8489
CONSULTANT CONTACT - MICHAEL DELEMONT (414) 944-6200

STATE PROJECT NUMBER

1530-01-75

NO.	DATE	REVISION	BY
AECOM 1555 North Rivercenter Drive, Suite 214 Milwaukee, WI 53212 (414) 944-6080			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED	William C. Dreher	SR	02/16/18
CHIEF STRUCTURES DESIGN ENGINEER DATE			
STRUCTURE B-47-40			
USH 10 ST. CROIX RIVER BRIDGE			
COUNTY	PIERCE	TOWN/CITY/VILLAGE	PRESCOTT
DESIGN SPEC. REHABILITATION N/A			
DESIGNED DNJ	DESIGN CK'D.	MAD	DRAWN DNJ
BY			PLANS CK'D. MAD
GENERAL PLAN AND ELEVATION			SHEET 1 OF 13 50

8

PRINTER DRIVER: G:\acm-CAD\tds\Libraries\WISDOT\MicroStation\Resources\MS-Printing\Printer_Drivers\AE_PDF_11 x 17.plt
PEN TABLE: G:\acm-CAD\tds\Libraries\WISDOT\MicroStation\Resources\MS-Printing\pen_tables\AE_WISDOT_B-44-081.tbl

FILE NAME: \\S1102X306\projects\Transportation\WisDOT_design\MC_2016-18\Work_Order_5_Prescott\9000_Working_Docs\CAD\CADD\Sheets\02_General_Notes_and_Quantities.dgn
PLOT DATE: 1/25/2018 PLOT TIME: 2:22:18 PM BATCH PRINT SHEET 2 OF 13

TOTAL ESTIMATED QUANTITIES

BID ITEM NO.	BID ITEM DESCRIPTION	UNIT	SUPER- STRUCTURE	WEST ABUTMENT	PIER 1	PIER 2	PIER 3	PIER 4	EAST ABUTMENT	STRUCTURE TOTAL
502.3100	EXPANSION DEVICE B-47-40	LS	-	-	-	-	-	-	-	1
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-	-	-	-	-	-	7	7
502.3210	PIGMENTED SURFACE SEALER	SY	6	-	-	-	-	-	-	6
502.4204	ADHESIVE ANCHORS NO. 4 BAR	EACH	336	-	-	-	-	-	-	336
502.4205	ADHESIVE ANCHORS NO. 5 BAR	EACH	-	-	-	-	-	-	55	55
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	480	-	-	-	-	-	-	480
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1770	-	-	-	-	-	-	1,770
505.0905	BAR COUPLERS NO. 5	EACH	-	-	-	-	-	-	6	6
505.0906	BAR COUPLERS NO. 6	EACH	16	-	-	-	-	-	-	16
509.0301	PREPARATION DECKS TYPE 1	SY	155	-	-	-	-	-	-	155
509.0302	PREPARATION DECKS TYPE 2	SY	62	-	-	-	-	-	-	62
509.0310.S	SAWING PAVEMENT DECK PREPARATION AREAS	LF	1,550	-	-	-	-	-	-	1,550
509.1000	JOINT REPAIR	SY	24	-	-	-	-	-	-	24
509.1500	CONCRETE SURFACE REPAIR	SF	674	-	-	-	-	-	24	698
509.2000	FULL-DEPTH DECK REPAIR	SY	8	-	-	-	-	-	-	8
509.2100.S	CONCRETE MASONRY DECK REPAIR	CY	21	-	-	-	-	-	-	21
509.5100.S	POLYMER OVERLAY	SY	3,085	-	-	-	-	-	-	3,085
509.9020.S	EPOXY CRACK SEALING	LF	-	-	-	200	200	-	-	400
517.3000.S	STRUCTURE OVERCOATING CLEANING AND PRIMING B-47-40	LS	-	-	-	-	-	-	-	1
517.4000.S	CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-47-40	LS	-	-	-	-	-	-	-	1
690.0250	SAWING CONCRETE	LF	60	-	-	57	57	-	-	174
SPV.0035.01	CONCRETE MASONRY COUNTERWEIGHT PIT FLOOR REPAIR	CY	-	-	-	14	14	-	-	28
SPV.0060.01	EMBEDDED GALVANIC ANODES	EACH	672	-	-	-	-	-	-	672
SPV.0070.01	COUNTERWEIGHT PROTECTIVE COATING	GAL	122	-	-	-	-	-	-	122
SPV.0085.01	STAINLESS STEEL FLASHING	LB	650	-	-	-	-	-	-	650
SPV.0105.01	COUNTERWEIGHT CALCULATIONS AND SPAN BALANCING	LS	-	-	-	-	-	-	-	1
SPV.0180.01	PREPARATION COUNTERWEIGHT PIT FLOORS	SY	-	-	-	84	84	-	-	168
SPV.0180.02	POLYMER OVERLAY COUNTERWEIGHT PIT FLOOR	SY	-	-	-	185	184	-	-	369
NON-BID ITEMS										
	NON-BITUMINOUS JOINT SEALER									

GENERAL NOTES

THE SCOPE OF WORK INCLUDED IN THIS PROJECT CONSISTS OF CONCRETE SURFACE REPAIR ON THE COUNTERWEIGHTS,INCLUDING CATHODIC PROTECTION, AND PLACING SURFACE SEALANT ON THE COUNTERWEIGHT CONCRETE; CONCRETE REPAIR AND POLYMER OVERLAY OF THE COUNTERWEIGHT PIT FLOOR; EPOXY SEALING CRACKS IN THE COUNTERWEIGHT PIT/ INTERIOR PIER WALLS; LOCALIZED PAINTING OF THE REAR SPAN LOCKS AND OTHER INTERIOR AREAS OF THE BASCULE PIERS AS DETERMINED BY THE ENGINEER; INSTALLING STAINLESS STEEL FLASHING OVER THE COUNTERWEIGHTS MOUNTED AT THE REAR BREAK WITH THE PURPOSE OF DEFLECTING WATER AWAY FROM THE COUNTERWEIGHT CONCRETE; CONCRETE SURFACE REPAIRS ON THE PARAPET, SIDEWALK AND EAST ABUTMENT BACKWALL; REPLACEMENT OF THE EAST STRIP SEAL EXPANSION JOINT; AND POLYMER OVERLAY OF APPROACH SPANS 1,2,4, 5 AND CONCRETE SLAB SECTIONS OF SPAN 3.

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS AND ELEVATIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS AND NOT "AS-BUILT" DIMENSIONS AND ELEVATIONS. REFERENCE THE ORIGINAL PLANS FOR ADDITIONAL INFORMATION.

DECK SURFACE PREPARATION IS INCLUDED IN THE BID ITEM "POLYMER OVERLAY."

AREAS OF "PREPARATION DECKS TYPE 1" SHALL BE DEFINED BY A SAW CUT.

BEVEL EDGES OF EXPOSED CONCRETE TO MATCH EXISTING BEVELS UNLESS OTHERWISE NOTED.

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, AND FULL-DEPTH DECK REPAIR AREAS ARE DETERMINED BY THE ENGINEER. DECK PREPARATION AND FULL-DEPTH DECK REPAIRS SHALL BE FILLED WITH "CONCRETE MASONRY DECK REPAIR."

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

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

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

EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE SHALL BE PAID FOR IN THE LUMP SUM PRICE BID AS "EXPANSION DEVICE B-47-40."

NEW CONCRETE AT JOINT REPAIR IS PAID FOR AS "CONCRETE MASONRY DECK REPAIR."

ANY EXCAVATION REQUIRED TO COMPLETE THE PAVING BLOCK AT THE EAST ABUTMENT IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY DECK REPAIR."

ANY SPACES NOT OCCUPIED BY THE NEW CONSTRUCTION SHALL BE BACKFILLED WITH STRUCTURE BACKFILL AND IS CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY DECK REPAIR."

"PROTECTIVE SURFACE TREATMENT" SHALL BE APPLIED TO THE TOP OF NEW CONCRETE ON THE EAST ABUTMENT PAVING BLOCK BETWEEN THE PARAPETS. APPLY PROTECTIVE SURFACE TREATMENT AFTER THE POLYMER OVERLAY ON THE DECK HAS BEEN COMPLETED.

"PIGMENTED SURFACE SEALER" SHALL BE APPLIED TO THE TOP, INSIDE AND OUTSIDE FACES OF NEW CONCRETE ON THE PARAPETS AT THE EAST ABUTMENT STRIP SEAL REPAIR SURFACES.

TRAFFIC CONTROL DEVICES ON THE MOVABLE SPAN MUST BE SECURED TO THE SPAN TO ACCOMMODATE OPENING. USE SUITABLE DEVICES TO SECURE THE TRAFFIC CONTROL DEVICES TO THE MOVABLE SPAN THAT WILL NOT CAUSE DAMAGE TO THE STRUCTURE.

WORK WILL BE STAGED. CONSTRUCTION OF THE EAST STRIP SEAL EXPANSION JOINT WILL BE COMPLETED IN THREE STAGES. SEE ROADWAY PLANS FOR COMPLETE PROJECT STAGING DETAILS. NO SPLICES IN THE NEW NEOPRENE STRIP SEAL ARE ALLOWED.

BRIDGE OPENINGS WILL BE REQUIRED FOR NAVIGATION ON THE ST. CROIX RIVER DURING CONSTRUCTION. ALL WORK REQUIRING THE MOVABLE LEAVES TO BE STATIONARY MUST BE PERFORMED IN THE NON-NAVIGATION SEASON, NOV. 1 THRU MARCH 31.

STATE PROJECT NUMBER

1530-01-75

DESIGN DATA

LIVE LOAD: (TAKEN FROM HSI: 11/21/2017)
DESIGN LOADING: HS-20
INVENTORY RATING: HS-21
OPERATING RATING: HS-30
WISCONSIN STANDARD PERMIT VEHICLE (Wis-SPV) = 190 KIPS

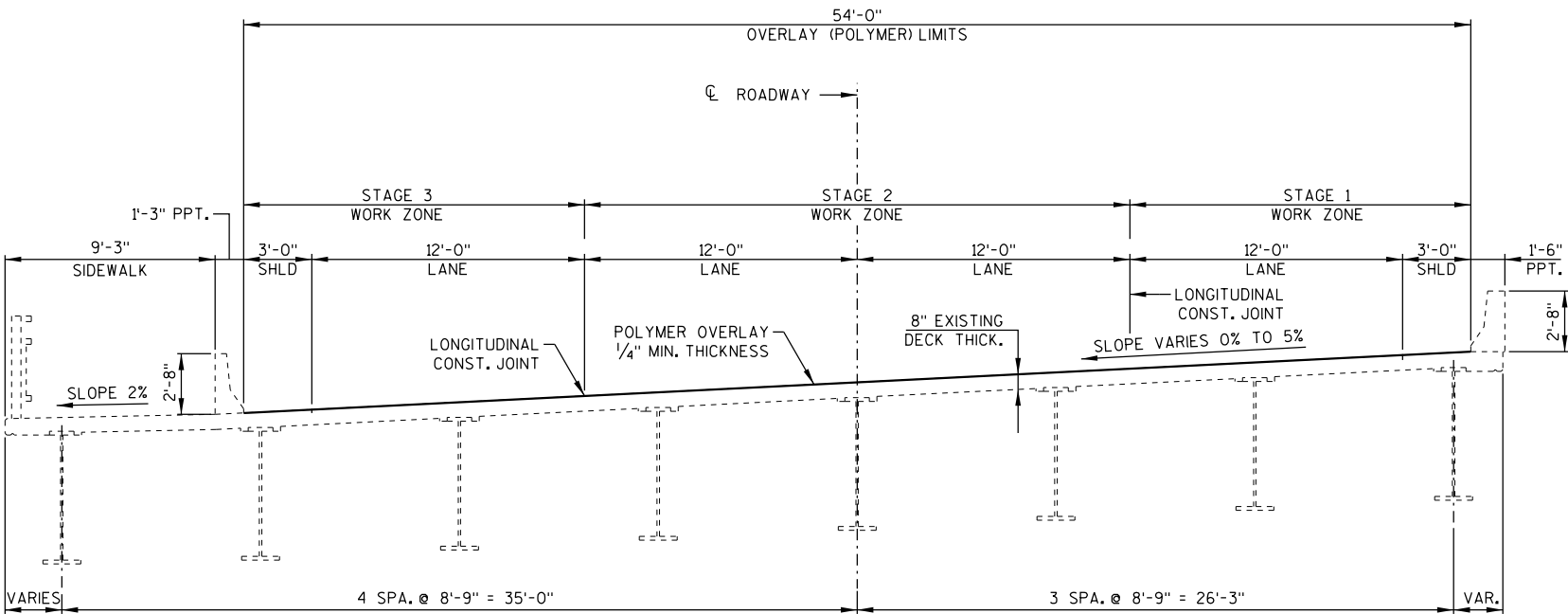
MATERIAL PROPERTIES

CONCRETE MASONRY:
SUPERSTRUCTURE _____ f'c = 4,000 PSI
ALL OTHER _____ f'c = 3,500 PSI
BAR STEEL REINFORCEMENT, GRADE 60 _____ fy = 60,000 PSI

