SUP

PROJECT ID: **8394-00-73**

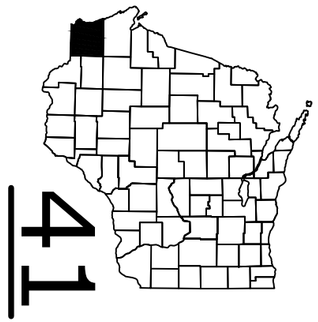
WITH: N/A

COUNTY: **DOUGLAS**

MARCH 2026

ORDER OF SHEETS

TOTAL SHEETS = 56



STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

T SUMMIT, PATZAU FOXBORO ROAD

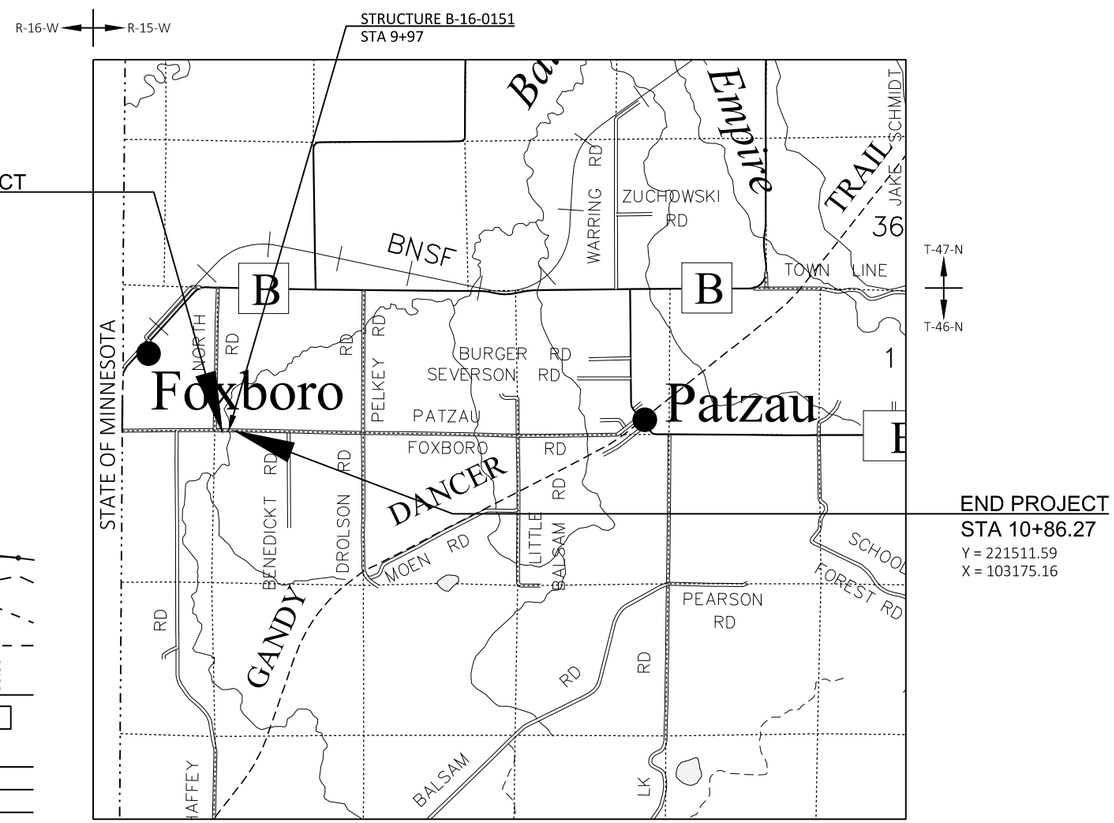
BALSAM CREEK BRIDGE B-16-0151

LOC STR
DOUGLAS COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
8394-00-73	—	—

STATE PROJECT NUMBER

8394-00-73



LAYOUT

SCALE 0 — 1 MI

TOTAL NET LENGTH OF CENTERLINE = 0.034 MI

DESIGN DESIGNATION

A.A.D.T.	(2026)	=	<100
A.A.D.T.	(2046)	=	<100
D.H.V.		=	10
D.D.		=	50/50
T.		=	10%
DESIGN SPEED		=	25 MPH
ESALS		=	N/A

CONVENTIONAL SYMBOLS

PLAN

- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE (300'EB')
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE

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

UTILITIES

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

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), DOUGLAS 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.

ACCEPTED FOR

TOWN _____ of SUMMIT

10-24-2025 (Date) _____ (Town Chairman)

ORIGINAL PLANS PREPARED BY

AYRES

WISCONSIN DANIEL N. SYDOW E-38363 WI PROFESSIONAL ENGINEER

10/27/2025

(Date) _____ (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	AYRES ASSOCIATES INC
Designer	AYRES ASSOCIATES INC
Project Manager	TOU YANG, PE
Regional Examiner	NW REGION
Regional Supervisor	TOU YANG, PE

APPROVED FOR THE DEPARTMENT

DATE: 10/28/2025 _____ (Signature)

E

FILE NAME : I:\42\42-1400.00 - DOUGLAS CO, TN SUMMIT, PATZAU FOXBORO RD\C3D\SHEETS\010101-TI.DWG

PLOT DATE : 12/20/2024 1:50 PM PLOT BY : PEDERSON, CARMEN PLOT NAME :

