

MAD  
PROJECT ID:  
WITH: N/A

6130-04-61

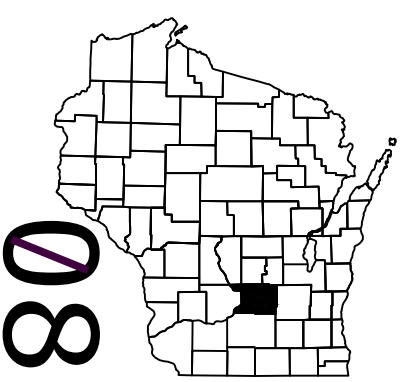
COUNTY:

COLUMBIA

MAY 2026  
ORDER OF SHEETS

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

TOTAL SHEETS = 54

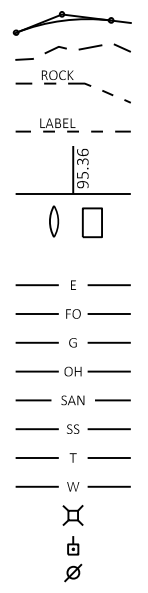
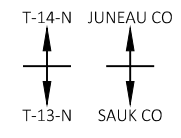


DESIGN DESIGNATION

A.A.D.T.	=	NA
A.A.D.T.	=	NA
D.H.V.	=	NA
D.D.	=	NA
T.	=	NA
DESIGN SPEED	=	NA
ESALS	=	NA

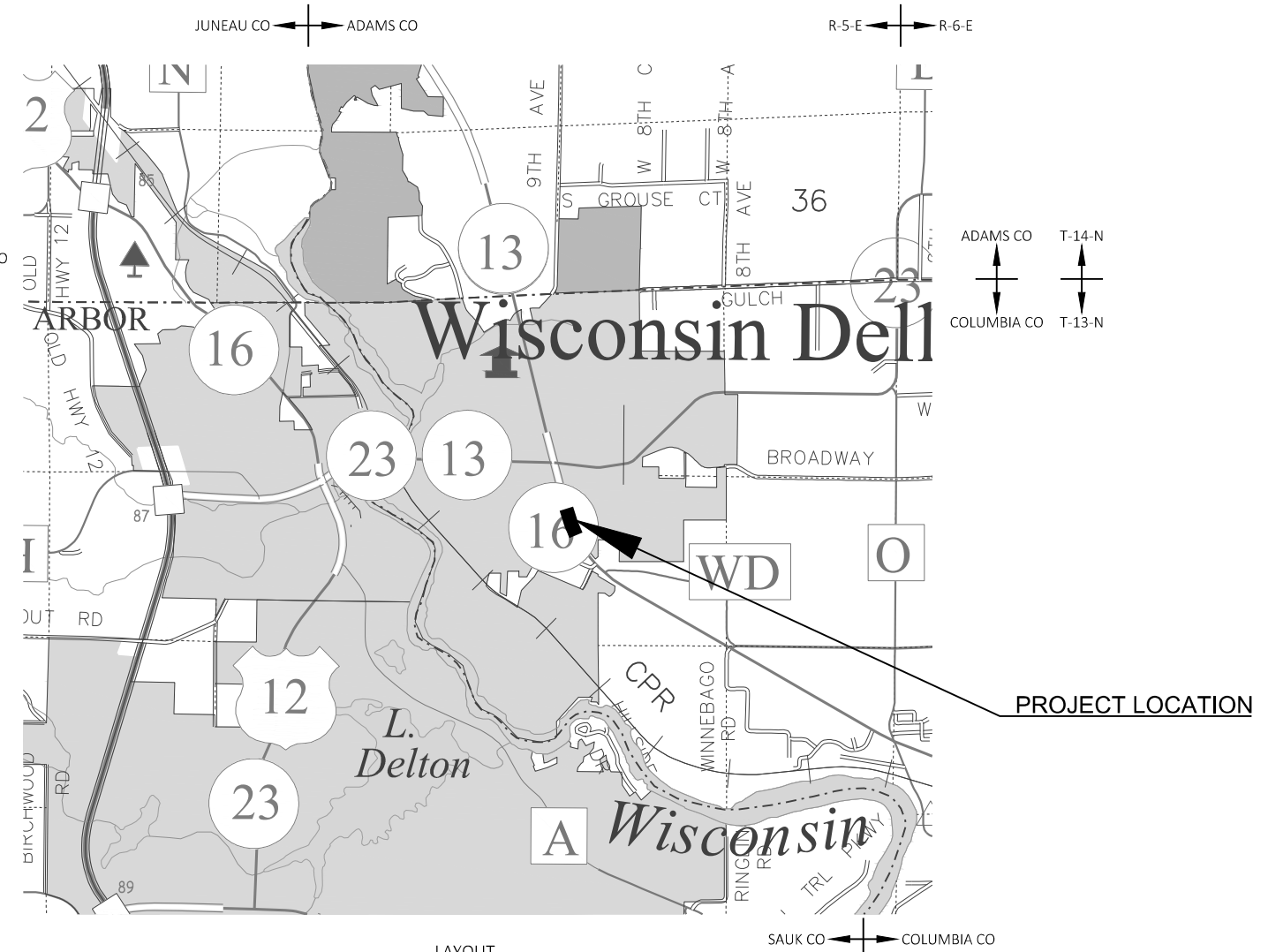
CONVENTIONAL SYMBOLS

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	



STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION  
PLAN OF PROPOSED IMPROVEMENT  
WISCONSIN DELLS - PORTAGE  
SLOPE 0.2 MI N OF DEERWOOD TRAIL  
STH 16  
COLUMBIA COUNTY

STATE PROJECT NUMBER  
6130-04-61



TOTAL NET LENGTH OF CENTERLINE = 0.00 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), COLUMBIA COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES.

ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 18-A.

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
6130-04-61	WISC 2026345	1

ORIGINAL PLANS PREPARED BY

**CORRE**  
ENGINEERING

MADISON | EAU CLAIRE | WAUKESHA | APPLETON | TOMAH | WAUSAU

WISCONSIN PROFESSIONAL ENGINEER

JOSHUA A WEISS  
E-37150  
OREGON WI

Digitally signed by Josh Weiss  
DN: c=US,  
E=jweiss@correinc.com,  
O=CORRE Inc., CN=Josh Weiss  
Date: 2026.03.19 11:17:58-05'00'

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PREPARED BY	Surveyor	WISDOT/CORRE, INC
Designer	CORRE, INC	
Project Manager	DAVID SCHMIDT, PE	
Regional Examiner	WISDOT SW REGION	
Regional Supervisor	JENNIFER KOBYRN, PE	

APPROVED FOR THE DEPARTMENT

David B Schmidt  
DATE: 2026.03.19 11:36:12-05'00'  
(Signature)

E





PROJECT NO: 6130-04-61

HWY: STH 16

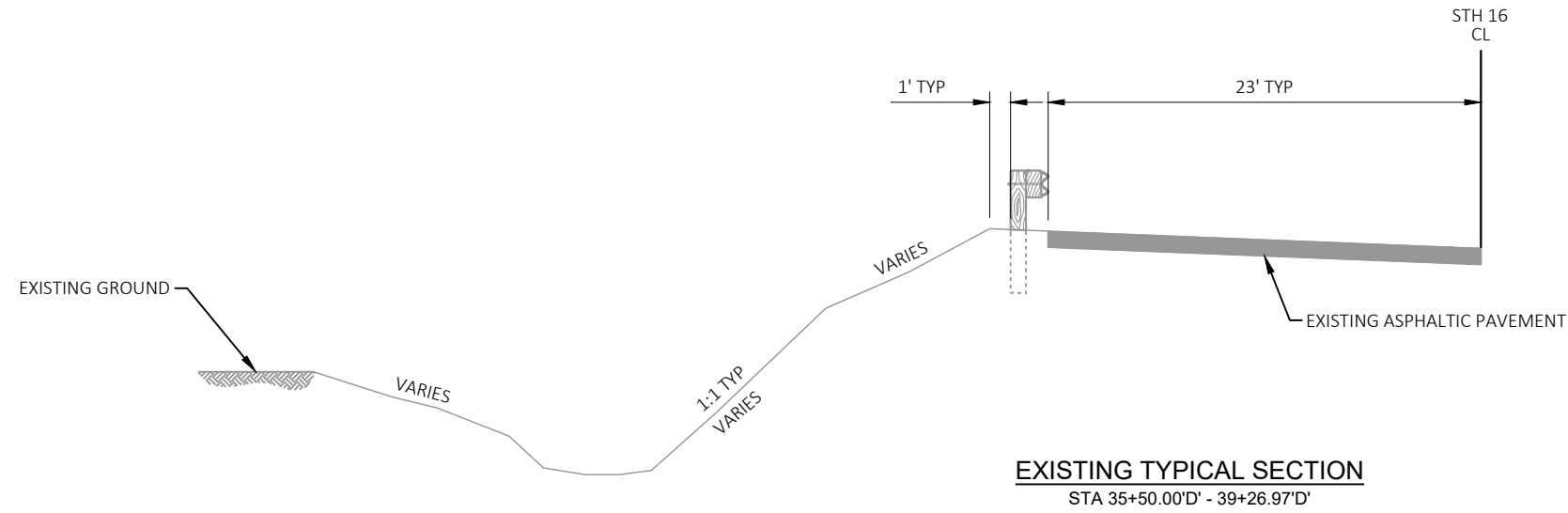
COUNTY: COLUMBIA

PROJECT OVERVIEW

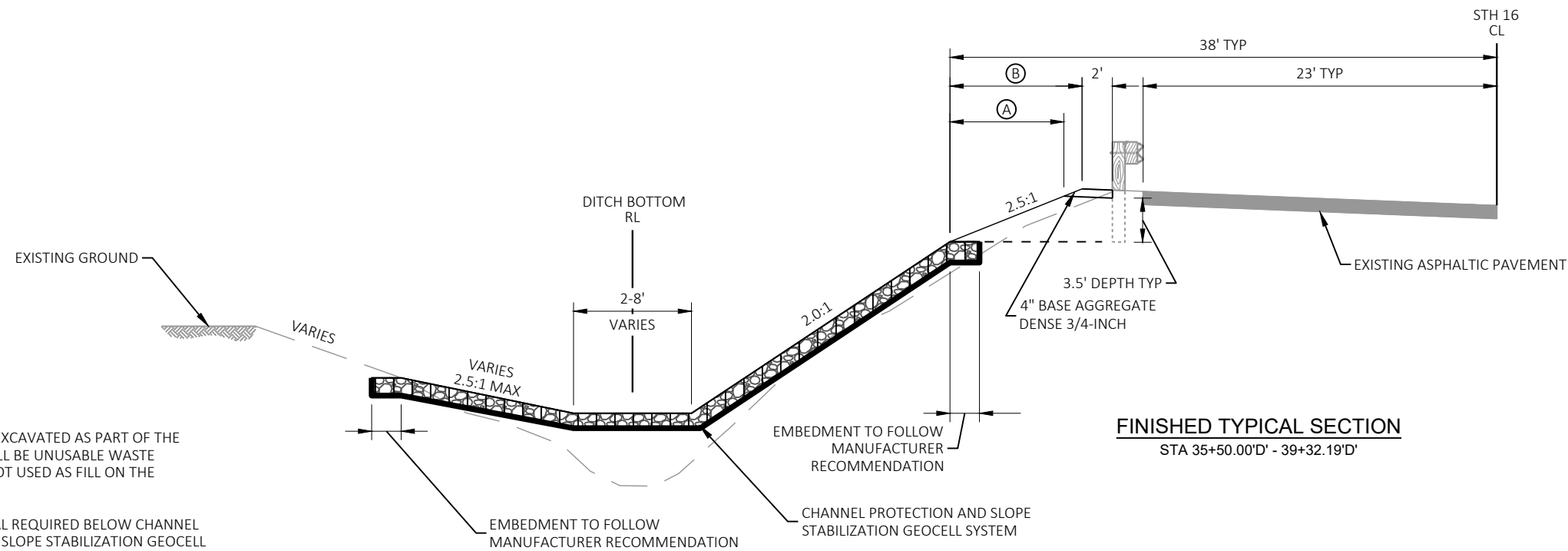
SHEET

3

E

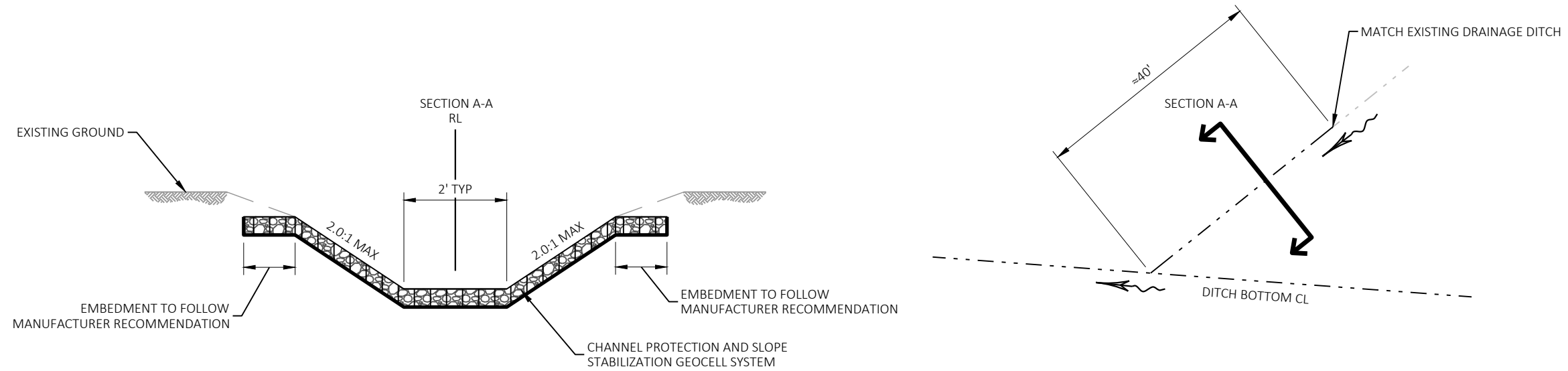


- Ⓐ TOPSOIL & EROSION MAT URBAN CLASS I TYPE B
- Ⓑ SEEDING MIXTURE NO. 20 & FERTILIZER TYPE B

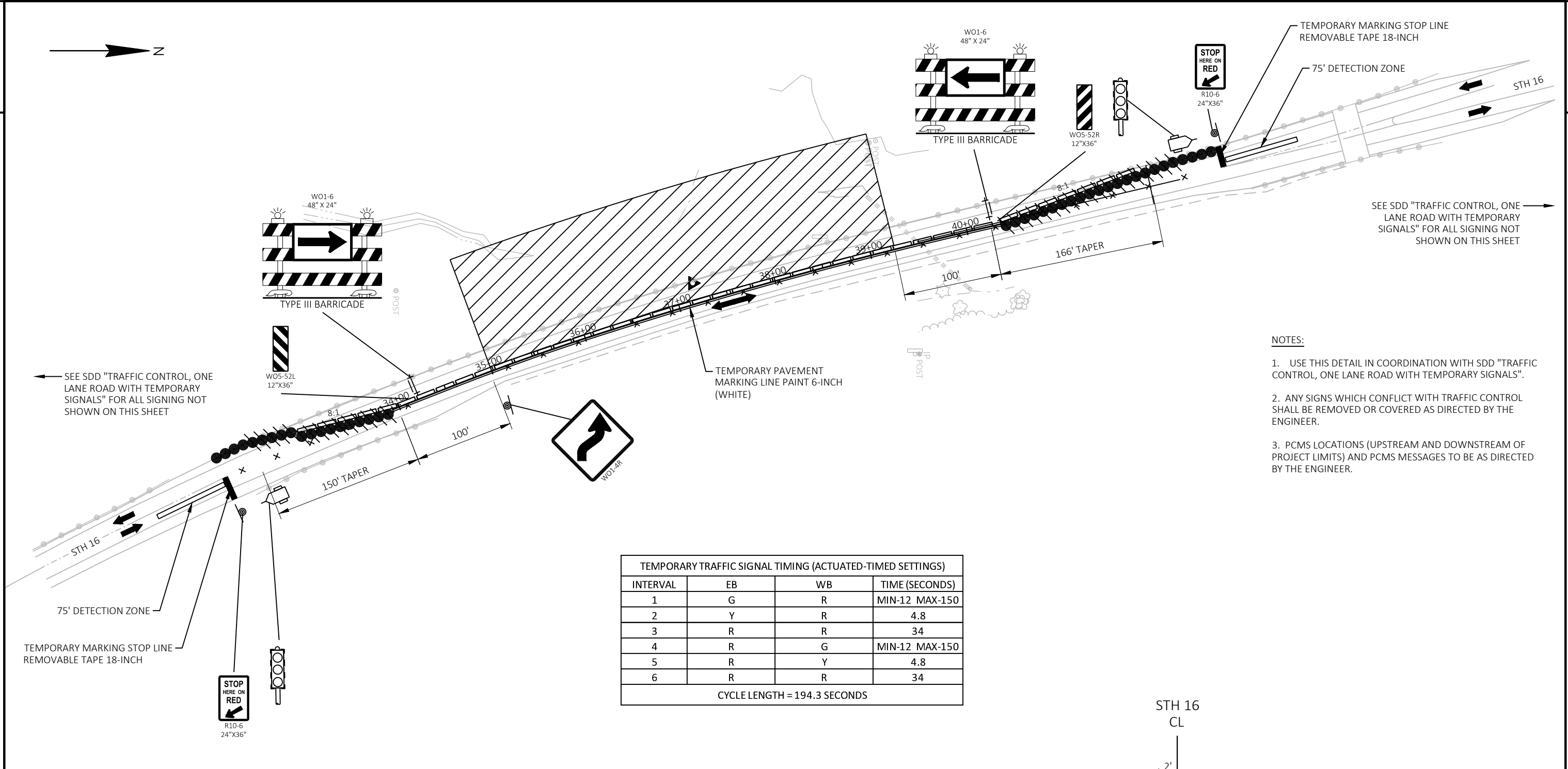


NOTES:

1. MATERIAL TO BE EXCAVATED AS PART OF THE INSTALLATION WILL BE UNUSABLE WASTE MATERIAL AND NOT USED AS FILL ON THE PROJECT.
2. ANY FILL MATERIAL REQUIRED BELOW CHANNEL PROTECTION AND SLOPE STABILIZATION GEOCELL SYSTEM SHALL BE BACKFILL GRANULAR GRADE 2.



DRAINAGE DITCH TIE IN DETAIL

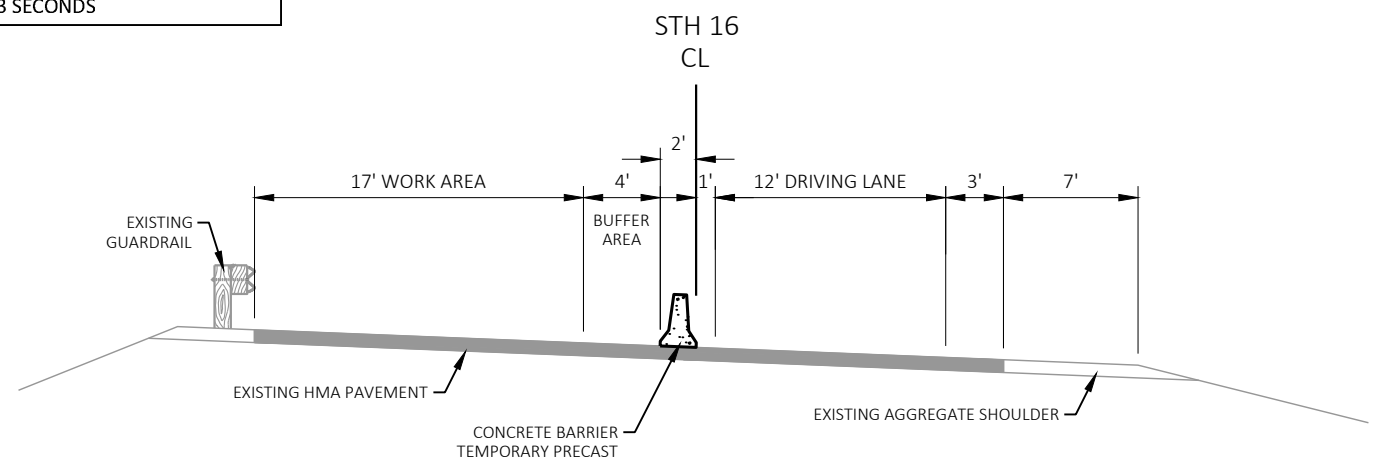


SEE SDD "TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS" FOR ALL SIGNING NOT SHOWN ON THIS SHEET

**NOTES:**

1. USE THIS DETAIL IN COORDINATION WITH SDD "TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS".
2. ANY SIGNS WHICH CONFLICT WITH TRAFFIC CONTROL SHALL BE REMOVED OR COVERED AS DIRECTED BY THE ENGINEER.
3. PCMS LOCATIONS (UPSTREAM AND DOWNSTREAM OF PROJECT LIMITS) AND PCMS MESSAGES TO BE AS DIRECTED BY THE ENGINEER.

TEMPORARY TRAFFIC SIGNAL TIMING (ACTUATED-TIMED SETTINGS)			
INTERVAL	EB	WB	TIME (SECONDS)
1	G	R	MIN-12 MAX-150
2	Y	R	4.8
3	R	R	34
4	R	G	MIN-12 MAX-150
5	R	Y	4.8
6	R	R	34
CYCLE LENGTH = 194.3 SECONDS			



**LEGEND**

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- DIRECTION OF TRAFFIC
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- REMOVE PAVEMENT MARKING
- TEMPORARY TRAFFIC SIGNAL

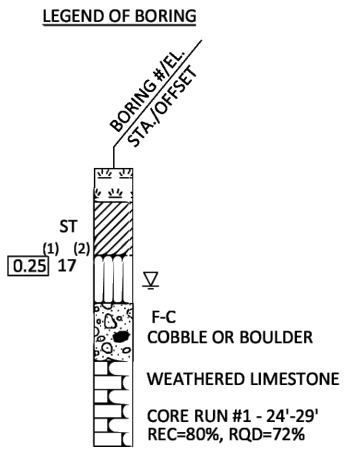
BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	04/12/2024	424783	458868
2	04/12/2024	424725	458882
3	04/12/2024	424676	458896

BORINGS COMPLETED BY: SES  
 REPORT COMPLETED BY: WISDOT  
 ALL COORDINATES REFERENCED TO WCCS NAD 83 (91) COLUMBIA COUNTY  
 COORDINATES COLLECTED USING NON-SURVEY GRADE EQUIPMENT



**MATERIAL SYMBOLS**

ASPHALT	TOPSOIL	PEAT
CONCRETE	FILL	GRAVEL
SAND	CLAY	SILT
BOULDERS OR COBBLES	LIMESTONE	BEDROCK (UNKNOWN)
SHALE	SANDSTONE	IGNEOUS/META



<sup>(1)</sup> UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)  
<sup>(2)</sup> UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

**GROUND WATER ELEVATION**

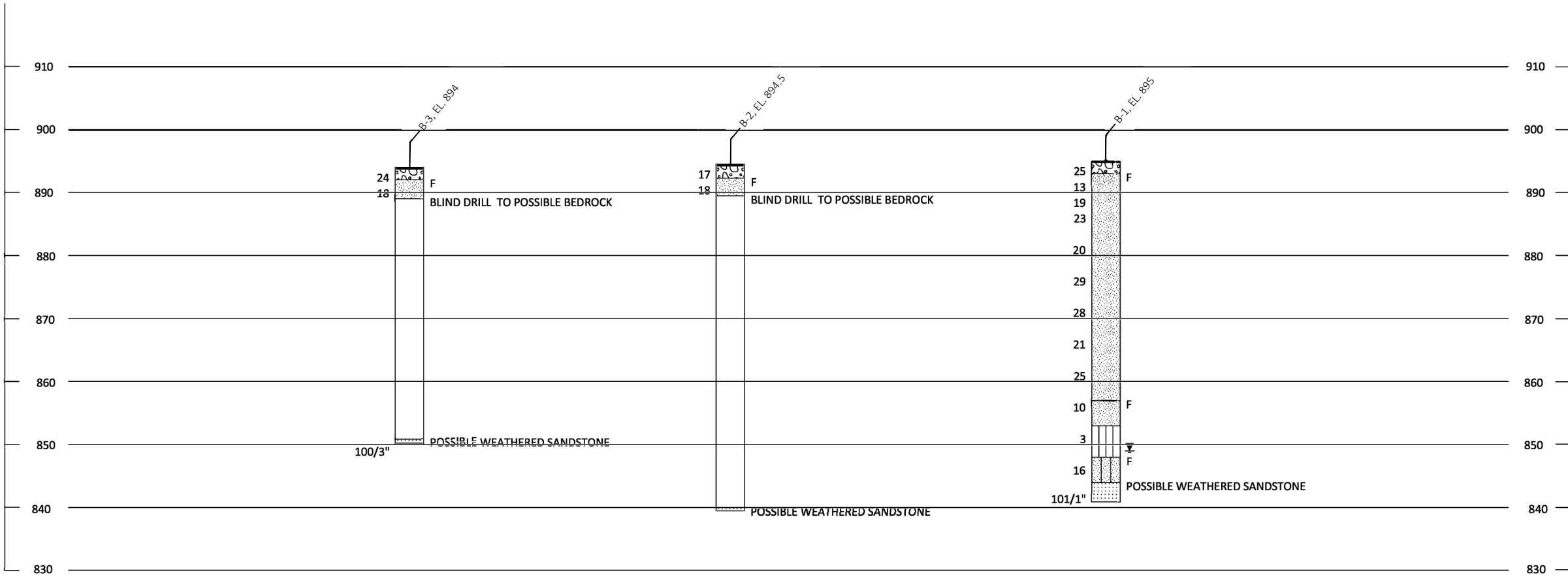
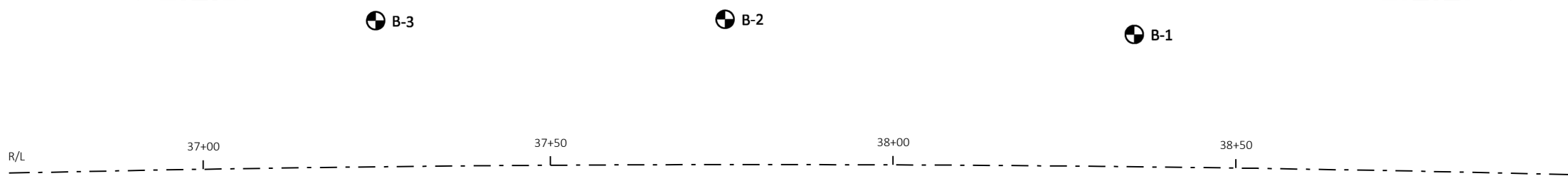
▽ AT TIME OF DRILLING  
 ▽ END OF DRILLING  
 ▾ AFTER DRILLING

**ABBREVIATIONS**

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

**SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION**

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATION IN GROUNDWATER LEVELS MAY OCCUR.



Estimate Of Quantities

6130-04-61

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	3.000	3.000
0004	201.0205	Grubbing	STA	3.000	3.000
0006	205.0100	Excavation Common	CY	105.000	105.000
0008	209.2500	Backfill Granular Grade 2	TON	4,824.000	4,824.000
0010	213.0100	Finishing Roadway (project) 01. 6130-04-61	EACH	1.000	1.000
0012	305.0110	Base Aggregate Dense 3/4-Inch	TON	20.000	20.000
0014	603.8000	Concrete Barrier Temporary Precast Delivered	LF	800.000	800.000
0016	603.8125	Concrete Barrier Temporary Precast Installed	LF	800.000	800.000
0018	614.0950	Replacing Guardrail Posts and Blocks	EACH	36.000	36.000
0020	618.0100	Maintenance and Repair of Haul Roads (project) 01. 6130-04-61	EACH	1.000	1.000
0022	619.1000	Mobilization	EACH	1.000	1.000
0024	625.0100	Topsoil	SY	630.000	630.000
0026	628.2008	Erosion Mat Urban Class I Type B	SY	630.000	630.000
0028	628.7504	Temporary Ditch Checks	LF	140.000	140.000
0030	629.0210	Fertilizer Type B	CWT	0.400	0.400
0032	630.0120	Seeding Mixture No. 20	LB	29.000	29.000
0034	630.0500	Seed Water	MGAL	14.000	14.000
0036	642.5001	Field Office Type B	EACH	1.000	1.000
0038	643.0300	Traffic Control Drums	DAY	2,562.000	2,562.000
0040	643.0420	Traffic Control Barricades Type III	DAY	122.000	122.000
0042	643.0705	Traffic Control Warning Lights Type A	DAY	244.000	244.000
0044	643.0715	Traffic Control Warning Lights Type C	DAY	2,074.000	2,074.000
0046	643.0900	Traffic Control Signs	DAY	1,037.000	1,037.000
0048	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0050	643.3165	Temporary Marking Line Paint 6-Inch	LF	640.000	640.000
0052	643.3850	Temporary Marking Stop Line Removable Tape 18-Inch	LF	47.000	47.000
0054	643.5000	Traffic Control	EACH	1.000	1.000
0056	646.2020	Marking Line Epoxy 6-Inch	LF	4,240.000	4,240.000
0058	646.9002	Marking Removal Line 6-Inch	LF	2,120.000	2,120.000
0060	650.4500	Construction Staking Subgrade	LF	382.000	382.000
0062	650.5000	Construction Staking Base	LF	382.000	382.000
0064	650.9911	Construction Staking Supplemental Control (project) 01. 6130-04-61	EACH	1.000	1.000
0066	650.9920	Construction Staking Slope Stakes	LF	382.000	382.000
0068	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	1,200.000	1,200.000
0070	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	600.000	600.000
0072	SPV.0060	Special 01. Temporary Construction Access	EACH	1.000	1.000
0074	SPV.0060	Special 02. Temporary Traffic Signals	EACH	1.000	1.000
0076	SPV.0090	Special 01. Removing, Salvage and Reinstall Guardrail	LF	300.000	300.000
0078	SPV.0180	Special 01. Channel Protection and Slope Stabilization Geocell System	SY	2,920.000	2,920.000

3

LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
PROJECT	3	3
TOTAL 0010	3	3

LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON
SHOULDER	20
TOTAL 0010	20

LOCATION	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED LF	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED LF
PROJECT	800	800
TOTAL 0010	800	800

3

DIVISION	FROM/TO STATION	LOCATION	205.0100 COMMON EXCAVATION (CY) (1)		SALVAGED/UNUSABLE PAVEMENT MATERIAL (CY) (3)	AVAILABLE MATERIAL (CY) (4)	UNEXPANDED FILL (CY)	EXPANDED FILL (CY) (5)	MASS ORDINATE +/- (6)	209.2500 BACKFILL GRANULAR GRADE 2 (TON) (7)
			CUT (2)	EBS EXCAVATION				FACTOR 1.25		
DIVISION 1	35+50 TO 39+25	DRAINAGE DITCH	65	--	65	0	2,270	2,838	-2,838	4,824
DIVISION 1 SUBTOTAL			65	0	65	0	2,270	2,838	-2,838	4,824
UNDISTRIBUTED		2' EMBEDMENT (8)	40	--	--	--	--	--	--	--
UNDISTRIBUTED SUBTOTAL			40	0	--	--	--	--	--	--
GRAND TOTAL			105	0	65	0	2,270	2,838	-2,838	4,824
TOTAL COMMON EXC			105							

**NOTES:**

- (1) COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100
- (2) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
- (3) SALVAGED/UNUSABLE PAVEMENT MATERIAL
- (4) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL
- (5) EXPANDED FILL FACTOR = 1.25
- (6) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.
- (7) BACKFILL GRANULAR GRADE 2 IS CALCULATED AT 1.7 TONS/CY
- (8) FACTORS USED TO COMPUTE ANTICIPATED WASTE AND THE COMPUTED WASTE VOLUME IDENTIFIED ARE FOR GENERAL INFORMATION ONLY.
- (9) COMMON EXCAVATION NEEDED IN ORDER TO INSTALL CHANNEL PROTECTION GEOCELL AND BASE AGGREGATE 3-INCH SHELF AT EACH EMBEDMENT LOCATION

3

3

LOCATION	614.0950 REPLACING GUARDRAIL POSTS AND BLOCKS EACH	SPV.0090.01 SPECIAL (01. REMOVING, SALVAGE, AND REINSTALL GUARDRAIL) LF
TEMPORARY PROJECT ACCESS	36	300
<b>TOTAL 0010</b>	<b>36</b>	<b>300</b>

LOCATION	625.0100 TOPSOIL SY	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	628.7504 TEMPORARY DITCH CHECKS LF	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0500 SEED WATER MGAL
PROJECT	630	630	140	0.40	29	14
<b>TOTAL 0010</b>	<b>630</b>	<b>630</b>	<b>140</b>	<b>0.40</b>	<b>29</b>	<b>14</b>

LOCATION	643.1050 TRAFFIC CONTROL SIGNS PCMS DAY	REMARKS
PROJECT	14	2 DEVICES, 1 WEEK PRIOR TO START OF PROJECT
<b>TOTAL 0010</b>	<b>14</b>	

LOCATION	643.0300 TRAFFIC CONTROL DRUMS DAY	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C DAY	643.0900 TRAFFIC CONTROL SIGNS DAY	643.5000 TRAFFIC CONTROL EACH	REMARKS				
PROJECT	42	2	122	4	244	34	2,074	17	1,037	1	61 CALENDAR DAYS
<b>TOTAL 0010</b>	<b>2,562</b>	<b>122</b>	<b>244</b>	<b>2,074</b>	<b>1,037</b>	<b>1</b>					

LOCATION	643.3165 TEMPORARY MARKING LINE PAINT 6-INCH LF	643.3850 TEMPORARY MARKING STOP LINE REMOVABLE TAPE 18-INCH LF	REMARKS
BEGIN TRAFFIC CONTROL	--	25	WHITE
PROJECT	640	--	WHITE
END TRAFFIC CONTROL	--	22	WHITE
<b>TOTAL 0010</b>	<b>640</b>	<b>47</b>	

LOCATION	646.2020 MARKING LINE EPOXY 6-INCH LF	REMARKS
PROJECT	1,060	EDGE LINE RT
	1,060	EDGE LINE LT
	2,120	DOUBLE YELLOW CL
<b>TOTAL 0010</b>	<b>4,240</b>	

LOCATION	646.9002 MARKING REMOVAL LINE 6- INCH LF	REMARKS
PROJECT	2,120	DOUBLE YELLOW CL
<b>TOTAL 0010</b>	<b>2,120</b>	

LOCATION	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.9911.01 CONSTRUCTION STAKING SUPPLEMENTAL (PROJECT) (01. 6130-04-61) EACH	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
PROJECT	382	382	1	382
<b>TOTAL 0010</b>	<b>382</b>	<b>382</b>	<b>1</b>	<b>382</b>

LOCATION	SPV.0060.01 SPECIAL (01. TEMPORARY CONSTRUCTION ACCESS) EACH	SPV.0060.02 SPECIAL (02. TEMPORARY TRAFFIC SIGNALS) EACH	SPV.0180.01 SPECIAL (01. CHANNEL PROTECTION AND SLOPE STABILIZATION GEOCELL SYSTEM) SY
PROJECT	1	1	2,920
<b>TOTAL 0010</b>	<b>1</b>	<b>1</b>	<b>2,920</b>

NOTES:  
THIS EXHIBIT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSES ONLY.  
REFER TO THE CONVEYANCE DOCUMENT FOR PARCEL RELATED DETAILS.

PURPOSE FOR TLE IS FOR GRADING, UNLESS OTHERWISE NOTED.