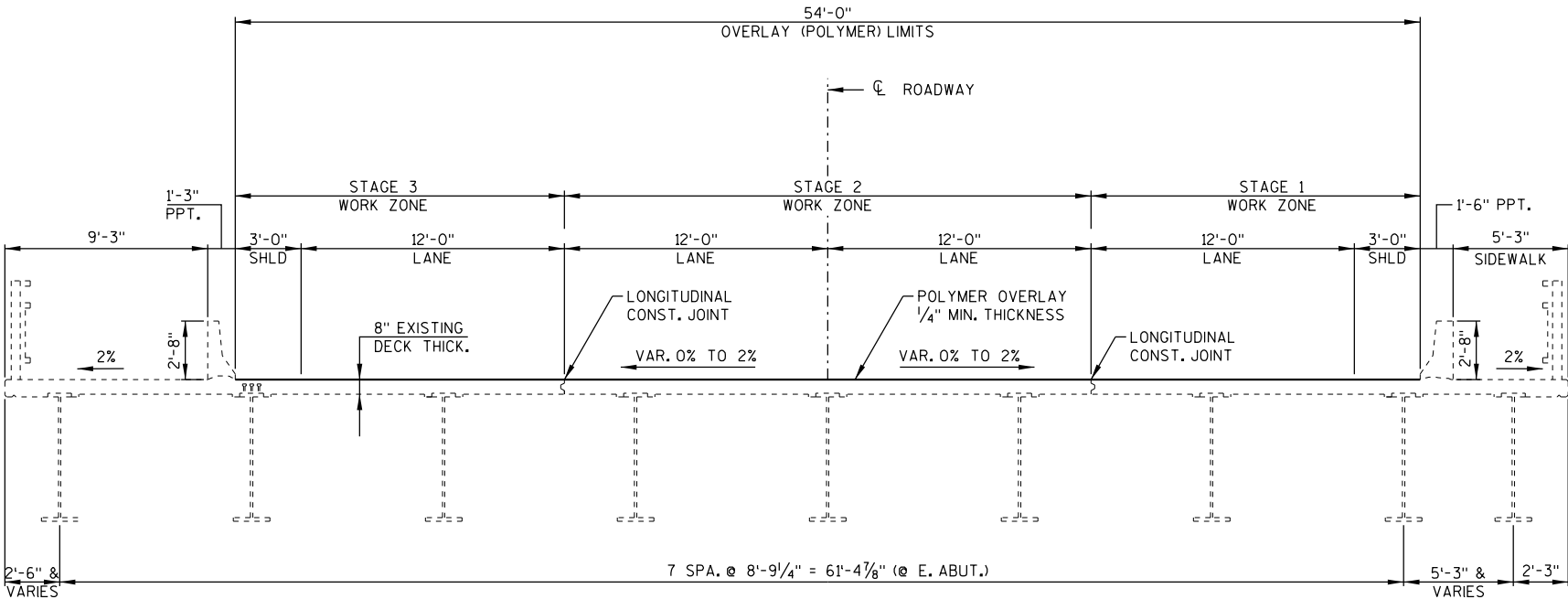
TRAFFIC DATA

USH 10
A.D.T. (2018) = 14,600
A.D.T. (2038) = 16,900
R.D.S. = 35 MPH

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-47-40			
	DRAWN BY	DNJ	PLANS CK'D. MAD
GENERAL NOTES AND QUANTITIES		SHEET 2 OF 13	
		51	



CROSS SECTION THROUGH ROADWAY
LOOKING EAST AT SPANS 1 & 2



CROSS SECTION THROUGH ROADWAY
LOOKING EAST AT SPANS 4 & 5

NOTES

SEE ROADWAY PLANS FOR COMPLETE
PROJECT STAGING DETAILS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-47-40			
DRAWN BY		DNJ	PLANS CK'D. MAD
TYPICAL SECTION APPROACH SPANS 1, 2, 4, & 5		SHEET 3 OF 13 52	



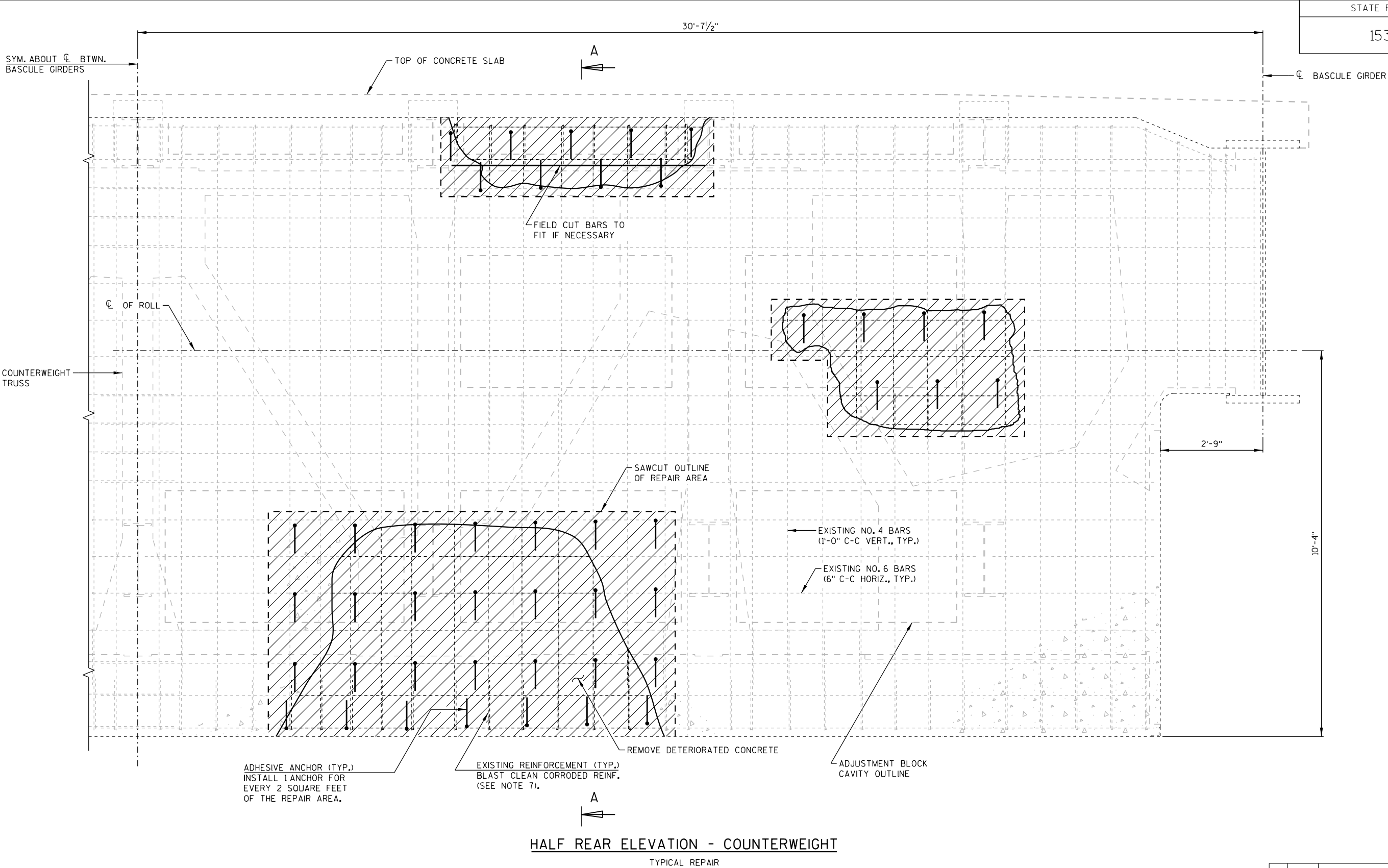
SEE ROADWAY PLANS FOR COMPLETE
PROJECT STAGING DETAILS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-47-40			
DRAWN BY		DNJ	PLANS CK'D. MAD
TYPICAL SECTION BASCULE SPAN 3		SHEET 4 OF 13	
		53	

PRINTER DRIVER: G:\acm-CAD\tds\Libraries\WISDOT\MicroStation\Resources\WS_Printing\Printer_Drivers\AE_PDF_11 x 17.plt
 PEN TABLE: G:\acm-CAD\tds\Libraries\WISDOT\MicroStation\Resources\WS_Printing\pen_tables\AE_WisDOT_B-44-080.tbl
 FILE NAME: \\SI102K306\projects\Transportation\WisDOT_design\MC_2016-18\Work_Order_5_Prescott\900_Working_Docs\CAD\CADD_Sheets\04_Typical Section\Bascledgn
 PLOT DATE: 1/25/2018 PLOT TIME: 2:22:20 PM BATCH PRINT SHEET 4 OF 13

PRINTER DRIVER: G:\acm-CAD\tds\Libraries\WISDOT\MicroStation\Resources\WS-Printing\Printer_Drivers\AE_PDF_11 x 17.plt
PEN TABLE: G:\acm-CAD\tds\Libraries\WISDOT\MicroStation\Resources\WS-Printing\pen_tables\AE_WSDOT_B-44-081.tbl
FILE NAME: \\S1102X306\projects\Transportation\WisDOT\design\M.C.2016-18\Work_Order_5_Prescott\1900_Working_Docs\CAD\CAD00\Sheets\05_Counterweight_Concrete_Repair.dgn
PLOT DATE: 1/25/2018 PLOT TIME: 2:22:21 PM BATCH PRINT SHEET 5 OF 13

8



NOTES

1. REINFORCING BARS ARE TO HAVE 2" MIN. COVER. BARS MAY BE BENT OR CUT IN THE FIELD TO FIT IF NECESSARY.

2. CARE SHALL BE TAKEN TO PREVENT VOIDS IN THE CONCRETE DURING POURING.

3. THE REAR AND BOTTOM CONCRETE SURFACES OF THE COUNTERWEIGHT SHALL BE GIVEN A PROTECTIVE COATING PAID FOR UNDER THE BID ITEM "COUNTERWEIGHT PROTECTIVE COATING."
4. THE COUNTERWEIGHT FORMS MUST BE ADEQUATELY SUPPORTED DURING THE POURING OF THE CONCRETE.

5. REPAIR AREAS SHOWN ARE CONCEPTUAL AND FOR REFERENCE ONLY. ACTUAL REPAIR AREAS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD. PROVIDE ADEQUATE ACCESS FOR THE REPAIR AREA DETERMINATION AND INSPECTION.

6. ALL REPAIR AREAS SHALL BE DEFINED BY A 1/2" SAWCUT.
7. BLAST CLEAN CORRODED REINFORCEMENT. REMOVE SECTIONS OF CORRODED REINFORCEMENT EXHIBITING A REDUCTION IN BAR DIAMETER GREATER THAN 1/8" $\pm$. REPLACE REMOVED SECTION WITH NEW BAR. USE BARS AND ANCHORS FROM THE "BILL OF BARS" TABLE ON SHEET 6.

8. SUPPLEMENTAL BAR REINFORCEMENT IS PAID FOR UNDER BID ITEM "BAR STEEL REINFORCEMENT HS STRUCTURES." ADHESIVE ANCHORS ARE PAID UNDER THE BID ITEM "ADHESIVE ANCHORS NO. 4 BAR."
9. USE CAUTION WHEN DRILLING FOR ANCHORS TO NOT DRILL INTO THE COUNTERWEIGHT TRUSS.