UTILITIES CONTACTS

BRIGHTSPEED
MICHAEL COUGHLIN
1409 JOHN AVE
SUPERIOR, WI 54880
PHONE: 980-376-1865
EMAIL: michael.coughlin@brightspeed.com
EMAIL: relocations@brightspeed.com

EAST CENTRAL ENERGY
JAKE KLOCKE
2200 FINLAND AVENUE
PO BOX 89
FINLAYSON, MN 55735
PHONE: 763-691-2041
EMAIL: Jake.Klocke@ecemn.com

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

WISCONSIN DNR LIAISON

AMY CRONK
WDNR
810 W. MAPLE STREET
SPOONER, WI 54801
PHONE: 715-635-4229
PHONE: 715-520-3976
EMAIL: amy.cronk@wisconsin.gov

TOWN CONTACT

NICHOLAS HUDACEK, CHAIRMAN
TOWN OF SUMMIT
2731 E MICHESKY ROAD
FOXBORO, WI 54836
PHONE: 715-399-2693
EMAIL: nhudaceksummittownchair@yahoo.com

DESIGN PROJECT LEADER

DANIEL SYDOW, PE
AYRES ASSOCIATES
3433 OAKWOOD HILLS PARKWAY
EAU CLAIRE, WI 54701
PHONE: 715-834-3161
EMAIL: sydowd@AyresAssociates.com

GENERAL NOTES

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

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

RIGHT OF WAY INFORMATION SHOWN ON THE PLANS IS APPROXIMATE.

EROSION CONTROL FEATURES AS SHOWN IN THE PLANS ARE AT APPROXIMATE LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE CONTRACTOR'S EROSION CONTROL IMPLEMENTATION PLAN (ECIP) AND APPROVED BY THE ENGINEER. MAINTAIN EROSION CONTROL MEASURES UNTIL SUCH A TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.

SEED MIXTURE NO. 20 AND SEEDING TEMPORARY SHALL BE USED IN THE PROJECT AND SHALL BE PLACED AS SHOWN IN THE PLANS AND/OR DIRECTED BY THE ENGINEER.

THE PROPOSED SHOULDER WIDTH SHOWN IN THE TYPICAL SECTIONS ARE MINIMUM WIDTH. PERPETUATE EXISTING SHOULDERS THAT ARE WIDER THAN WHAT IS SHOWN IN THE TYPICAL SECTIONS.

TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

DO NOT DRIVE OR STORE EQUIPMENT, OR STORE CONSTRUCTION MATERIALS IN ENVIRONMENTALLY SENSITIVE AREAS, WETLANDS OR WATERWAYS.

THE DEPARTMENT OF TRANSPORTATION WILL FURNISH THE CONTRACTOR WITH A MONUMENT TO BE INSTALLED BY THE CONTRACTOR AS DIRECTED BY THE ENGIINEER.

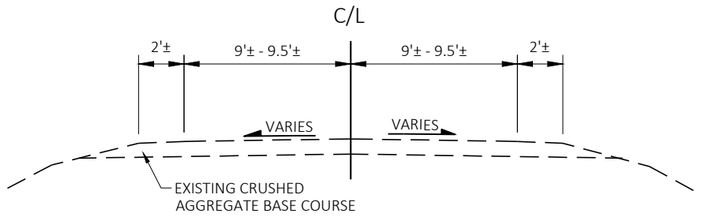
2

RUNOFF COEFFICIENT TABLE

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

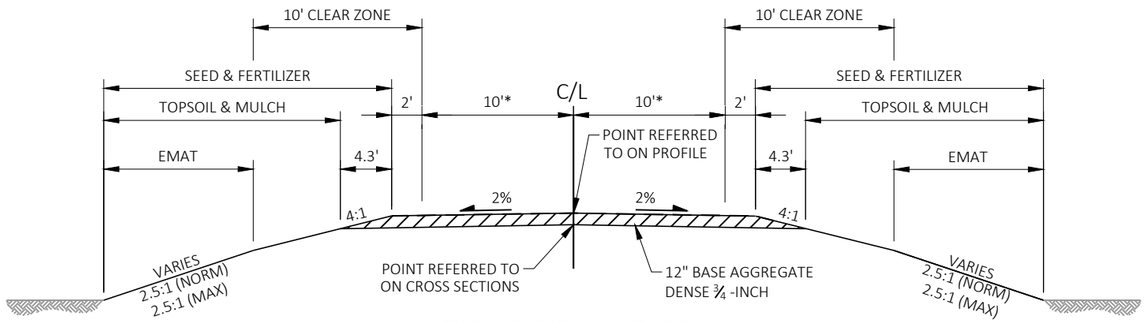
TOTAL PROJECT AREA = 0.356 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.244 ACRES