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

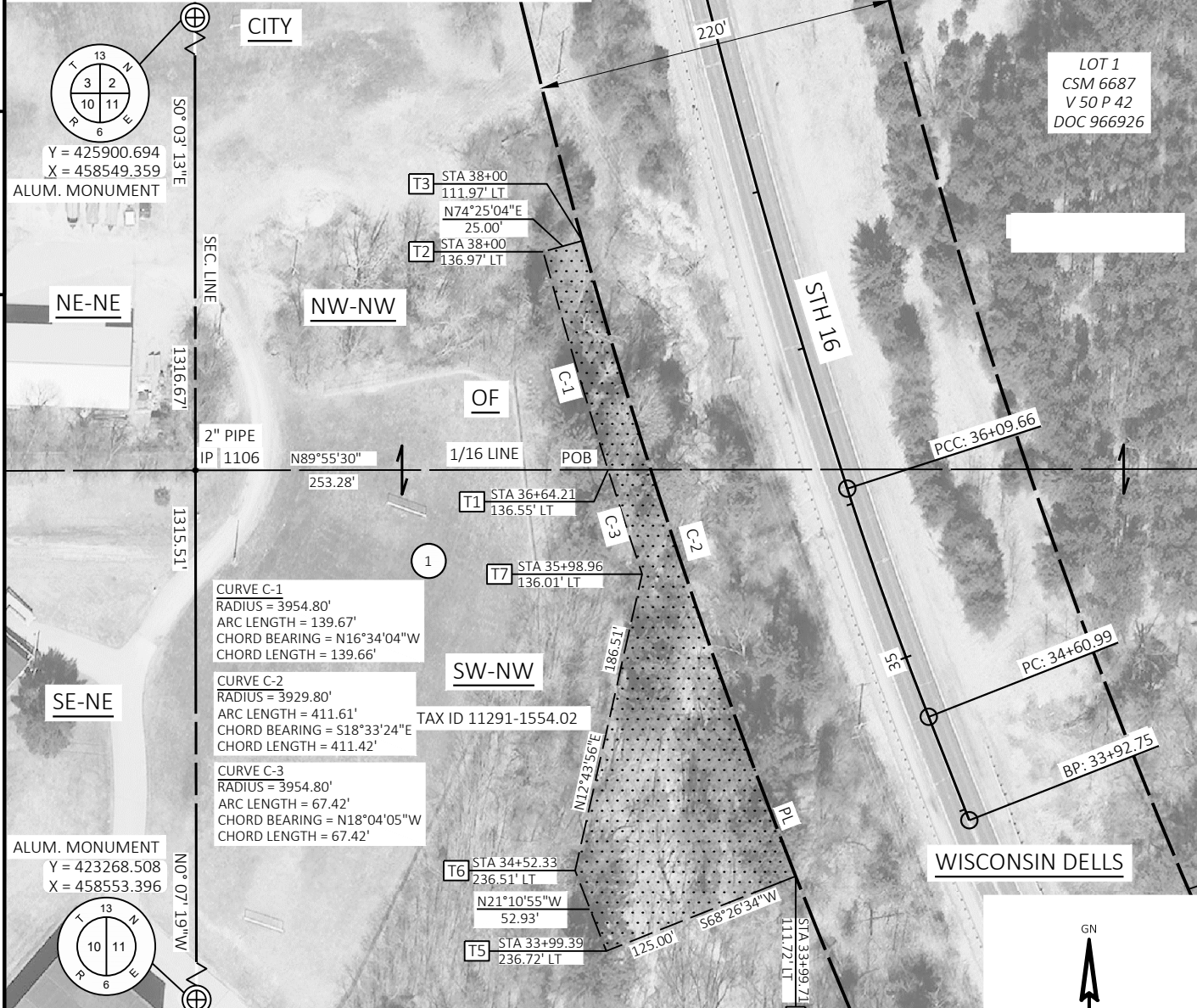
EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE: EXISTING HIGHWAY RIGHT OF WAY FOR STH 16 ESTABLISHED FROM PREVIOUS PROJECT F 06-2 (9), DEERWOOD GLEN SUBDIVISION, AND CSM 6687.

R/W PROJECT NUMBER: 6130-04-21 EXHIBIT NUMBER: 1

TLE ACQUISITION EXHIBIT  
WISCONSIN DELLS - PORTAGE  
SLOPE 0.2 M N OF DEERWOOD TRAIL

STH 16 COLUMBIA COUNTY

PART OF THE NW 1/4 OF THE NW 1/4 AND PART OF THE SW 1/4 OF THE NW 1/4, ALL IN SECTION 11, TOWNSHIP 13 NORTH, RANGE 6 EAST, CITY OF WISCONSIN DELLS, COLUMBIA COUNTY, WISCONSIN



**SCHEDULE OF LANDS & INTERESTS REQUIRED**

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

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	TLE S.F.
1	JOINT SCHOOL DISTRICT NO. 1	TLE	23,242

**UTILITY INTERESTS REQUIRED**

UTILITY NUMBER	UTILITY OWNER(S)	INTEREST REQUIRED
N/A	N/A	N/A

OUTLOT 9  
DEERWOOD GLEN SUBDIVISION  
DOC 737048

THIS MAP IS APPROVED FOR THE DEPARTMENT OF TRANSPORTATION  
SOUTHWEST REGION - MADISON

SIGNATURE: *Emily Hemling* DATE: 10/30/25  
PRINT NAME: EMILY HEMLING

NOTES:  
THIS EXHIBIT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSES ONLY.  
REFER TO THE CONVEYANCE DOCUMENT FOR PARCEL RELATED DETAILS.

R/W PROJECT NUMBER: EXHIBIT NUMBER:

COUNTY

SHEET  
INTENTIONAL  
LEFT BLANK

**SCHEDULE OF LANDS & INTERESTS REQUIRED**

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

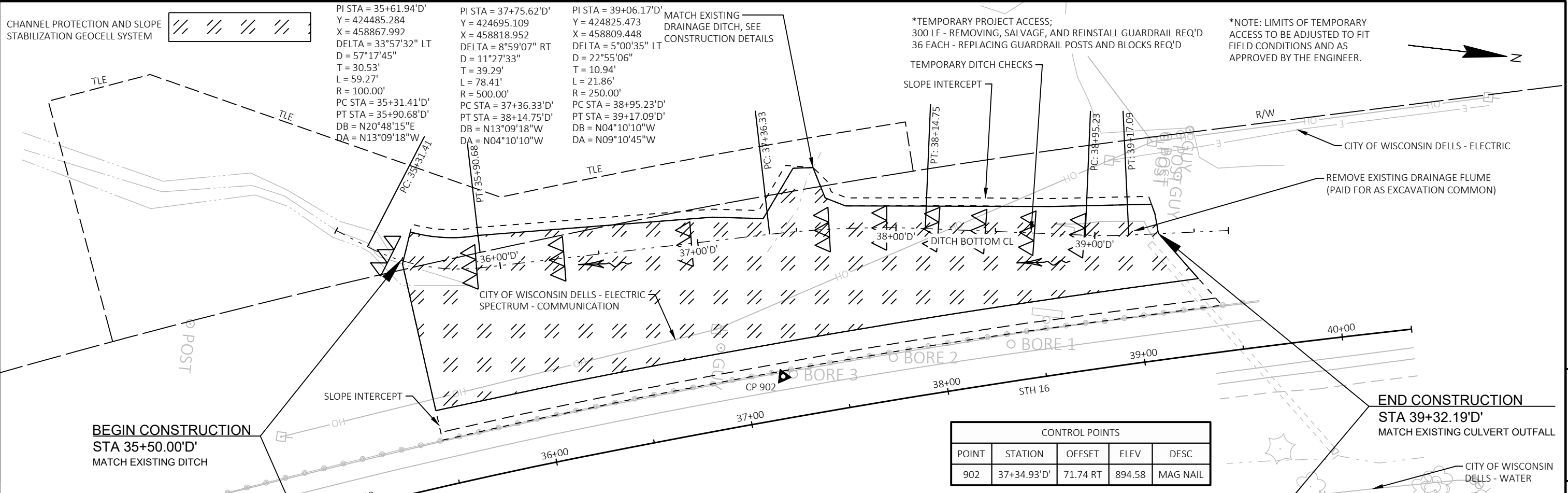
PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	TLE S.F.
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**UTILITY INTERESTS REQUIRED**

UTILITY NUMBER	UTILITY OWNER(S)	INTEREST REQUIRED
----------------	------------------	-------------------

THIS MAP IS APPROVED FOR THE DEPARTMENT OF TRANSPORTATION  
SOUTHWEST REGION - MADISON

SIGNATURE: DATE:   
PRINT NAME:



PI STA = 35+61.94'D'  
 Y = 424485.284  
 X = 458867.992  
 DELTA = 33°57'32" LT  
 D = 57°17'45"  
 T = 30.53'  
 L = 59.27'  
 R = 100.00'  
 PC STA = 35+31.41'D'  
 PT STA = 35+90.68'D'  
 DB = N20°48'15"E  
 DA = N13°09'18"W

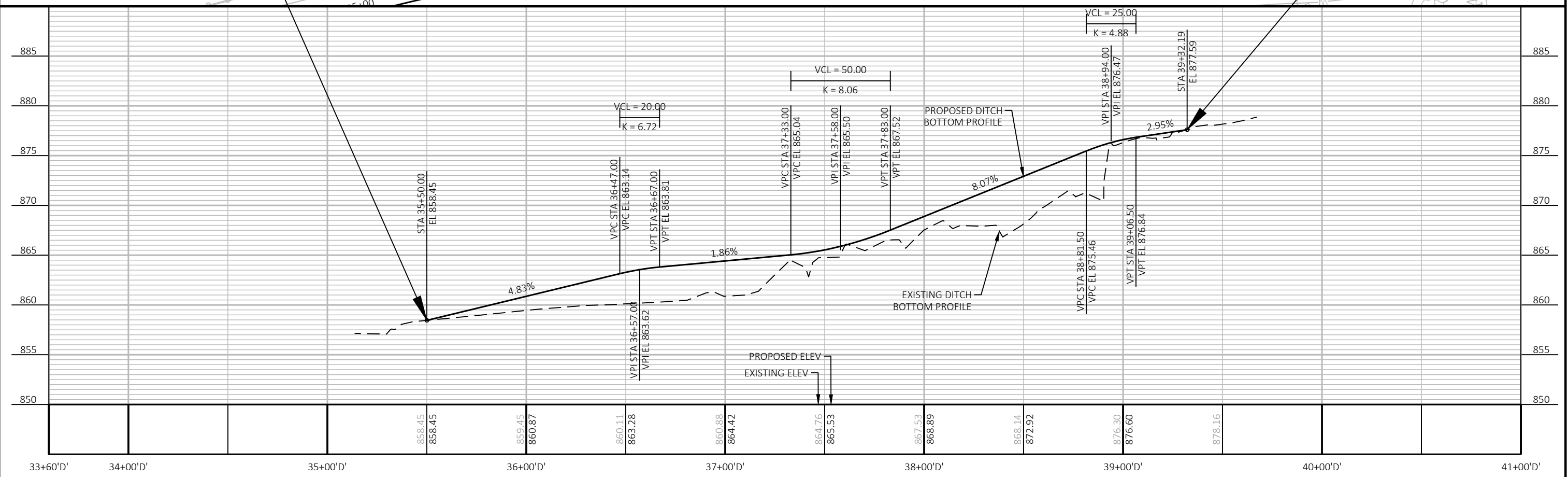
PI STA = 37+75.62'D'  
 Y = 424695.109  
 X = 458818.952  
 DELTA = 8°59'07" RT  
 D = 11°27'33"  
 T = 39.29'  
 L = 78.41'  
 R = 500.00'  
 PC STA = 37+36.33'D'  
 PT STA = 38+14.75'D'  
 DB = N13°09'18"W  
 DA = N04°10'10"W

PI STA = 39+06.17'D'  
 Y = 424825.473  
 X = 458809.448  
 DELTA = 5°00'35" LT  
 D = 22°55'06"  
 T = 10.94'  
 L = 21.86'  
 R = 250.00'  
 PC STA = 38+95.23'D'  
 PT STA = 39+17.09'D'  
 DB = N04°10'10"W  
 DA = N09°10'45"W

\*TEMPORARY PROJECT ACCESS;  
 300 LF - REMOVING, SALVAGE, AND REINSTALL GUARDRAIL REQ'D  
 36 EACH - REPLACING GUARDRAIL POSTS AND BLOCKS REQ'D

\*NOTE: LIMITS OF TEMPORARY  
 ACCESS TO BE ADJUSTED TO FIT  
 FIELD CONDITIONS AND AS  
 APPROVED BY THE ENGINEER.

CONTROL POINTS				
POINT	STATION	OFFSET	ELEV	DESC
902	37+34.93'D'	71.74 RT	894.58	MAG NAIL

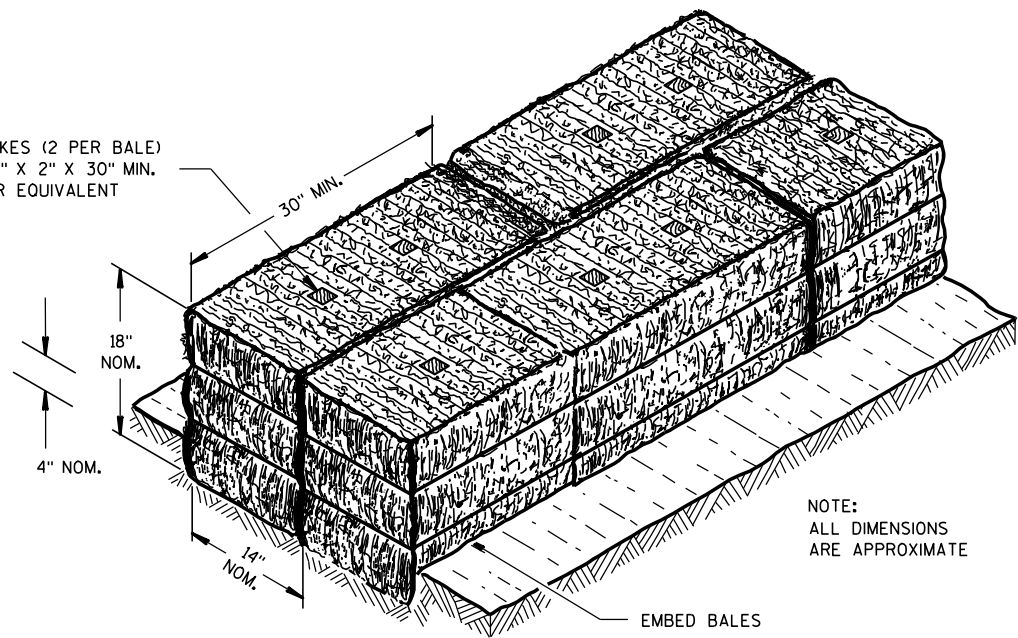


PROJECT NO: 6130-04-61      HWY: STH 16      COUNTY: COLUMBIA      PLAN AND PROFILE: DITCH BOTTOM CL      SHEET 12

## Standard Detail Drawing List

08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
14B07-16A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16I	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16J	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16K	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16L	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16M	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16N	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B15-11A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
15C12-09A	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15D33-10A	TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS

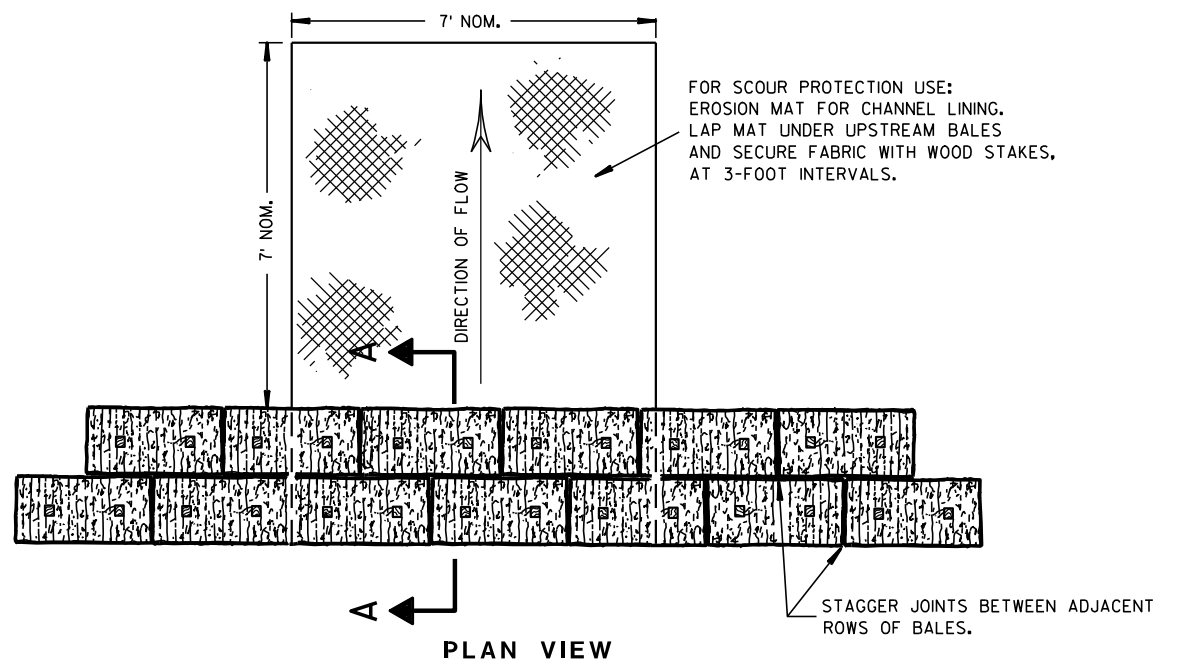
WOOD STAKES (2 PER BALE)  
NOMINAL 2" X 2" X 30" MIN.  
LENGTH OR EQUIVALENT



NOTE:  
ALL DIMENSIONS  
ARE APPROXIMATE

EMBED BALES

SECTION A-A

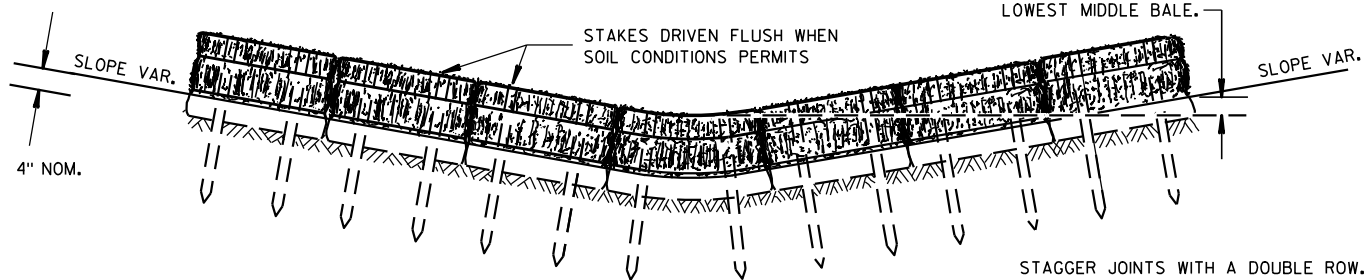


FOR SCOUR PROTECTION USE:  
EROSION MAT FOR CHANNEL LINING.  
LAP MAT UNDER UPSTREAM BALES  
AND SECURE FABRIC WITH WOOD STAKES,  
AT 3-FOOT INTERVALS.

STAGGER JOINTS BETWEEN ADJACENT  
ROWS OF BALES.

PLAN VIEW

BOTTOM ELEVATION OF END BALE SHALL  
BE EQUAL TO OR GREATER THAN TOP OF  
LOWEST MIDDLE BALE.



FRONT ELEVATION

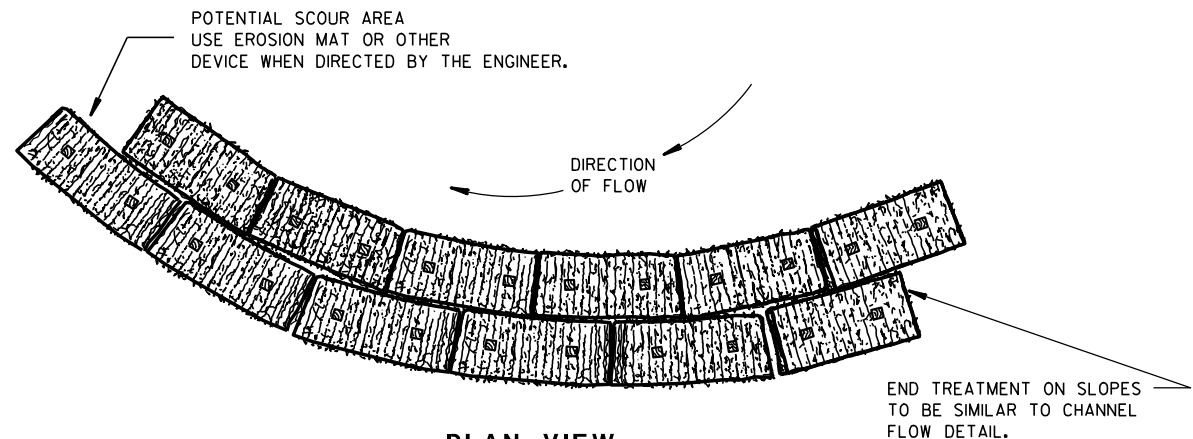
STAGGER JOINTS WITH A DOUBLE ROW.

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

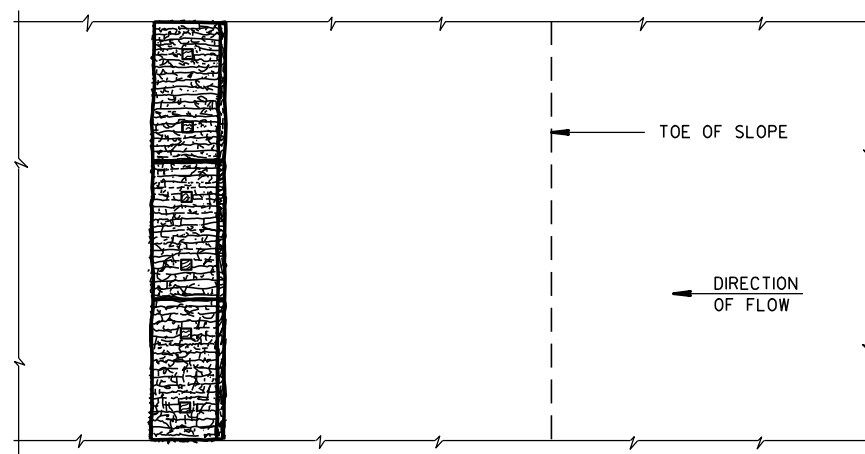
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

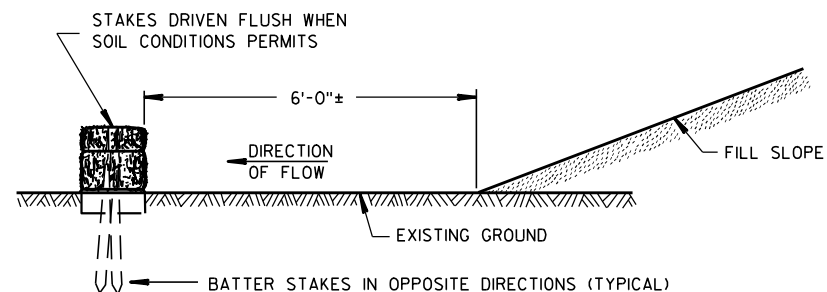


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

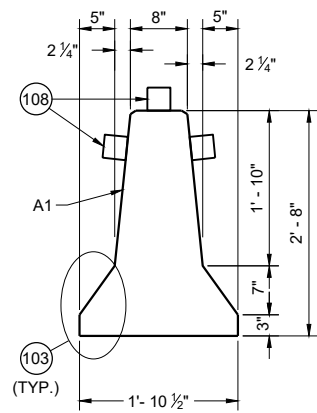
WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

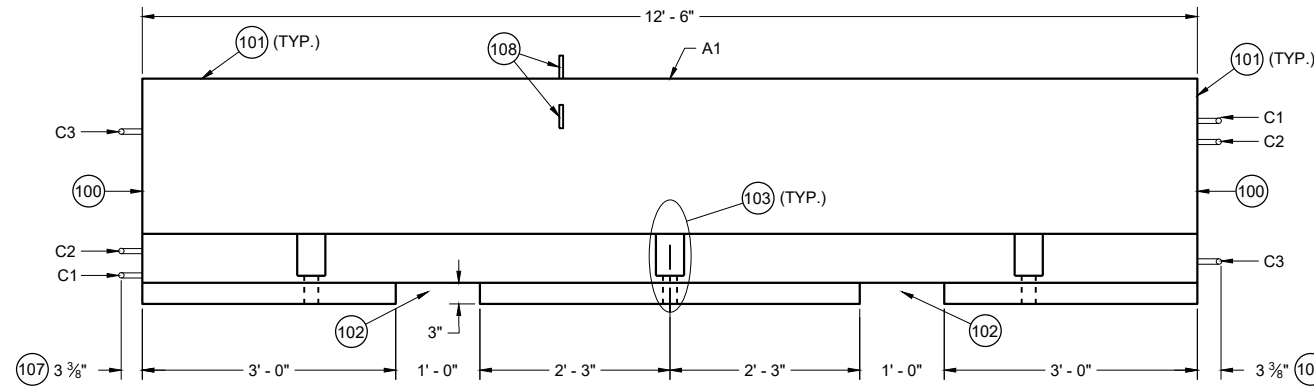
TYPICAL INSTALLATIONS OF  
EROSION BALES / TEMPORARY  
DITCH CHECKS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

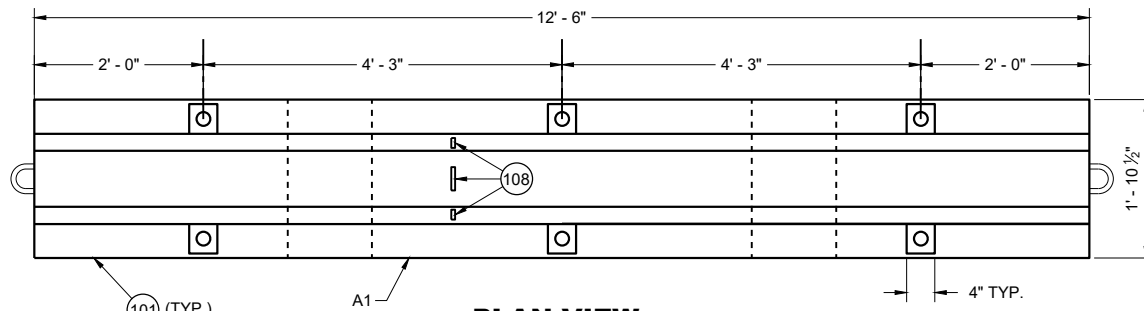
APPROVED  
6/04/02 /S/ Beth Cann...  
DATE CHIEF ROADWAY DEVELOP 14 ENGINEER  
FHWA



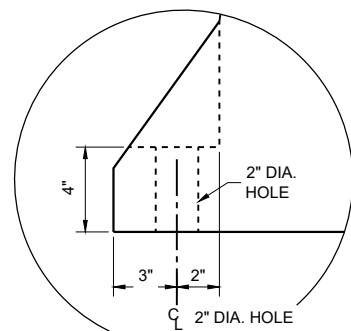
**CROSS SECTION**



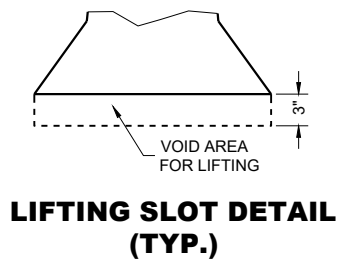
**PROFILE VIEW**



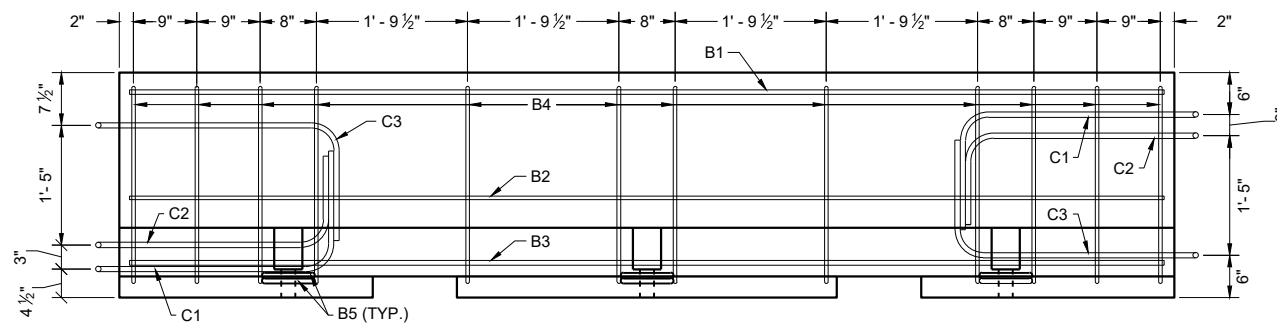
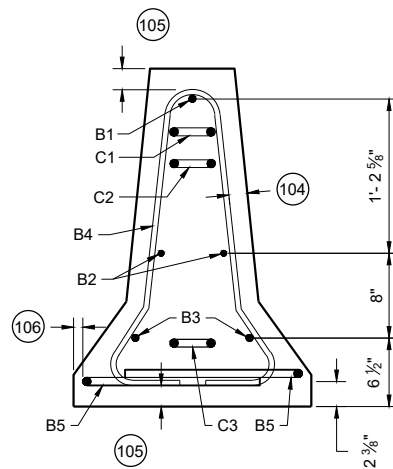
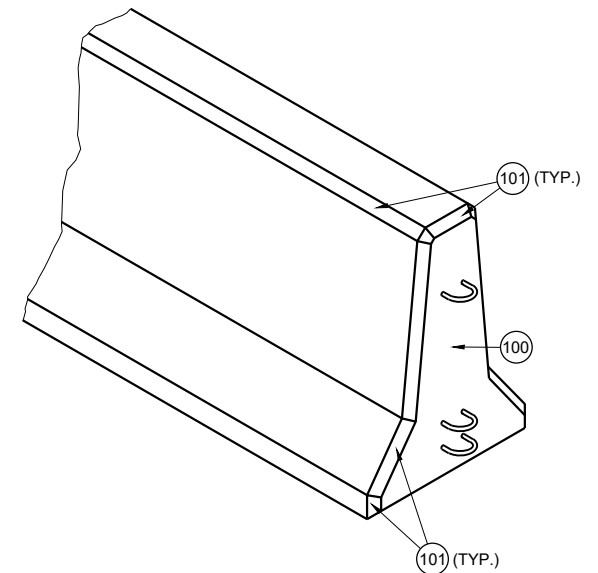
**PLAN VIEW  
TEMPORARY BARRIER**



**ANCHOR BLOCK  
DETAIL**



**LIFTING SLOT DETAIL  
(TYP.)**



**PROFILE VIEW  
TEMPORARY BARRIER REINFORCEMENT**

**GENERAL NOTES**

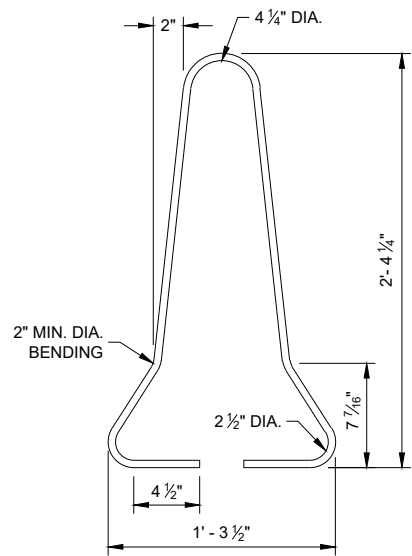
PLACE BARRIER ON PAVED SURFACE. BEFORE PLACEMENT OF TEMPORARY BARRIER, REMOVE ALL LOOSE MATERIAL FROM PAVED SURFACE.

LOOP BARS C1, C2 AND C3 ARE NOT FOR PLACEMENT OR MOVEMENT OF BARRIER.

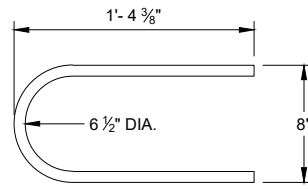
- 100 PERMANENTLY FORM INTO ONE END OF BARRIER THE FOLLOWING INFORMATION:  
A. TYPE OF BARRIER: WI-CBTP  
B. MANUFACTURER  
C. DATE OF MANUFACTURE (MONTH AND YEAR)
- 101 1" OPTIONAL CHAMFER
- 102 SEE LIFTING SLOT DETAIL
- 103 SEE ANCHOR BLOCK DETAIL
- 104 1 3/4" MIN. CLEAR COVER
- 105 2" MIN. CLEAR COVER
- 106 1" MIN. CLEAR COVER
- 107 ± 1/8" MEASURED FROM FACE OF CONCRETE BARRIER TO OUTSIDE OF LOOP BAR (TYP.)
- 108 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 LEFT OF TRAFFIC AND WHITE WHEN BARRIER IS LOCATED RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO SIDE MOUNTED DELINEATORS ON BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.