10. PLACE GALVANIC ANODES AT EACH REPAIR LOCATION. SEE SHEET 6 FOR ADDITIONAL DETAILS ON GALVANIC ANODES.

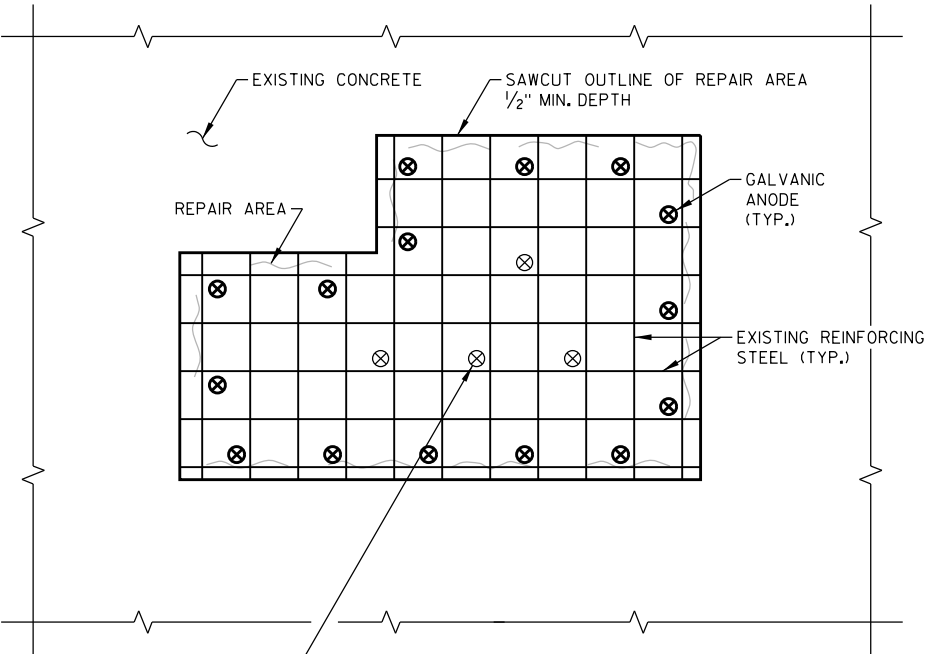
11. SEE SHEET 6 FOR SECTION A-A.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-47-40			
DRAWN BY		DNJ	PLANS CK'D. MAD
COUNTERWEIGHT CONCRETE REPAIR DETAILS 1		SHEET 5 OF 13 54	

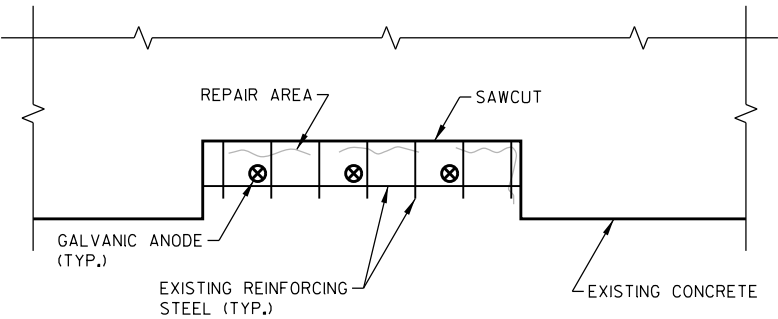
8

PRINTER DRIVER: G:\acm-CAD\tds.Libraries\WISDOT\MicroStation\Resources\MS-Printing\Printer_Drivers\AE_PDF_11 x 17.plt
PEN TABLE: G:\acm-CAD\tds.Libraries\WISDOT\MicroStation\Resources\MS-Printing\pen_tables\AE_WsDOT_B-44-081.tbl

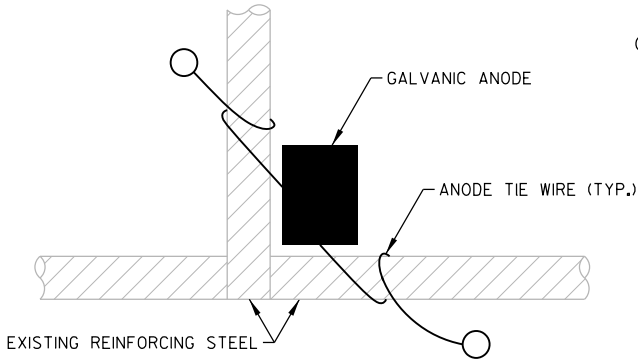
FILE NAME: \\S102X306\projects\Transportation\WisDOT\design\M.C.2016-18\Work_Order_5_Prescott\900_Working_Docs\CAD\CADD\Sheets\06_Counterweight_Concrete_Repair_2.dgn
PLOT DATE: 1/25/2018 PLOT TIME: 2:22:28 PM BATCH PRINT SHEET 6 OF 13



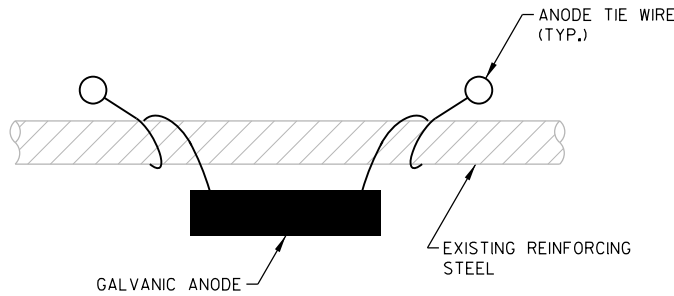
PLACE GALVANIC ANODES AT INTERIOR OF REPAIR WHEN REINFORCING STEEL IS IN CONTACT WITH THE EXISTING CONCRETE AT THE BOTTOM OF THE REPAIR



PART PLAN TYPICAL REPAIR DETAIL



TYPICAL INSTALLATION AT BAR STEEL INTERSECTION



TYPICAL INSTALLATION FOR BAR STEEL

BILL OF BARS - MISCELLANEOUS

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	LOCATION
M401		336	1'-5"	X	ANCHOR - COUNTERWEIGHT AND CTWT PIT FLOOR
M402		10	4'-0"		COUNTERWEIGHT AND CTWT PIT FLOOR
M404		10	8'-0"		COUNTERWEIGHT AND CTWT PIT FLOOR
M406		10	12'-0"		COUNTERWEIGHT AND CTWT PIT FLOOR

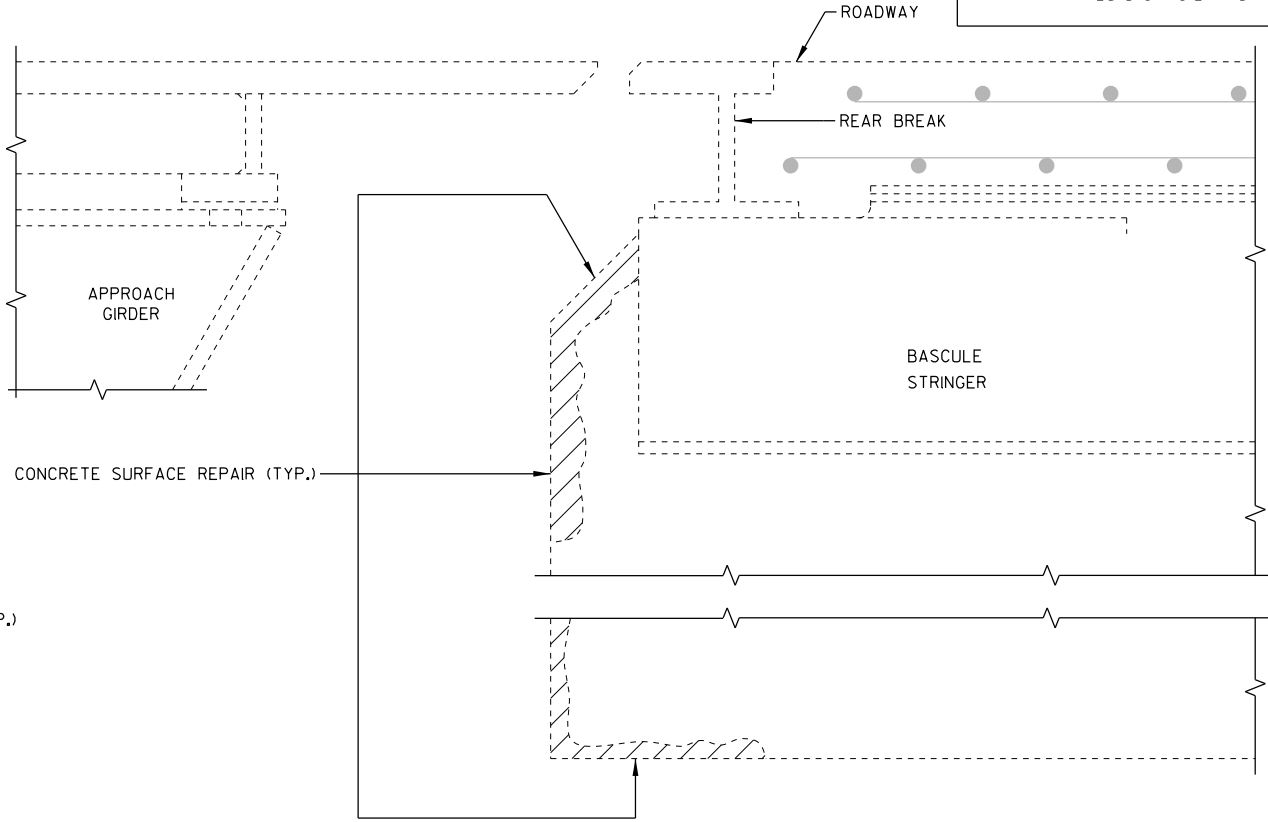
TOTAL WEIGHT = 480 LB

DIMENSIONS IN BENDING DETAILS ARE OUT-TO-OUT OF BAR.

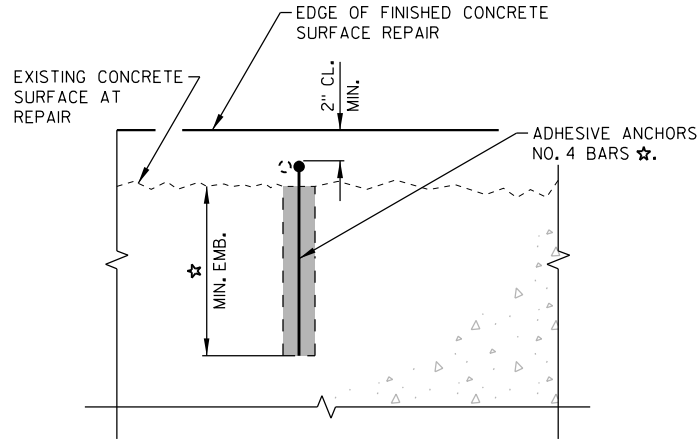
BAR QUANTITIES ARE APPROXIMATE. ACTUAL QUANTITY OF BARS USED WILL BE DETERMINED IN THE FIELD BASED ON THE CONDITION OF THE CONCRETE SURFACE REPAIR AT THE TIME THE WORK IS PERFORMED.

BARS MAY BE USED TO SUPPLEMENT DETERIORATED REINFORCEMENT IN THE COUNTERWEIGHTS, AND THE COUNTERWEIGHT PIT FLOORS.

TWO NO. 4 BARS MAY BE BUNDLED TOGETHER IF LARGER DIAMETER BARS ARE NECESSARY TO PROPERLY COMPLETE THE COUNTERWEIGHT PIT FLOOR REPAIRS. IF BUNDLED BARS ARE USED, TIE BUNDLED BARS TOGETHER IN MAXIMUM 2'-0" INCREMENTS.

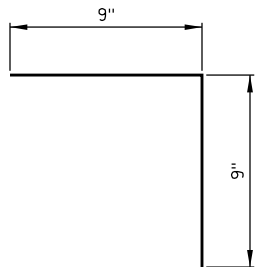


SECTION A-A
(SEE SHEET 5 FOR LOCATION)



ADHESIVE ANCHOR DETAIL

ANCHORS SHALL BE APPROVED FOR USE IN CRACKED CONCRETE.
★ NO. 4 BARS: EMBED ANCHORS 6" MIN.



M401

NOTES

EXISTING REINFORCING STEEL TO BE COMPLETELY CLEANED OF CORROSION PRIOR TO INSTALLATION OF GALVANIC ANODES.