2



EXISTING TYPICAL SECTION

PATZAU FOXBORO ROAD



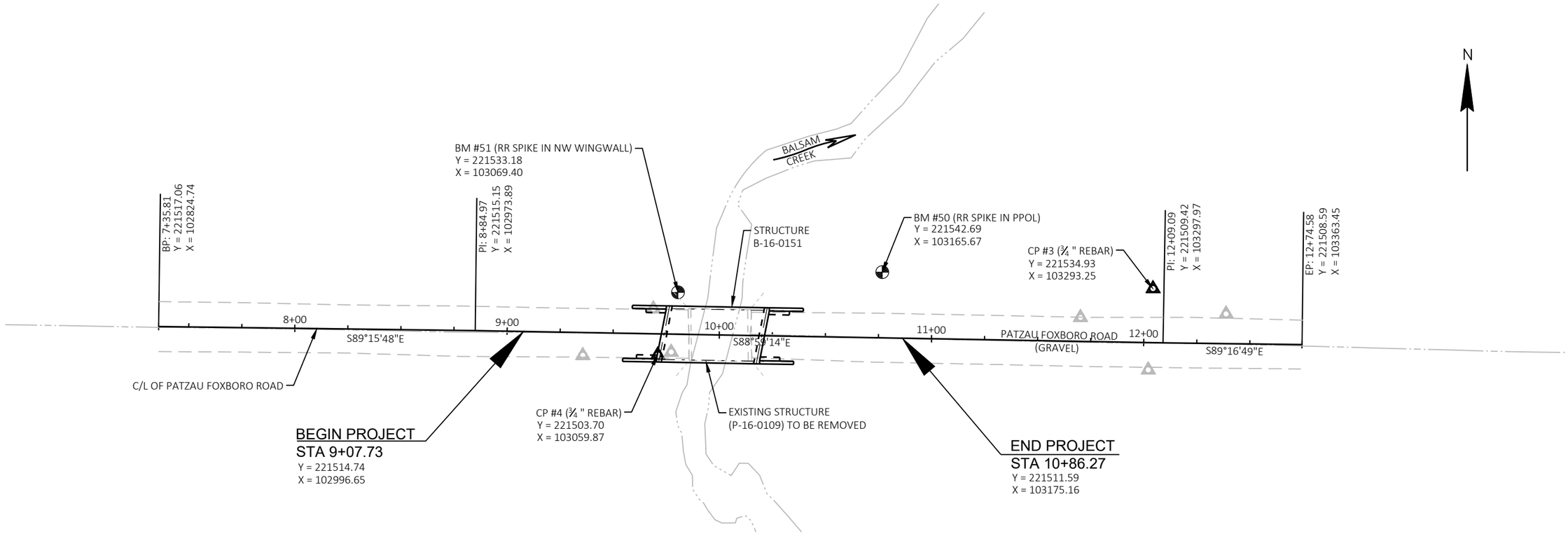
FINISHED TYPICAL SECTION

PATZAU FOXBORO ROAD
STA. 9+07.73 TO STA. 9+72.73
STA. 10+21.27 TO STA. 10+86.27

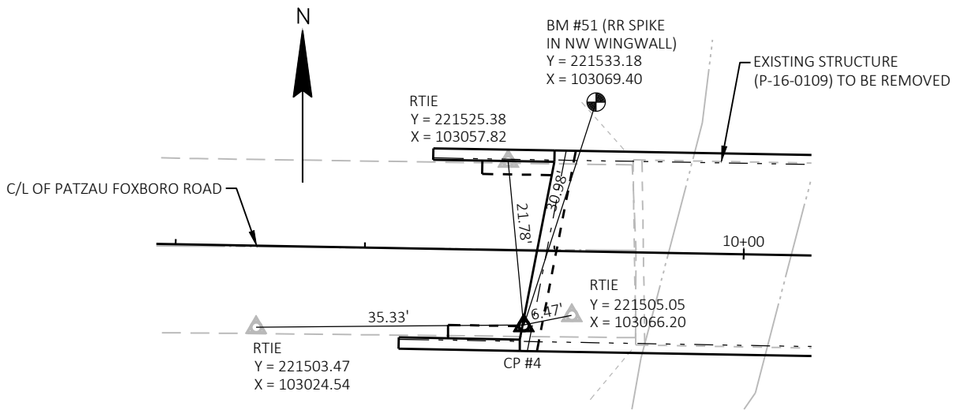
*THE BASE AGGREGATE LANE SHALL TAPER FROM 13.25' WIDE AT THE ENDS OF THE WINGS TO 10' WIDE AT 50' FROM THE END OF THE BRIDGE AND MATCH EXISTING AT THE ENDS OF THE PROJECT.