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

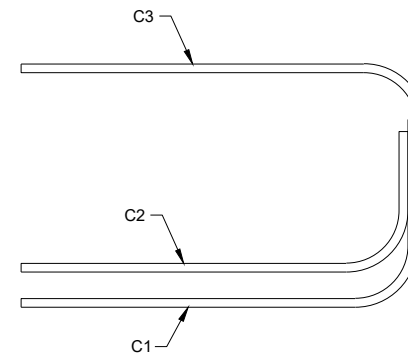
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



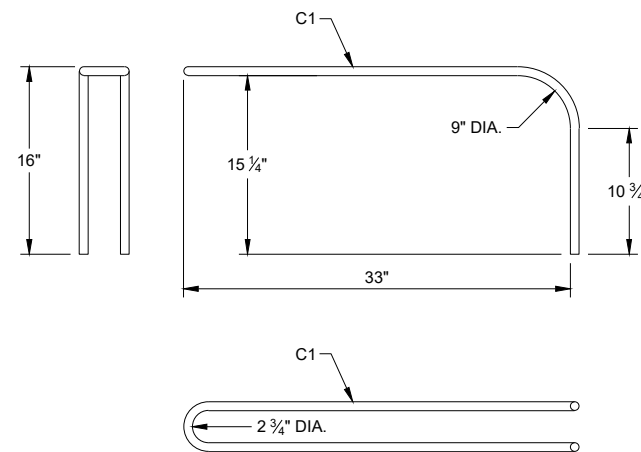
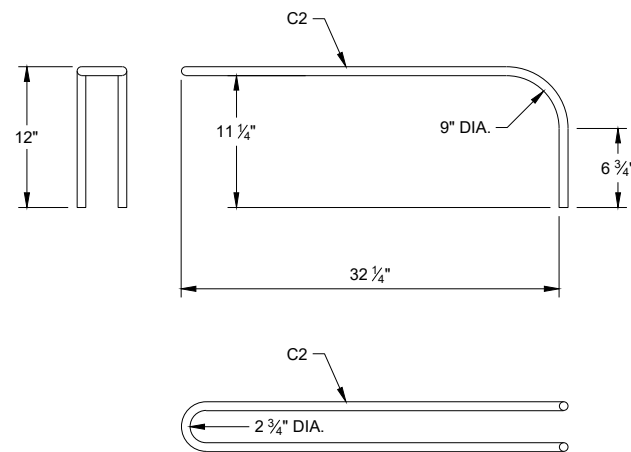
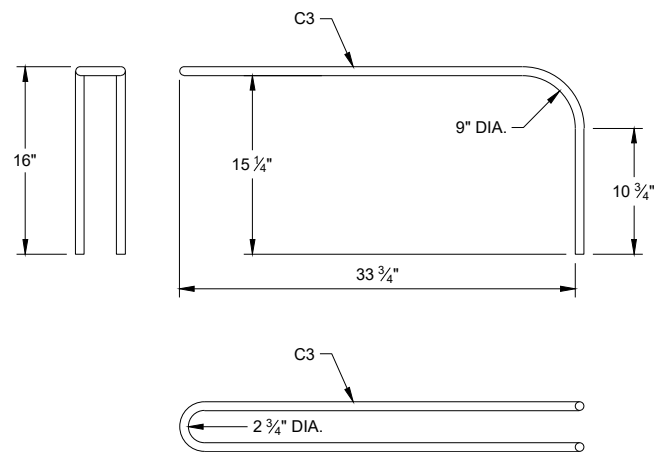
**B4 BAR DETAIL**



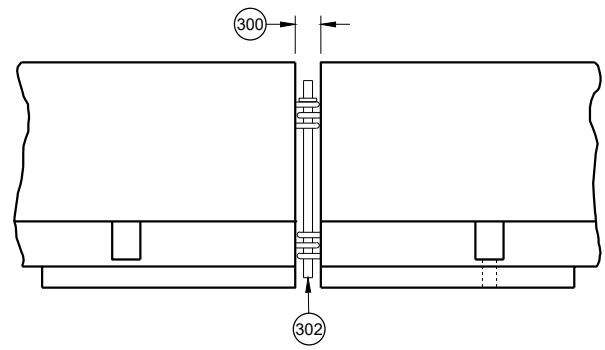
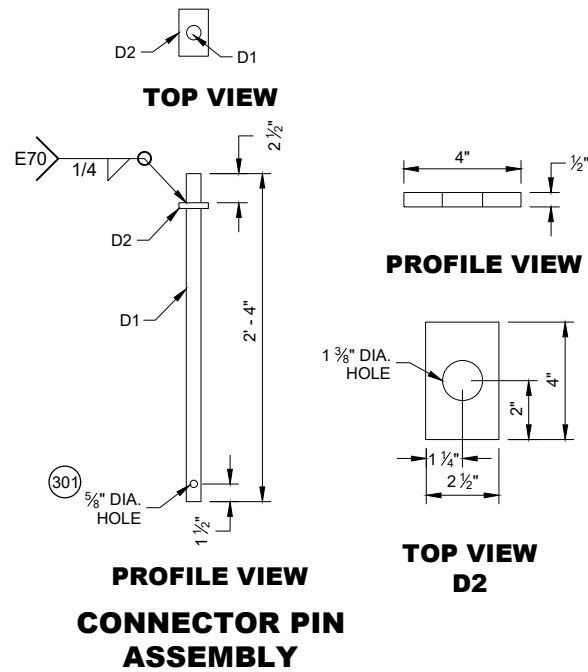
**B5 BAR DETAIL**



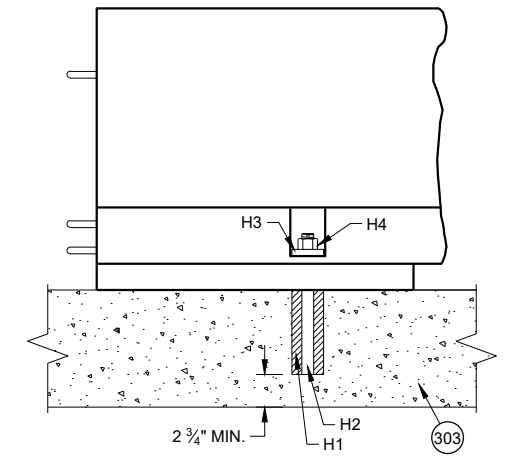
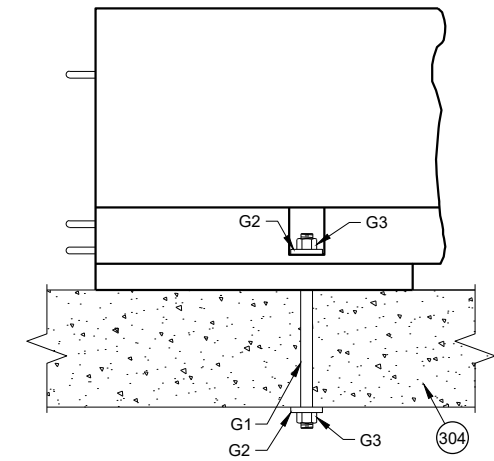
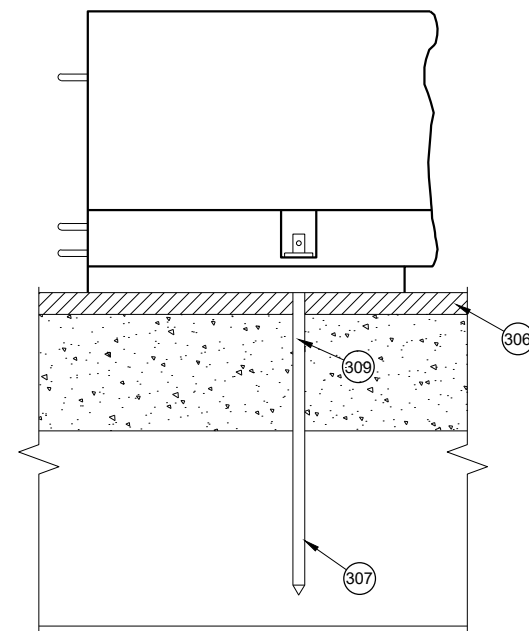
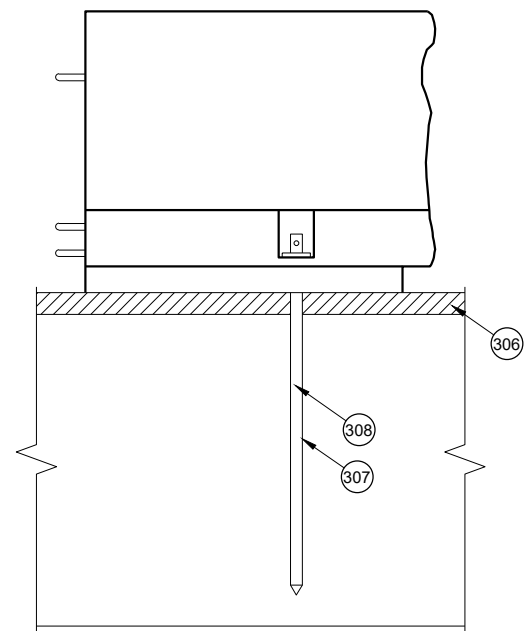
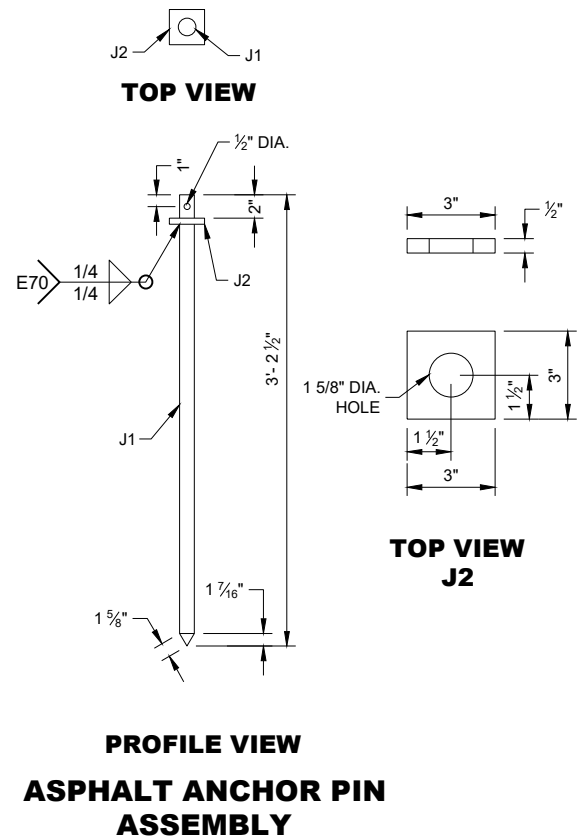
**PROFILE VIEW  
LOOP BAR ASSEMBLY**



**C BAR DETAILS**



- GENERAL NOTES**
- (300) SET WITH 3 5/8" WOOD BLOCK.
  - (301) HOLE IS OPTIONAL.
  - (302) CONNECTOR PIN ASSEMBLY.
  - (303) CONCRETE PAVEMENT, APPROACH SLAB, OR DECK.
  - (304) CONCRETE DECK.
  - (305) DO NOT USE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY OR CONCRETE PAVEMENT WITH ASPHALT OVERLAY.
  - (306) MINIMUM OF 2" OF ASPHALT.
  - (307) ASPHALT ANCHOR PIN ASSEMBLY
  - (308) IF DRILLING A PILOT HOLE, THE MAX. DIA. OF THE HOLE IS 3/4"
  - (309) WHEN THERE IS ASPHALT OVERLAYING CONCRETE PAVEMENT, A 1 5/8" DIA. PILOT HOLE CAN BE DRILLED INTO THE OVERLAY AND CONCRETE. IF NEEDED DRILL A 3/4" PILOT HOLE IN BASE COURSE.



6

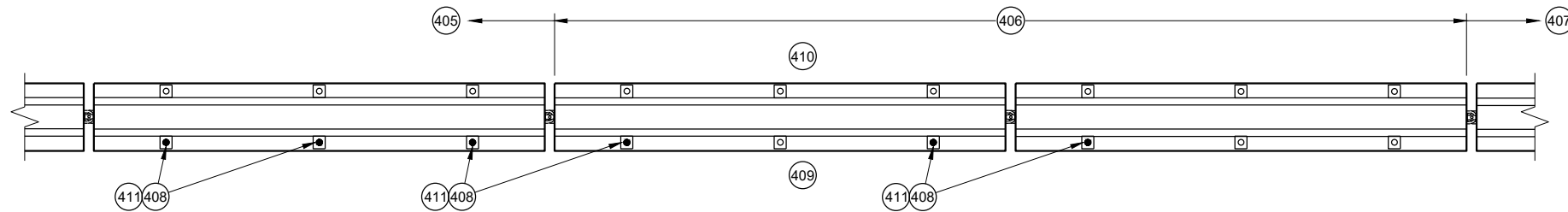
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SDD 14B07-16C

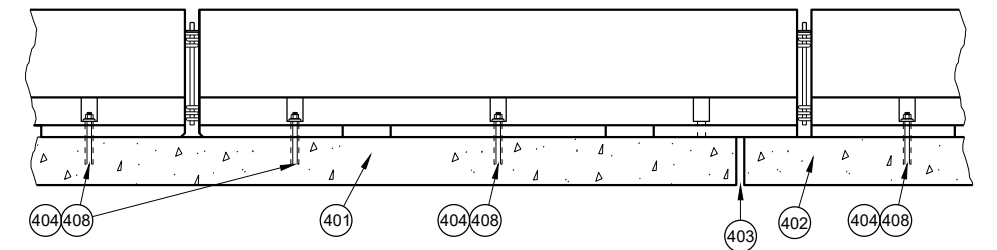
SDD 14B07-16C

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

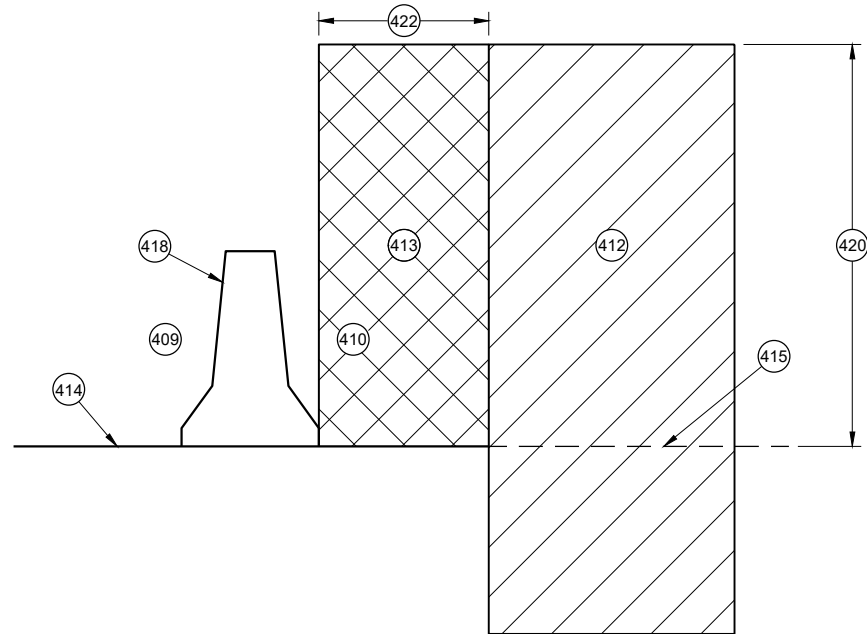
STATE OF WISCONSIN  
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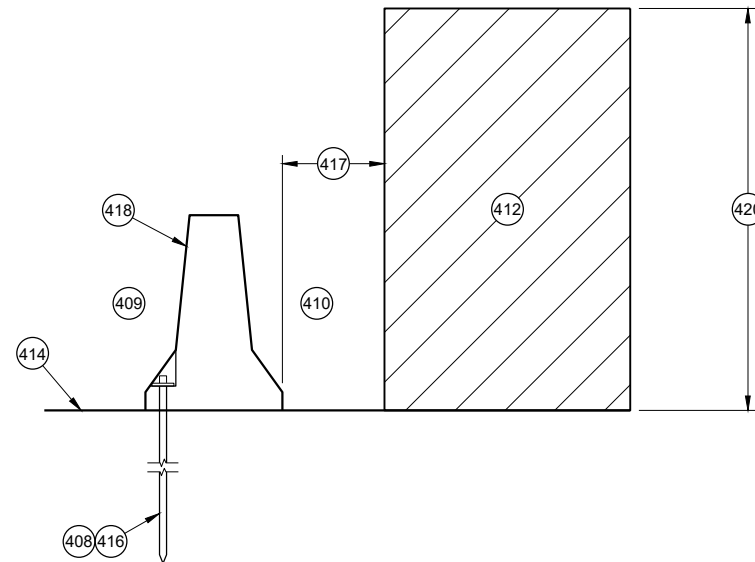
**PLAN VIEW**  
**TRANSITION FROM FREE STANDING TO ANCHORED BARRIER**



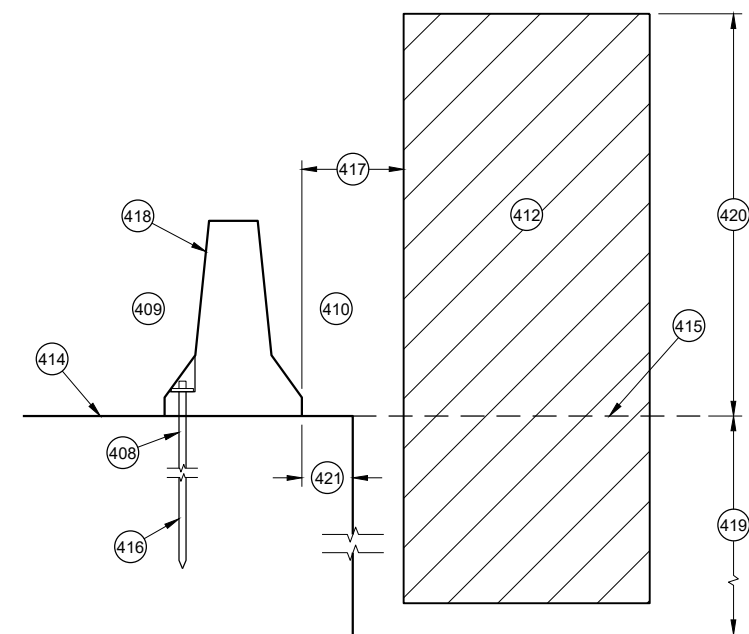
**PROFILE VIEW**  
**ANCHORED BARRIER NEAR EXPANSION JOINT**



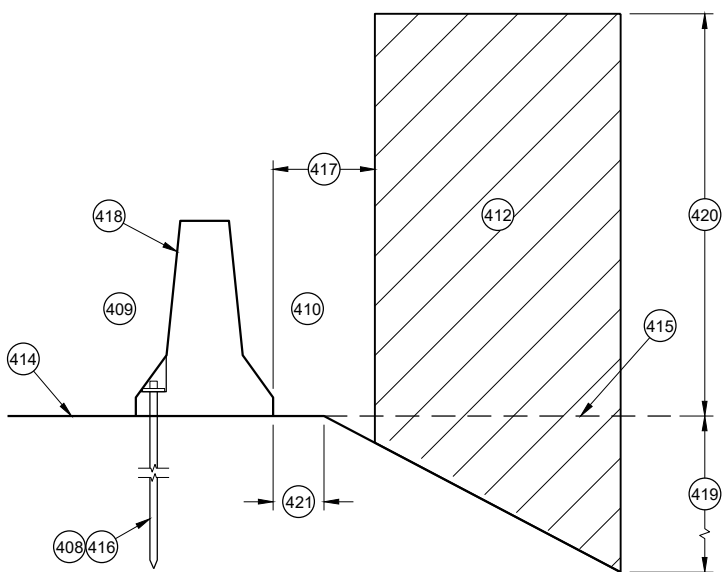
**CROSS SECTION**  
**FREE STANDING BARRIER**



**CROSS SECTION**  
**ANCHORED BARRIER FOR OBJECTS ABOVE THE GRADE LINE AND NEAR THE BARRIER**



**CROSS SECTION**  
**ANCHORED BARRIER NEAR VERTICAL DROP OFF**



**CROSS SECTION**  
**ANCHORED BARRIER NEAR A SLOPE**

**GENERAL NOTES**

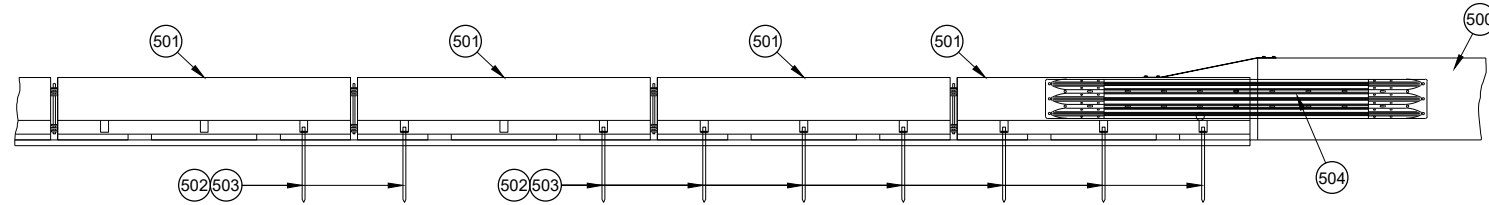
- (400) NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.
- (401) CONCRETE DECK
- (402) CONCRETE DECK OR APPROACH SLAB.
- (403) EXPANSION JOINT
- (404) ADHESIVE ANCHOR SHOWN. SEE ANCHOR DETAILS.
- (405) ANCHORED TEMPORARY BARRIER
- (406) TRANSITION FROM ANCHORED TEMPORARY BARRIER TO FREE STANDING
- (407) FREE STANDING BARRIER
- (408) 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.
- (409) TRAFFIC SIDE
- (410) NON-TRAFFIC SIDE
- (411) ANCHOR LOCATION. SEE ANCHORING DETAILS.
- (412) WORK AREA
- (413) AREA FREE OF OBJECTS AND WORKERS
- (414) GRADE LINE
- (415) EXTENDED GRADE LINE
- (416) ANCHORED TEMPORARY BARRIER. SEE BOLT THROUGH DECK, REMOVABLE ADHESIVE ANCHOR, OR AN ASPHALT ANCHOR ROD DETAILS FOR MORE INFORMATION. ASPHALT ANCHOR ROD SHOWN.
- (417) WHEN OBJECTS EXTEND ABOVE THE GRADE, A MINIMUM OF 1 FOOT IS REQUIRED FROM BACK OF BARRIER TO OBJECT.
- (418) OBJECTS ARE NOT TO BE PLACED ON, MOUNTED TO, OR ALLOWED TO LEAN AGAINST THE BARRIER WITHOUT WRITTEN PERMISSION OF THE PROJECT ENGINEER.
- (419) DEPTHS OF 3 FEET OR MORE.
- (420) Y = 6.5'
- (421) OFFSET FROM BACK OF BARRIER EDGE:  
 CONCRETE PAVEMENT 0.5'  
 ASPHALT 0.5'
- (422) POSTED SPEED (MPH):  
 45 OR GREATER 4.0'  
 40 OR LOWER 2.0'

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

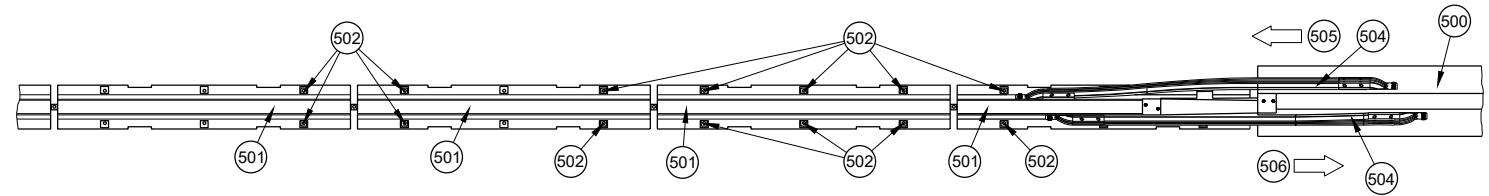
STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION 18

**GENERAL NOTES**

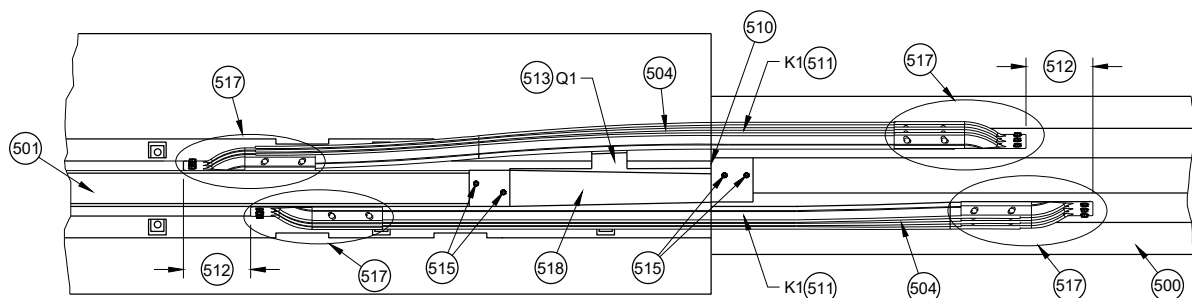
- (500) EXISTING RIGID BARRIERS (VARIES)
- (501) TEMPORARY BARRIER
- (502) SEE OTHER DETAIL ON HOW TO ANCHOR TEMPORARY BARRIER (BARRIER ASPHALT ANCHOR SHOWN).
- (503) ANCHORS ARE REQUIRED ON BOTH SIDE OF THE TEMPORARY BARRIER.
- (504) NESTED RAILS ARE REQUIRED ON BOTH SIDES OF THE TEMPORARY BARRIER FOR ALL INSTALLATIONS.
- (505) TRAFFIC TRAVELS FROM PERMANENT BARRIER TO TEMPORARY BARRIER.
- (506) TRAFFIC TRAVELS FROM TEMPORARY BARRIER TO PERMANENT BARRIER.
- (507) VERTICAL BARRIER
- (508) SAFETY SHAPE BARRIER
- (509) SINGLE SLOPE BARRIER
- (510) CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF RIGID BARRIER.
- (511) BENT THRIE BEAM TO FIT.
- (512) THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
- (513) TWO (2) P1, P2 AND P3 ARE REQUIRED
- (514) FIVE (5) N1, N2 AND N3 ARE REQUIRED
- (515) TWO (2) R1, R2 AND R3 ARE REQUIRED
- (516) CUT WOOD BLOCK TO FIT.
- (517) SEE THRIE BEAM RAIL TERMINAL CONNECTOR DETAIL ASSEMBLY.
- (518) CAP ASSEMBLY
- (519) 4" MAX. GAP BETWEEN TEMPORARY BARRIER AND RIGID BARRIER.
- (520) ALL TWELVE SPLICE HOLES REQUIRE M1 AND M2



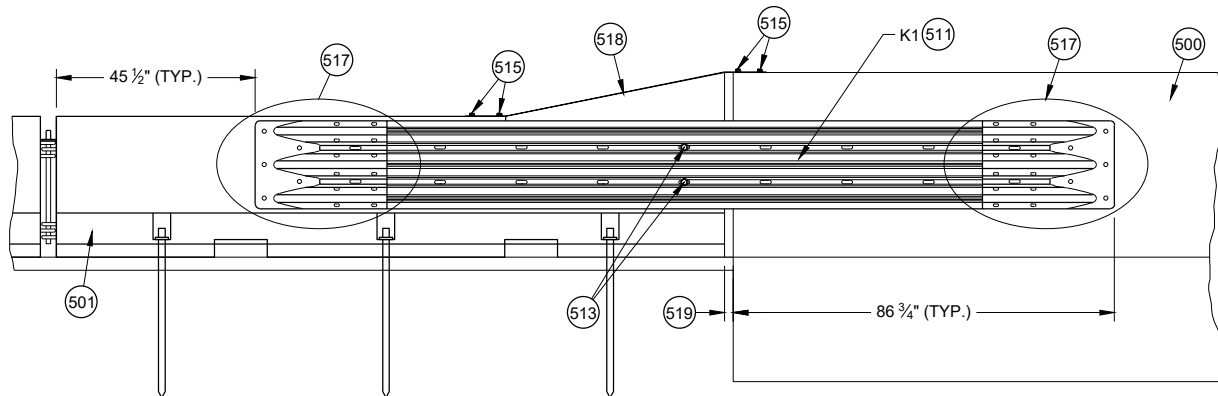
**PROFILE VIEW**



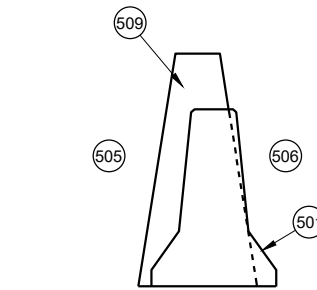
**PLAN VIEW  
TRANSITION TO RIGID BARRIER**



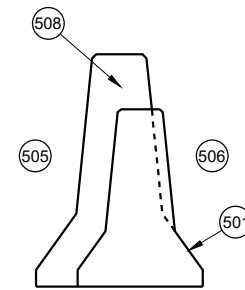
**PLAN DETAIL VIEW  
TRANSITION TO RIGID BARRIER**



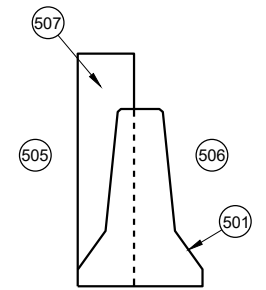
**FRONT DETAIL VIEW  
TRANSITION TO RIGID BARRIER**



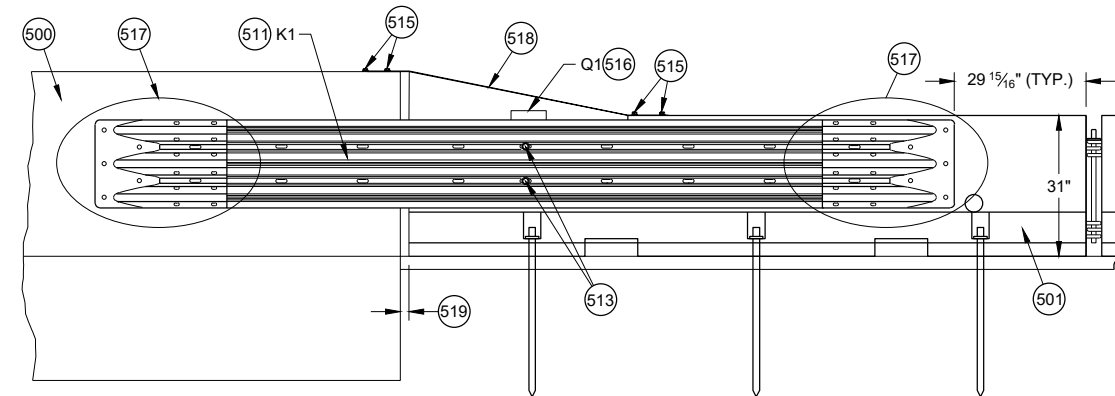
**CROSS SECTION  
TEMPORARY BARRIER  
PLACEMENT SINGLE SLOPE**



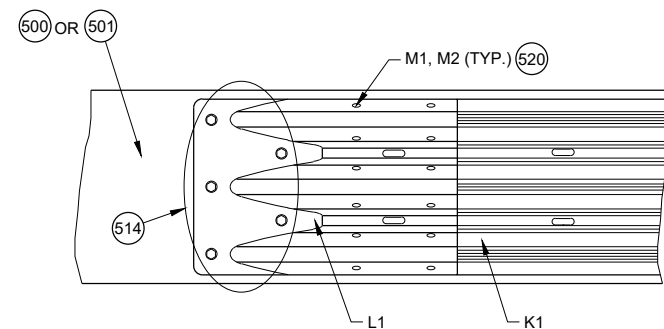
**CROSS SECTION  
TEMPORARY BARRIER  
PLACEMENT SAFETY SHAPE**



**CROSS SECTION  
TEMPORARY BARRIER  
PLACEMENT VERTICAL**



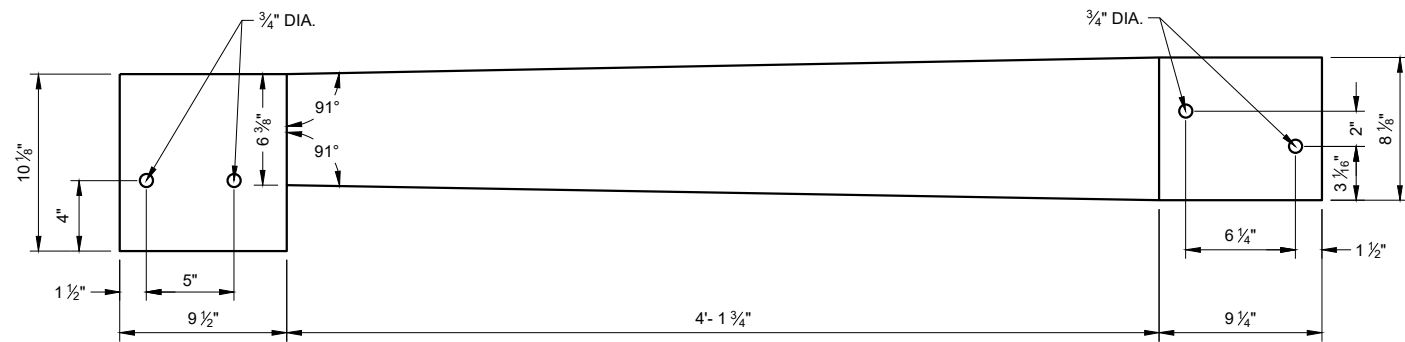
**BACK DETAIL VIEW  
TRANSITION TO RIGID BARRIER**



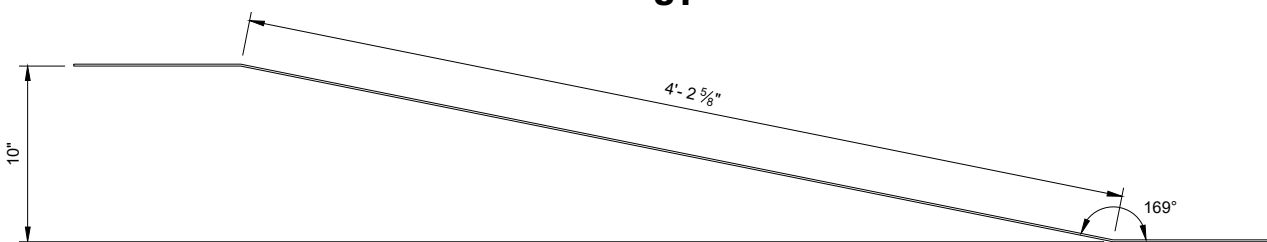
**(517) DETAIL PLAN VIEW  
THRIE BEAM RAIL TERMINAL CONNECTOR ASSEMBLY**

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

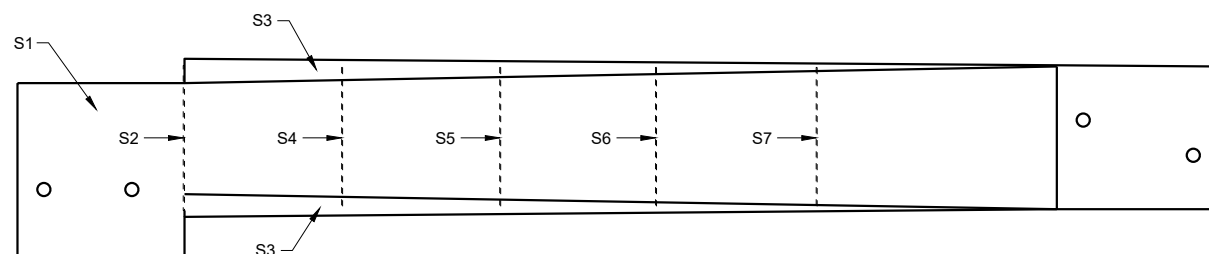
STATE OF WISCONSIN  
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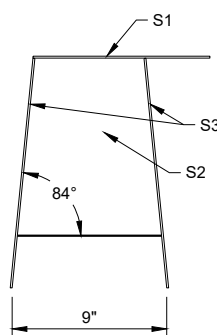
**TOP VIEW  
S1**



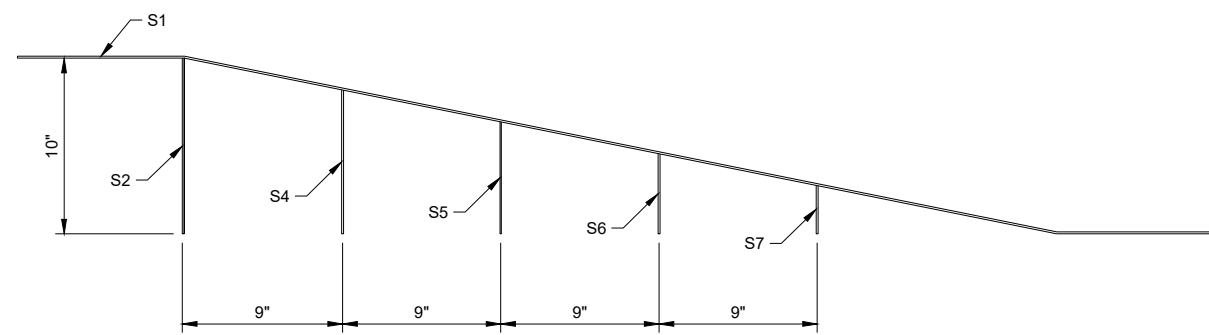
**ELEVATION VIEW  
S1**



**PLAN VIEW**

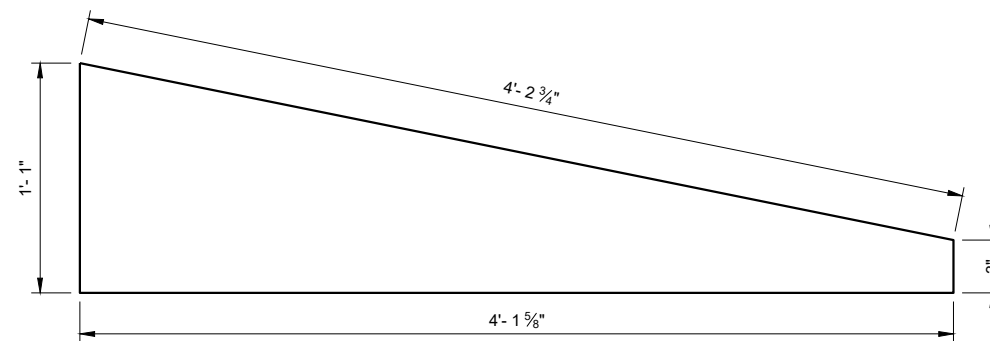


**BACK VIEW**

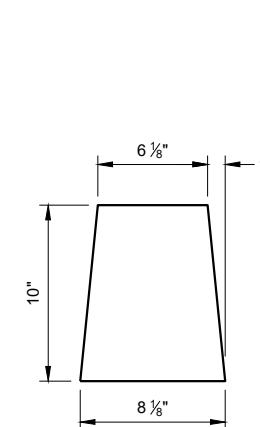


**SIDE VIEW (600)**

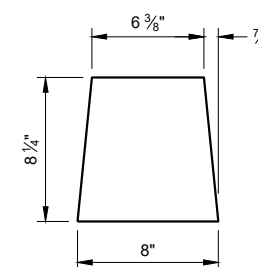
**42" TOP CAP ASSEMBLY**



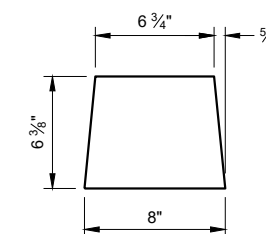
**SIDE VIEW  
S3**



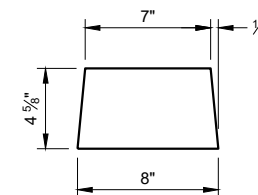
**S2**



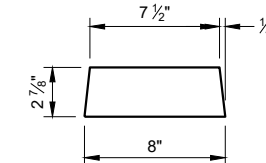
**S4**



**S5**



**S6**



**S7**

**GENERAL NOTES**

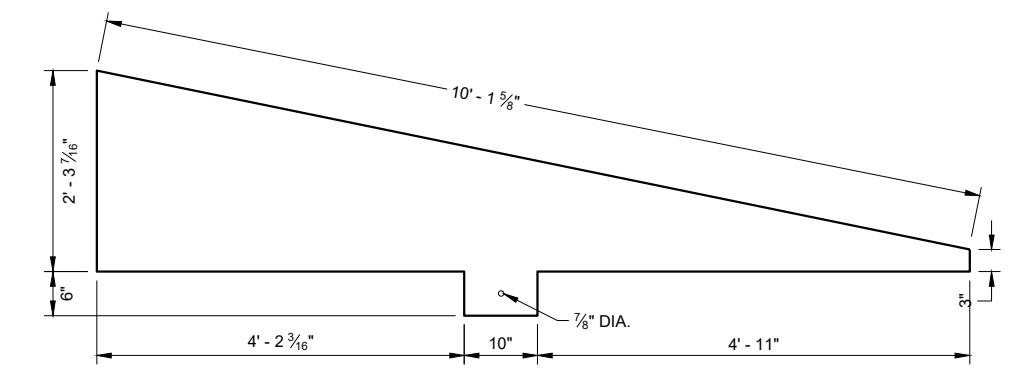
STITCH WELD GUSSET PLATES AND END PLATES ON THREE SIDES

STITCH WELD TWO SIDE PLATES TO TOP PLATE, END PLATE AND GUSSETS.