EXISTING BAR STEEL REINFORCEMENT IS LIKELY TO BE CORRODED AND/OR DAMAGED DURING CONCRETE REMOVAL. PRESERVE AND INCORPORATE AS MUCH REBAR AS PRACTICAL. SUPPLEMENT WITH NEW BARS AND ADHESIVE ANCHORS. SEE SHEET 5 "COUNTERWEIGHT CONCRETE REPAIR DETAILS 1" FOR TYPICAL EXISTING BAR SIZES.

SEE SPECIAL PROVISION "EMBEDDED GALVANIC ANODES" FOR DESCRIPTION, MATERIALS, CONSTRUCTION, MEASUREMENT, AND PAYMENT INFORMATION.

ANODES NEAREST TO THE EDGE OF THE REPAIR TO BE WITHIN 6" OF THE EDGE.

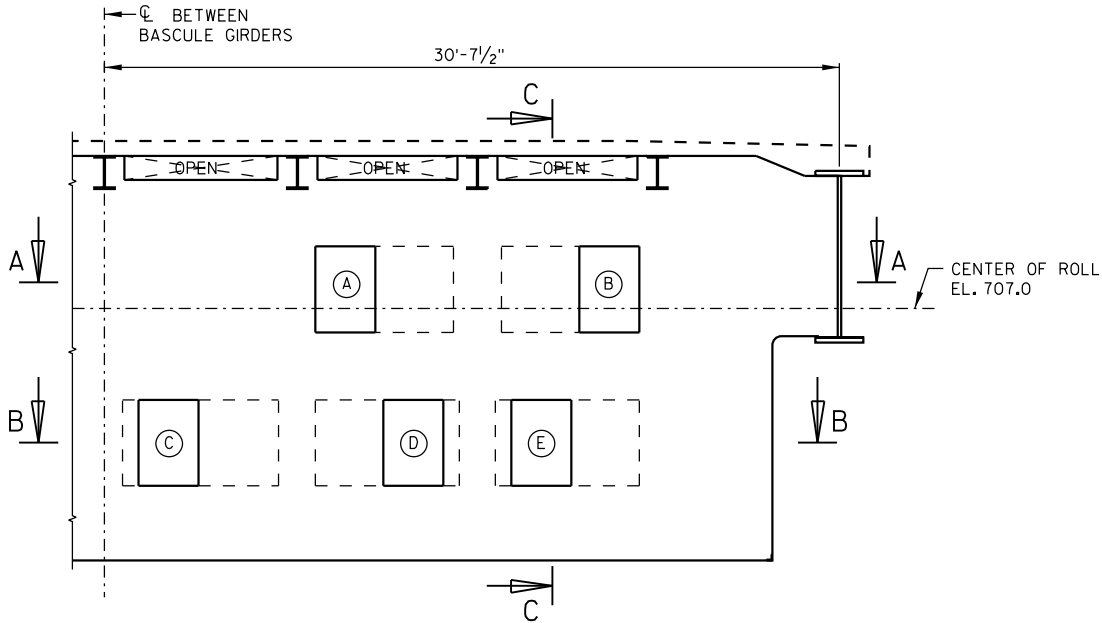
AFTER PLACEMENT, GALVANIC ANODES SHALL HAVE A MINIMUM TOP COVER OF 1 1/2" AND A MINIMUM BOTTOM COVER OF 3/4".

STATE PROJECT NUMBER

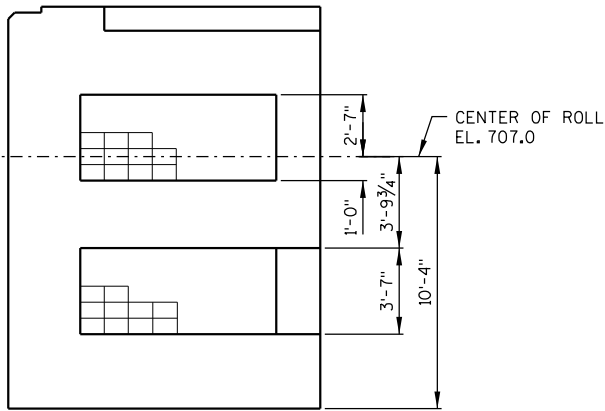
1530-01-75

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-47-40			
DRAWN BY		DNJ	PLANS CK'D. MAD
COUNTERWEIGHT CONCRETE REPAIR DETAILS 2		SHEET 6 OF 13 55	

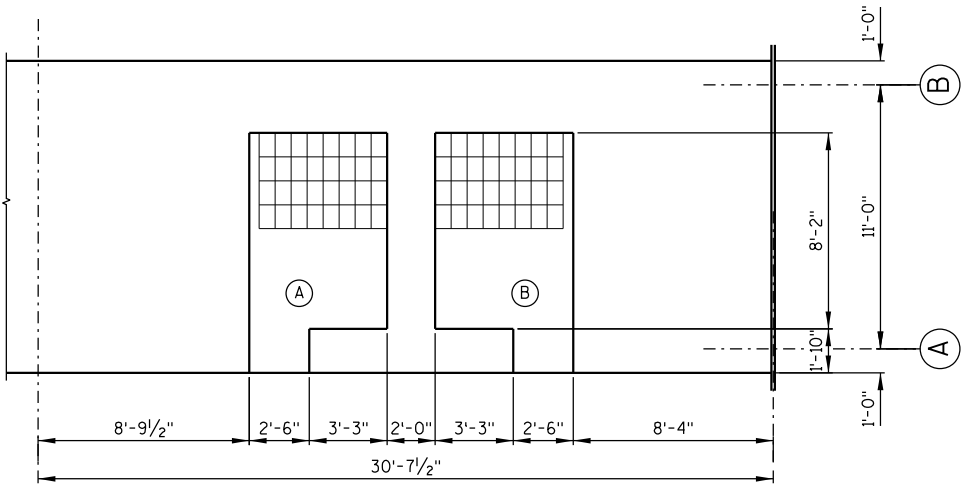
PRINTER DRIVER: C:\acm-CAD\stds\Libraries\WISDOT\MicroStation\Resources\MS_Plotting\Printer_Drivers\AE_PDF_11 x 17.plt
PEN TABLE: C:\acm-CAD\stds\Libraries\WISDOT\MicroStation\Resources\MS_Plotting\pen_tables\AE_WSDOT_B-44-081.tbl
FILE NAME: \\S102K306\projects\Transportation\WisDOT_design\MC_2016-18\Work_Order_5_Prescott\1900_Working_Docs\CAD\CADD\Sheets\W7_Counterweight_Adjustment.dgn
PLOT DATE: 1/25/2018 PLOT TIME: 2:22:28 PM BATCH PRINT SHEET 7 OF 13



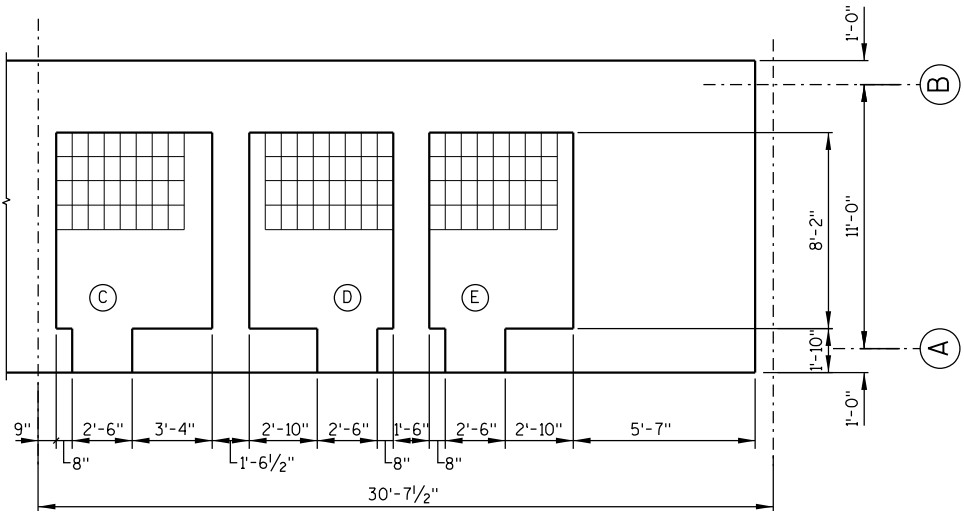
FRONT OF COUNTERWEIGHT - HALF LEAF
(POCKETS ARE SYMMETRIC ABOUT C)



SECTION C-C



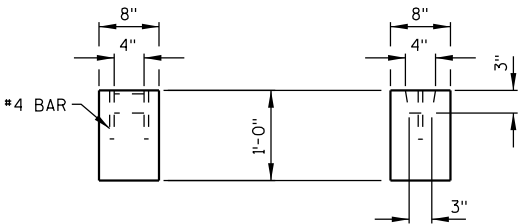
SECTION A-A



SECTION B-B

NOTES:

- 1 THE BLOCK ARRANGEMENT SHOWN IS APPROXIMATE FOR THE EXISTING BLOCKS ON THE SOUTH SIDE OF THE EAST LEAF. OTHER QUADRANTS ARE SIMILAR.
2. THE COUNTERWEIGHT ADJUSTMENT BLOCK TABLE IS BASED ON THE ADDITIONAL WEIGHT FROM THE APPLICATION OF THE POLYMER OVERLAY ON THE CONCRETE SLAB OF THE MOVABLE LEAFS AND THE STAINLESS STEEL FLASHING OVER THE COUNTERWEIGHT. NO ADJUSTMENTS HAVE BEEN GIVEN FOR THE COUNTERWEIGHT CONCRETE SURFACE REPAIRS. THE SURFACE REPAIRS ARE CONSIDERED TO HAVE RESTORED THE COUNTERWEIGHT TO ORIGINAL CONDITIONS.
3. THE NUMBER OF REQUIRED ADDITIONAL/REMOVED BLOCKS TO REBALANCE THE SPAN IS BASED ON THE FOLLOWING ASSUMED WEIGHTS:
CONCRETE = 145 PCF
BLOCK WEIGHT = 62 #/BLOCK
POLYMER COATING OVERLAY = 3.2 PSF
4. THE CONTRACTOR SHALL DETERMINE THE ACTUAL WEIGHTS OF THESE COMPONENTS AND UTILIZE THEM IN AN INDEPENDENT MATHEMATICAL BALANCE CALCULATION TO BE SUBMITTED TO THE ENGINEER FOR REVIEW. SEE SPECIAL PROVISIONS.
5. THE CONTRACTOR SHALL MAKE ADJUSTMENTS TO COUNTERWEIGHT BLOCK CONFIGURATION AS DETERMINED BY FINAL CALCULATIONS AND PHYSICAL BALANCE TESTS IN THE FIELD IN COORDINATION WITH THE ENGINEER.