PROJECT NO: 8394-00-73	HWY: PATZAU FOXBORO ROAD	COUNTY: DOUGLAS	TYPICAL SECTIONS	SHEET 3	E

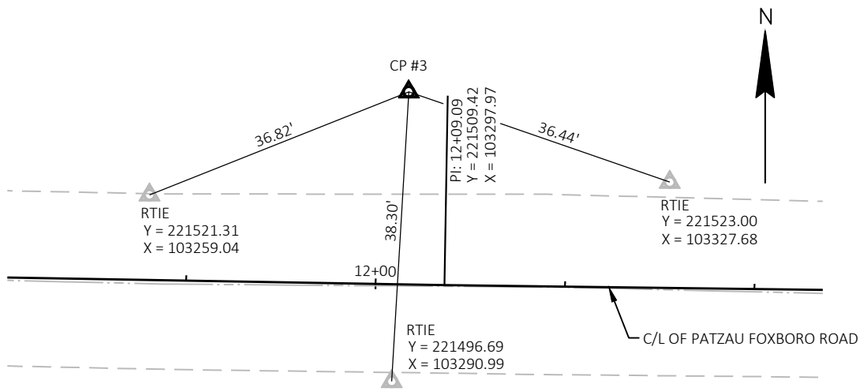
2



ALIGNMENT CONTROLS



CP #4 (3/4" REBAR)
Y = 221503.70
X = 103059.87

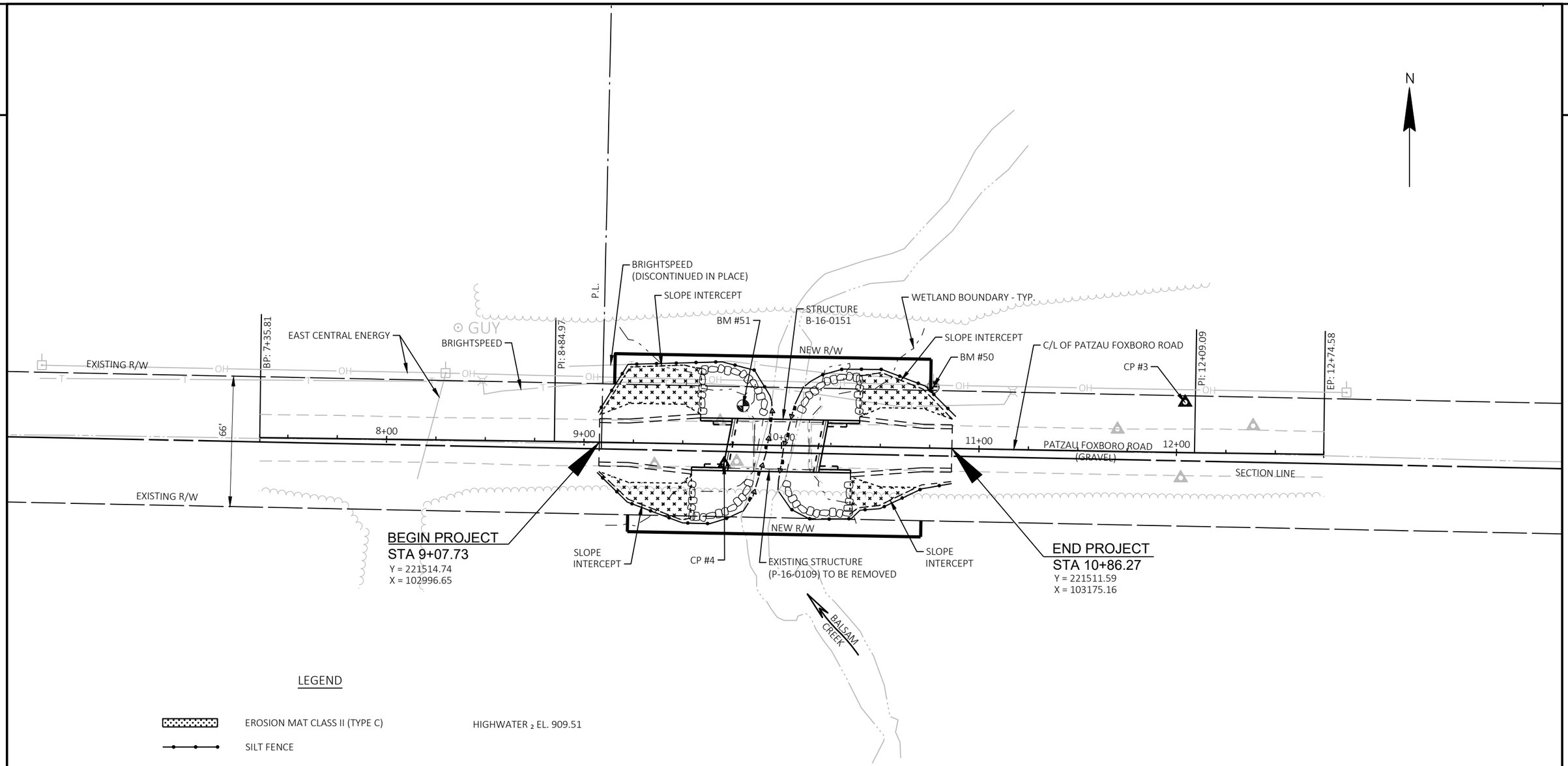


CP #3 (3/4" REBAR)
Y = 221534.93
X = 103293.25

ALIGNMENT TIES

PROJECT NO: 8394-00-73	HWY: PATZAU FOXBORO ROAD	COUNTY: DOUGLAS	ALIGNMENT CONTROLS	SHEET 4	E

2



LEGEND

- EROSION MAT CLASS II (TYPE C)
- SILT FENCE
- RIPRAP HEAVY
- SLOPE INTERCEPT
- TURBIDITY BARRIER
- TEMPORARY DITCH CHECK (UNDISTRIBUTED)

HIGHWATER $_2$ EL. 909.51

NOTES:
NO DISTURBANCE OR TOPSOIL STOCKPILING IS ALLOWED OUTSIDE OF THE SLOPE INTERCEPTS.

WETLANDS EXIST IN THE PROJECT AREA.

NO IN-STREAM WORK BETWEEN SEPTEMBER 15 TO MAY 15, WITH BOTH DATES INCLUSIVE OF THE TIMEOUT PERIOD.

MULCH TO BE PLACED ON SIDE SLOPES NOT PROTECTED BY EROSION MAT.