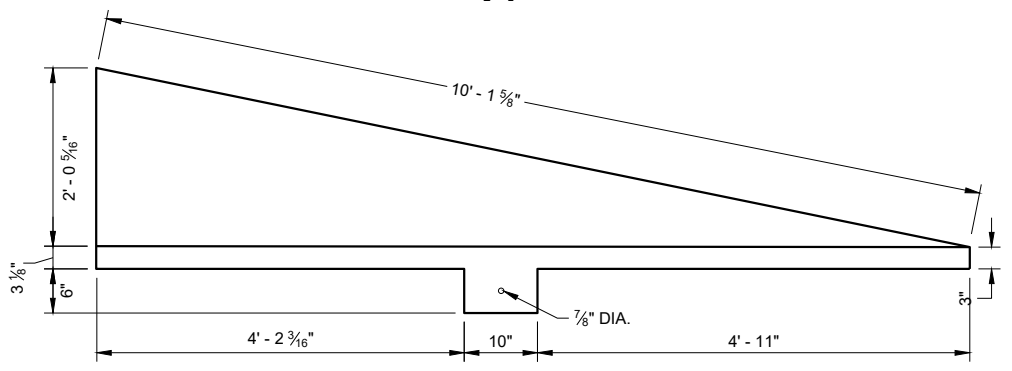
(600) SIDE PLATES (S3) NOT SHOWN FOR CLARITY.

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

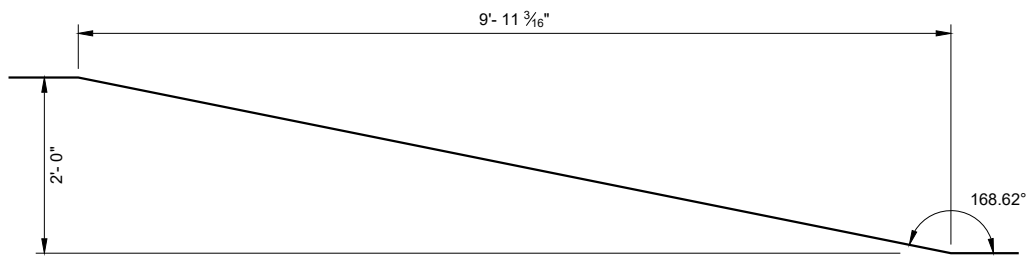
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION 20



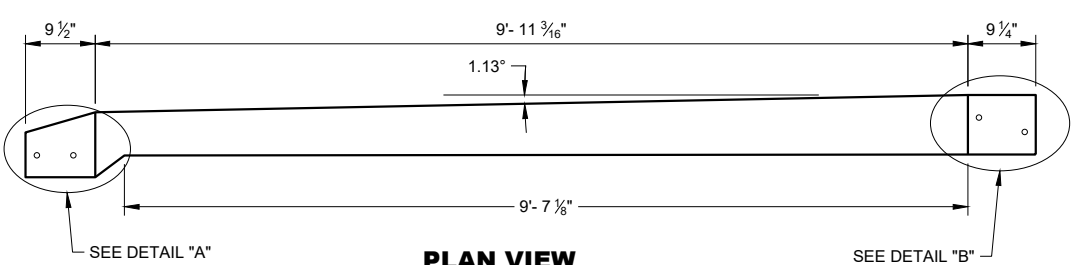
**SIDE VIEW  
T4**



**SIDE VIEW  
T3**



**SIDE VIEW  
TOP PLATE T1**



**PLAN VIEW  
TOP PLATE T1**

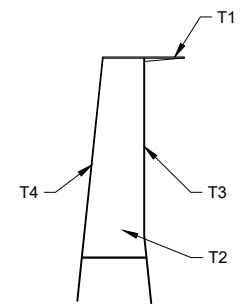
**GENERAL NOTES**

- STITCH WELD GUSSET PLATES AND END PLATES ON THRIE SIDES
- STITCH WELD TWO SIDE PLATES TO TOP PLATE, END PLATE AND GUSSETS.
- SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.
- (700) SIDE PLATES (T3 AND T4) NOT SHOWN FOR CLARITY.

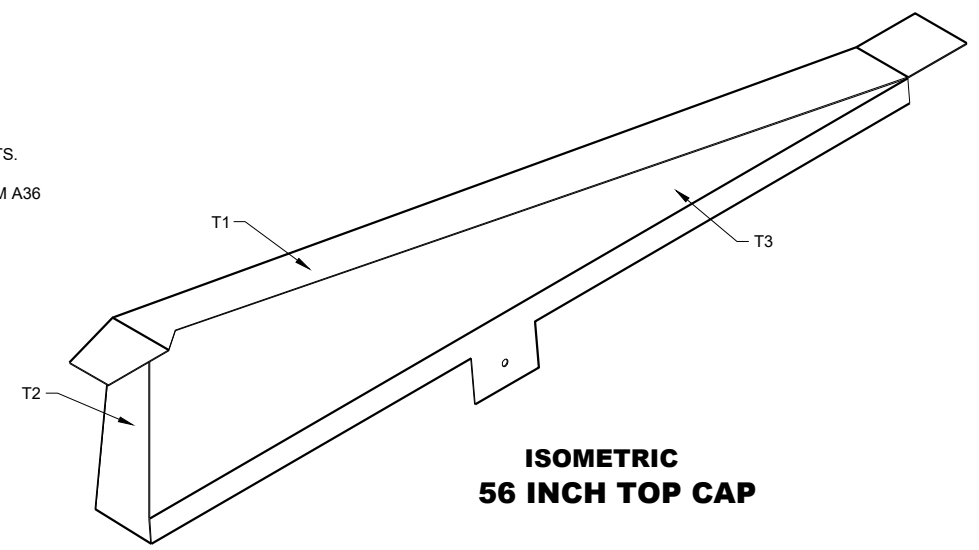
**END  
VIEW**

**END  
VIEW**

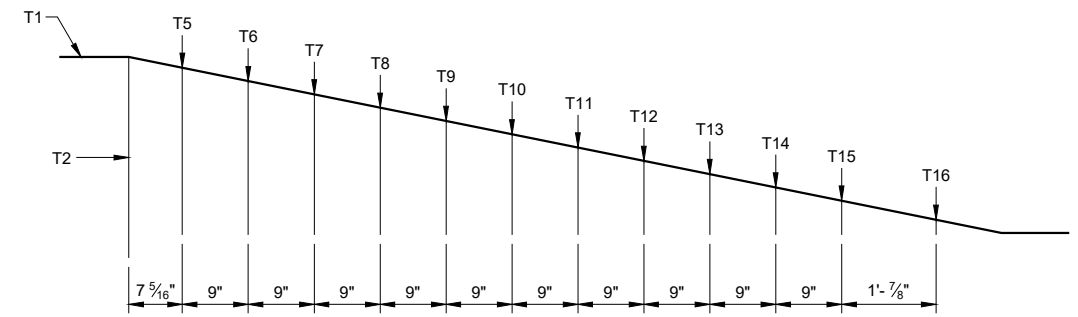
**END  
VIEW**



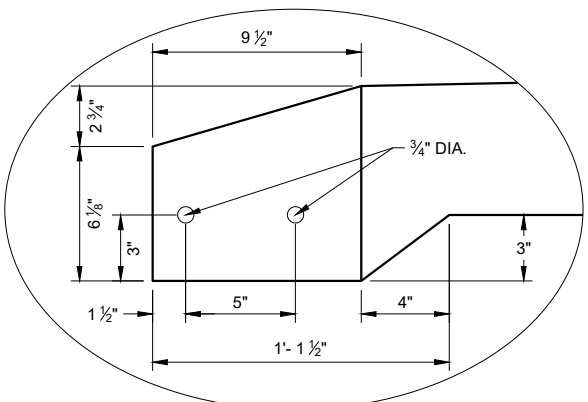
**END VIEW  
56 INCH TOP CAP**



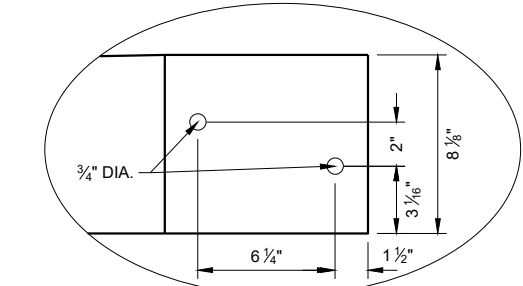
**ISOMETRIC  
56 INCH TOP CAP**



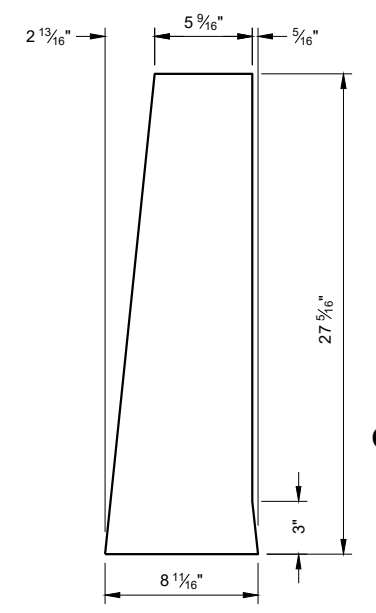
**SIDE VIEW  
56 INCH TOP CAP (700)**



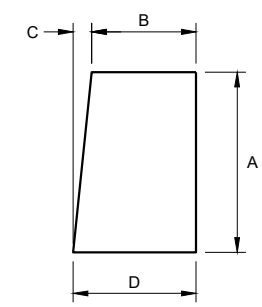
**DETAIL "A"**



**DETAIL "B"**



**END PLATE T2**

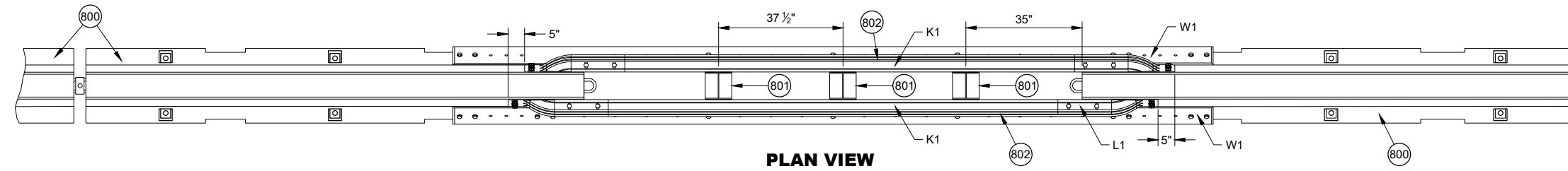
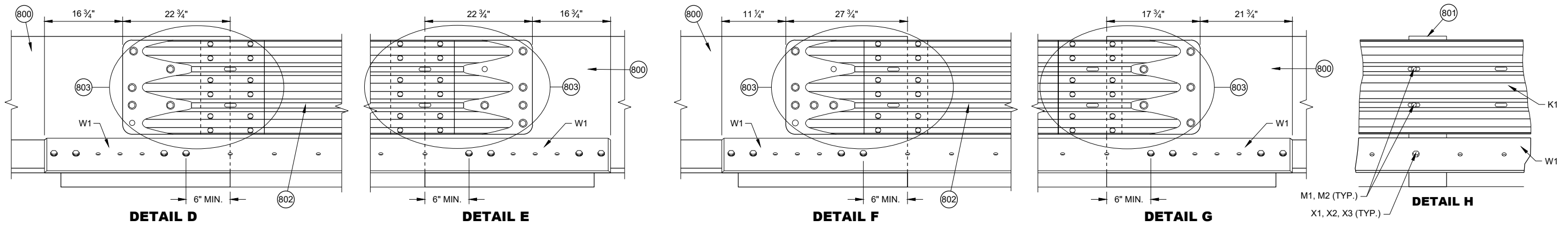


**GUSSET PLATES  
T5 - T16**

GUSSET DIMENSIONS				
GUSSET NO.	A	B	C	D
T5	22 13/16"	5 1/16"	2 5/16"	8 1/16"
T6	21"	5 7/8"	2 3/16"	8 1/16"
T7	19 3/16"	6 1/8"	1 13/16"	8 1/16"
T8	17 3/8"	6 1/4"	1 13/16"	8 1/16"
T9	15 9/16"	6 7/16"	1 1/16"	8 1/16"
T10	13 3/4"	6 5/8"	1 7/16"	8 1/16"
T11	11 15/16"	6 13/16"	1 1/4"	8 1/16"
T12	10 1/8"	7"	1 1/16"	8 1/16"
T13	8 5/16"	7 3/16"	7/8"	8 1/16"
T14	6 1/2"	7 3/8"	1 1/16"	8 1/16"
T15	4 1/16"	7 1/16"	1/2"	8"
T16	2 7/8"	7 3/4"	1/4"	8"

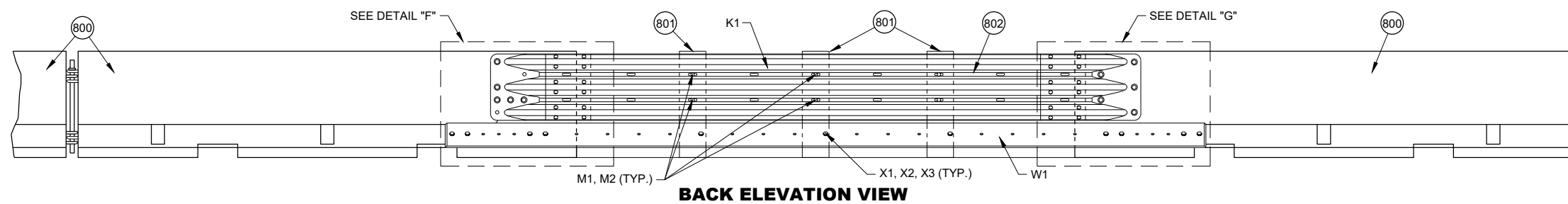
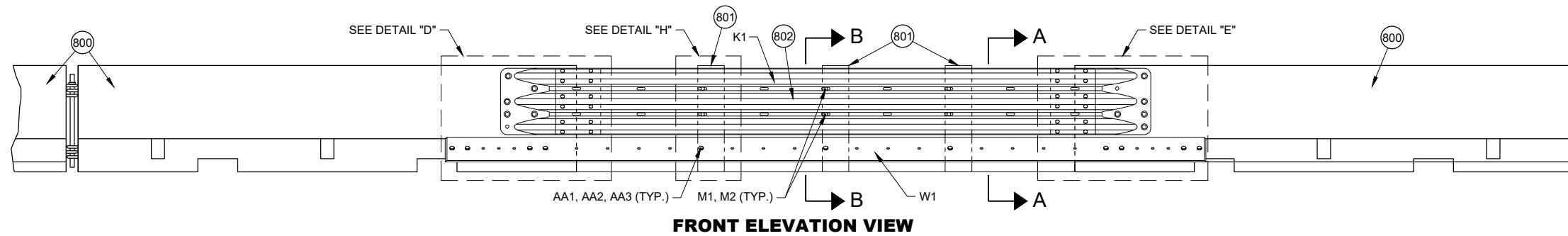
**CONCRETE BARRIER  
TEMPORARY PRECAST,  
12' - 6"**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION 21



**GENERAL NOTES**

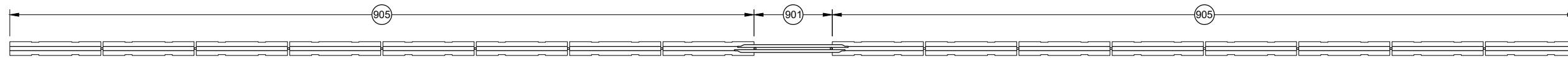
- 800 FREE STANDING TEMPORARY BARRIER
- 801 GAP STIFFENER ASSEMBLY
- 802 THRIE BEAMS ARE NESTED ON BOTH SIDES OF THE TEMPORARY BARRIER.
- 803 SEE THRIE BEAM RAIL TERMINAL CONNECTOR DETAIL



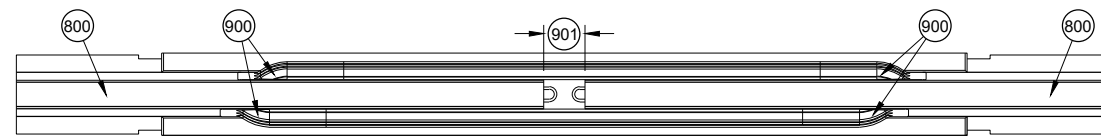
**PORTABLE CONCRETE BARRIER GAP THRIE BEAM COVER**

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

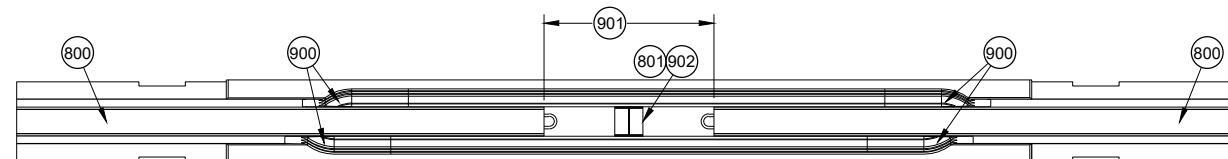
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION 22



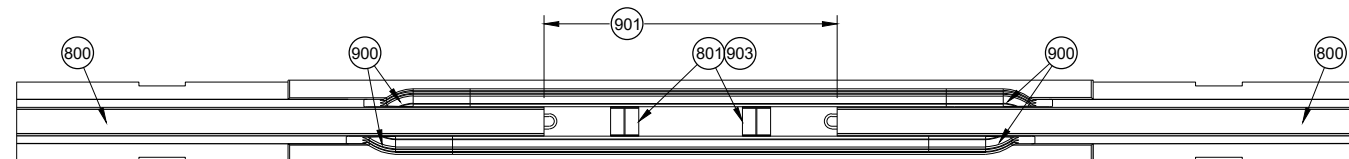
**PLAN VIEW  
GAP WITHIN SPACING**



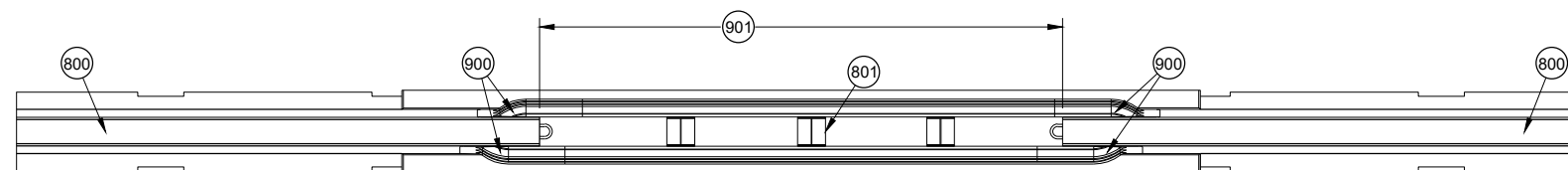
**PLAN VIEW  
TEMPORARY BARRIER GAP OVER 4" TO 1' MAX. 904**



**PLAN VIEW  
TEMPORARY BARRIER GAP OVER 1' TO 4' MAX. 904**



**PLAN VIEW  
TEMPORARY BARRIER GAP OVER 4' TO 7' MAX. 904**



**PLAN VIEW  
TEMPORARY BARRIER GAP OVER 7' TO 12.5' MAX. 904**

**GENERAL NOTES**

- 900 SEE OTHER DETAILS FOR TEMPORARY GAP HARDWARE (TYP.)
- 901 TEMPORARY BARRIER GAP
- 902 GAP STIFFENER ASSEMBLY CENTERED IN THE GAP.
- 903 GAP STIFFENER ASSEMBLY IS OFFSET 18 3/4" FROM CENTER
- 904 MINIMUM NUMBER OF GAP STIFFENERS SHOWN FOR THE GAP RANGE SHOWN.
- 905 MINIMUM OF 8 CONTINUOUS FREE STANDING TEMPORARY BARRIERS

6

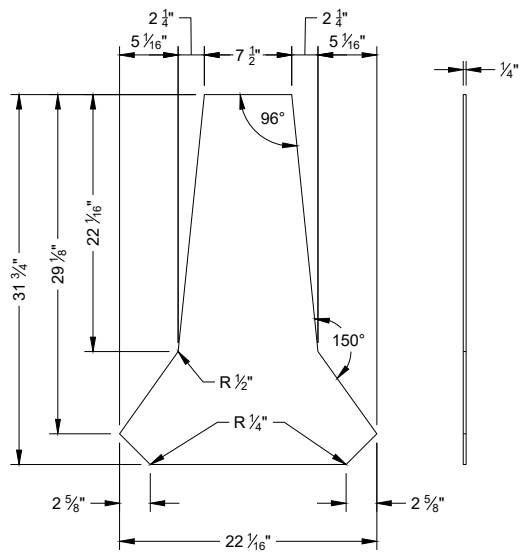
6

SDD 14B07-16i

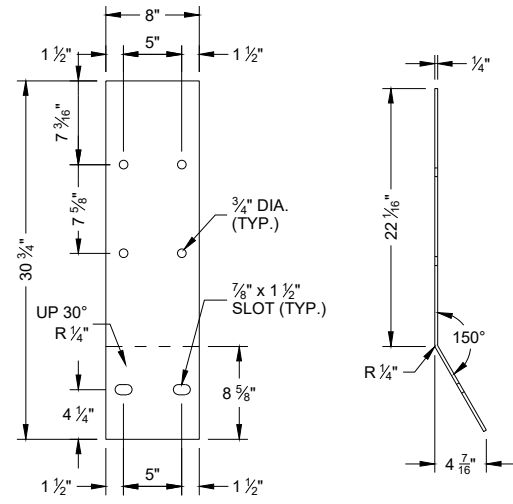
SDD 14B07-16i

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

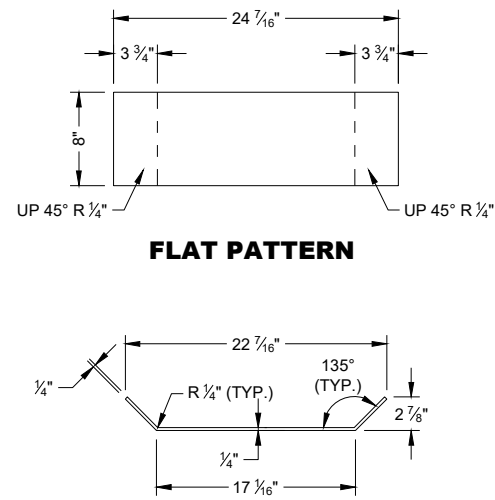
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION 23



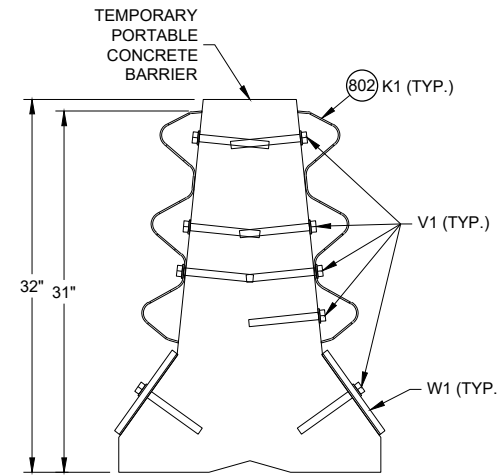
**PROFILE VIEW** **SIDE VIEW**  
**STIFFENER ASSEMBLY**  
**CENTER PANEL U1**



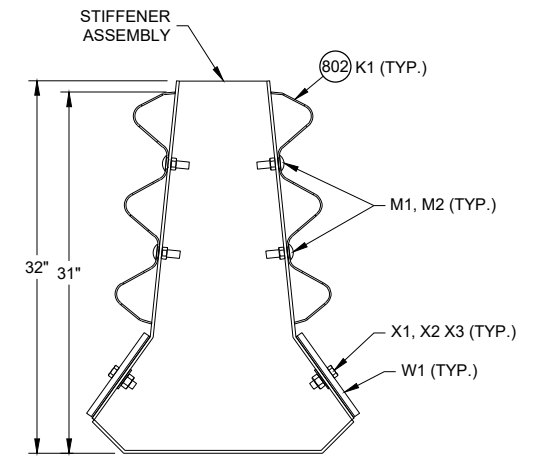
**FLAT PATTERN** **SIDE VIEW**  
**STIFFENER ASSEMBLY**  
**SIDE PANEL U2**



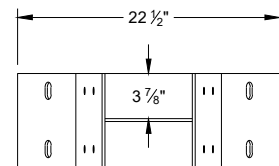
**PROFILE VIEW**  
**STIFFENER ASSEMBLY**  
**BOTTOM PANEL U3**



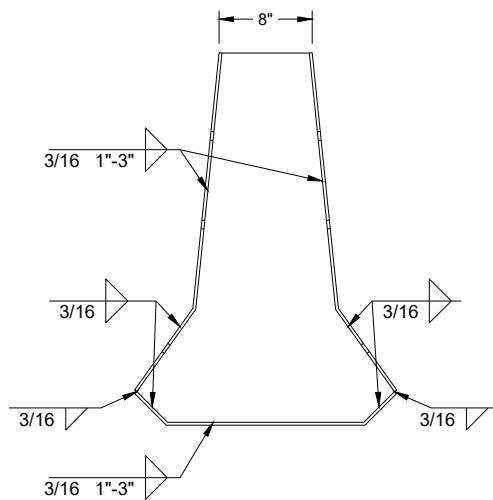
**SECTION A - A**



**SECTION B - B**

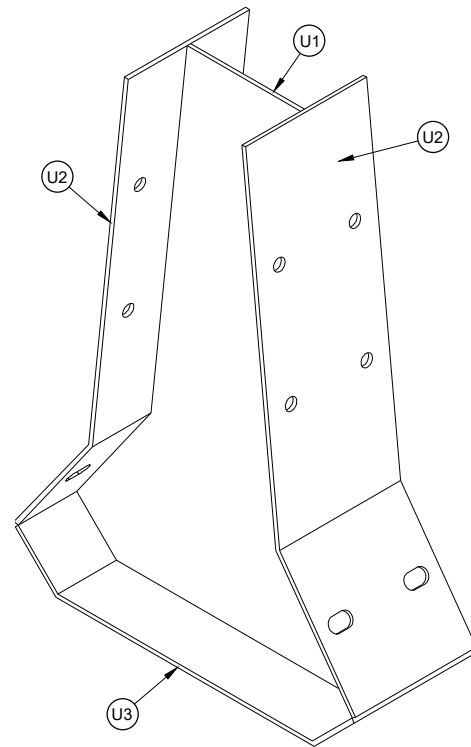


**PLAN VIEW**

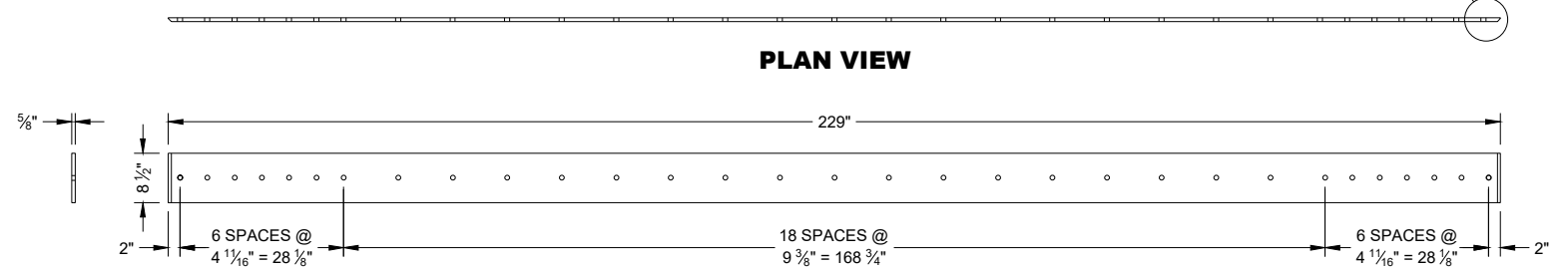
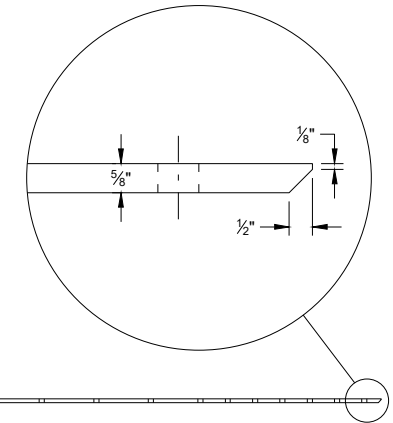


**PROFILE VIEW** **SIDE VIEW**

**GAP STIFFENER ASSEMBLY**



**ISOMETRIC**

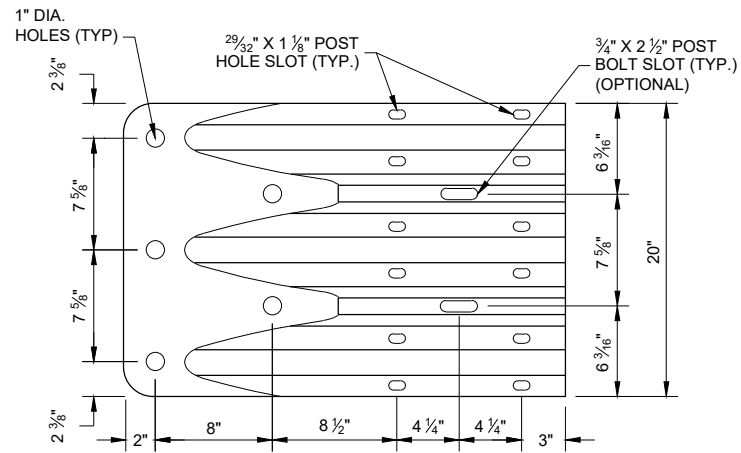


**SIDE VIEW**

**PLAN VIEW**  
**ELEVATION VIEW**  
**W1 TOE PLATE**

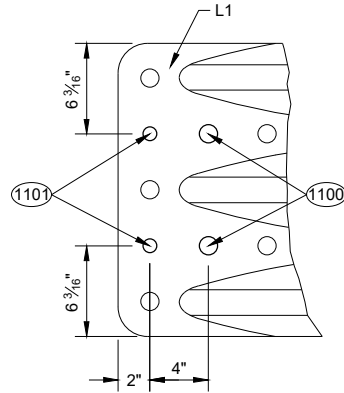
**CONCRETE BARRIER**  
**TEMPORARY PRECAST,**  
**12' - 6"**

STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION 24



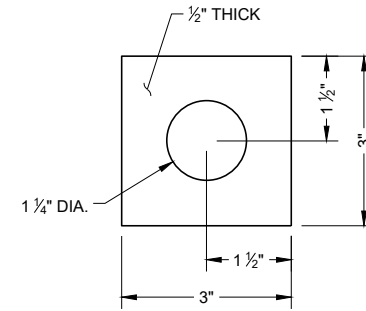
**ELEVATION VIEW**

**THRIE BEAM  
TERMINAL CONNECTOR**



**ELEVATION VIEW**

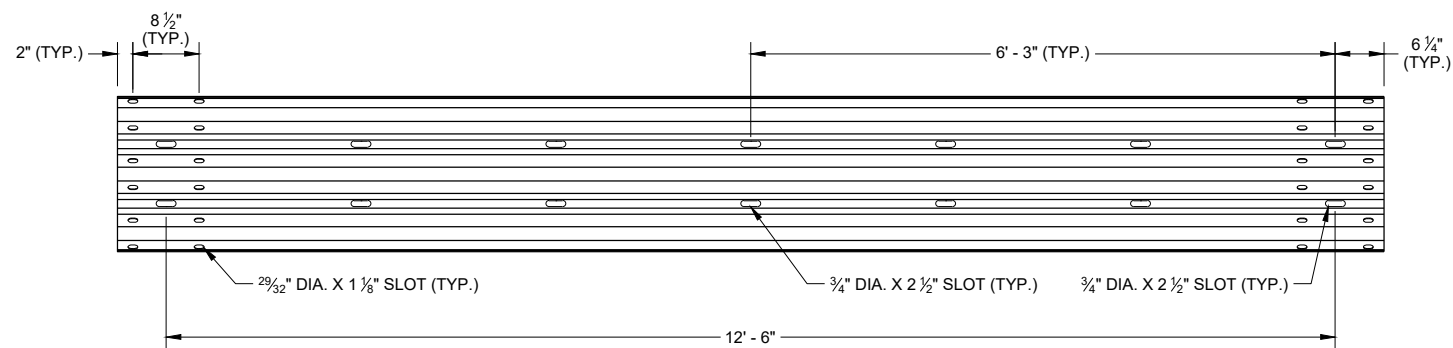
**ADDITIONAL THRIE BEAM  
TERMINAL CONNECTOR HOLE DETAIL**



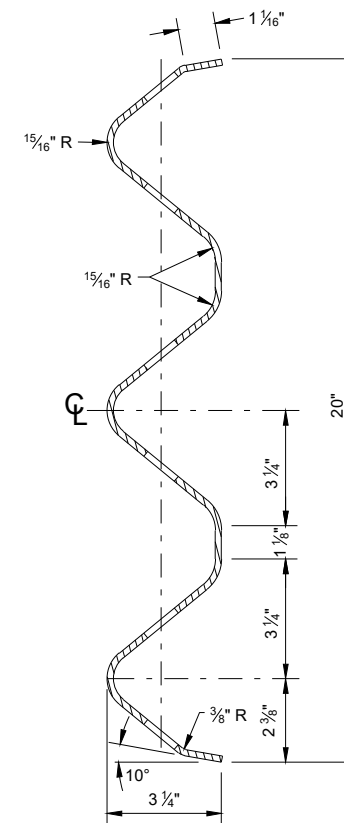
**PLATE WASHER DETAIL  
G2, H3**

**GENERAL NOTES**

- (1100) 1" DIA. HOLE
- (1101) 3/4" DIA. HOLE
- (1102) PROVIDE HOLES IN THRIE BEAM TERMINAL CONNECTOR TO LIMIT STEEL REINFORCEMENT OR LOOP BAR CONFLICT. CONTRACTOR MAY FIELD DRILL ADDITIONAL HOLE OR PROVIDE THRIE BEAM TERMINAL CONNECTOR WITH ADDITIONAL HOLES FROM SUPPLIER.