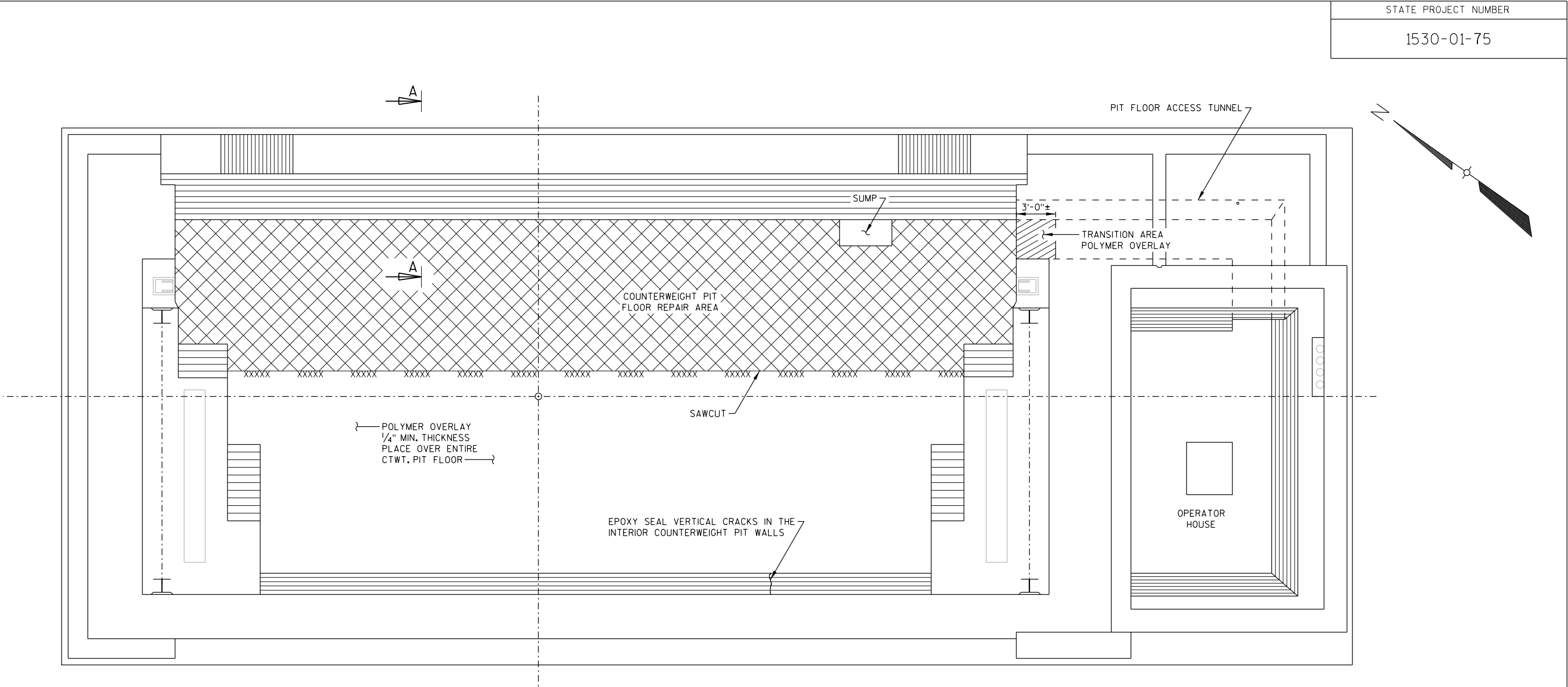
TYPICAL DETAIL OF EXISTING
COUNTERWEIGHT ADJUSTMENT BLOCKS
(APPROX. WEIGHT = 62# EACH)

POCKET			APPROX. NO. OF EXIST. BLOCKS	APPROX. NO. OF BLOCKS TO ADD/REMOVE
EAST LEAF	NORTH SIDE	A	121	-30
		B	62	-29
		C	75	31
		D	74	15
		E	82	0
	SOUTH SIDE	A	85	-30
		B	63	-29
		C	66	0
		D	71	15
		E	77	30
WEST LEAF	NORTH SIDE	A	118	-30
		B	110	-29
		C	83	31
		D	52	15
		E	126	0
	SOUTH SIDE	A	67	-30
		B	106	-29
		C	79	0
		D	46	15
		E	60	30
TOTAL				-54

COUNTERWEIGHT ADJUSTMENT BLOCK TABLE
(NEGATIVE NUMBER INDICATES BLOCKS TO BE REMOVED)

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-47-40			
DRAWN BY		DNJ	PLANS CK'D. MAD
COUNTERWEIGHT ADJUSTMENT		SHEET 7 OF 13 56	

PRINTER DRIVER: G:\acm-CAD\stds\Libraries\WISDOT\MicroStation\Resources\MS_Plotting\Printer_Drivers\AE_PDF_11 x 17.plt
PEN TABLE: G:\acm-CAD\stds\Libraries\WISDOT\MicroStation\Resources\MS_Plotting\pen_tables\AE_WSDOT_B-44-081.tbl
FILE NAME: \\S102X306\projects\Transportation\WisDOT_design\MC_2016-18\Work_Order_5_Prescott\900_Working_Docs\CAD\CADD\Sheets\08_Pier_3_CTW_Pit_Floor_Repair.dgn
PLOT DATE: 1/25/2018 PLOT TIME: 2:22:29 PM BATCH PRINT SHEET 8 OF 13



NOTES

CONCRETE REMOVAL AND SURFACE PREPARATION FOR THE COUNTERWEIGHT PIT FLOOR IS INCLUDED IN THE BID ITEM "PREPARATION COUNTERWEIGHT PIT FLOORS."

AREAS OF "PREPARATION COUNTERWEIGHT PIT FLOORS" SHALL BE DEFINED BY A 1" SAW CUT. SAWING IS PAID FOR UNDER THE BID ITEM "SAWING CONCRETE."

PREPARATION COUNTERWEIGHT PIT FLOOR REPAIR AREAS ARE BASED ON THE PLANS AND AS DETERMINED BY THE ENGINEER. COUNTERWEIGHT PIT FLOOR REPAIRS SHALL BE FILLED WITH "CONCRETE MASONRY COUNTERWEIGHT PIT FLOOR REPAIR." MATCH THE EXISTING CONCRETE SURFACE FINISH AND MAINTAIN THE EXISTING SLOPE TO THE SUMP.

EXISTING BAR STEEL REINFORCEMENT IS LIKELY TO BE CORRODED AND/OR DAMAGED DURING CONCRETE REMOVAL. PRESERVE AND INCORPORATE AS MUCH REBAR AS PRACTICAL. REMOVE SECTIONS OF CORRODED REINFORCEMENT EXIBTING A REDUCTION IN BAR DIAMETER GREATER THAN 1/4" ±. REPLACE REMOVED SECTION WITH SUPPLEMENTAL BARS AS INDICATED BY ☆. USE BAR REINFORCEMENT FOUND IN THE "BILL OF BARS" TABLE ON SHEET 6.

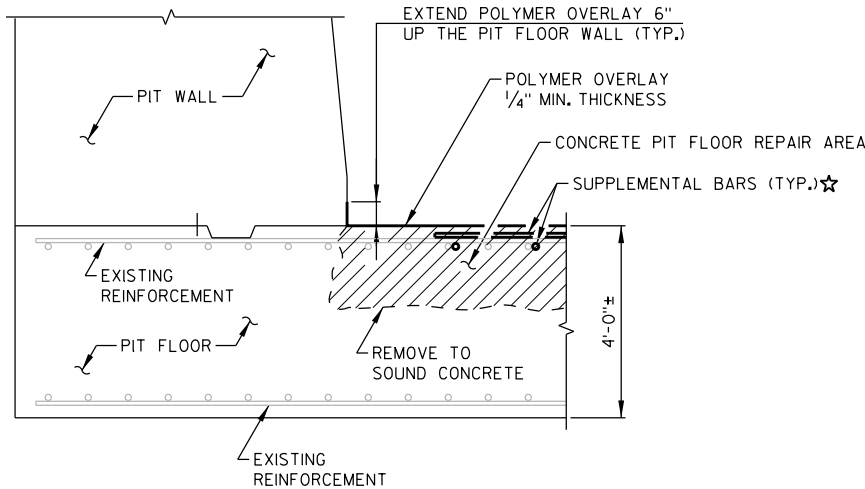
CLEAN AND FILL EXISTING INTERIOR VERTICAL CRACKS OF THE COUNTERWEIGHT PIT WALLS WITH A PENETRATING EPOXY AS DIRECTED BY THE ENGINEER. INCLUDED IN THE BID ITEM "EPOXY CRACK SEALING."

PLACE A POLYMER OVERLAY OVER ENTIRE PIT FLOOR. DO NOT PLACE AGGREGATE IN THE SECOND COURSE APPLICATION. MATCH THE EXISTING SLOPE OF THE PIT FLOOR. ALL WORK TO PLACE THE POLYMER OVERLAY, INCLUDING PIT FLOOR SURFACE PREPARATION FOR THE POLYMER OVERLAY, IS INCLUDED IN THE BID ITEM "POLYMER OVERLAY COUNTERWEIGHT PIT FLOOR."

PROTECT THE EXISTING DRAIN, SUMP, CONDUIT AND MECHANICAL COMPONENTS DURING ALL REPAIR WORK. USE METHODS THAT MINIMIZE DUST.

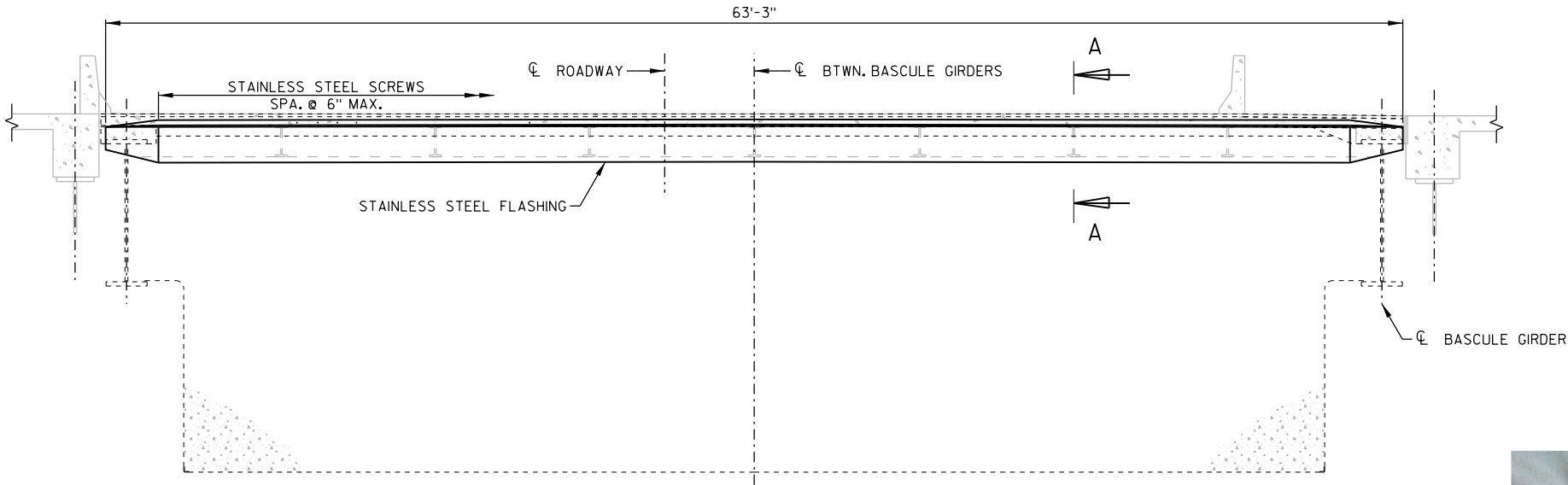
PIER 3 COUNTERWEIGHT PIT PLAN

PIER 2 SIMILAR



SECTION A-A

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-47-40			
	DRAWN BY	DNJ	PLANS CK'D. MAD
COUNTERWEIGHT PIT FLOOR REPAIR		SHEET 57 OF 13	