PROJECT NO: 8394-00-73	HWY: PATZAU FOXBORO ROAD	COUNTY: DOUGLAS	EROSION CONTROL	SHEET 5	E

Estimate Of Quantities

8394-00-73

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	2.000	2.000
0004	201.0205	Grubbing	STA	2.000	2.000
0006	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. P-16-0109	EACH	1.000	1.000
0008	205.0100	Excavation Common	CY	78.000	78.000
0010	205.0508.S	Excavation, Hauling, and Disposal of Potential Creosote Contaminated Soil	TON	100.000	100.000
0012	206.1001	Excavation for Structures Bridges (structure) 01. B-16-0151	EACH	1.000	1.000
0014	208.0100	Borrow	CY	196.000	196.000
0016	210.1500	Backfill Structure Type A	TON	420.000	420.000
0018	213.0100	Finishing Roadway (project) 01. 8394-00-73	EACH	1.000	1.000
0020	305.0110	Base Aggregate Dense 3/4-Inch	TON	280.000	280.000
0022	502.0100	Concrete Masonry Bridges	CY	135.000	135.000
0024	502.3200	Protective Surface Treatment	SY	205.000	205.000
0026	503.0128	Prestressed Girder Type I 28-Inch	LF	188.000	188.000
0028	505.0400	Bar Steel Reinforcement HS Structures	LB	3,760.000	3,760.000
0030	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	12,870.000	12,870.000
0032	506.0105	Structural Steel Carbon	LB	470.000	470.000
0034	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	8.000	8.000
0036	506.4000	Steel Diaphragms (structure) 01. B-16-0151	EACH	3.000	3.000
0038	513.4061	Railing Tubular Type M	LF	165.000	165.000
0040	516.0500	Rubberized Membrane Waterproofing	SY	18.000	18.000
0042	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	780.000	780.000
0044	606.0300	Riprap Heavy	CY	310.000	310.000
0046	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	180.000	180.000
0048	618.0100	Maintenance and Repair of Haul Roads (project) 01. 8394-00-73	EACH	1.000	1.000
0050	619.1000	Mobilization	EACH	1.000	1.000
0052	624.0100	Water	MGAL	13.000	13.000
0054	625.0100	Topsoil	SY	465.000	465.000
0056	627.0200	Mulching	SY	315.000	315.000
0058	628.1504	Silt Fence	LF	490.000	490.000
0060	628.1520	Silt Fence Maintenance	LF	980.000	980.000
0062	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0064	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0066	628.2027	Erosion Mat Class II Type C	SY	315.000	315.000
0068	628.6005	Turbidity Barriers	SY	105.000	105.000
0070	628.7504	Temporary Ditch Checks	LF	50.000	50.000
0072	629.0210	Fertilizer Type B	CWT	0.500	0.500
0074	630.0120	Seeding Mixture No. 20	LB	29.000	29.000
0076	630.0200	Seeding Temporary	LB	9.000	9.000
0078	630.0300	Seeding Borrow Pit	LB	6.000	6.000
0080	630.0500	Seed Water	MGAL	15.000	15.000
0082	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	6.000	6.000
0084	637.2230	Signs Type II Reflective F	SF	16.500	16.500
0086	638.2602	Removing Signs Type II	EACH	4.000	4.000
0088	638.3000	Removing Small Sign Supports	EACH	4.000	4.000
0090	642.5001	Field Office Type B	EACH	1.000	1.000
0092	643.0420	Traffic Control Barricades Type III	DAY	1,880.000	1,880.000
0094	643.0705	Traffic Control Warning Lights Type A	DAY	2,510.000	2,510.000
0096	643.0900	Traffic Control Signs	DAY	1,250.000	1,250.000
0098	643.5000	Traffic Control	EACH	1.000	1.000

8394-00-73

Line	Item	Item Description	Unit	Total	Qty
0100	645.0111	Geotextile Type DF Schedule A	SY	100.000	100.000
0102	645.0120	Geotextile Type HR	SY	540.000	540.000
0104	650.4500	Construction Staking Subgrade	LF	130.000	130.000
0106	650.5000	Construction Staking Base	LF	130.000	130.000
0108	650.6501	Construction Staking Structure Layout (structure) 01. B-16-0151	EACH	1.000	1.000
0110	650.9911	Construction Staking Supplemental Control (project) 01. 8394-00-73	EACH	1.000	1.000
0112	650.9920	Construction Staking Slope Stakes	LF	130.000	130.000
0114	715.0502	Incentive Strength Concrete Structures	DOL	810.000	810.000
0116	999.2005.S	Maintaining Bird Deterrent System (station) 01. 10+00	EACH	1.000	1.000
0118	SPV.0195	Special 01. Select Crushed Material for Travel Corridor	TON	16.000	16.000

3

CLEARING & GRUBBING

STATION	TO	STATION	LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
9+00	-	11+00	PATZAU FOXBORO RD	2	2
			TOTAL 0010	**2**	**2**

NOTE: CUTTING OF TREES TO BE DONE PRIOR TO CONSTRUCTION BY OTHERS. CLEAR CUT TREES.