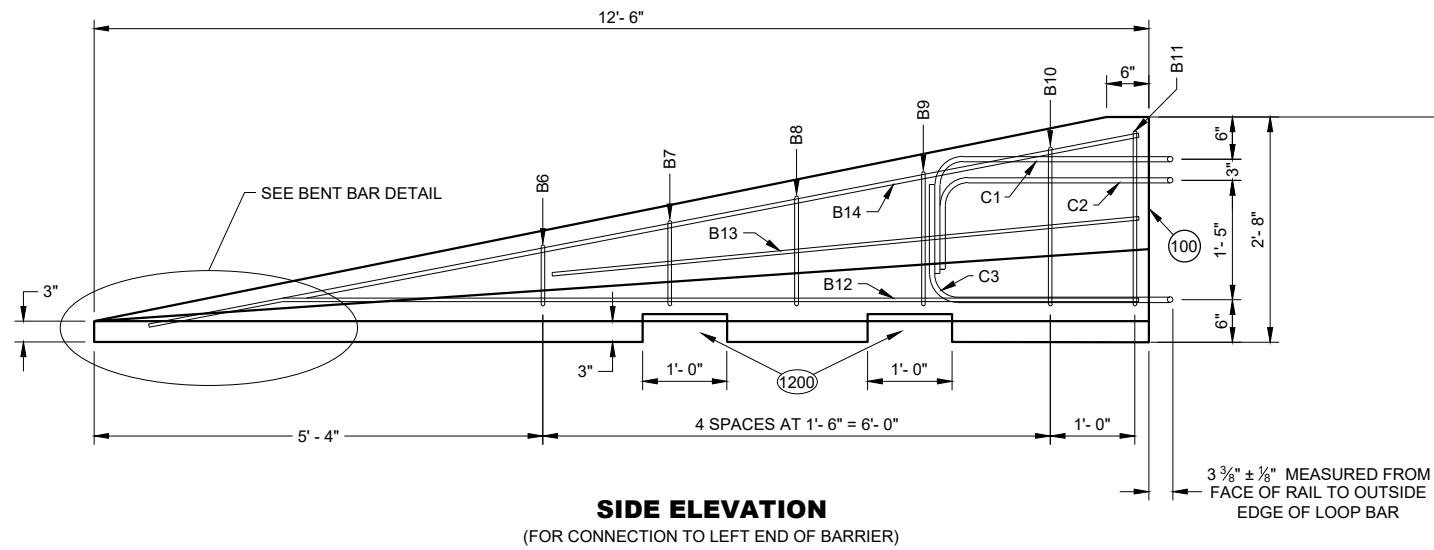
**SLOTTED THRIE BEAM RAIL K1**



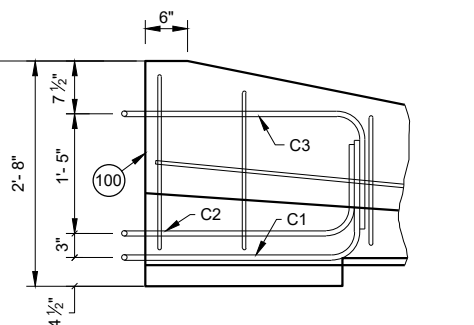
**SECTION THROUGH  
BEAM K1**

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

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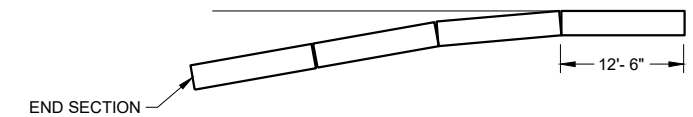
**SIDE ELEVATION**  
(FOR CONNECTION TO LEFT END OF BARRIER)



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

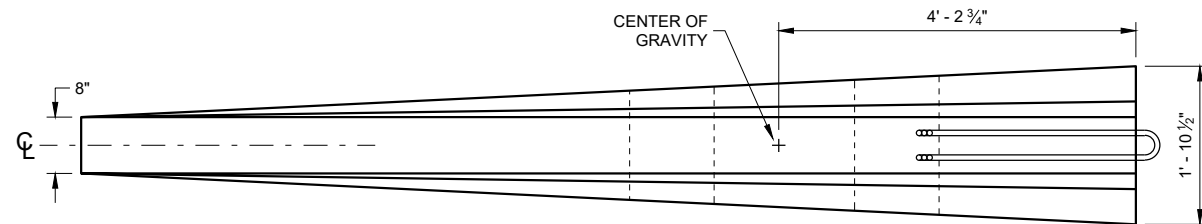
**GENERAL NOTES**

(1200) SEE LIFTING SLOT DETAIL. LOCATION OF LIFTING SLOTS DETERMINED BY CONTRACTOR.

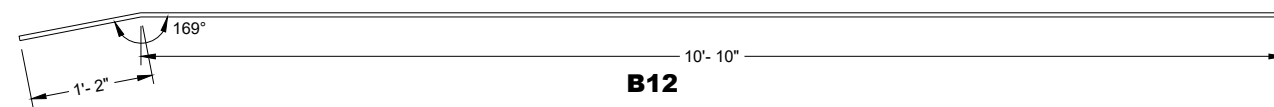


**FLARE AT BARRIER END**

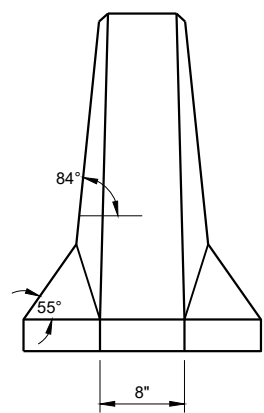
POSTED SPEED, (MPH)	FLARE RATE
40 OR LESS	6:1
45 OR GREATER	8:1



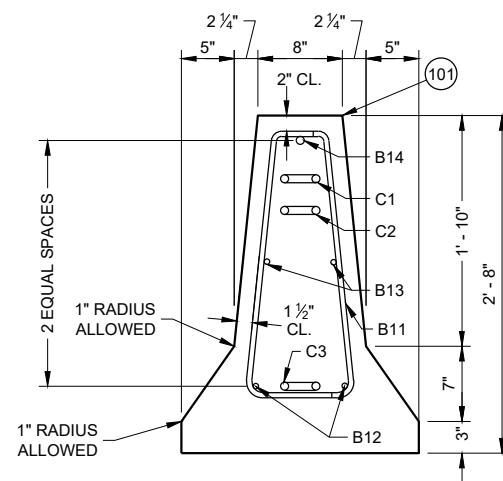
**PLAN VIEW**



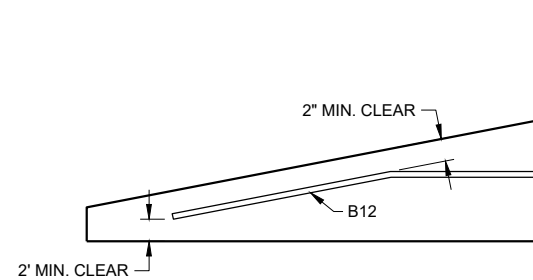
**B12**



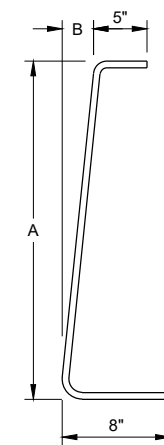
**FRONT ELEVATION**



**END SECTION**



**BENT BAR DETAIL**



BAR	A	B
B6	10"	1"
B7	1'- 1"	1 1/4"
B8	1'- 5"	1 5/8"
B9	1'- 8"	1 7/8"
B10	2'- 0 1/2"	2 3/8"
B11	2'- 3"	2 3/4"

**B BARS**

2 OF EACH SIZE REQUIRED FOR STIRRUP ASSEMBLY

**DETAILS OF BARRIER TAPER SECTION**

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

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**BILL OF MATERIALS - CONCRETE BARRIER PRECAST**

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
A1	PRECAST TEMPORARY BARRIER - CONCRETE	MIN. = f <sub>c</sub> 5000 PSI	
B1	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#5 REBAR, LENGTH 12'-2"
B2	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 12'-2"
B3	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#5 REBAR, LENGTH 12'-2"
B4	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 6'-0"
B5	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#6 REBAR, LENGTH 2'-11"
B6	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 1'-11"
B7	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 2'-2"
B8	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 2'-6"
B9	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 2'-9"
B10	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 3'-2"
B11	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 3'-4"
B12	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 12'-0"
B13	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 7'-9"
B14	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#5 REBAR, LENGTH 11'-9"
C1	LOOP BAR	ASTM A709 GRADE 70 SMOOTH BAR OR ASTM A706 GRADE 60 REBAR UNCOATED	¾" DIA.
C2	LOOP BAR	ASTM A709 GRADE 70 SMOOTH BAR OR ASTM A706 GRADE 60 REBAR UNCOATED	¾" DIA.
C3	LOOP BAR	ASTM A709 GRADE 70 SMOOTH BAR OR ASTM A706 GRADE 60 REBAR UNCOATED	¾" DIA.
D1	CONNECTION PIN - ROD	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	1 ½" DIA.
D2	CONNECTION PIN - TOP PLATE	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	
G1	BOLT THROUGH ANCHOR - THREADED ROD	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 A307 GRADE A OR SAE J429 GRADE 2 UNC	1 ½" DIA.
G2	BOLT THROUGH ANCHOR - WASHER, SQUARE	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	
G3	BOLT THROUGH ANCHOR - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
H1	ADHESIVE ANCHOR - ADHESIVE	ICC-ES-AC308 5 ¼" EMBEDMENT WITH A MIN. BOND STRENGTH OF 1,650 PSI. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	
H2	ADHESIVE ANCHOR - THREADED ROD	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 A307 GRADE A / SAE J429 GRADE 2 UNC	1 ½" DIA.
H3	ADHESIVE ANCHOR - WASHER, SQUARE	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	
H4	ADHESIVE ANCHOR - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
J1	ASPHALT ANCHOR PIN - ROD	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	1 ½" DIA.
J2	ASPHALT ANCHOR PIN - STOP PLATE	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	
K1	THRIE BEAM RAIL	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER	12 GAUGE
L1	THRIE BEAM RAIL - TERMINAL	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER	12 GAUGE

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
M1	SPLICE BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 UNC AASHTO M180 HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	¾" DIA.
M2	SPLICE BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
N1	THRIE BEAM RAIL TERMINAL - MECHANICAL ANCHOR	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	¾" DIA. LENGTH 6"
N2	THRIE BEAM RAIL TERMINAL - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1	
N3	THRIE BEAM RAIL TERMINAL MECHANICAL OR ADHESIVE ANCHOR	MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	
P1	THRIE BEAM RAIL CONNECTION 1-BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	¾" DIA.
P2	THRIE BEAM RAIL CONNECTION 1-WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1	
P3	THRIE BEAM RAIL CONNETION 1- MECHANICAL OR ADHESIVE ANCHOR	MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	
Q1	BLOCK WOOD	SEE STANDARD SPEC. 614	
R1	CAP - BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	¾" DIA.
R2	CAP - BOLT - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1	
R3	CAP - BOLT - MECHANICAL ANCHOR	MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	12 GAUGE
S1	CAP 42-INCH TOP PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S2	CAP 42-INCH END PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S3	CAP 42-INCH SIDE PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S4	CAP 42-INCH GUSSET 1	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S5	CAP 42-INCH GUSSET 2	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S6	CAP 42-INCH GUSSET 3	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S7	CAP 42-INCH GUSSET 4	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE

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SDD 14B07-16m

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

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION 27

**BILL OF MATERIALS - CONCRETE BARRIER PRECAST**

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
T1	CAP 56-INCH TOP PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T2	CAP 56-INCH END PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T3	CAP 56-INCH SIDE PLATE 1	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T4	CAP 56-INCH SIDE PLATE 2	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T5	CAP 56-INCH GUSSET 1	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T6	CAP 56-INCH GUSSET 2	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T7	CAP 56-INCH GUSSET 3	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T8	CAP 42-INCH GUSSET 4	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T9	CAP 42-INCH GUSSET 5	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T10	CAP 42-INCH GUSSET 6	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T11	CAP 42-INCH GUSSET 7	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T12	CAP 42-INCH GUSSET 8	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T13	CAP 42-INCH GUSSET 9	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T14	CAP 42-INCH GUSSET 10	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T15	CAP 42-INCH GUSSET 11	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T16	CAP 42-INCH GUSSET 12	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
U1	GAP STIFFENER	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	
U2	GAP STIFFENER - CONNECTOR PLATE 1	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	
U3	GAP STIFFENER - CONNECTOR PLATE 2	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
V1	THRIE BEAM RAIL TERMINAL MECHANICAL OR ADHESIVE ANCHOR	MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS ULTIMATE TENSILE LOAD 24.0 KIPS AND ULTIMATE SHEAR LOAD 21.5 KIPS. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	¾" DIA.
V2	GAP STIFFENER - BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C O R MECHANICAL GALVANIZE TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
W1	TOE PLATE	AASHTO M111/ASTM A123 ASTM A36 MIN STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	
X1	TOE PLATE - CONNECTION BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 UNC HEAVY HEX HEAD OR AASTHO M180 HEAD, ASTM F3125 GRADE A325 TYPE 1 HEAVY HEX HEAD OR SAE J429 GRADE 5 HEAVY HEX HEAD / ASTM A449 TYPE 1 HEAVY HEX HEAD. BOLTS MAY BE FULLY THREADED. PROVIDE ENOUGH THREADING FOR PROPER TIGHTENING OF BOLT.	¾" DIA.
X2	TOE PLATE - CONNECTION BOLT - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1 (HARDEN WASHER ONLY)	
X3	TOE PLATE - CONNECTION BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	

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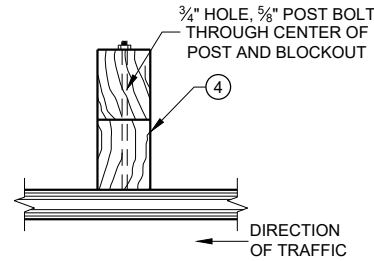
<b>CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED February 2023 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT ENGINEER 28
FHWA	

## GENERAL NOTES

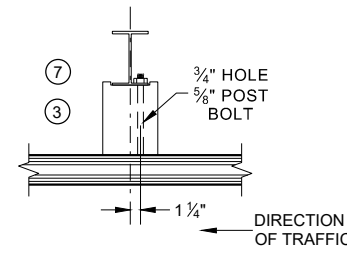
- WOOD OR STEEL POSTS (w6x9 OR w6x8.5) AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6"x8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS. APPROVED PLASTIC BLOCKOUT DESIGNS MAY VARY FROM THIS TYPICAL DETAIL WHEN USED IN CONJUNCTION WITH STEEL POSTS. DO NOT MIX STEEL AND WOOD POSTS IN A SINGLE INSTALLATION.
- USE STRUCTURAL STEEL POSTS CONFORMING TO ASTM A 36. GALVANIZED POSTS ACCORDING TO AASHTO M 111. EITHER SET THE POSTS IN DRILLED HOLES OR DRIVE TO GRADE. REMOVE MUSHROOMING CAUSED BY DRIVING AND REPAIR DAMAGE SPALTER COATING ON GALVANIZED POSTS.
- INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- USE EITHER WOOD OR APPROVED PLASTIC BLOCKOUTS ON WOOD POSTS.
- IF THE DISTANCE FROM BACK OF POST TO SHOULDER HIGHE POINT IS LESS THAN 2 FEET, INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).
- IF ROCK IS ENCOUNTERED DURING EXCAVATION, THE ENGINEER MAY APPROVE USING A 12 INCHES IN DIAMETER POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT ADEQUATELY.
- WHEN USING STEEL POSTS AND WOOD BLOCKOUTS, INSTALL FOUR 16d GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

INSTALL BEAM GUARD SECTIONS AND ALL NECESSARY HARDWARE ACCORDING TO THE APPLICABLE PLAN AND CURRENT STANDARD AND SUPPLEMENTAL SPECIFICATIONS.

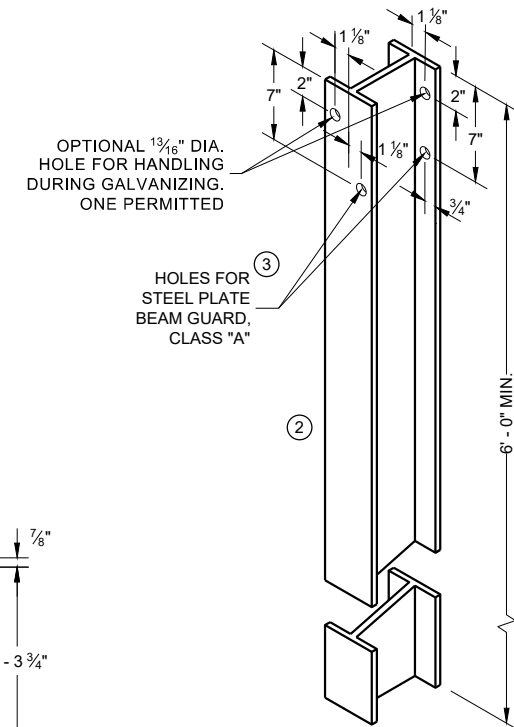
ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



**PLAN VIEW**  
**WOOD POST, BLOCKOUT AND BEAM**

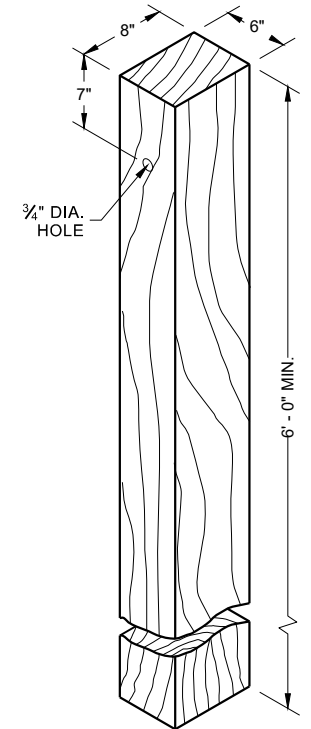


**PLAN VIEW**  
**WOOD POST, BLOCKOUT AND BEAM**

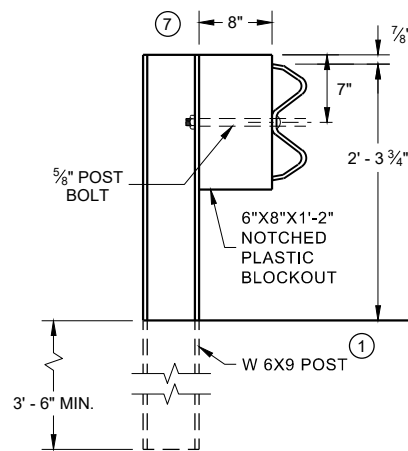


**STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9)**

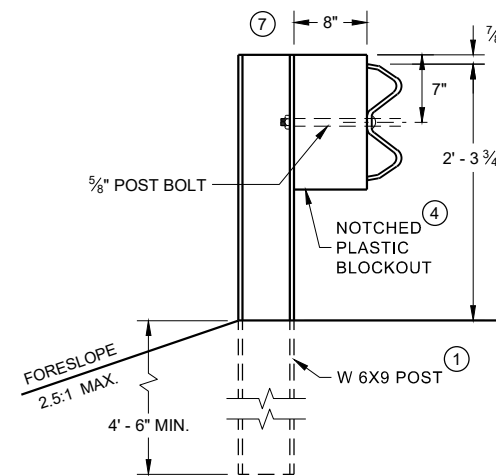
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED



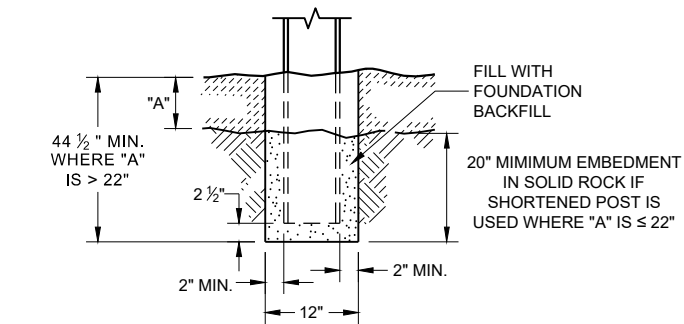
**WOOD POST (6" X 8") NOMINAL**



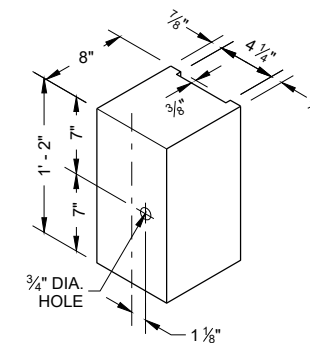
**END VIEW**  
**STEEL POST AND NOTCHED PLASTIC BLOCKOUT ALTERNATIVE STANDARD INSTALLATION**



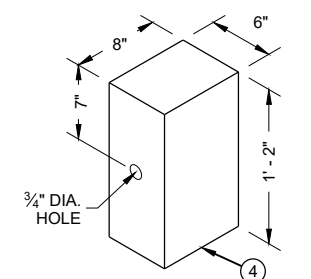
**END VIEW**  
**LONGER POST AT HALF POST SPACING W BEAM (LHW)**



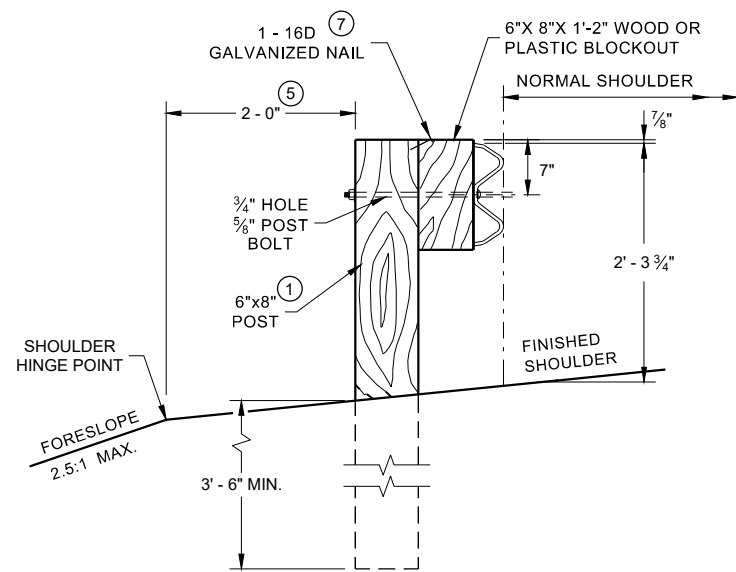
**END VIEW**  
**SETTING STEEL OR WOOD POST IN ROCK**



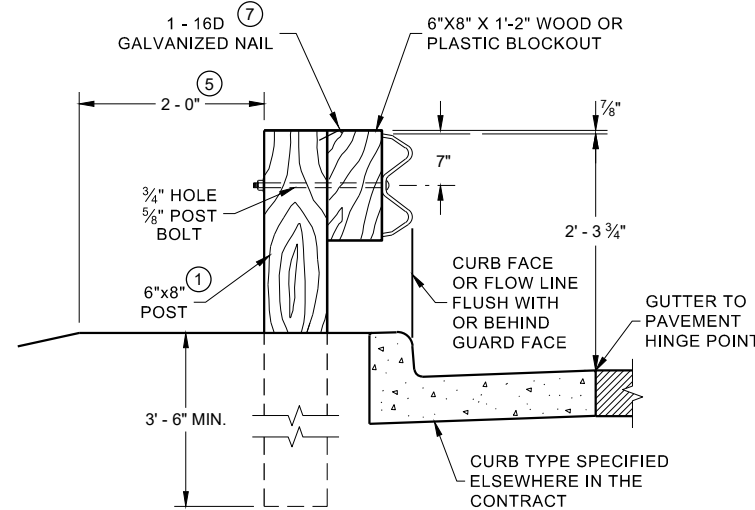
**TYPICAL NOTCHED PLASTIC BLOCKOUT FOR STEEL POSTS**



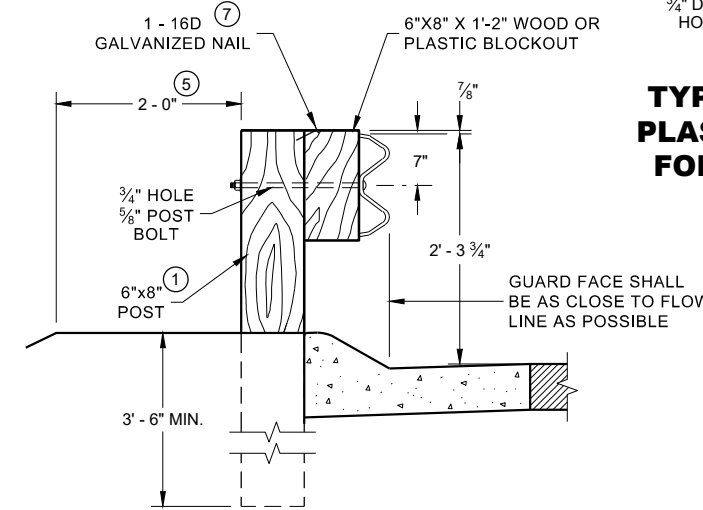
**WOOD OR PLASTIC BLOCKOUT FOR WOOD POSTS**



**END VIEW**  
**LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION**



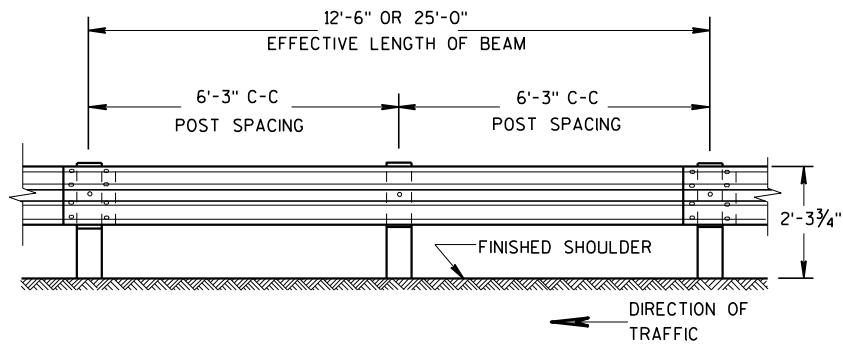
**END VIEW**  
**LOCATED ALONG A CURBED ROADWAY**



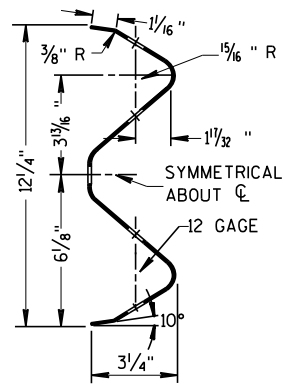
**END VIEW**  
**LOCATED ALONG A MOUNTABLE CURBED ROADWAY**

**STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION AND ELEMENTS**

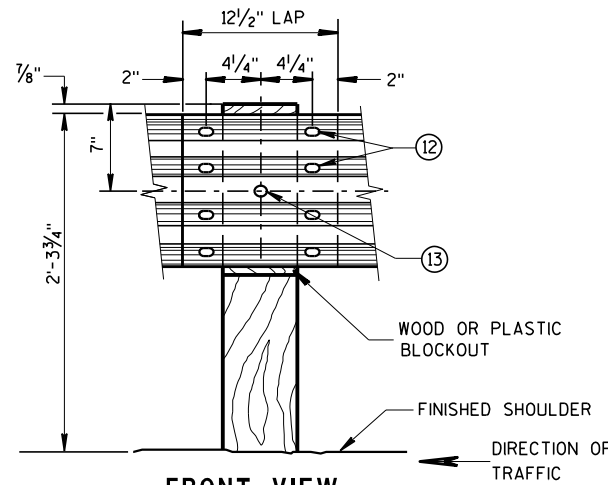
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION 29



**FRONT VIEW  
POST SPACING STANDARD INSTALLATION**



**SECTION THRU W BEAM**

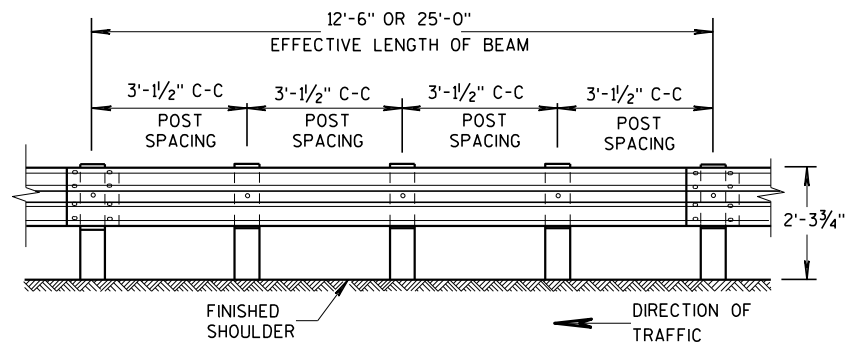


**FRONT VIEW  
BEAM SPLICE AT WOOD POST  
AND POST MOUNTING DETAIL**

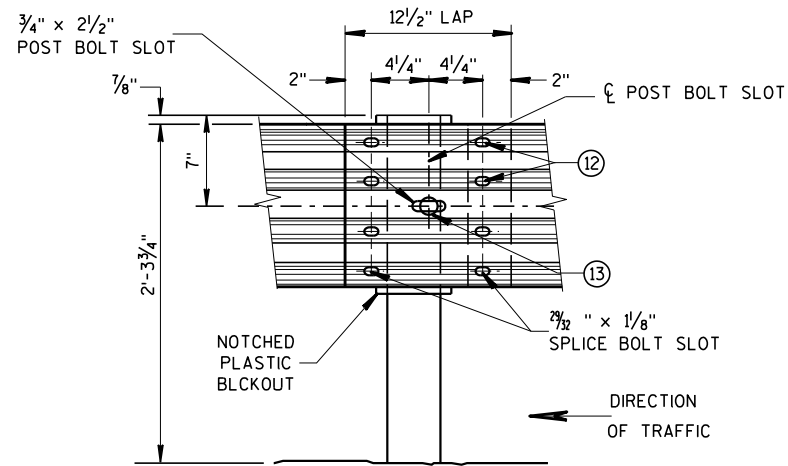
**GENERAL NOTES**

FURNISH GUARDRAIL DEFLECTORS FROM APPROVED PRODUCTS LIST.

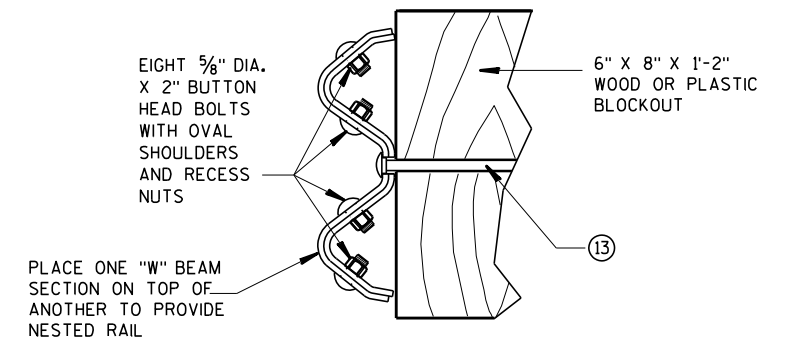
- ⑨ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINA. START REFLECTORS AT POST #9 AND SPACE EVENLY EVERY 100 FEET (MAX.) TO THE END OF GUARDRAIL RUN, USING A MINIMUM OF 3 REFLECTORS.
- ⑫ 8 - 5/8"  $\phi$  X 2" BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.
- ⑬ 5/8" DIA. BUTTON HEAD BOLT AND RECESS NUT WITH 5/8" DIA. F844 FLAT WASHER UNDER NUT.



**FRONT VIEW  
POST SPACING FOR LONGER POST  
AT HALF POST SPACING W BEAM (LHW)**



**FRONT VIEW  
BEAM SPLICE AT STEEL POST  
TYPICAL SPLICING DETAILS  
OF STEEL PLATE BEAM GUARD**

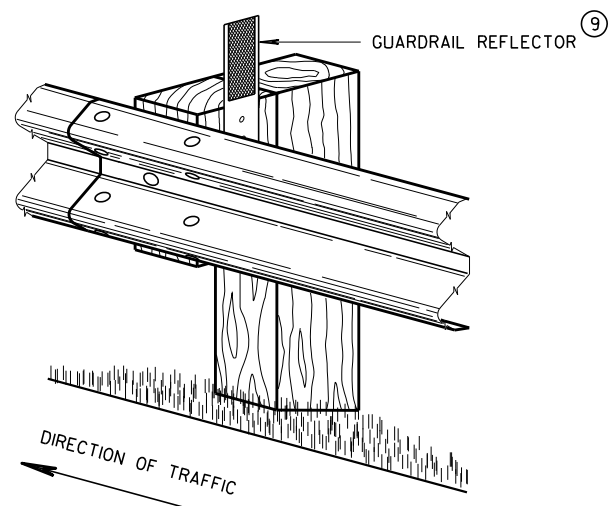


**NESTED W BEAM (NW)**  
USE ALL OTHER STANDARD BEAM GUARD DETAILS FOR  
CONSTRUCTING NESTED W BEAM (NW)

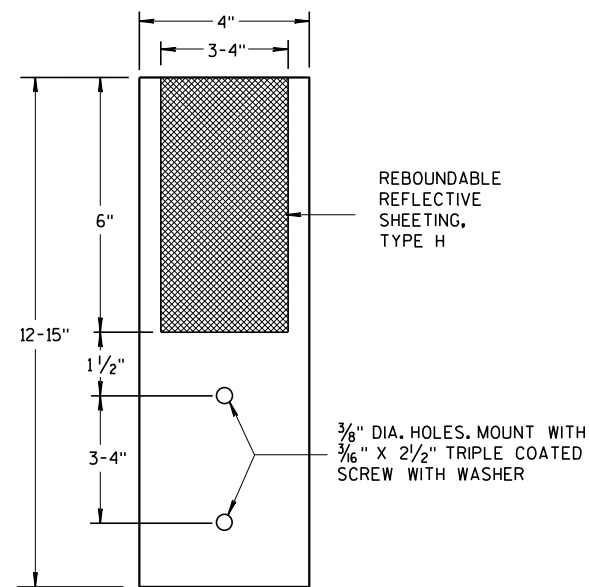
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\* USE DOUBLE SIDED WHITE GUARDRAIL REFLECTORS ON ROADWAYS WITH BI-DIRECTIONAL TRAFFIC (NO MEDIAN). USE SINGLE SIDED WHITE (RIGHT SIDE) AND SINGLE SIDED YELLOW (LEFT SIDE) ON ROADWAYS WITH MEDIAN SEPARATION.