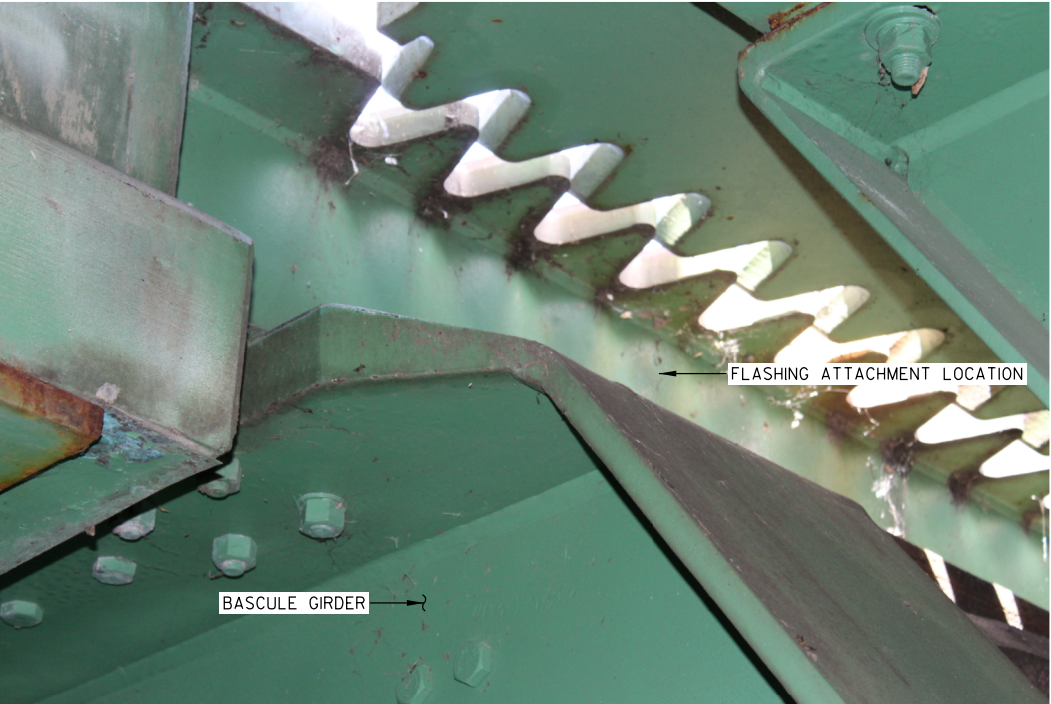
BACK OF COUNTERWEIGHT ELEVATION

NOTES

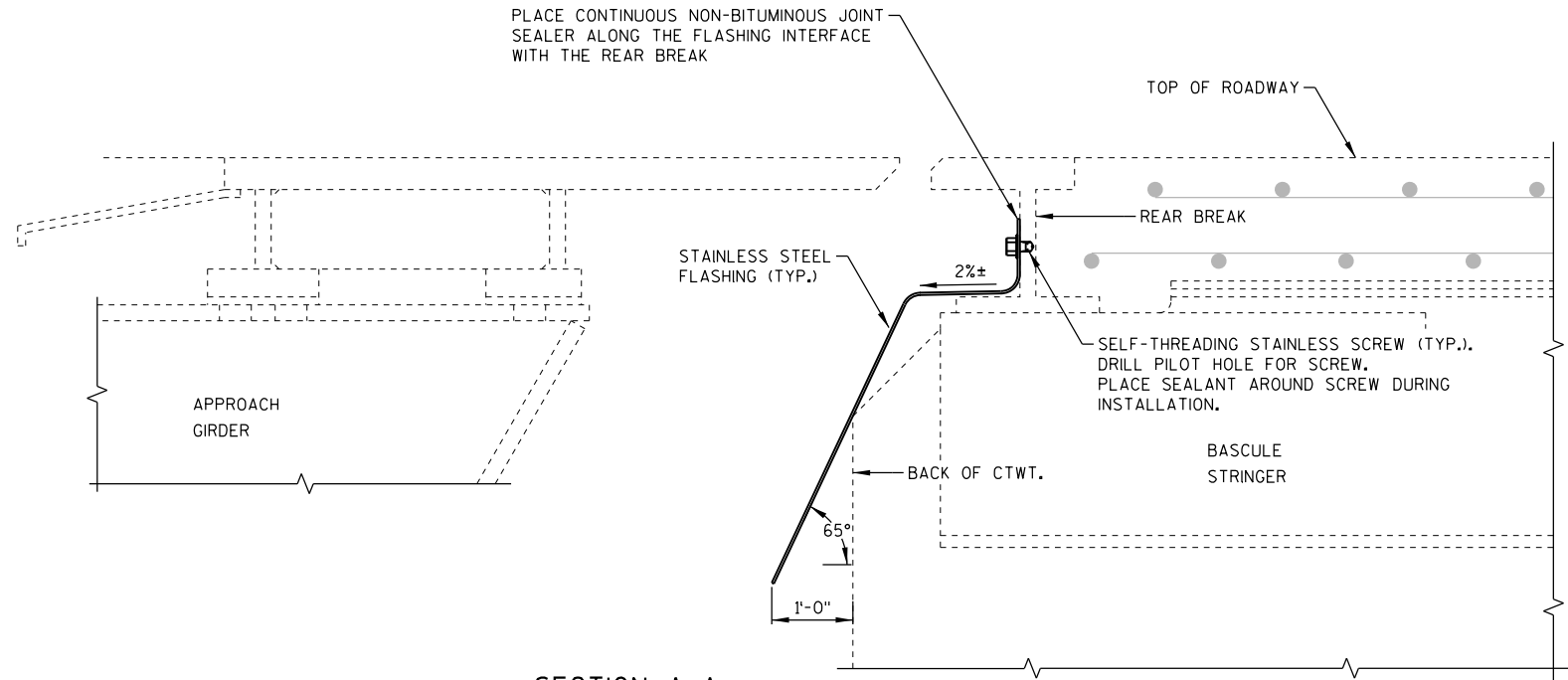
USE 3/8" ϕ x 3/4" STAINLESS STEEL SELF-THREADING SCREWS AT 6-INCH CENTERS TO ATTACH FLASHING TO THE REAR BREAK STEEL.

FLASHING SHALL BE 16 GAUGE TYPE 316 STAINLESS STEEL SHEET METAL.

COST FOR SUPPLYING, FABRICATING AND INSTALLING THE FLASHING IS PAID FOR UNDER THE BID ITEM "STAINLESS STEEL FLASHING."



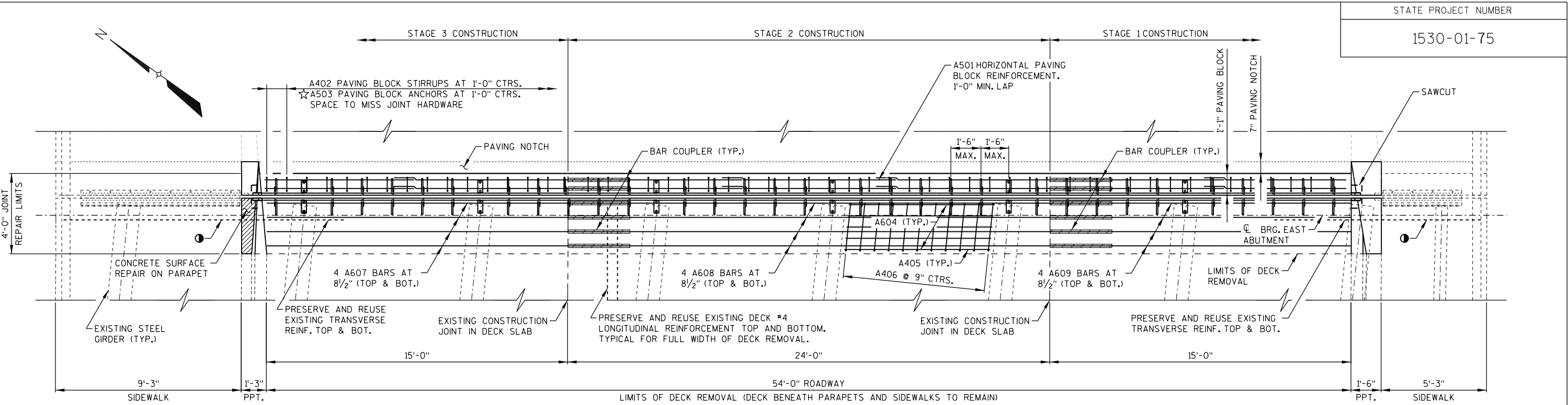
SPAN 3 REAR BREAK



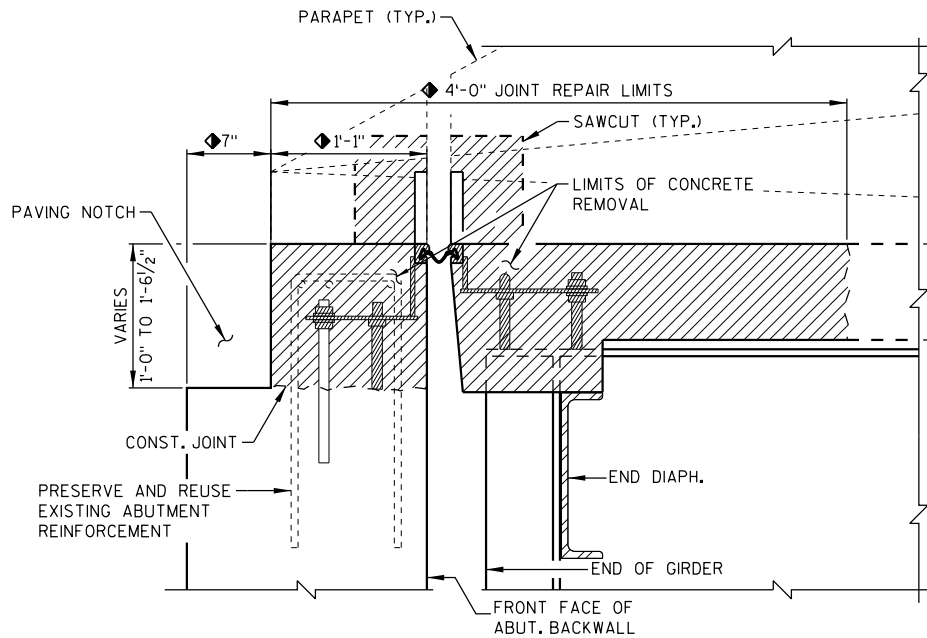
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-47-40			
DRAWN BY		DNJ	PLANS CK'D. MAD
COUNTERWEIGHT FLASHING		SHEET 58 OF 13	

PRINTER DRIVER: G:\acm-CAD\tds.Libraries\WISDOT\MicroStationResources\MS-Printing\Printer_Drivers\AE_PDF_11 x 17.plt
PEN TABLE: G:\acm-CAD\tds.Libraries\WISDOT\MicroStationResources\MS-Printing\pen_tables\AE_WsDOT_8-44-08.tbl
FILE NAME: \\S102X306\projects\Transportation\WisDOT.design\MC_2016-18\Work_Order_5_Prescott\9000_Working Docs CAD\CAD\Sheets\11.Expansion Device Plan.dgn
PLOT DATE: 1/25/2018 PLOT TIME: 2:22:43 PM

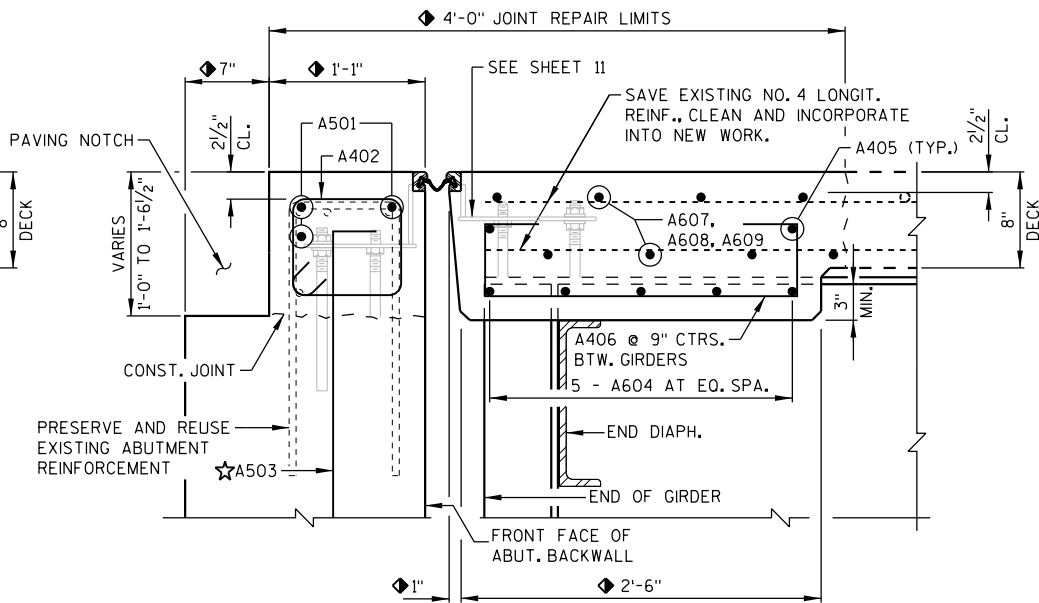
8



PLAN OF EAST STRIP SEAL EXPANSION JOINT



JOINT REPAIR REMOVAL
NORMAL TO CL SUBSTRUCTURE



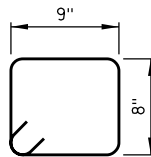
SECTION THRU JOINT AT ABUTMENT
NORMAL TO CL SUBSTRUCTURE

BILL OF BARS

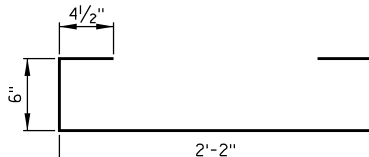
DIMENSIONS IN BENDING DETAILS ARE OUT-TO-OUT OF BAR.