EXCAVATION, HAULING, AND DISPOSAL OF POTENTIAL CREOSOTE CONTAMINATED SOIL

STATION	TO	STATION	LOCATION	205.0508.S EXCAVATION, HAULING, AND DISPOSAL OF POTENTIAL CREOSOTE CONTAMINATED SOIL TON	REMARKS
9+78	-	10+21	PATZAU FOXBORO RD	100	TIMBER ABUTMENT
			TOTAL 0010	**100**	

NOTE: EXCAVATE A 2' OFFSET AROUND EACH EXISTING BRIDGE TIMBER SUBSTRUCTURE AND 3' DEEP

BASE AGGREGATE DENSE

STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON
9+07.73	-	9+72.73	PATZAU FOXBORO RD	140
10+21.27	-	10+86.27	PATZAU FOXBORO RD	140
			TOTAL 0010	**280**

PATZAU FOXBORO ROAD EARTHWORK SUMMARY

From/To Station	Location	Common Excavation (1) (Item 205.0100) Cut	Unexpanded Fill	Expanded Fill (2) Factor 1.30	Mass Ordinate +/- (3)	Waste	Borrow (Item 208.0100)
9+07.73 - 9+72.73	MAINLINE	35	148	192	-157	0	157
10+21.27 - 10+86.27	MAINLINE	43	63	82	-39	0	39
	TOTAL 0010	**78**					**196**

1) Common Excavation is the Cut. Item number 205.0100.
2) Expanded Fill. Factor = 1.30; Expanded Fill = Unexpanded Fill * Fill Factor
3) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material on the project.
4) All quantities shown in CY.

FINISHING ROADWAY

LOCATION	213.0100.01 FINISHING ROADWAY (PROJECT) (01. 8394-00-73) EACH
PROJECT LIMITS	1
TOTAL 0010	**1**

MAINTENANCE AND REPAIR OF HAUL ROADS

CATEGORY	LOCATION	618.0100.01 MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) (01. 8394-00-73) EACH
0030	PROJECT LIMITS	1
	TOTAL 0030	**1**

ALL ITEMS ON THIS SHEET ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

3

MOBILIZATION

LOCATION	619.1000 MOBILIZATION EACH
PROJECT LIMITS	1
TOTAL 0010	**1**

WATER

LOCATION	624.0100 WATER MGAL
COMPACTION	5
DUST CONTROL	8
TOTAL 0010	**13**

MOBILIZATIONS EROSION CONTROL

LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
PROJECT LIMITS	4	4
TOTAL 0010	**4**	**4**

EROSION CONTROL ITEMS

STATION	TO	STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.2027 EROSION MAT CLASS II TYPE C SY	628.6005 TURBIDITY BARRIERS SY	628.7504 TEMPORARY DITCH CHECKS LF
9+07.73	-	10+00	PATZAU FOXBORO RD	200	400	155	45	--
10+00	-	10+86.27	PATZAU FOXBORO RD	190	380	95	40	--
UNDISTRIBUTED				100	200	65	20	50
			TOTAL 0010	**490**	**980**	**315**	**105**	**50**

RESTORATION ITEMS

STATION	TO	STATION	LOCATION	625.0100 TOPSOIL SY	627.0200 MULCHING SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0200 SEEDING TEMPORARY LB	630.0300 SEEDING BORROW PIT LB	630.0500 SEED WATER MGAL
8+09	-	9+44	PATZAU FOXBORO RD	215	130	0.2	13	4	6	7
10+55	-	11+66	PATZAU FOXBORO RD	155	120	0.2	10	3		5
UNDISTRIBUTED				95	65	0.1	6	2		3
			TOTAL 0010	**465**	**315**	**0.5**	**29**	**9**	**6**	**15**

SIGNS TYPE II

STATION	LOCATION	SIGN CODE	SIGN SIZE (WxH) INCHES	634.0614 POSTS WOOD 4X6-INCH X 14-FT EACH	637.2230 SIGNS TYPE II REFLECTIVE F SF	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
7+50	RT	W13-1	18X18	1	2.25	--	--	25 MPH SPEED SIGN
9+57	LT	W5-52L	12x36	1	3	--	--	BRIDGE HASH MARK SIGN
9+54	RT	W5-52R	12x36	1	3	--	--	BRIDGE HASH MARK SIGN
9+84	LT			--	--	1	1	BRIDGE HASH MARK SIGN
9+85	RT			--	--	1	1	BRIDGE HASH MARK SIGN
10+15	LT			--	--	1	1	BRIDGE HASH MARK SIGN
10+16	RT			--	--	1	1	BRIDGE HASH MARK SIGN
10+40	LT	W5-52R	12x36	1	3	--	--	BRIDGE HASH MARK SIGN
10+36	RT	W5-52L	12x36	1	3	--	--	BRIDGE HASH MARK SIGN
12+50	LT	W13-1	18X18	1	2.25	--	--	25 MPH SPEED SIGN
TOTAL 0010				**6**	**16.5**	**4**	**4**	

FIELD OFFICE TYPE B

LOCATION	642.5001 FIELD OFFICE TYPE B EACH
PROJECT LIMITS	1
TOTAL 0010	**1**

ALL ITEMS ON THIS SHEET ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

TRAFFIC CONTROL ITEMS

LOCATION	DURATION DAYS	643.0420 TRAFFIC CONTROL BARRICADES TYPE III EACH	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A EACH	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	643.0900 TRAFFIC CONTROL SIGNS EACH	643.0900 TRAFFIC CONTROL SIGNS DAY	643.5000 TRAFFIC CONTROL EACH
PER SDD 15C02	95	18	1,710	24	2,280	12	1,140	1
UNDISTRIBUTED		--	170	--	230	--	110	--
TOTAL 0010			**1,880**		**2,510**		**1,250**	**1**