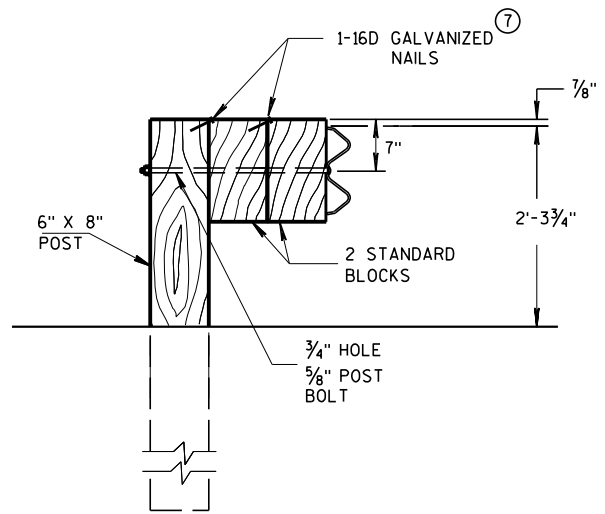
**4" X 12" GUARDRAIL REFLECTOR DETAIL  
AND TYPICAL INSTALLATION \***



**4" x 12" GUARDRAIL REFLECTOR**

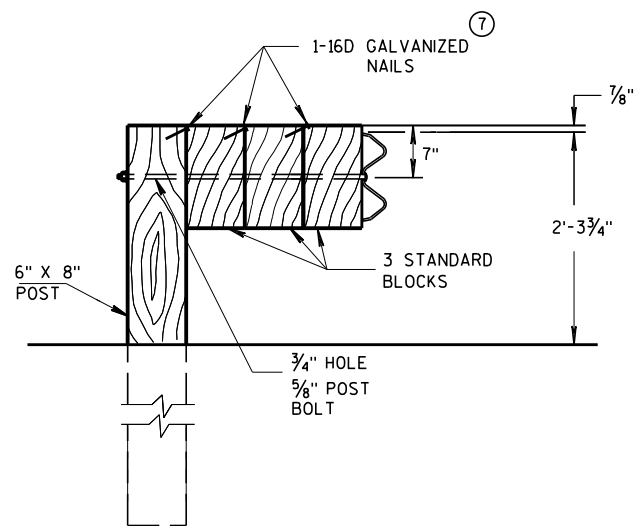
**STEEL PLATE BEAM GUARD,  
CLASS "A",  
INSTALLATION & ELEMENTS**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



**DETAIL FOR DOUBLE BLOCKS**

THE NUMBER OF DOUBLE BLOCK POSTS WITHIN A BARRIER RUN IS UNLIMITED

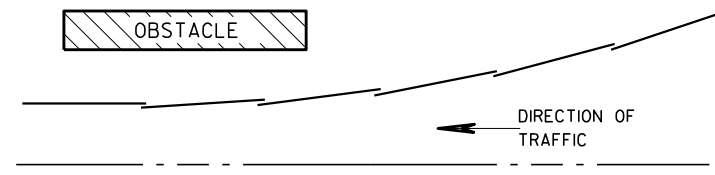


**DETAIL FOR TRIPLE BLOCKS**

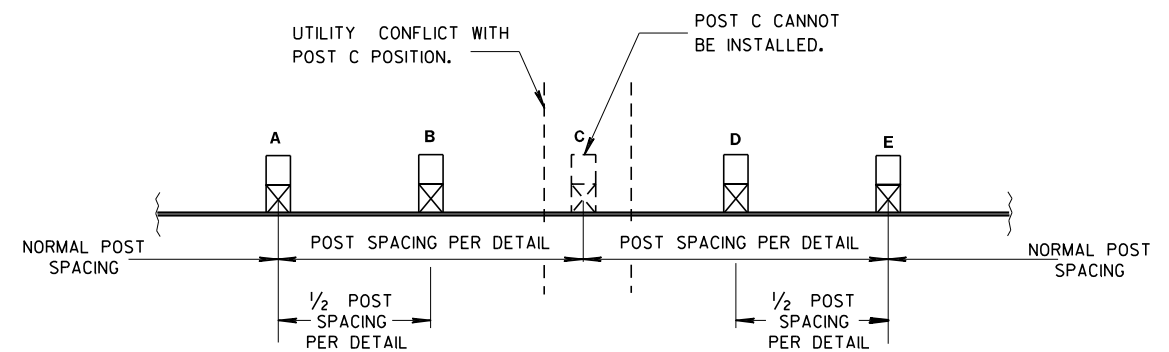
TRIPLE BLOCK DETAIL IS LIMITED TO ONE LOCATION WITHIN A BEAM GUARD RUN.

NOTES: USE DOUBLE OR TRIPLE BLOCKS WHEN UNDERGROUND OBSTACLES PREVENT THE POST FROM BEING INSTALLED.

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



**PLAN VIEW  
BEAM LAPPING DETAIL**



**POST DRIVING FOR CONTINUOUS  
UNDERGROUND OBSTRUCTION**

6






6

S.D.D. 14 B 15-11c

S.D.D. 14 B 15-11c

<b>STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION &amp; ELEMENTS</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017	/s/ Rodney Taylor AGENT
DATE	ROADWAY STANDARDS 31 UNIT SUPERVISOR
FHWA	

**LEGEND**

-  SIGN ON PORTABLE OR PERMANENT SUPPORT
-  TEMPORARY PORTABLE RUMBLE STRIP ARRAY
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

**GENERAL NOTES**

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

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

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

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

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

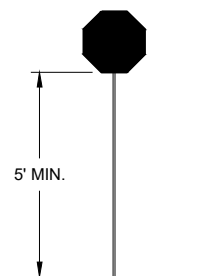
WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

**FLAGGING**

- FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.
- ① FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.
  - ② SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.
- WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

**TEMPORARY PORTABLE RUMBLE STRIPS**

- UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.
- ③ EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER
- ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FROM THE APPROVED PRODUCTS LIST.
- INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.
- PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.
- DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.



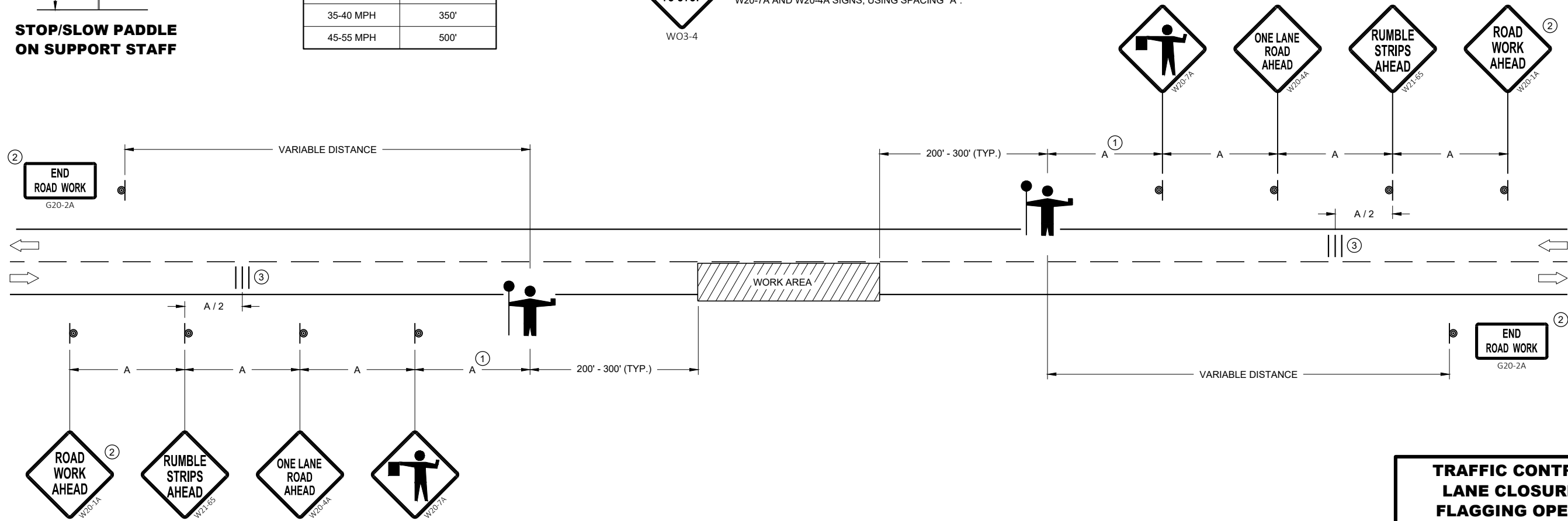
**STOP/SLOW PADDLE ON SUPPORT STAFF**

**SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE**

SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'



USE OF W03-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".



**TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
DATE May 2022 /S/ Andrew Heidtke  
WORK ZONE ENGINEER 32

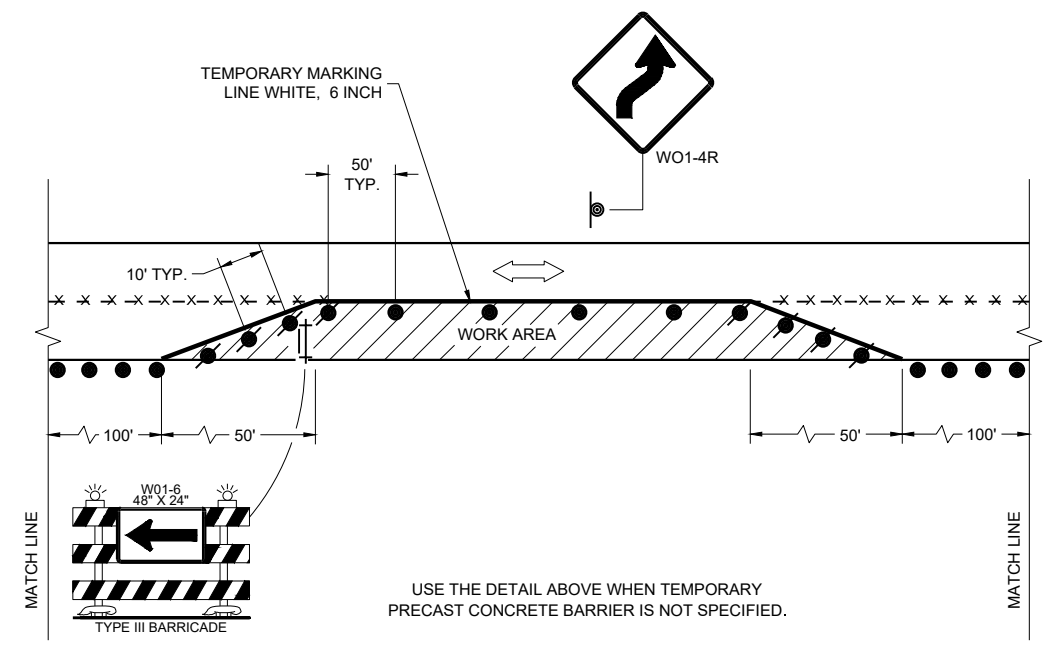
FHWA

**LEGEND**

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLAGS, 16" X 16" MIN. (ORANGE)
- REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC
- ASPHALTIC PAVEMENT WIDENING
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY SIGNAL. SEE SDD 09G02 FOR EXACT PLACEMENT

**GENERAL NOTES**

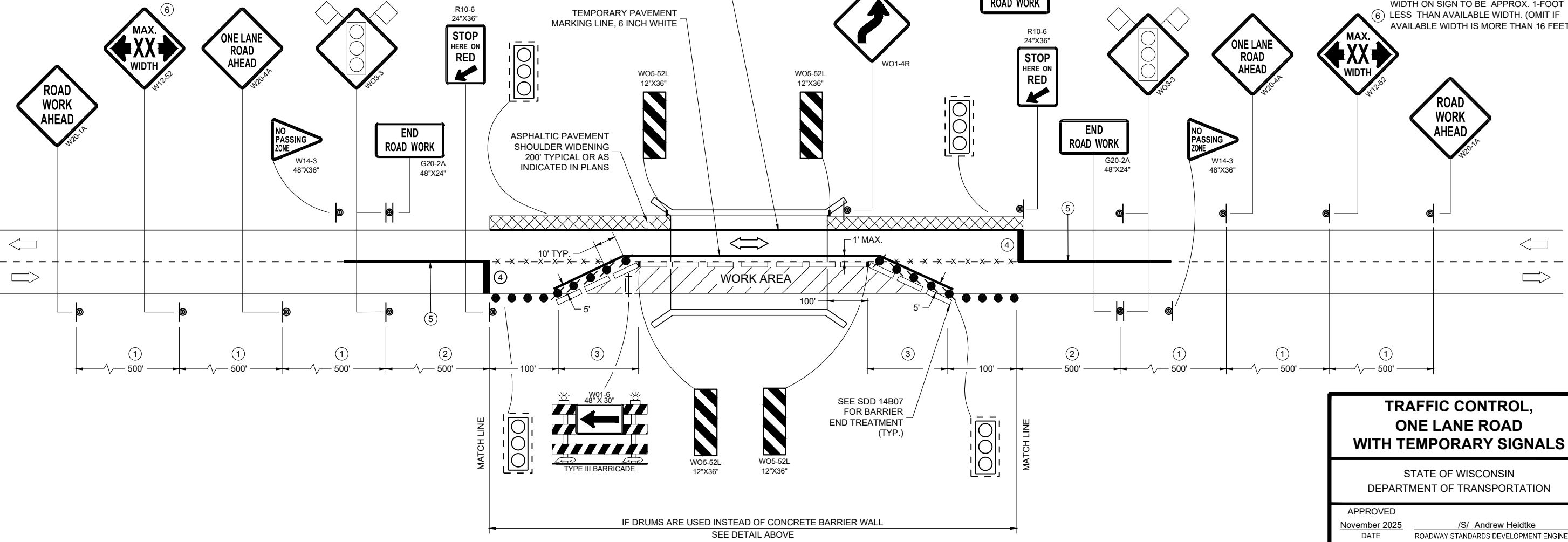
- THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
- THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE..
- THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.
- ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
- "WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.
- ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED OR AS APPROVED BY THE ENGINEER.
- REMOVE PAVEMENT MARKING AND PLACE TEMPORARY PAVEMENT MARKING LINES IF THE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.
- INSTALL OVERHEAD TEMPORARY SIGNAL HEADS ABOVE THE MIDDLE OF THE TRAVEL LANE THEY ARE CONTROLLING.
- ① 500 FOOT SPACING SHOWN IS FOR ROADWAYS WITH A PRE-CONSTRUCTION REGULATORY SPEED LIMIT OF 45 MPH OR MORE. FOR 35 - 40 MPH, USE 350 FOOT TYPICAL SPACING. FOR 25 - 30 MPH, USE 200 FOOT TYPICAL SPACING.
  - ② USE 300 FOOT SPACING IF THE PRE - CONSTRUCTION REGULATORY SPEED IS 35 MPH OR LESS.
  - ③ DIMENSION DETERMINED BY CBTP TAPER FROM EDGE LINE TO TANGENT SECTION OF THE ROAD.
  - ④ TEMPORARY PAVEMENT MARKING LINE, 18 INCH WHITE STOP LINE.
  - ⑤ 700 FOOT TEMPORARY PAVEMENT MARKING LINE, 6 INCH DOUBLE YELLOW . WHEN THE DISTANCE FOR THE PRECEDING NO - PASSING ZONE IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES AS INDICATED IN THE SPECIFICATIONS, THE TWO ZONES SHALL BE CONNECTED.
  - ⑥ SEE SDD 15C02 - SHEET "F" FOR ADVANCED WIDTH RESTRICTION SIGNING.



TEMPORARY PAVEMENT MARKING LINE, 6 INCH WHITE (STOPLINE TO STOPLINE). REMOVE EXISTING EDGELINE AND OFFSET THE TEMPORARY EDGELINE IF THE DISTANCE FROM THE EDGELINE TO CONCRETE BARRIER WALL IS LESS THAN 9 FEET.

WIDTH ON SIGN TO BE APPROX. 1-FOOT LESS THAN AVAILABLE WIDTH. (OMIT IF AVAILABLE WIDTH IS MORE THAN 16 FEET)

WIDTH ON SIGN TO BE APPROX. 1-FOOT LESS THAN AVAILABLE WIDTH. (OMIT IF AVAILABLE WIDTH IS MORE THAN 16 FEET)



**TRAFFIC CONTROL,  
ONE LANE ROAD  
WITH TEMPORARY SIGNALS**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2025 /S/ Andrew Heidtke  
DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER

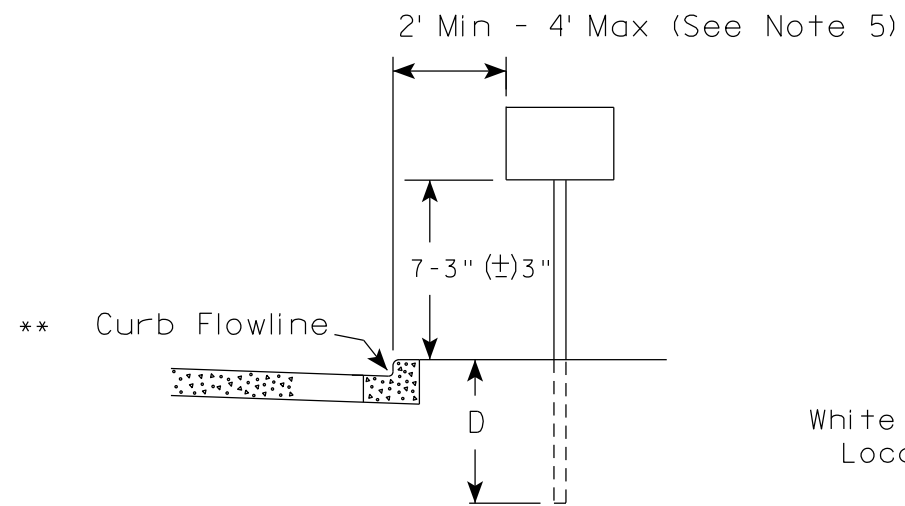
FHWA 33

SDD 15D33-10a

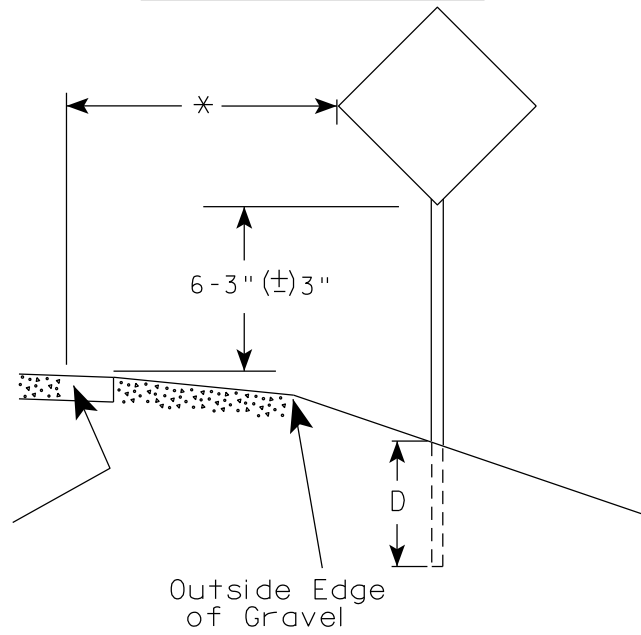
SDD 15D33-10a

URBAN AREA

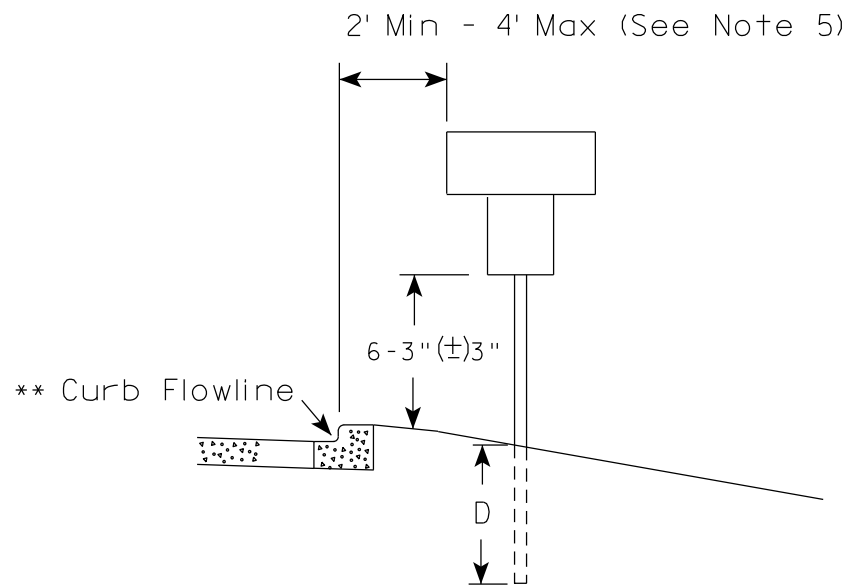
RURAL AREA (See Note 2)



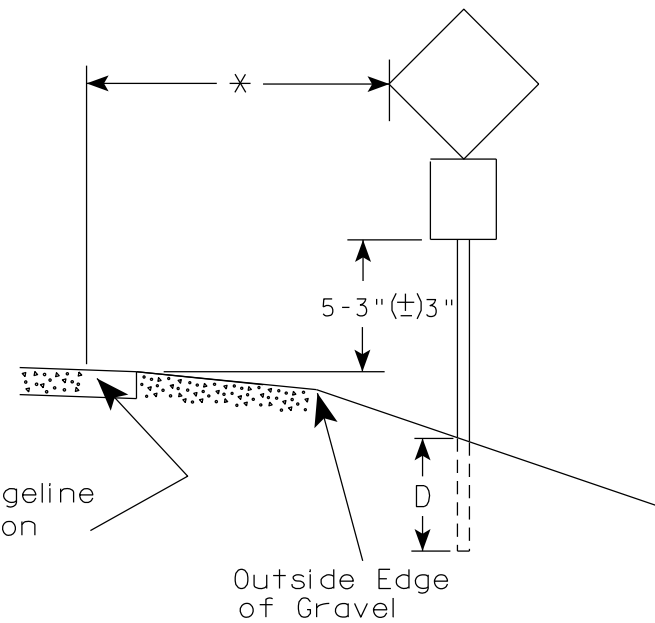
White Edgeline Location



Outside Edge of Gravel



White Edgeline Location



Outside Edge of Gravel

GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on or behind barrier wall, see A4-10 sign plate.  
The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±) 3". The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±) 3".
3. For expressways and freeways, mounting height is 7'- 3" (±) 3" or 6'-3" (±) 3" depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±) 3".
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directed by the Engineer.

POST EMBEDMENT DEPTH

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

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

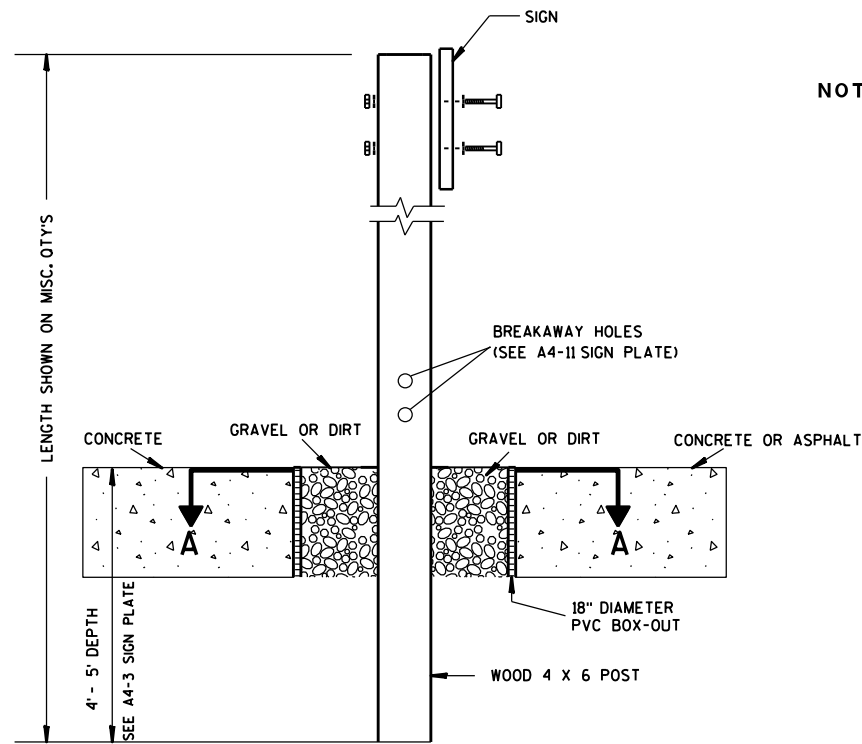
\* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Raub*  
for State Traffic Engineer

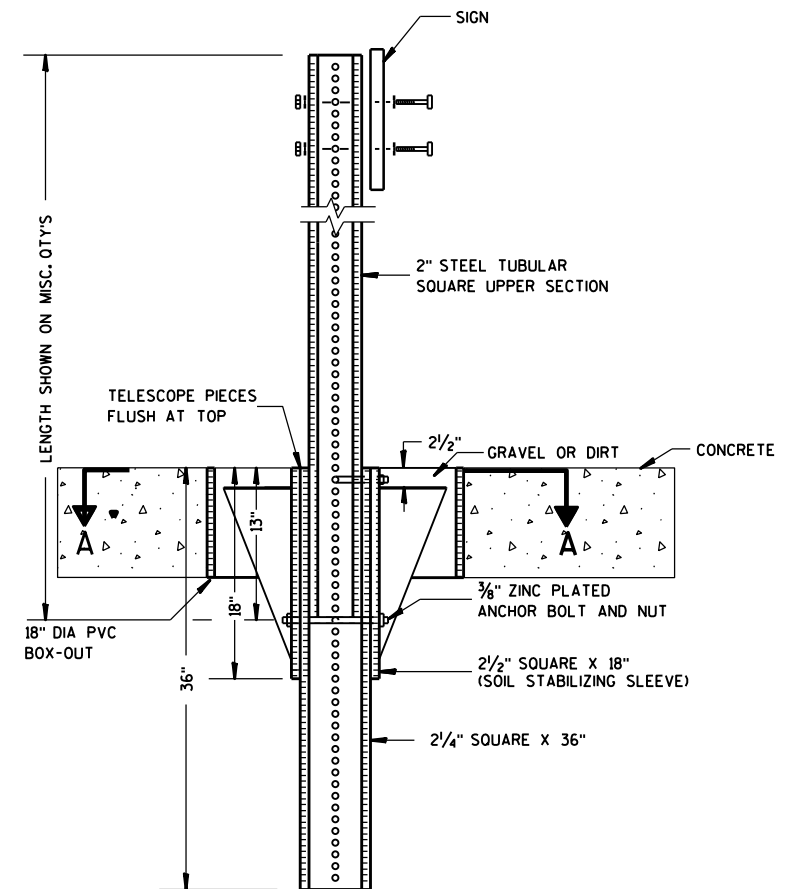
DATE 12/6/23 PLATE NO. A4-3.23



**ELEVATION VIEW**

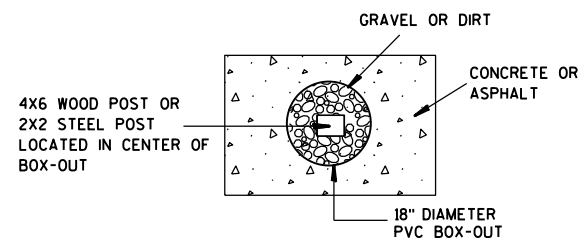
**DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT**

- NOTES:**
1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
  2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
  3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



**ELEVATION VIEW**

**DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT**



**PLAN VIEW**

**FOR NEW CONCRETE/ASPHALT INSTALLATIONS**

<b>SIGN POST BOX-OUTS A4-3B</b>	
<small>WISCONSIN DEPT OF TRANSPORTATION</small>	
APPROVED <i>Matthew R. Rauch</i> <small>for State Traffic Engineer</small>	
DATE <u>1/27/14</u>	PLAT <u>35</u> <b>A4-3B.1</b>

GENERAL NOTES

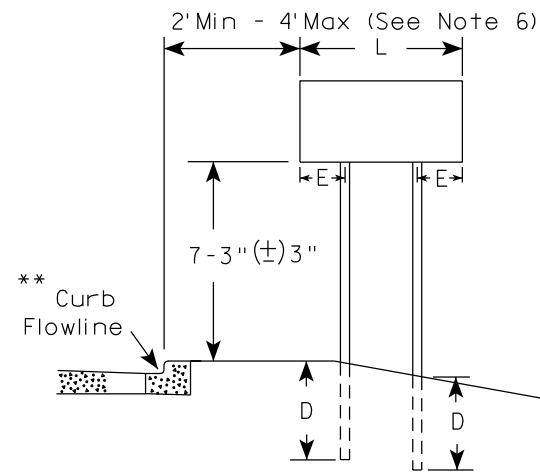
1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) 3" or 6'-3" (±) 3" depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. J-Assemblies are considered to be one sign for mounting height.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±) 3". The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±) 3".

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

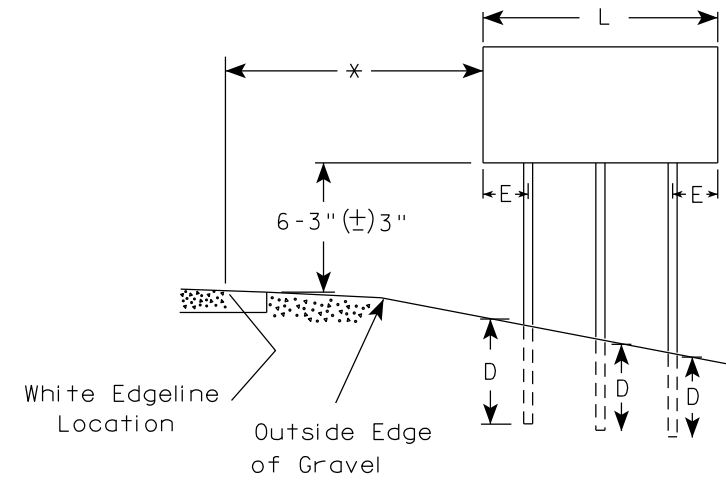
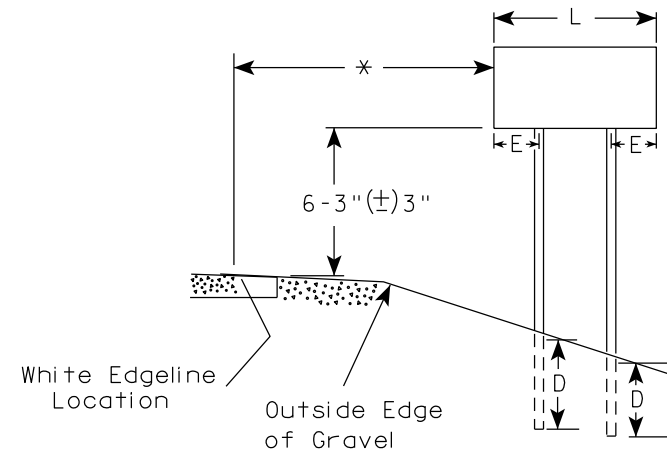
\*\* The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of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

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

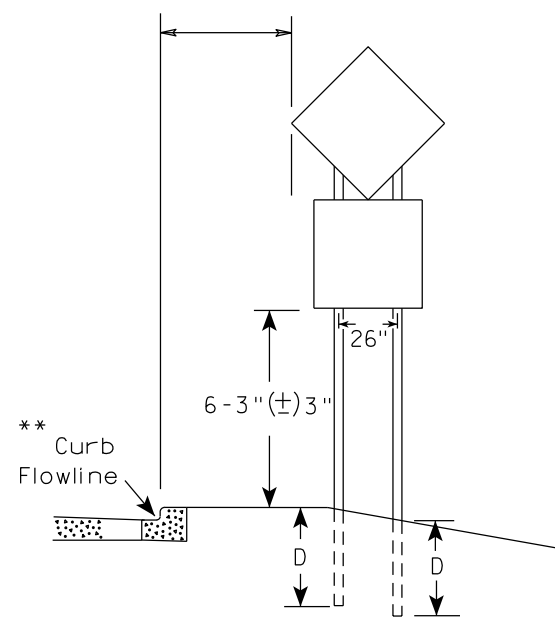
URBAN AREA



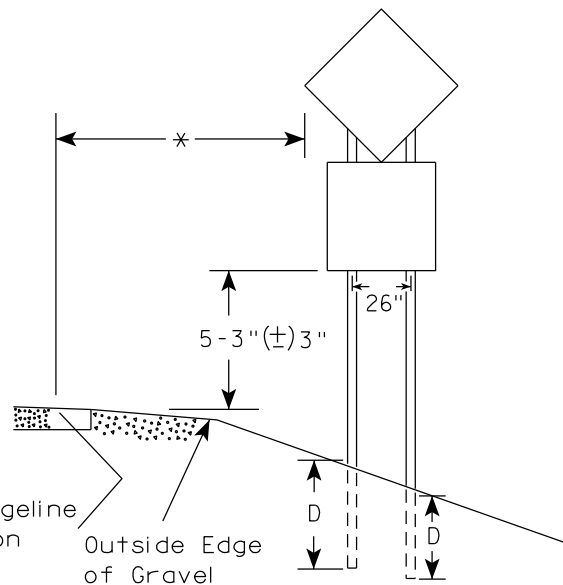
RURAL AREA (See Note 3)



2' Min - 4' Max (See Note 6)