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	LOCATION
A501	X	21	8'-8"		PAVING BLOCK - HORIZONTAL
A402	X	55	3'-4"	X	PAVING BLOCK - STIRRUP
A503	X	55	3'-7"	X	PAVING BLOCK - ANCHOR
A604	X	30	7'-3"		DIAPHRAGM - HORIZONTAL BTW GIRDERS
A405	X	24	7'-3"		DIAPHRAGM - HORIZONTAL BTW GIRDERS
A406	X	66	3'-7"	X	DIAPHRAGM - VERTICAL STIRRUPS
A607	X	8	15'-0"		DECK - TRANSVERSE - STAGE 1
A608	X	8	24'-0"		DECK - TRANSVERSE - STAGE 2
A609	X	8	15'-0"		DECK - TRANSVERSE - STAGE 3

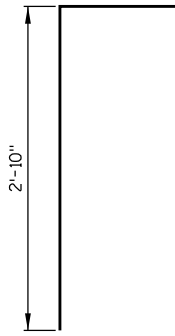
TOTAL WEIGHT = 1,770 LB



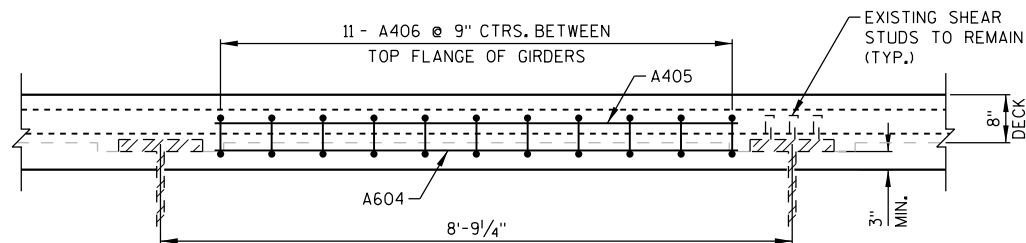
A402



A406



A503



PART ELEVATIONS AT DIAPHRAGM

LEGEND

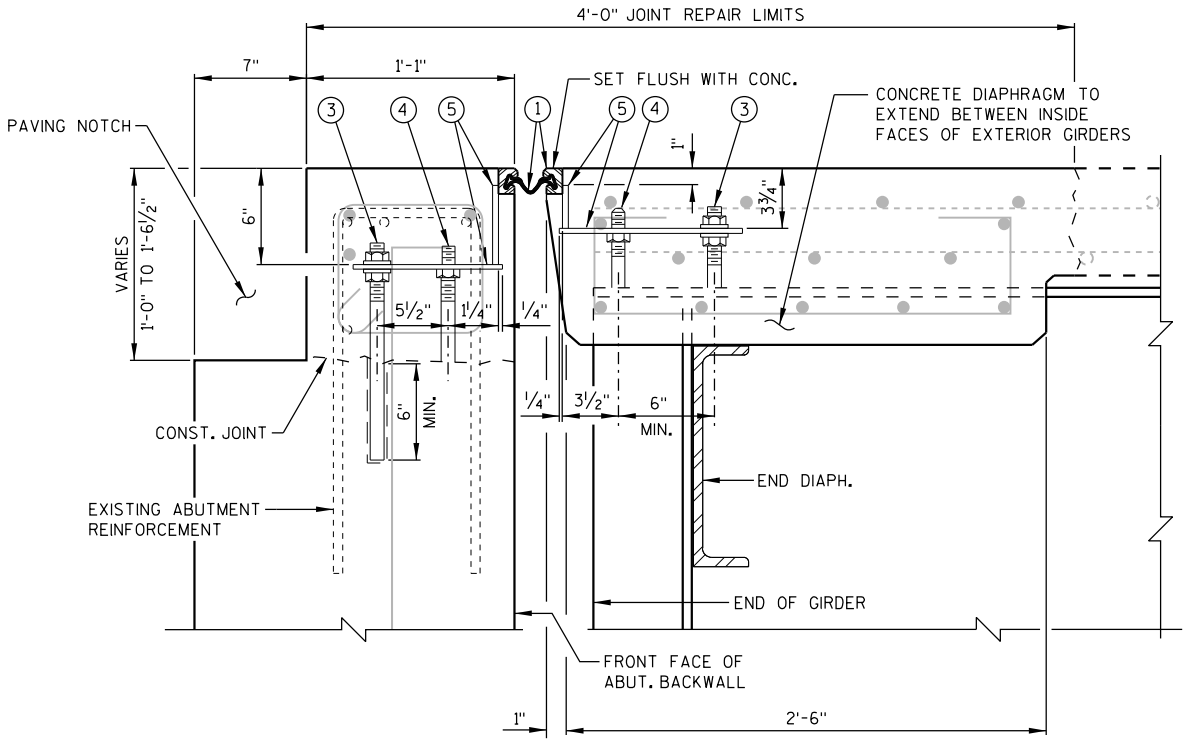
- ☆ ADHESIVE ANCHORS NO. 5 BAR. MINIMUM EMBEDMENT 1'-6" IN CONCRETE. SPACE AT 1'-0". AVOID JOINT HARDWARE AND TURN 10" LEG AS NECESSARY TO FIT. VERTICAL BAR LEGS MAY BE TRIMMED IN THE FIELD TO AVOID ADDITIONAL DRILLING FOR ANCHOR AS LONG AS THE 1'-6" MIN. EMBED. IS MET. ANCHORS SHALL BE APPROVED FOR USE IN CRACKED CONCRETE.
- ◆ DIMENSIONS GIVEN ARE NORMAL TO CL OF SUBSTRUCTURE UNIT.
- EXISTING TRANSVERSE DECK REINFORCEMENT TOP AND BOTTOM. PRESERVE AND REUSE PORTION OF EXISTING. MINIMUM OF 3'-7" TO EXTEND INTO NEW WORK. MINIMUM LAP LENGTH OF 3'-1".

NO.	DATE	REVISION	BY
		STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
		STRUCTURE B-47-40	
		DRAWN BY DNJ PLANS CK'D. MAD	
		EXPANSION JOINT (1 OF 2)	SHEET 10 OF 13 59

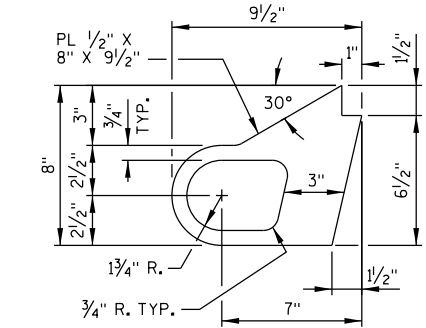
8

PRINTER DRIVER: C:\acm-CAD\stds.Libraries\WISDOT\MicroStation\Resources\MS-Printing\Printer_Drivers\AE_PDF_11 x 17.plt
 PEN TABLE: C:\acm-CAD\stds.Libraries\WISDOT\MicroStation\Resources\MS-Printing\pen_tables\AE_WSDOT_B-44-081.tbl

FILE NAME: \\S1102X306\projects\Transportation\WisDOT_design\MC_2016-18\Work_Order_5_Prescott\9000_Working_Docs\CAD\CADD\Sheets\12_Expansion_Device_Details.dgn
 PLOT DATE: 1/25/2018 PLOT TIME: 2:22:48 PM BATCH PRINT SHEET 11 OF 13



SECTION THRU JOINT AT ABUTMENT
NORMAL TO ϕ SUBSTRUCTURE



ALTERNATE STRIP SEAL ANCHOR

LEGEND

- ① NEOPRENE STRIP SEAL (4 - INCH) AND STEEL EXTRUSIONS.
- ② 1/2" THICK ANCHOR PLATE WITH 5/8" ϕ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.
- ③ 3/4" ϕ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.
- ④ 3/4" ϕ THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.
- ⑤ FABRICATE SUPPORT FROM 3" X 1/2" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1/2" ϕ HOLE FOR NO. 3 AND 1" ϕ HOLE FOR NO. 4.

LEGEND

- BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

NOTES

TWO FIELD SPLICES ARE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION, HANDLING OR GALVANIZING REQUIREMENTS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST AND SWEEP.

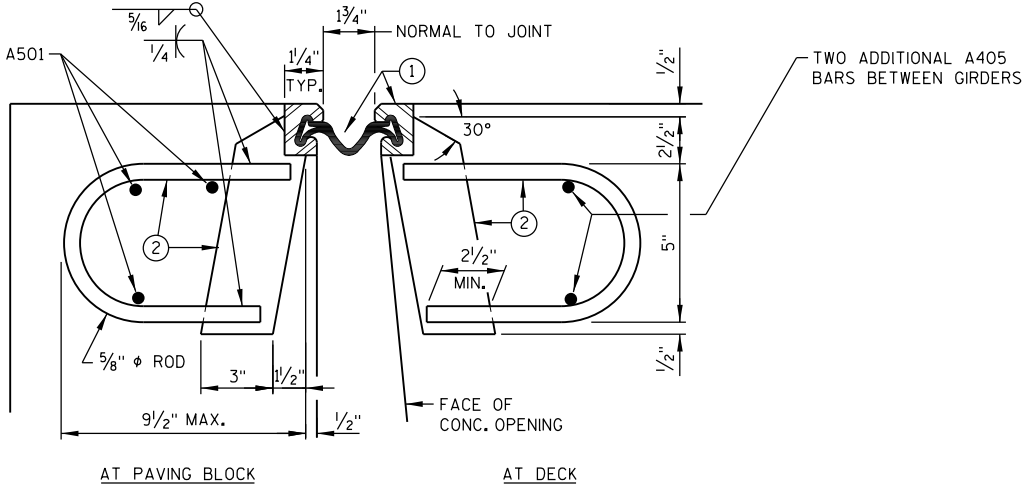
FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN AND SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SANDBLAST PLATES, SUPPORTS AND EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES, SUPPORTS AND EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

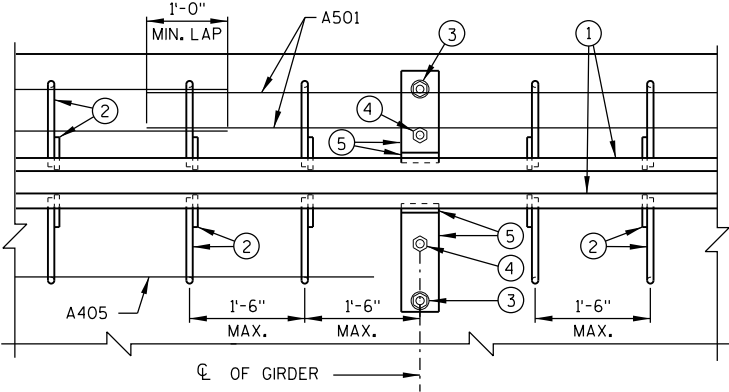
ANCHOR SYSTEM NO. 8 AND NO. 9 SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D.

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-47-40".

SAWCUTS FOR THE STRIP SEAL EXPANSION JOINT REMOVAL ARE PAID FOR UNDER THE BID ITEM "SAWING CONCRETE."



SECTION THRU JOINT
ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.