CONSTRUCTION STAKING

STATION	TO	STATION	LOCATION	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
9+07.73	-	10+86.27	PATZAU FOXBORO RD	130	130	130
			TOTAL 0010	**130**	**130**	**130**

CONSTRUCTION STAKING STRUCTURE LAYOUT

CATEGORY	STRUCTURE	650.6501.01 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) (01. B-16-0151) EACH
0020	B-16-0151	1
	TOTAL 0020	**1**

CONSTRUCTION STAKING SUPPLEMENTAL CONTROL

PROJECT	650.9911.01 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) (01. 8394-00-73) EACH
8394-00-73	1
TOTAL 0010	**1**

MAINTAINING BIRD DETERENT SYSTEM

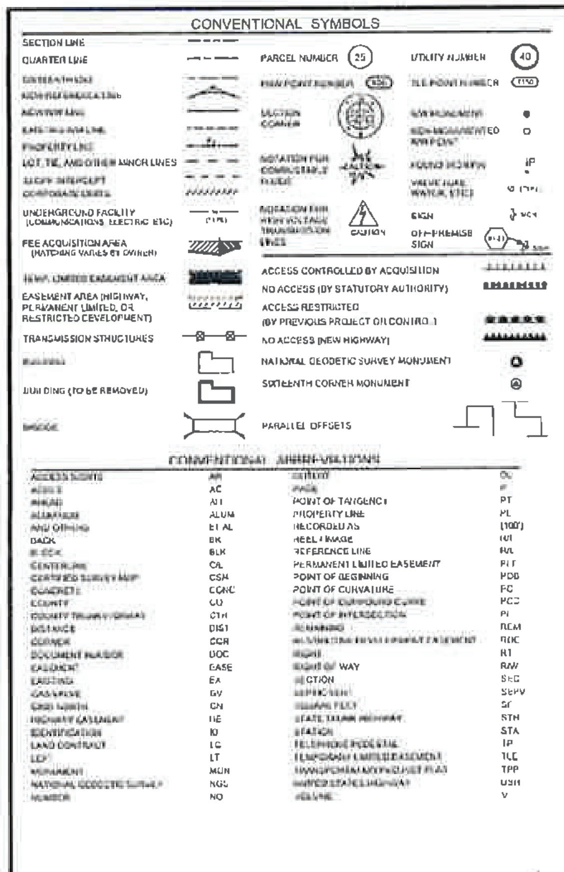
STATION	LOCATION	999.2005.S.01 MAINTAINING BIRD DETERRENT SYSTEM (STATION) (01. 10+00) EACH
10+00	P-16-0109	1
	TOTAL 0010	**1**

ALL ITEMS ON THIS SHEET
ARE CATEGORY 0010
UNLESS OTHERWISE NOTED

R/W PROJECT NUMBER 8394-00-03	SHEET NUMBER	TOTAL SHEETS
CONSTRUCTION PROJECT NUMBER 8394-00-73	4.01	1

PLAT OF RIGHT OF WAY REQUIRED FOR
T SUMMIT, PATZAU FOXBORO ROAD
BALSAM CREEK BRIDGE B-16-0151

LOC STR — DOUGLAS COUNTY



SCHEDULE OF LANDS AND INTERESTS REQUIRED

PARCEL NO.	OWNER(S)	INTEREST(S) REQUIRED	R/W (ACRES) NEW	EXISTING	TOTAL
1	DONOVAN R. BERGER AND JACALYN F. BERGER	FEE	0.057	0.121	0.172
2	LEONARD P. OLSON	FEE	0.029	0.113	0.142
50	BRIGHTSPEED	RELEASE OF RIGHTS			
51	EAST CENTRAL ENERGY	RELEASE OF RIGHTS			

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

(50) BRIGHTSPEED
NO EASEMENTS OF RECORD - PARCEL 1

(51) EAST CENTRAL ENERGY
V. 193, P. 265, DOC. NO. 341425 - PARCEL 1
V. 193, P. 281, DOC. NO. 341464 - PARCEL 1
V. 508, P. 753, DOC. NO. 634115 - PARCEL 1

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), DOUGLAS COUNTY, NAD83 (2011) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

THIS PLAT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSE ONLY. DEEDS MUST BE CHECKED TO DETERMINE PROPERTY BOUNDARIES AND ACCESS RIGHTS

RIGHT-OF-WAY MONUMENTS ARE TYPE 2 (¾"x24" CAPPED IRON REBAR WEIGHING 1.50 LBS LIN. FT.) AND ARE PLACED PRIOR TO OR AT THE TIME OF LAND TITLE TRANSFER.

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

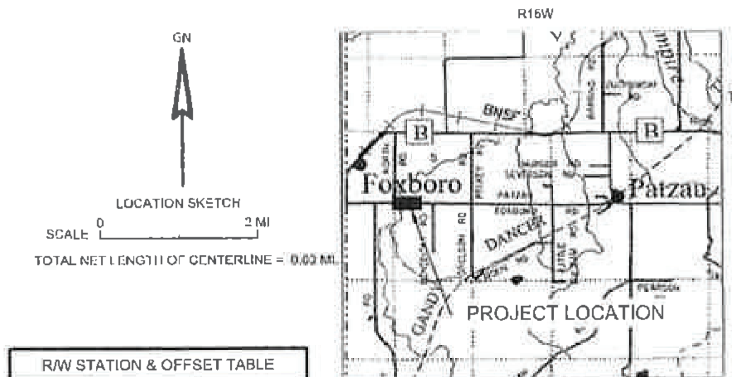
DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO THE NEW REFERENCE LINES.