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 108"	L/5

\*\*\*

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

POST EMBEDMENT DEPTH

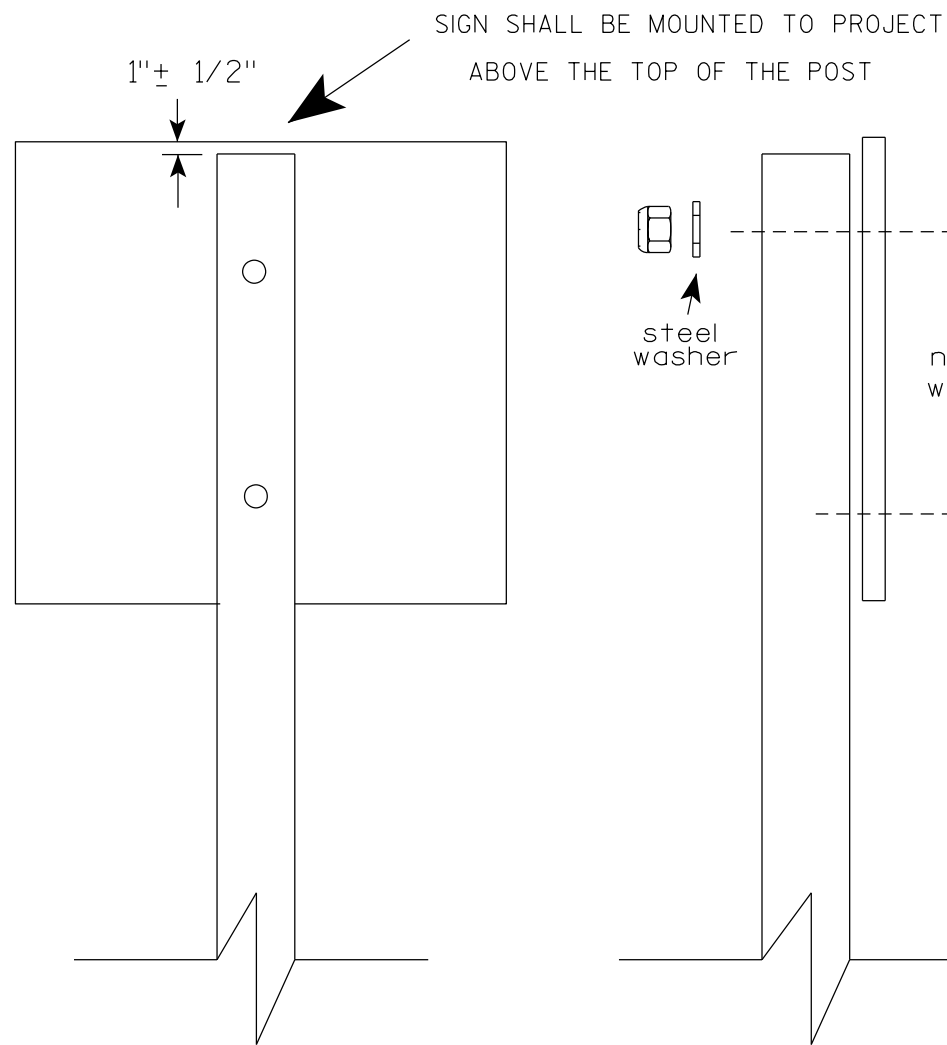
Area of Sign Installation ( Sq. Ft. )	D ( Min )
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-4.16



SIGN SHALL BE MOUNTED TO PROJECT  
ABOVE THE TOP OF THE POST

1"± 1/2"

steel washer

nylon washer

steel washer

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

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

Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)

MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts

WOOD POSTS (4" x 6")

LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)  
3/8" X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)  
3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL  
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL

1-1/4" O.D. X 3/8" I.D. X .080 NYLON

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

ATTACHMENT OF SIGNS  
TO POSTS

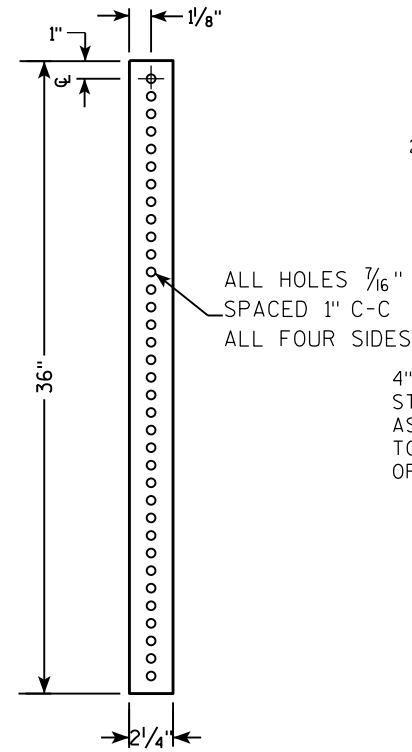
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*  
For State Traffic Engineer

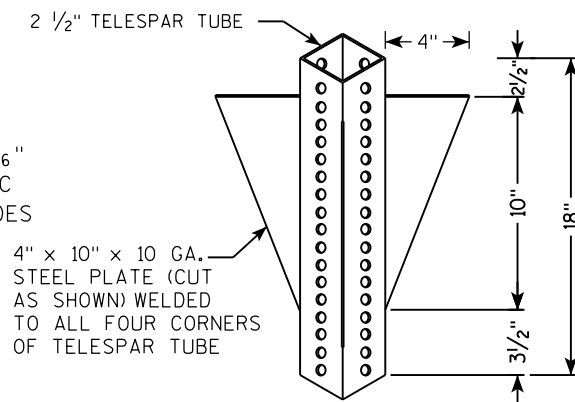
DATE 4/1/2020 PLATE NO. A4-8.9

**TELESCOPIC TUBING ANCHORS  
TWO PIECE SYSTEM**

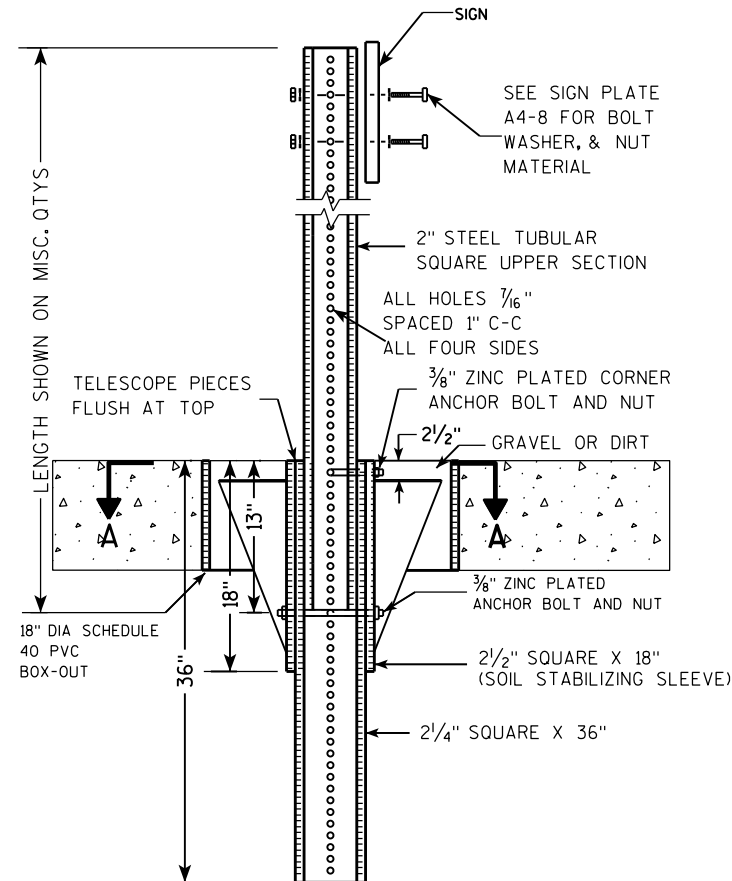
2 1/4" SQUARE  
12 GAUGE  
PERFORATED  
GALVANIZED FINISH



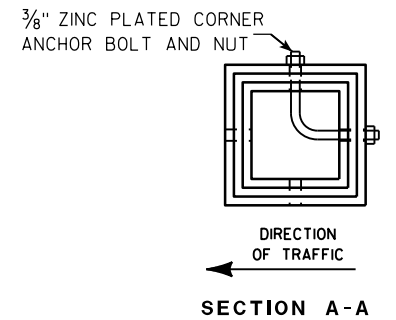
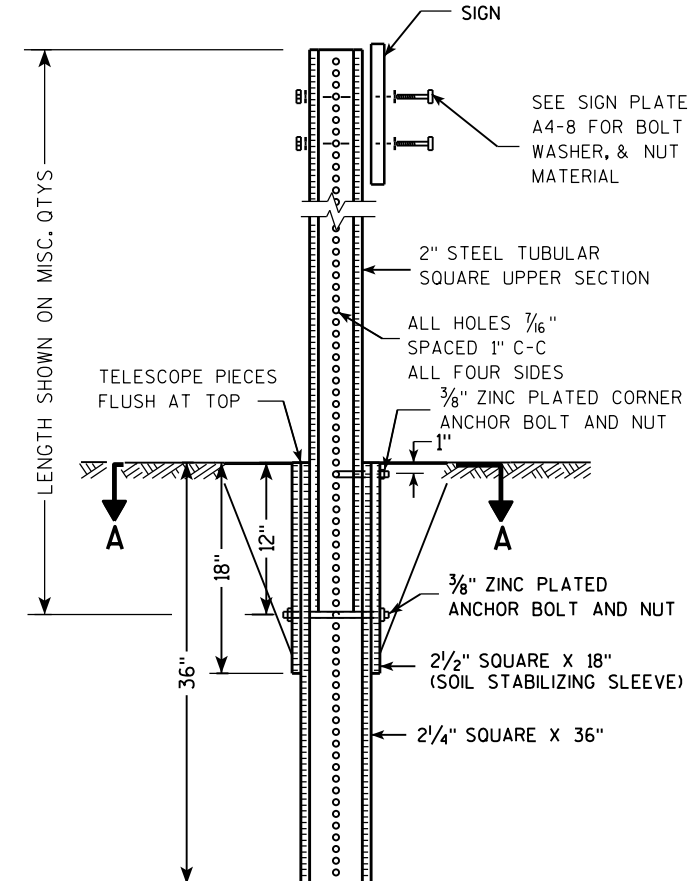
2 1/2" SQUARE  
12 GAUGE  
OMNI-DIRECTIONAL  
PERFORATED  
SOIL STABILIZING SLEEVE  
GALVANIZED FINISH



**DETAIL OF TUBULAR STEEL SIGN POST  
(IN POURED CONCRETE OR ASPHALT)**



**DETAIL OF TUBULAR STEEL SIGN POST  
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)**



Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

**TUBULAR STEEL  
SIGN POST  
A4-9**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 2/05/15 PLAT 38 14-9.9

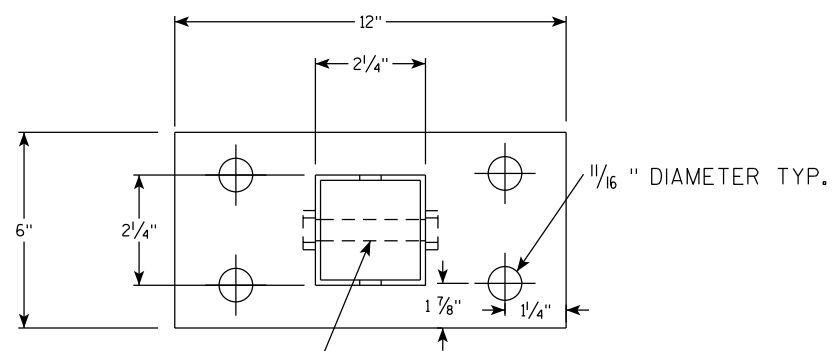
# TYPICAL BARRIER WALL SIGN PLACEMENT DETAILS

## NOTES

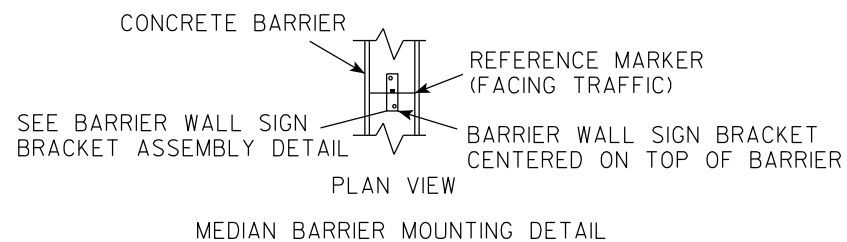
- 1) ALL MATERIAL TO BE APPROVED BY ENGINEER BEFORE INSTALLATION
- 2) SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS.

### TYPICAL REFERENCE MARKER MOUNTING DETAILS

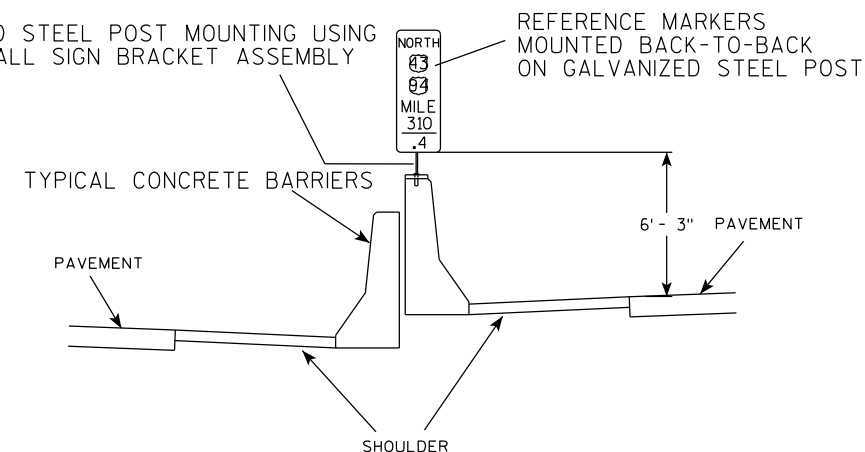
#### BARRIER WALL SIGN BRACKET ASSEMBLY NOT TO SCALE



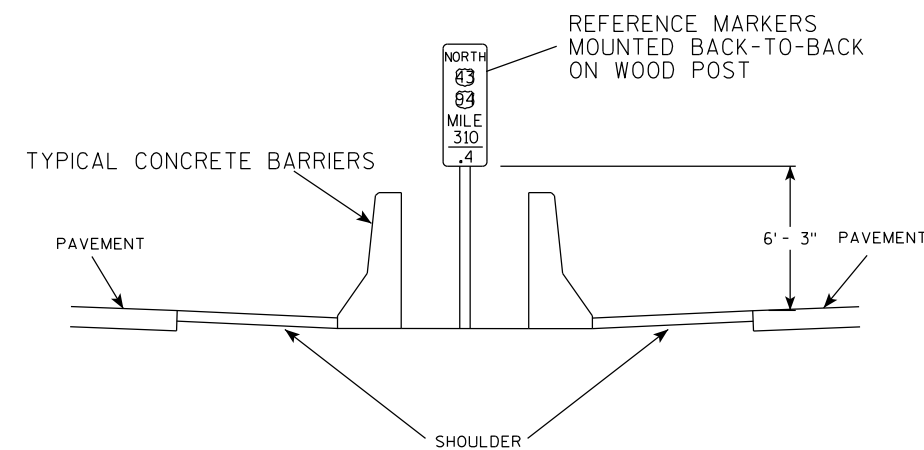
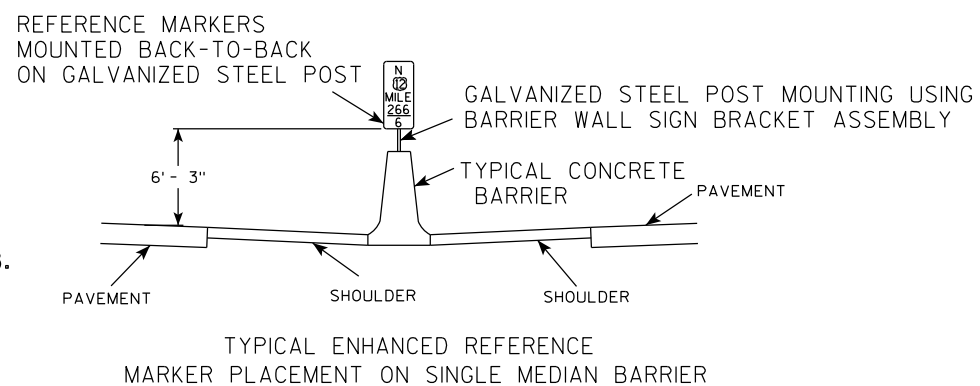
3 1/2" x 3/8" GALVANIZED STEEL BOLT & HARDWARE  
PLAN VIEW



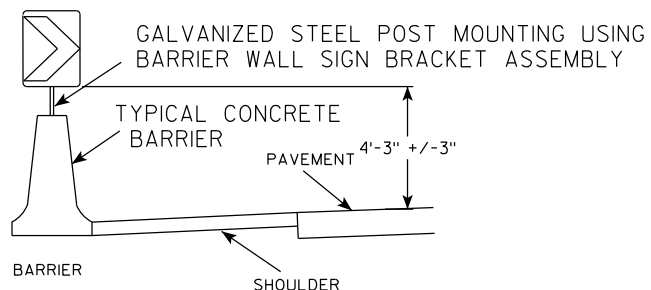
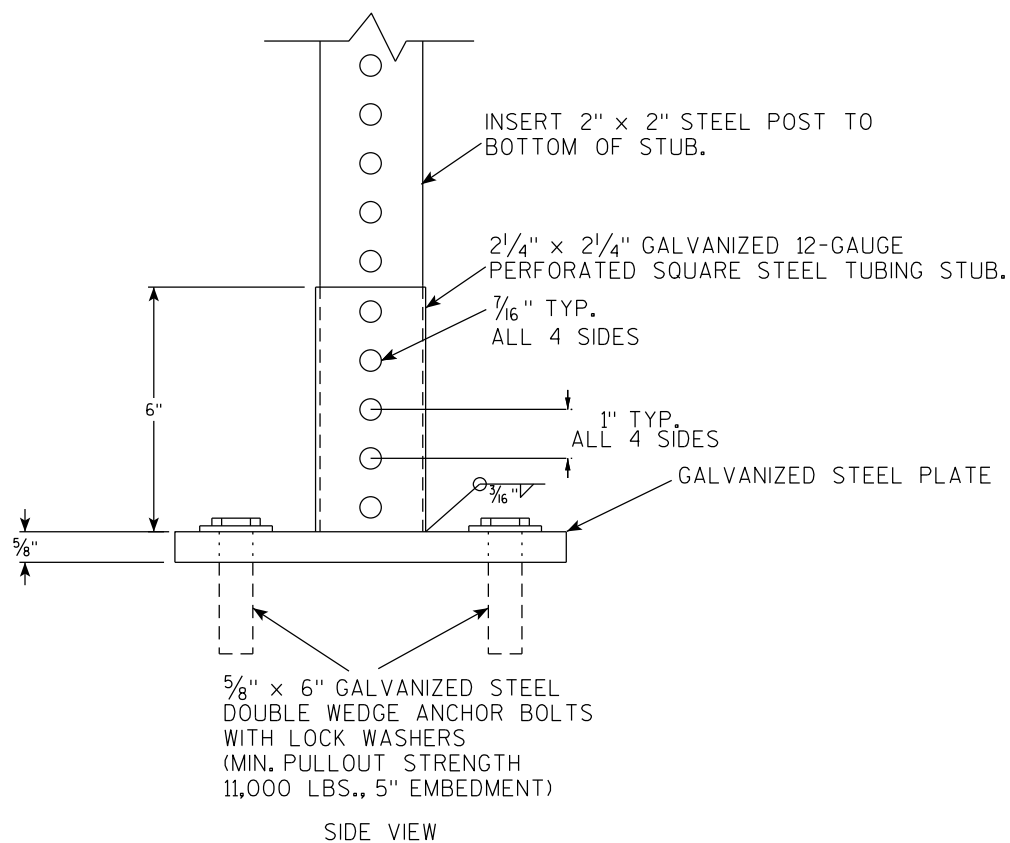
GALVANIZED STEEL POST MOUNTING USING  
BARRIER WALL SIGN BRACKET ASSEMBLY



TYPICAL ENHANCED REFERENCE  
MARKER PLACEMENT ON DOUBLE MEDIAN BARRIER



TYPICAL ENHANCED REFERENCE  
MARKER PLACEMENT BETWEEN MEDIAN BARRIERS



TYPICAL CHEVRON MARKER PLACEMENT

7

7

## SIGN MOUNTING ON BARRIER WALL

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 5/13/2020 PLATE NO. A4-10.5

PROJECT NO:

HWY:

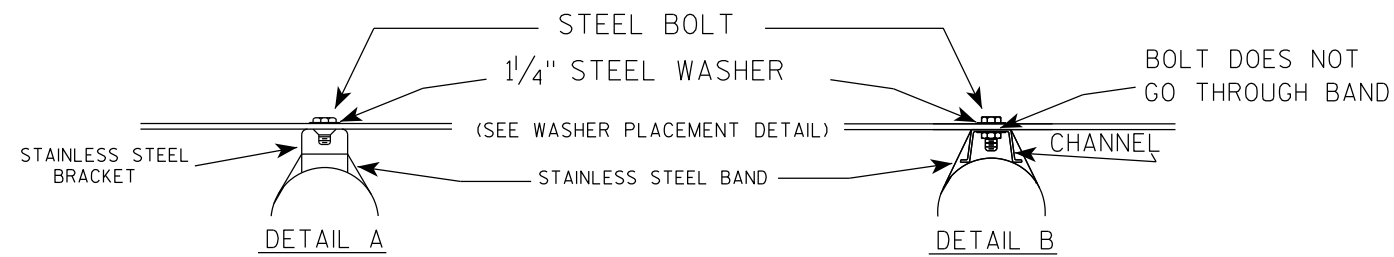
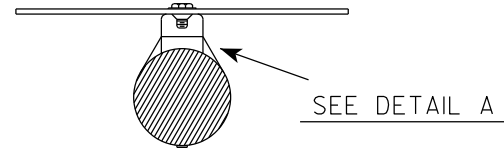
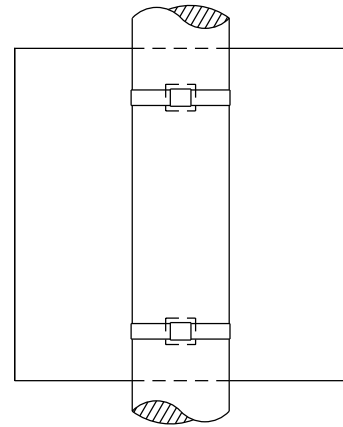
COUNTY:

SHEET NO: 39

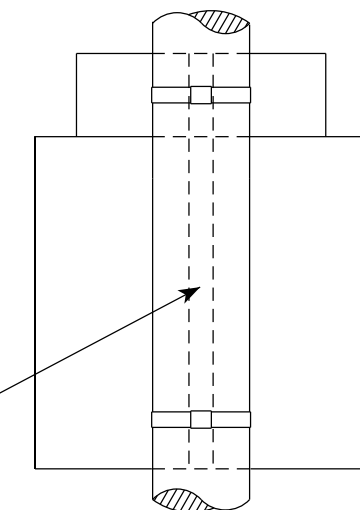
E

# BANDING

SINGLE SIGN



"J" ASSEMBLY

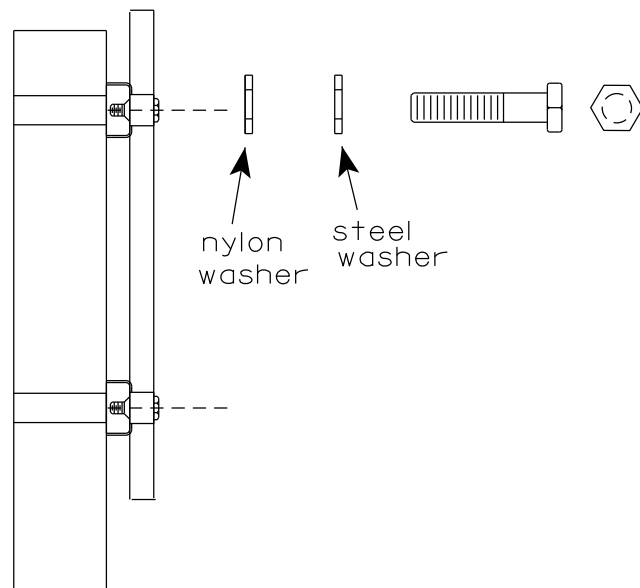


CHANNEL  
SEE TYPICAL PANEL  
INSTALLATION SHEET



- GENERAL NOTES
1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
  2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
  3. Banding and assembly bracket shall be stainless steel. All bands shall be  $\frac{3}{4}$ " in width and 0.025" thickness.
  4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
    - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
    - b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

WASHER PLACEMENT



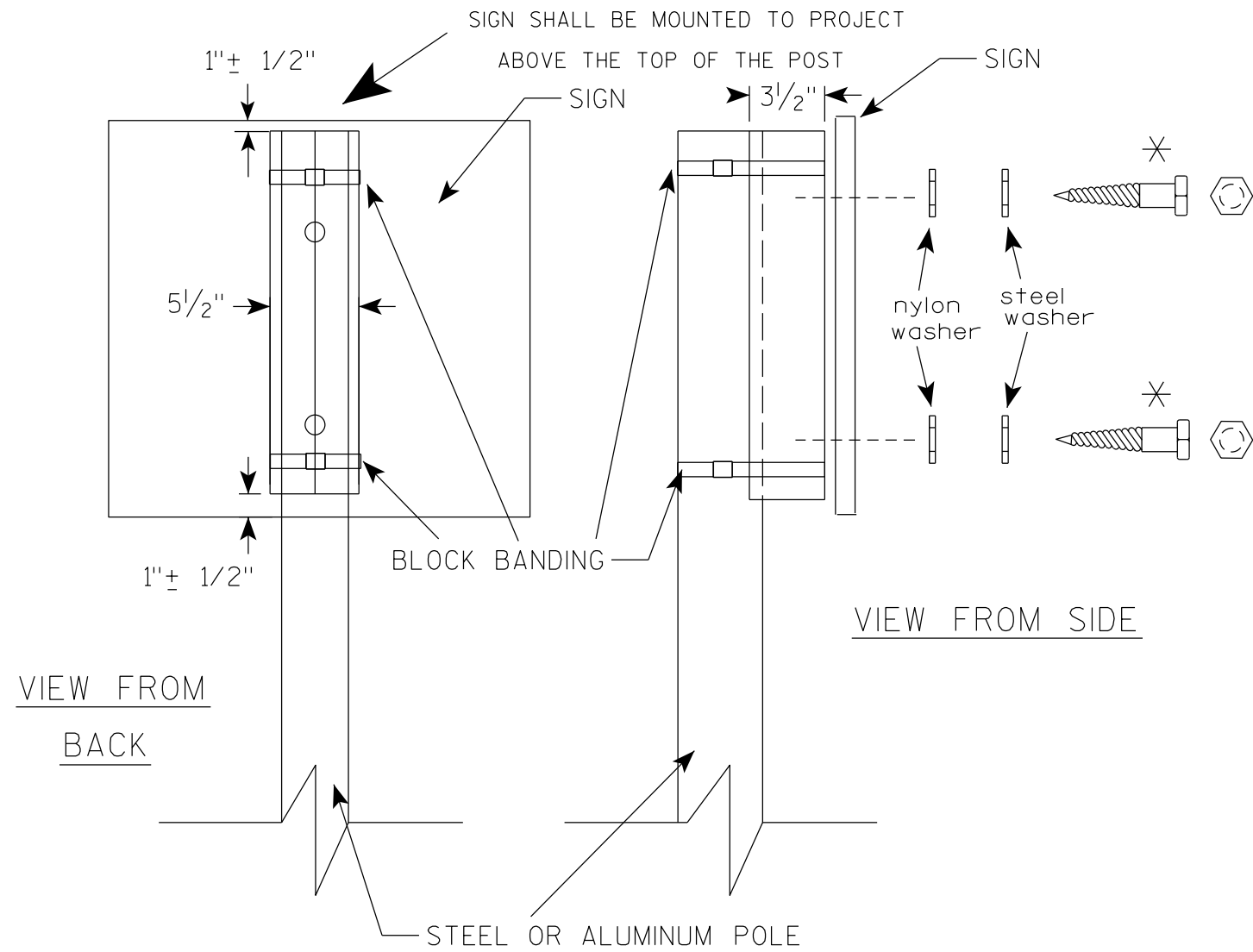
WASHERS (ALL POSTS) -  
 1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL  
 1-1/4" O.D. X 3/8" I.D. X .080 NYLON  
 FOR ALL TYPE H SIGNS

STANDARD SIGN  
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

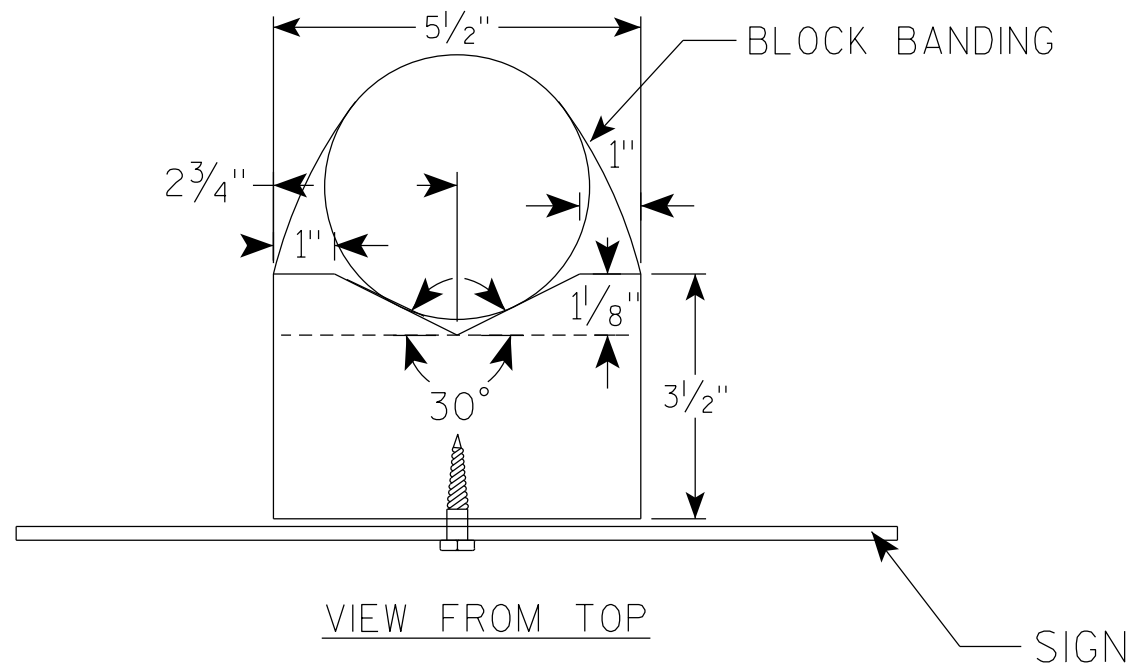
DATE 6/10/19 PLATE NO. A5-9.4



GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WISDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, 3/4" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORMALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
  - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
  - b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1/4" O.D. X 3/8" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1/4" O.D. X 3/8" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✱ LAG BOLTS SHALL BE 3/8" X 2 1/2"



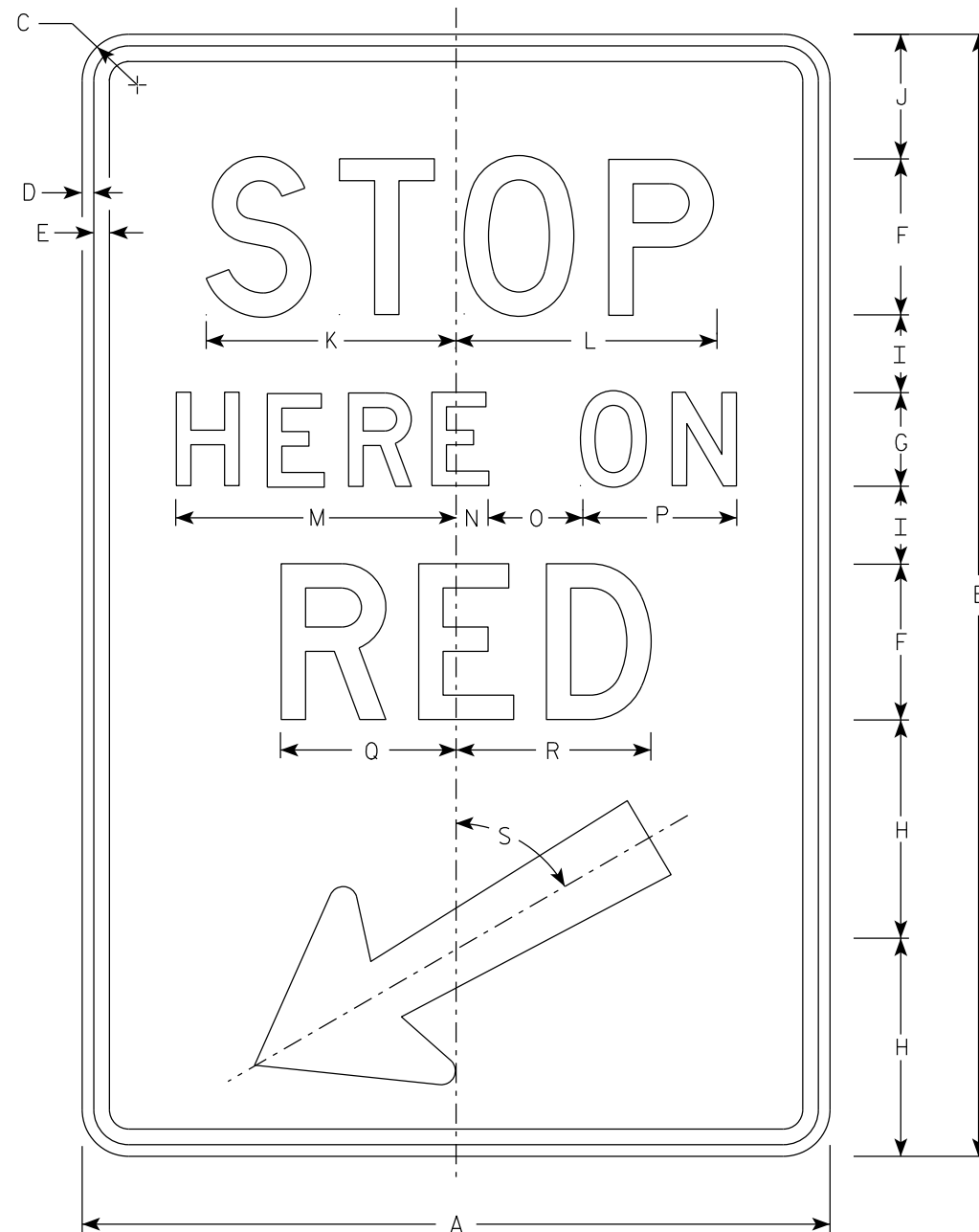
BLOCK BANDING DETAIL ( V-BLOCK OPTION )	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R Rauch</i> for State Traffic Engineer
DATE 4/19/2022	PLATE NO. A5-10.3

7

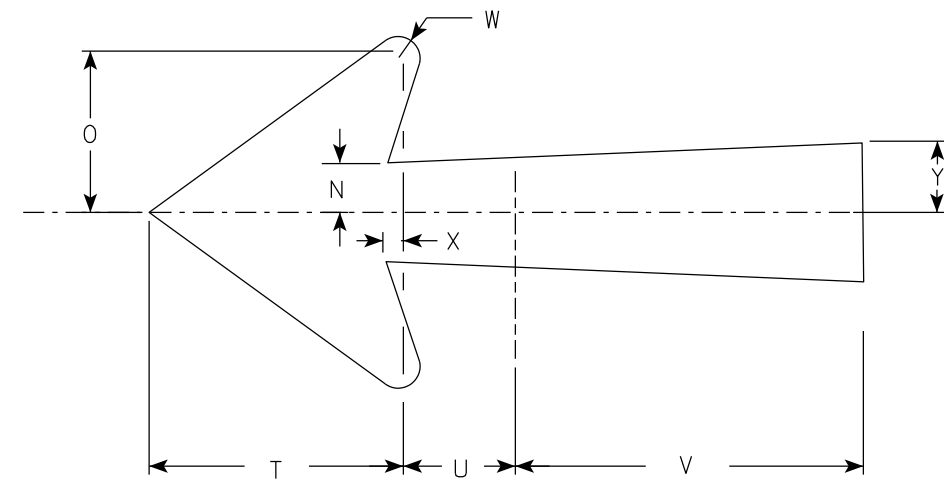
7

NOTES

1. Sign is Type II - Type H Reflective
2. Color:  
Background - White  
Message - Black
3. Message Series - D



R10-6



Arrow Detail

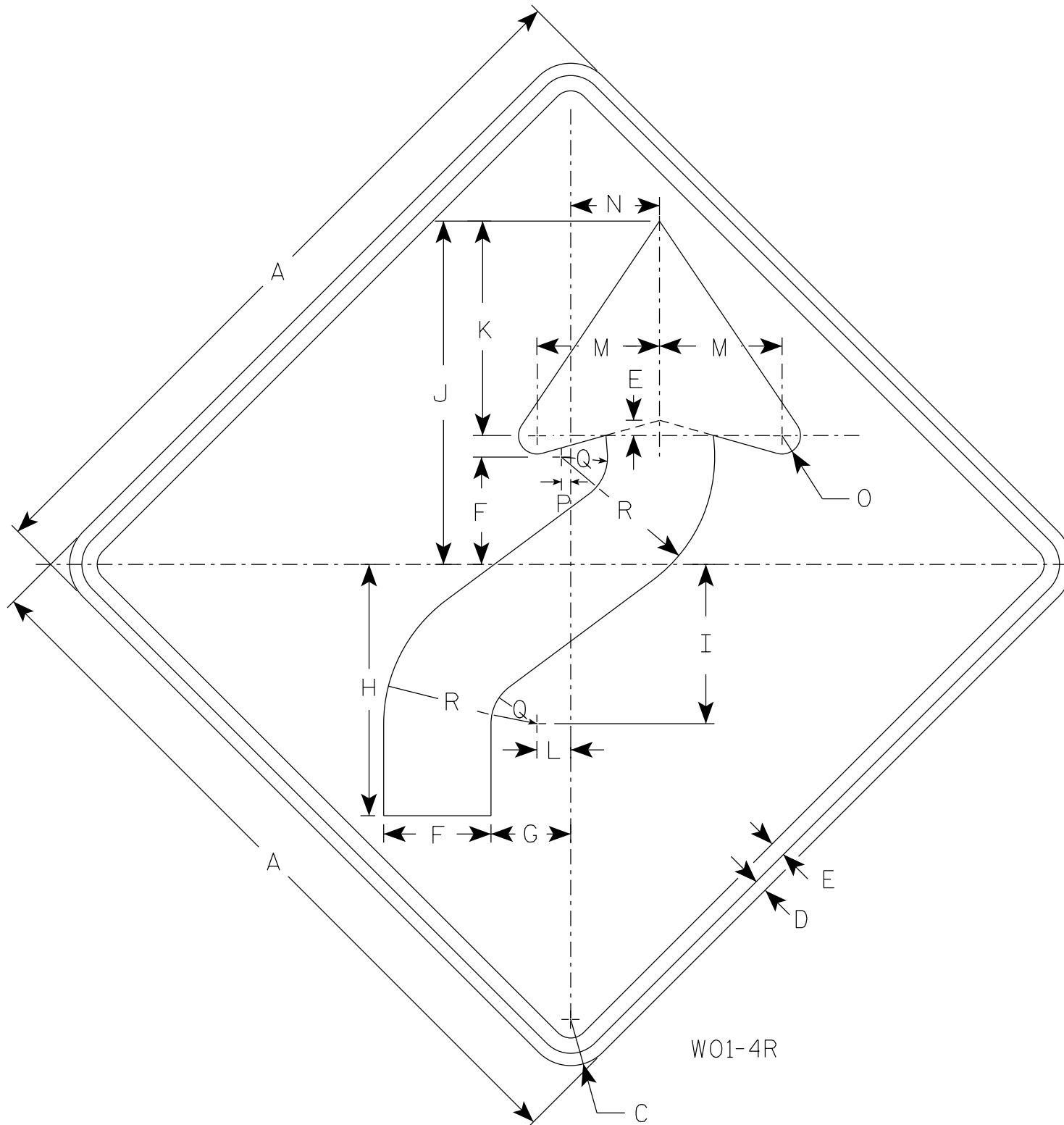
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Areq. sq. ft.
1																											
2S	24	36	1 1/2	3/8	1/2	5	3	7	2 1/2	4	8	8 3/8	9	1	3	5	5 5/8	6 1/4	60°	5 1/4	2 1/4	7 1/8	1/2	3/8	1 3/8		6.0
2M	24	36	1 1/2	3/8	1/2	5	3	7	2 1/2	4	8	8 3/8	9	1	3	5	5 5/8	6 1/4	60°	5 1/4	2 1/4	7 1/8	1/2	3/8	1 3/8		6.0
3																											
4																											
5																											

STANDARD SIGN  
R10-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 1/25/24 PLATE NO. R10-6.7



NOTES

1. Sign is Type II - Type F Reflective
2. Color:  
Background - Orange  
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W01-4L is the same as W01-4R except the arrow is reversed along the vertical centerline.