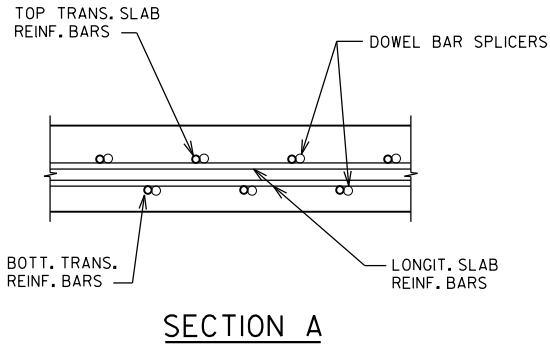
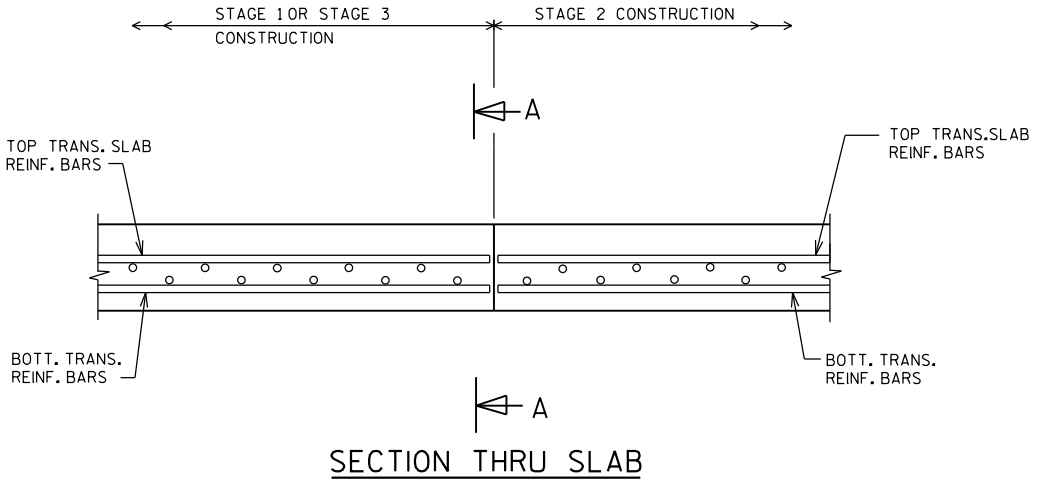


PART PLAN

STATE PROJECT NUMBER
1530-01-75

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-47-40			
DRAWN BY		DNJ	PLANS CK'D. MAD
EXPANSION JOINT (2 OF 2)		SHEET 11 OF 13 60	

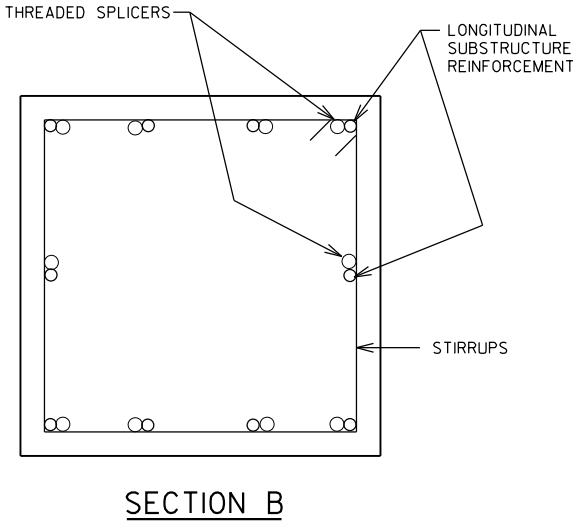
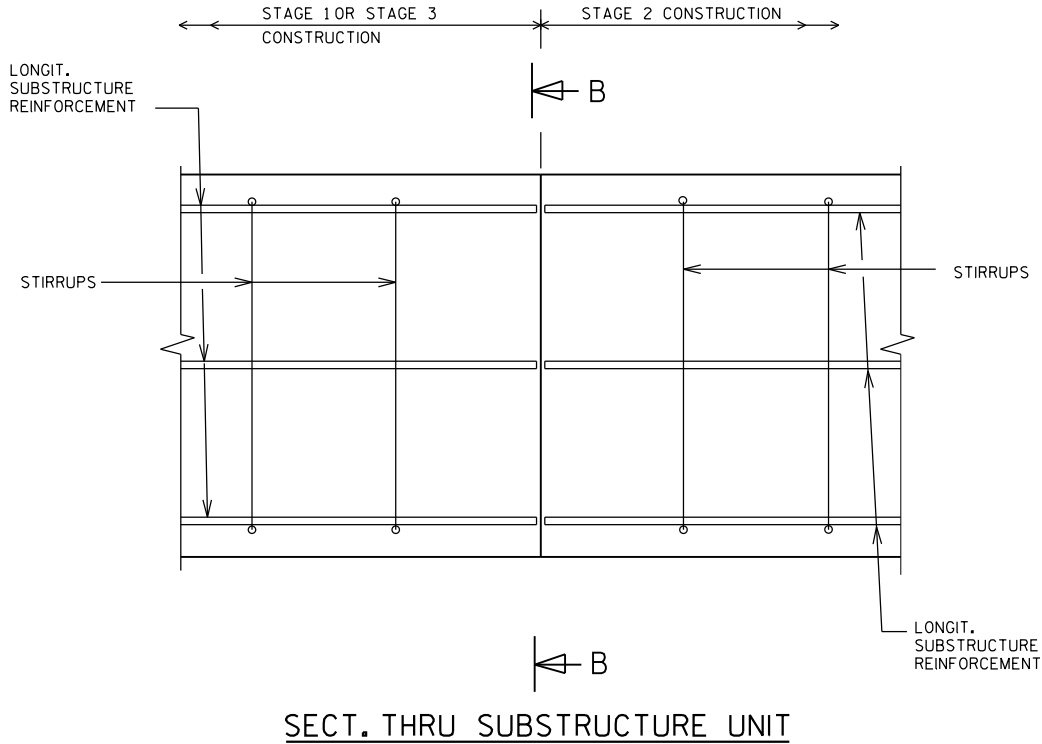
PRINTER DRIVER: C:\acm-CAD\stds\Libraries\WISDOT\MicroStationResources\MS-Printing\Printer_Drivers\AE_PDF_11 x 17.plt
 PEN TABLE: C:\acm-CAD\stds\Libraries\WISDOT\MicroStationResources\MS-Printing\pen_tables\AE_WSDOT_B-44-081.tbl
 FILE NAME: \\USM\KF5001\Projects\Transportation\WisDOT_design\M.C. 2016-18\Work_Order_5_Prescott\9000_Working Docs CAD\CADD\Sheets\12_Bar Coupler_Details.dgn
 PLOT DATE: 1/25/2018 PLOT TIME: 2:22:49 PM



DOWEL BAR SPLICER LAP LENGTHS

CONCRETE UNDER BAR	BAR SIZE	4	5	6	7	8	9	10	11
12" OR LESS	f'c = 3500	1'-8"	2'-8"	3'-2"	4'-3"	5'-6"	7'-0"	8'-9"	10'-11"
	f'c = 4000	1'-8"	2'-8"	3'-2"	4'-0"	5'-2"	6'-6"	8'-3"	10'-2"
MORE THAN 12"	f'c = 3500	2'-3"	2'-11"	3'-6"	4'-8"	6'-1"	7'-10"	9'-10"	12'-1"
	f'c = 4000	2'-3"	2'-11"	3'-6"	4'-5"	5'-8"	7'-4"	9'-2"	11'-4"

BAR LENGTH COMPUTED TO ϕ LONGIT. JOINT AND SHALL BE MODIFIED IF REQ'D. TO BAR COUPLER MANUFACTURER RECOMMENDATIONS. PAY BASED ON BARS AS DETAILED.



NOTES

STEEL SPLICE (COUPLER) ASSEMBLY SHALL BE AN APPROVED TYPE AND SHALL DEVELOP IN TENSION AT LEAST 125% OF THE YIELD STRENGTH OF THE SPLICED REINFORCEMENT BARS.

DOWEL BAR SPLICERS SHALL BE OF MINIMUM 60 ksi YIELD STRENGTH, AND HAVE TENSILE STRENGTH AREA EQUAL OR GREATER THAN THAT OF THE LAPPED REINFORCEMENT BARS.

DOWEL BAR SPLICERS SHALL MEET THE DEFORMATION REQUIREMENTS FOR STANDARD ASTM DEFORMED REINFORCING BARS.

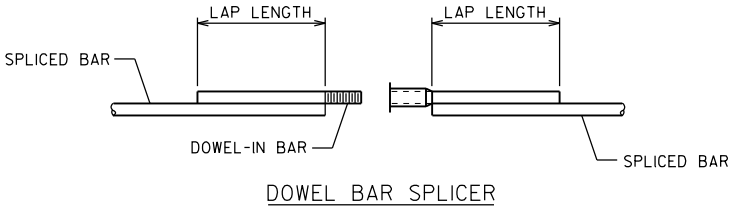
FOR DOWEL BAR SPLICERS, ALL REINFORCEMENT BARS SHALL BE LAPPED AND TIED TO THE SPLICER BARS.

SPLICER (COUPLER) ASSEMBLY IN THE SLAB SHALL BE EPOXY COATED IN ACCORDANCE WITH THE REQUIREMENTS FOR REINFORCEMENT BARS.

OTHER SYSTEMS OF SIMILAR DESIGN MAY BE SUBMITTED TO THE ENGINEER FOR APPROVAL. APPROVAL SHALL BE BASED ON CERTIFIED TEST RESULTS FROM AN APPROVED TESTING LABORATORY THAT THE PROPOSED SPLICER (COUPLER) ASSEMBLY SATISFIES THE FOLLOWING REQUIREMENT:

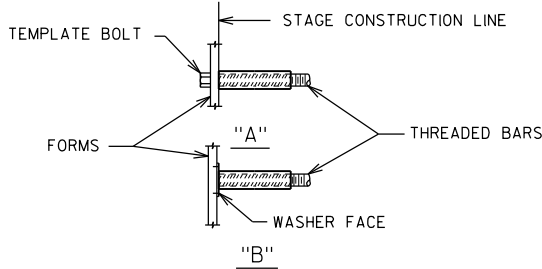
① MINIMUM CAPACITY = 1.25 X f_y X AREA OF SPLICED REINFORCEMENT BAR.

WHERE f_y = YIELD STRENGTH OF SPLICED REINFORCEMENT BARS



ONE PIECE THREADED SPLICER

SPLICER ALTERNATIVES



INSTALLATION AND SETTING METHODS

"A" SET SPLICER BY MEANS OF A TEMPLATE BOLT
 "B" SET SPLICER BY NAILING TO WOOD FORMS OR CEMENTING TO STEEL FORMS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-47-40			
DRAWN BY		DNJ	PLANS CK'D. MAD
BAR SPLICER (COUPLER) DETAILS		SHEET 12 OF 13 61	

PRINTER DRIVER: G:\acm-CAD\tds.Libraries\WISDOT\MicroStation\Resources\MS-Printing\Printer_Drivers\AE_PDF_11 x 17.plt
PEN TABLE: G:\acm-CAD\tds.Libraries\WISDOT\MicroStation\Resources\MS-Printing\pen_tables\AE.tbl
FILE NAME: \\USM\KF5001\Projects\Transportation\WisDOT\design\MC_2016-18\Work_Order_5_Prescott\9000_Working_Docs\CAD\000\Sheets\13.Painting_Details.dgn
PLOT DATE: 1/25/2018 PLOT TIME: 2:22:50 PM BATCH PRINT SHEET 13 OF 13



CLEAN AND PAINT THE BOTTOM OF THE REAR BREAK.



CLEAN AND PAINT END AND UNDERSIDE EDGES OF COUNTERWEIGHT



CLEAN AND PAINT REAR LOCK AT EACH LOCATION (4 TOTAL)



CLEAN AND PAINT THE APPROACH GIRDER BOTTOM FLANGES INSIDE THE BASCULE PIERS.



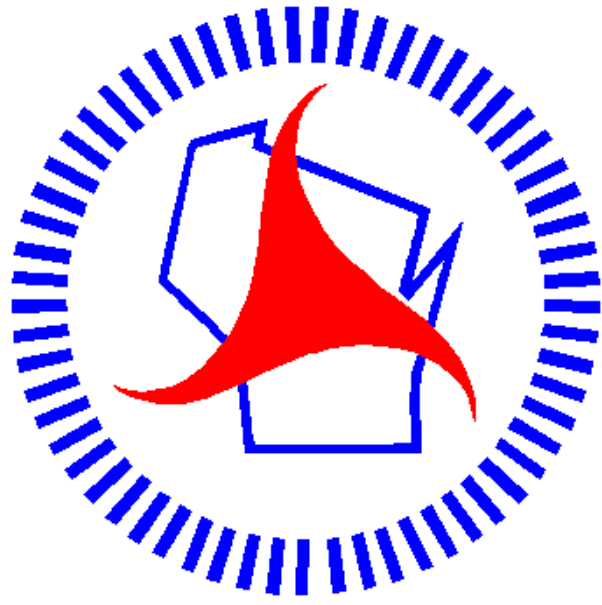
CLEAN AND PAINT LIVE LOAD UPLIFT SUPPORT PLATES/SHIMS

NOTES

THE SCOPE OF PAINTING WORK INCLUDES PAINTING THE FOUR REAR SPAN LOCKS, BOTTOM FLANGES OF APPROACH GIRDERS AND OTHER INTERIOR AREAS OF THE BASCULE PIERS AS DETERMINED BY THE ENGINEER.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-47-40			
DRAWN BY		DNJ	PLANS CK'D. MAD
PAINTING DETAILS		SHEET 13 OF 13	
		62	

Notes



Wisconsin Department of Transportation

Dedicated people creating transportation solutions through innovation and exceptional service.

<http://www.dot.wisconsin.gov>