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	5 1/4	4	12 3/8	7 7/8	16 7/8	10 1/2	1 5/8	6	4 1/2	1	1/2	2 1/4	7 1/2									9.0
2S	48		3	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
2M	48		3	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
3	48		3	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
4	48		3	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
5	48		3	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0

STANDARD SIGN  
W01-4

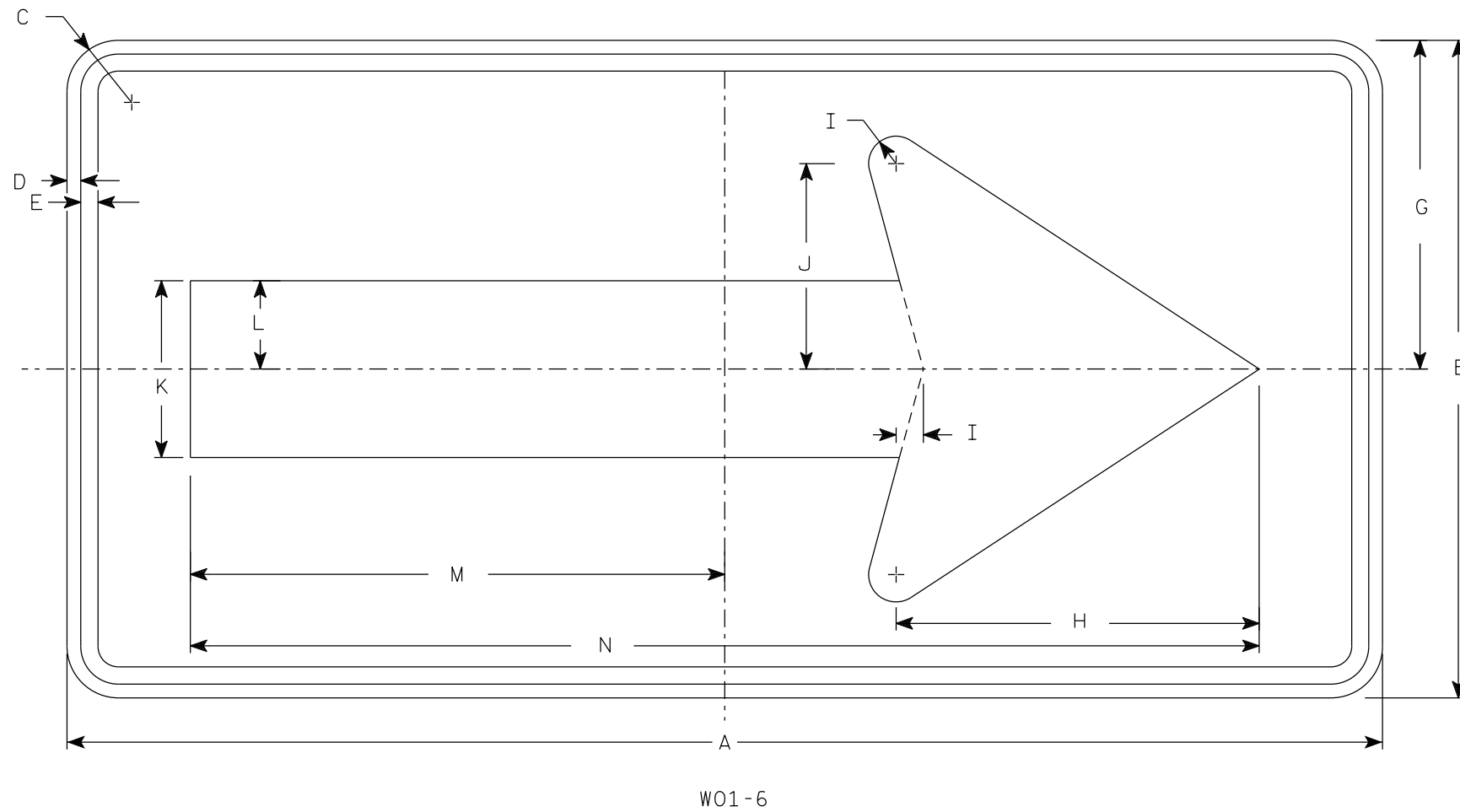
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*  
for State Traffic Engineer

DATE 1/24/2024 PLATE NO. W01-4.2

NOTES

1. Sign is Type II - Type F Reflective
2. Color:  
Background - Orange  
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	24	1 7/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 7/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 7/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 7/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
5	60	30	1 7/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5

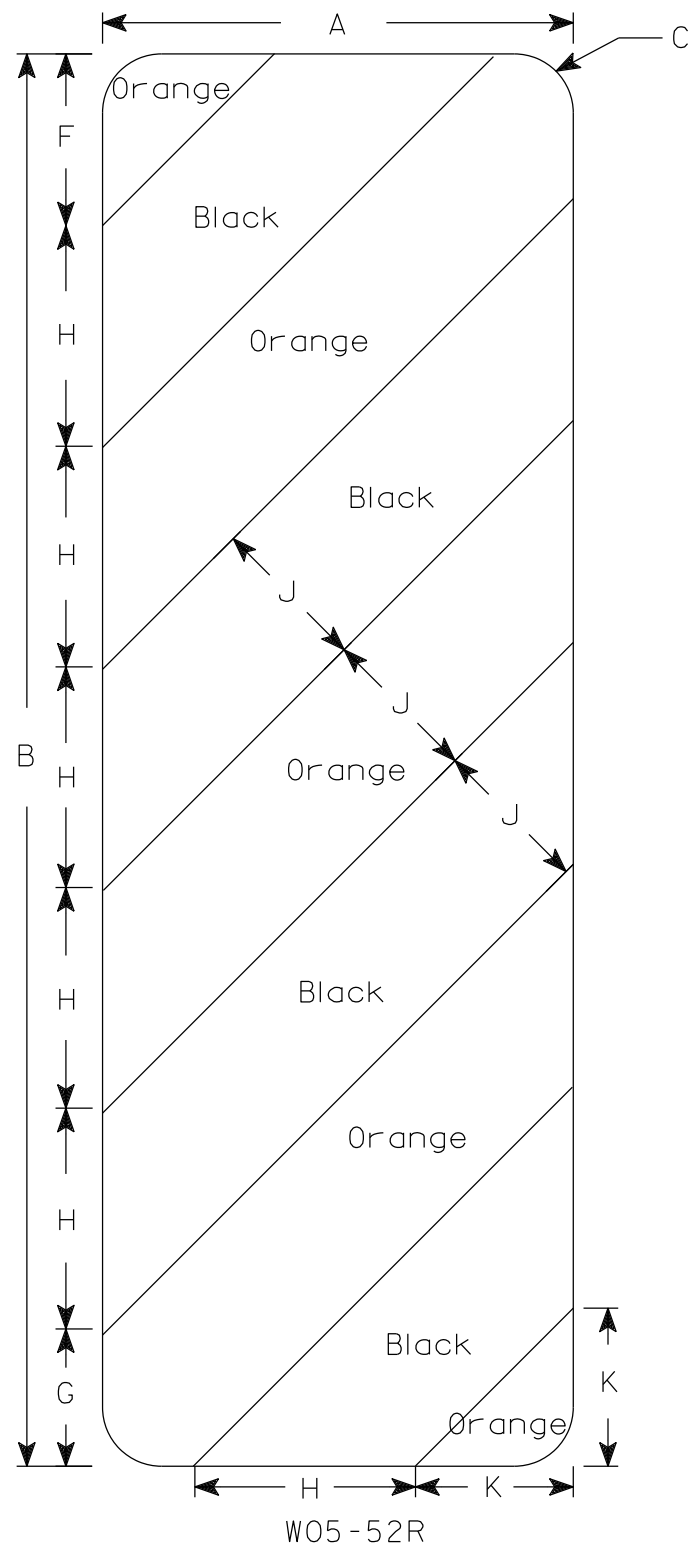
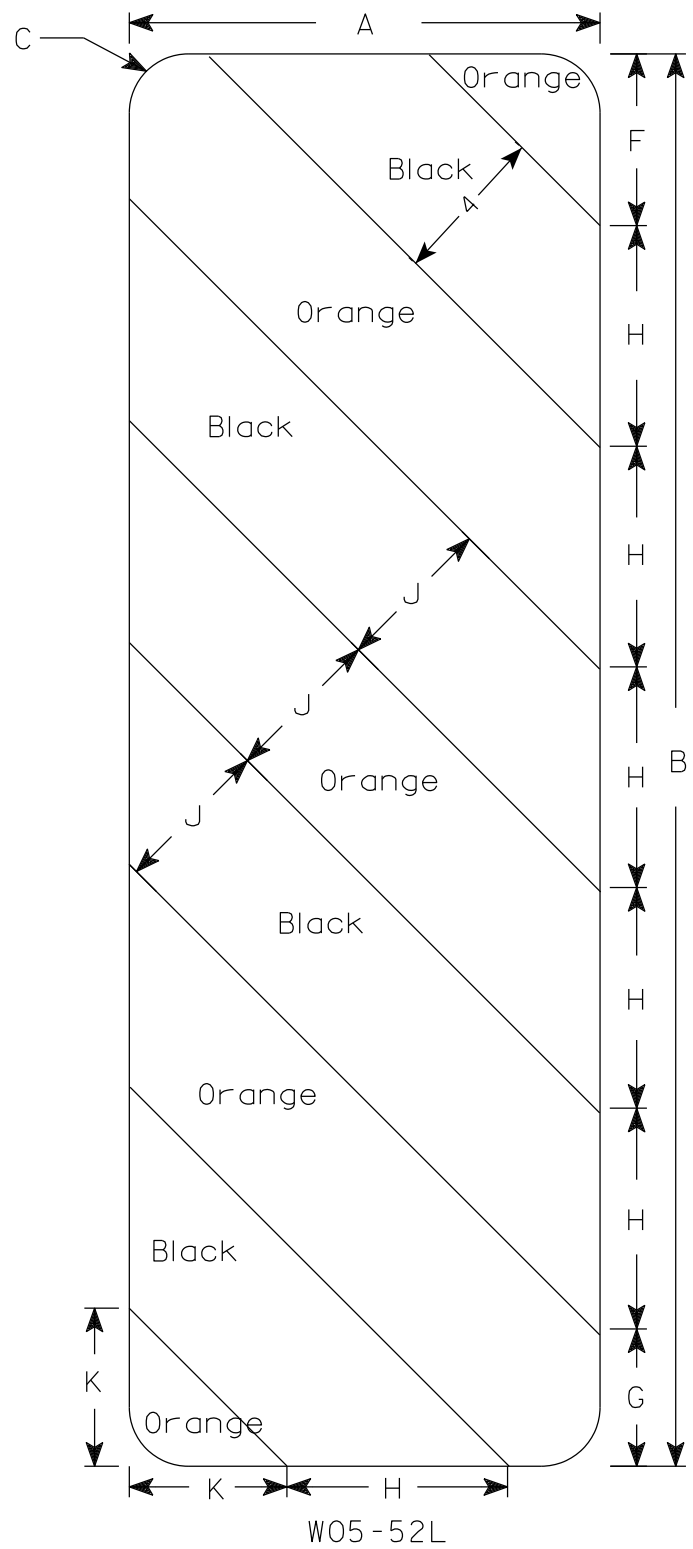
STANDARD SIGN  
W01-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 1/24/2024 PLATE NO. W01-6.2

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: 44 **E**



NOTES

1. Sign is Type II - Type F Reflective
2. Color:  
Background - Orange  
Message - Black
4. Alternate colors of stripes as shown.

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36	1 1/2			4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36	1 1/2			4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54	1 1/2			6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

STANDARD SIGN  
W05-52L & W05-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/13/2024 PLATE NO. W05-52.2

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: 45 **E**

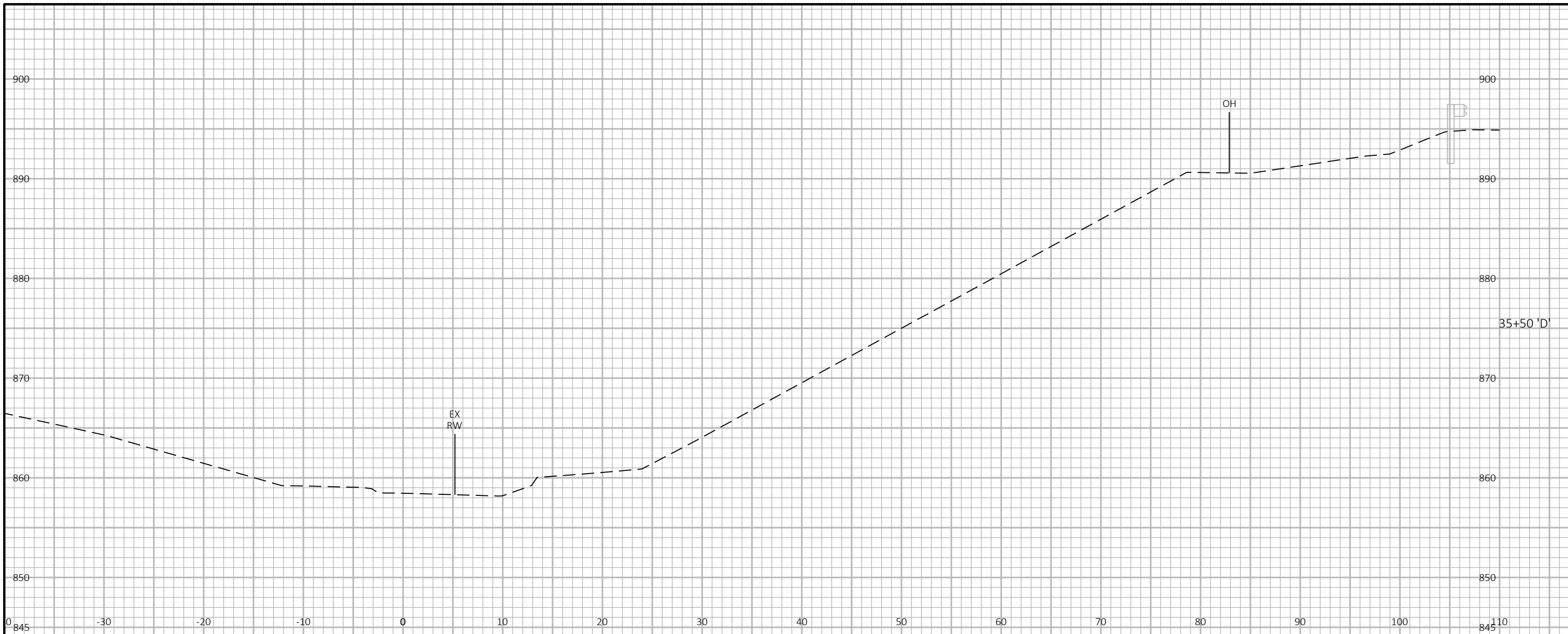
DIVISION 1 -- EXDITCHFLOWLINE

STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
		CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
					NOTE 1	NOTE 2	NOTE 3	NOTE 1		
35+50	0.00	0.00	0.00	0.00	0	0	0	0	0	0
36+00	50.00	1.27	1.27	105.72	1	1	98	1	123	-123
36+50	50.00	5.57	5.57	158.73	6	6	245	7	429	-429
37+00	50.00	7.01	7.01	185.12	12	12	318	19	826	-826
37+50	50.00	2.61	2.61	179.31	9	9	337	28	1,248	-1,248
38+00	50.00	11.89	11.89	305.91	13	13	449	41	1,809	-1,809
38+50	50.00	4.16	4.16	247.03	15	15	512	56	2,449	-2,449
39+00	50.00	2.84	2.84	45.71	6	6	271	62	2,788	-2,788
39+25	25.00	2.71	2.71	40.62	3	3	40	65	2,838	-2,838

Notes:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL	THIS DOES NOT SHOW UP IN CROSS SECTIONS
3 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
4 - MASS ORDINATE	(CUT - SALVAGED PAVT) - (FILL * FILL FACTOR)

9

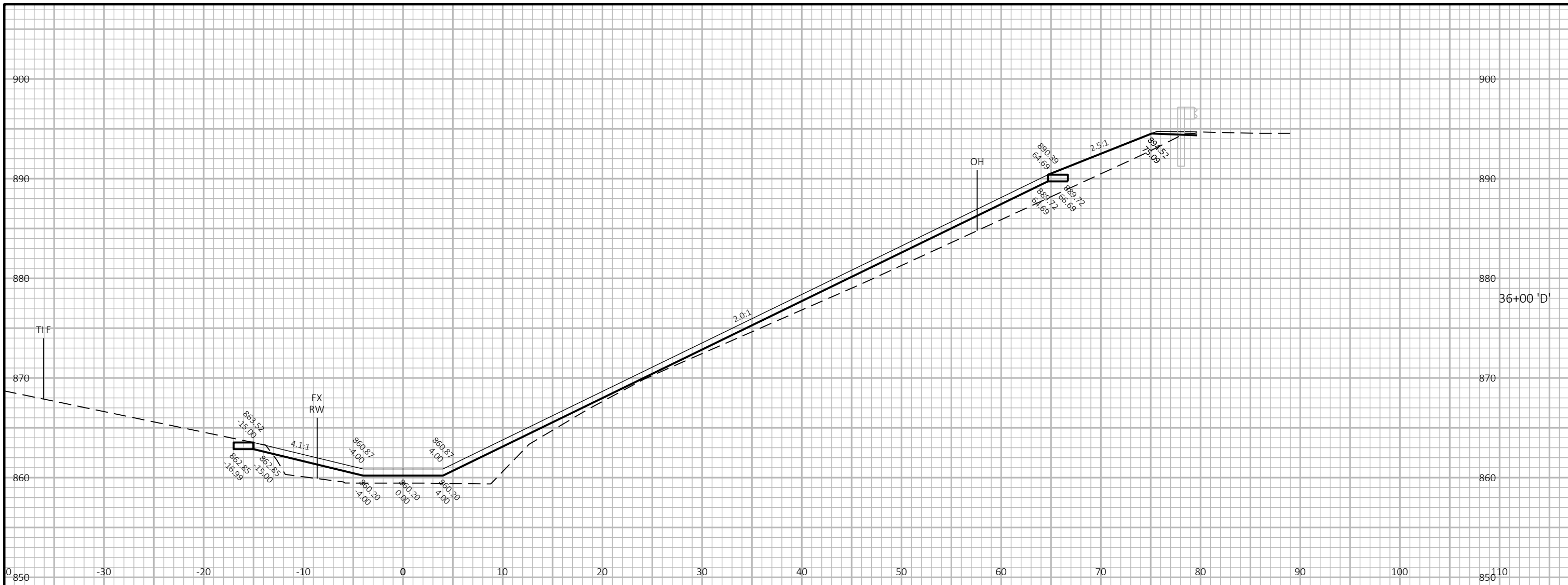
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9

9

PROJECT NO: 6130-04-61	HWY: STH 16	COUNTY: COLUMBIA	CROSS SECTIONS: DITCH GRADING	SHEET 47	E
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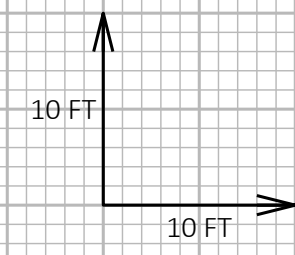
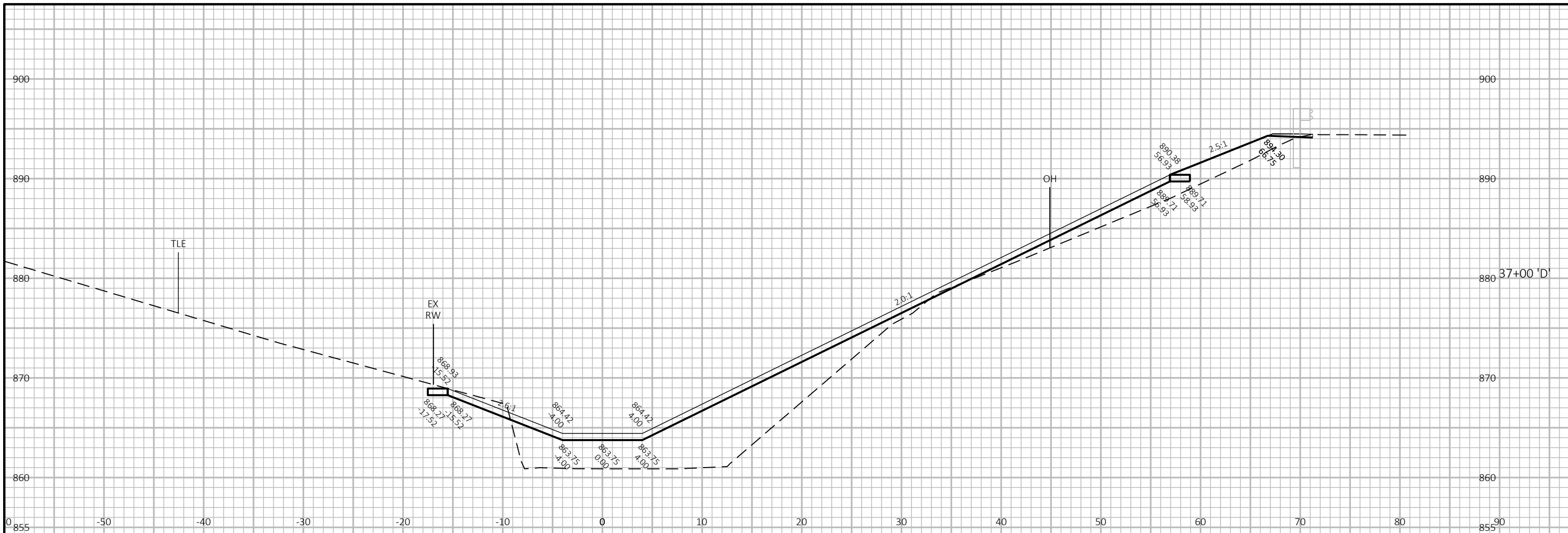
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9

PROJECT NO: 6130-04-61	HWY: STH 16	COUNTY: COLUMBIA	CROSS SECTIONS: DITCH GRADING	SHEET 48	E
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FILE NAME : C:\OD\ONEDRIVE - CORRE, INC\PROJECTS SW REGION\PROJECTS - 6130-04-31\_STH\_16\_COLUMBIA\_COUNTY\500\_CADD\501\_C3D\_2024\61300431\SHEETS\090201-XS.DWG PLOT DATE : 3/18/2026 8:41 AM PLOT BY : NICHOLAS WATHKE, PE PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT. WISDOT/CADD SHEET 49

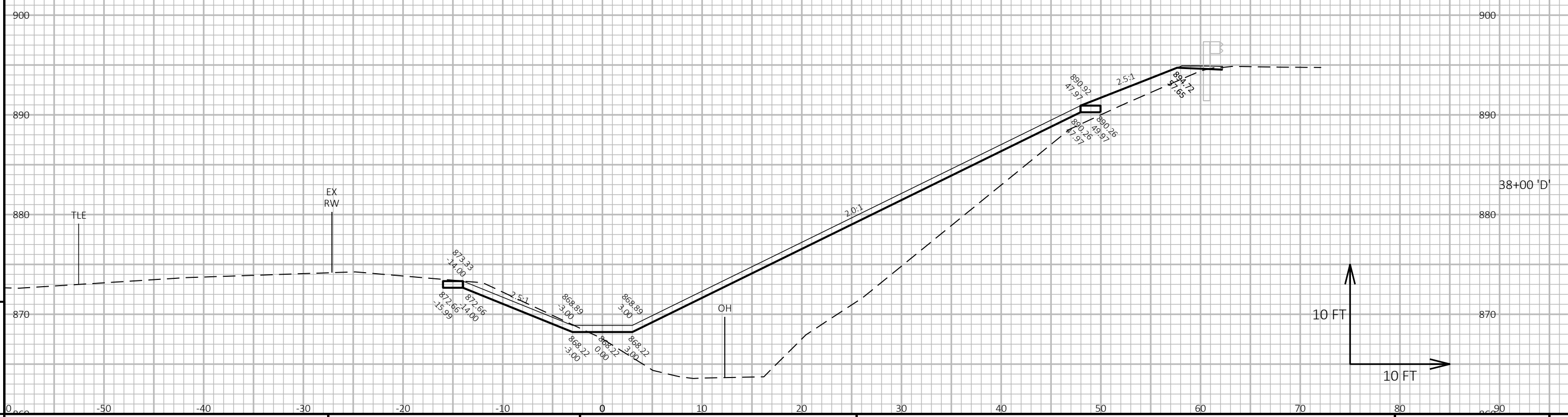
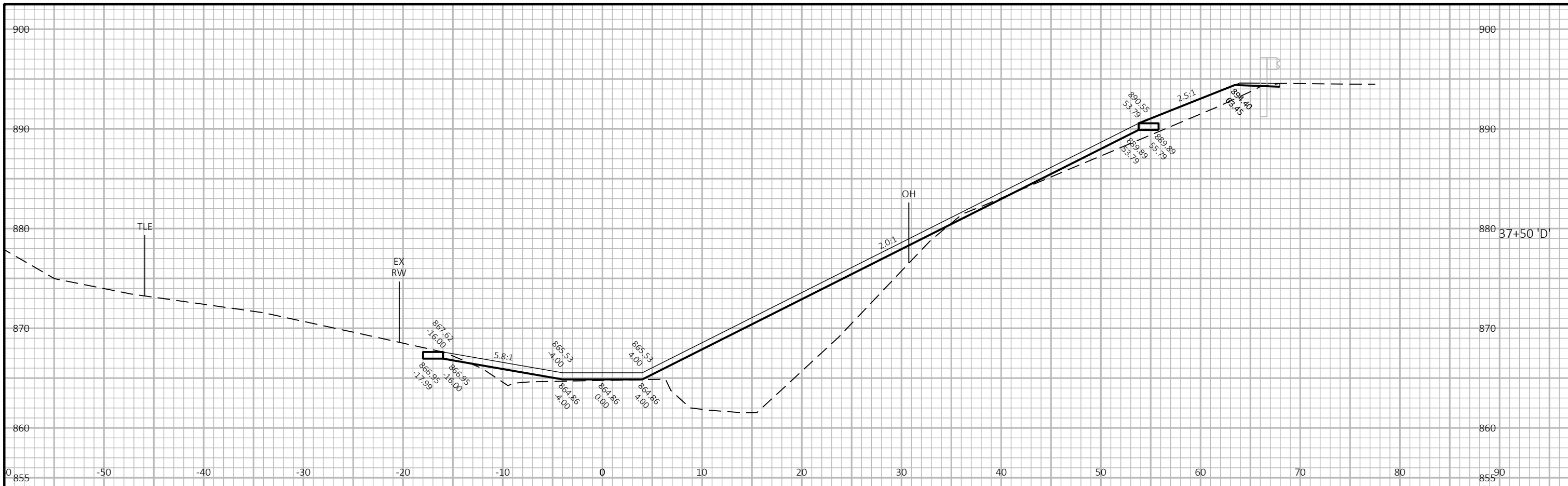




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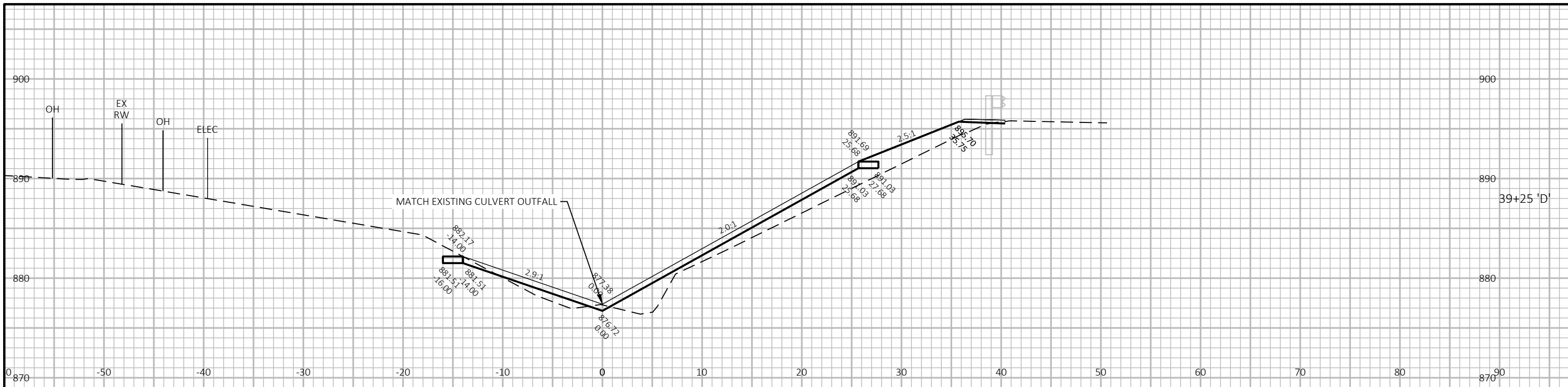
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PROJECT NO: 6130-04-61	HWY: STH 16	COUNTY: COLUMBIA	CROSS SECTIONS: DITCH GRADING	SHEET 50	E
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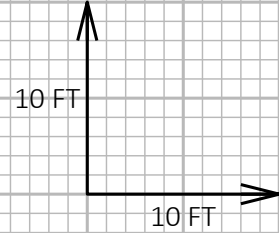
PROJECT NO: 6130-04-61      HWY: STH 16      COUNTY: COLUMBIA      CROSS SECTIONS: DITCH GRADING      SHEET 51

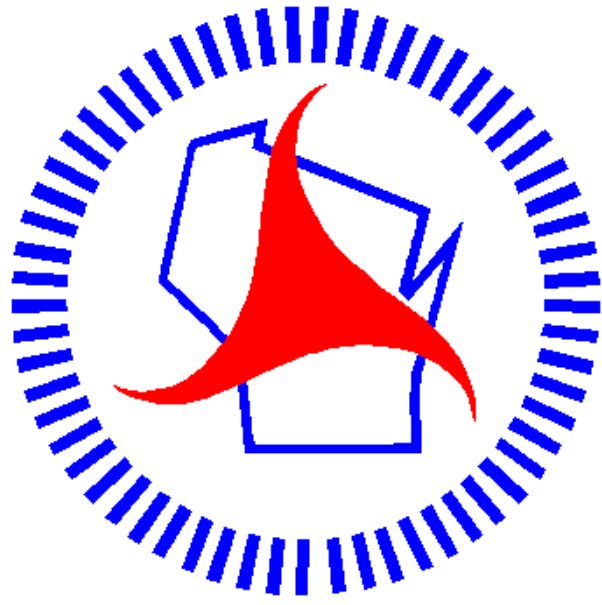




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