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

EXISTING ROAD RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINT OF REFERENCE PATZAU FOXBORO ROAD WAS ESTABLISHED FROM STATUTE 82.31 USING THE EXISTING SECTION LINE BETWEEN SECTIONS 5 AND 6 WITH A PRESUMED WIDTH OF 66 FEET.

R/W COURSE TABLE

COURSE	BEARING	DISTANCE
100-101	N01°00'46"E	3.37'
101-102	N01°00'46"E	29.63'
102-103	N01°00'46"E	15.37'
103-104	S88°59'14"E	160.00'
104-105	S01°00'46"W	15.83'
105-106	S01°00'46"W	29.17'
106-107	S01°00'46"W	3.83'
107-108	N88°49'27"W	3.73'
108-109	S01°00'46"W	33.00'
109-110	S01°00'46"W	8.18'
110-111	N88°59'14"W	148.54'
111-112	N01°00'46"E	8.61'
112-113	N01°00'46"E	33.00'
113-100	N88°49'27"W	7.73'



R/W STATION & OFFSET TABLE

POINT	STATION	OFFSET
100	9+15.00	3.37' RT
101	9+15.00	0.00'
102	9+15.00	29.63' LT
103	9+15.00	45.00' LT
104	10+75.00	45.00' LT
105	10+75.00	29.17' LT
106	10+75.00	0.00'
107	10+75.00	3.83' RT
108	10+71.27	3.82' RT
109	10+71.27	36.82' RT
110	10+71.27	45.00' RT
111	9+22.73	45.00' RT
112	9+22.73	36.39' RT
113	9+22.73	3.39' RT

APPROVED FOR TOWN OF SUMMIT
6-2-2025 [signature]
DATE — TOWN CHAIRMAN

PLAT PREPARED BY
AYRES

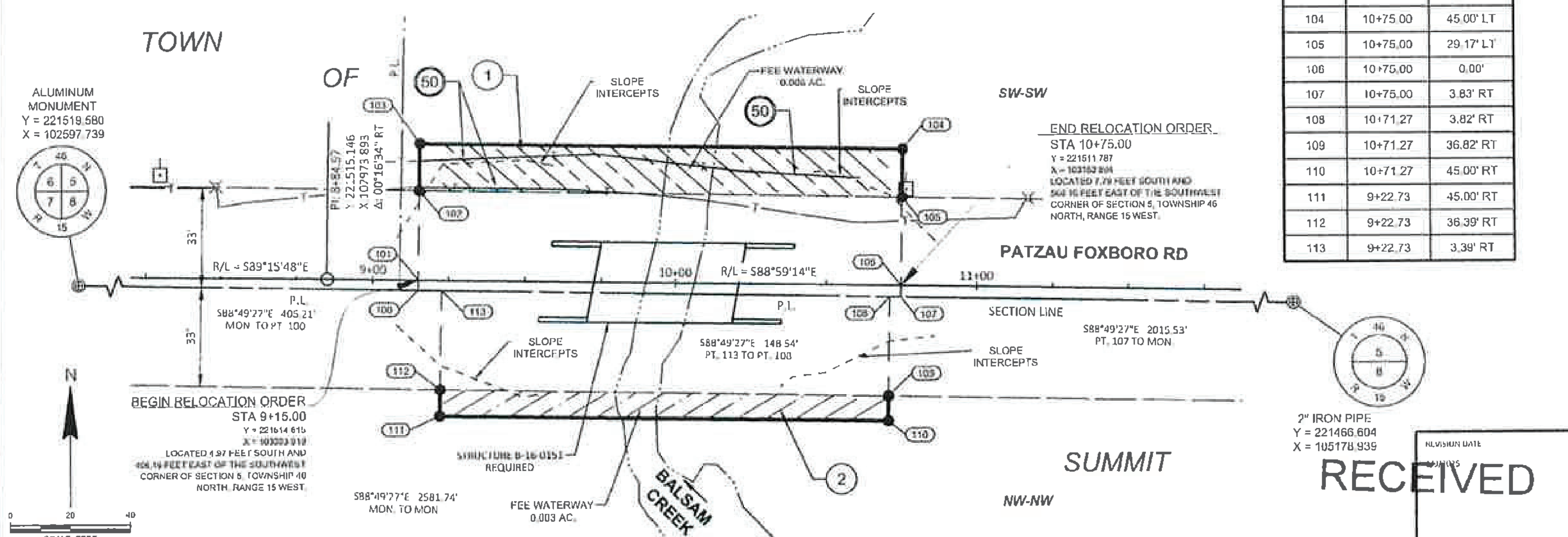
THE SURVEY IS PREPARED AT THE REQUEST OF THE TOWN OF SUMMIT.

THE FIELD SURVEY WAS PERFORMED IN OCTOBER 2023.

THIS SURVEY IS ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

WISCONSIN — CHRISTOPHER R. BADTKE S-3150 EAU CLAIRE WI — LAND SURVEYOR

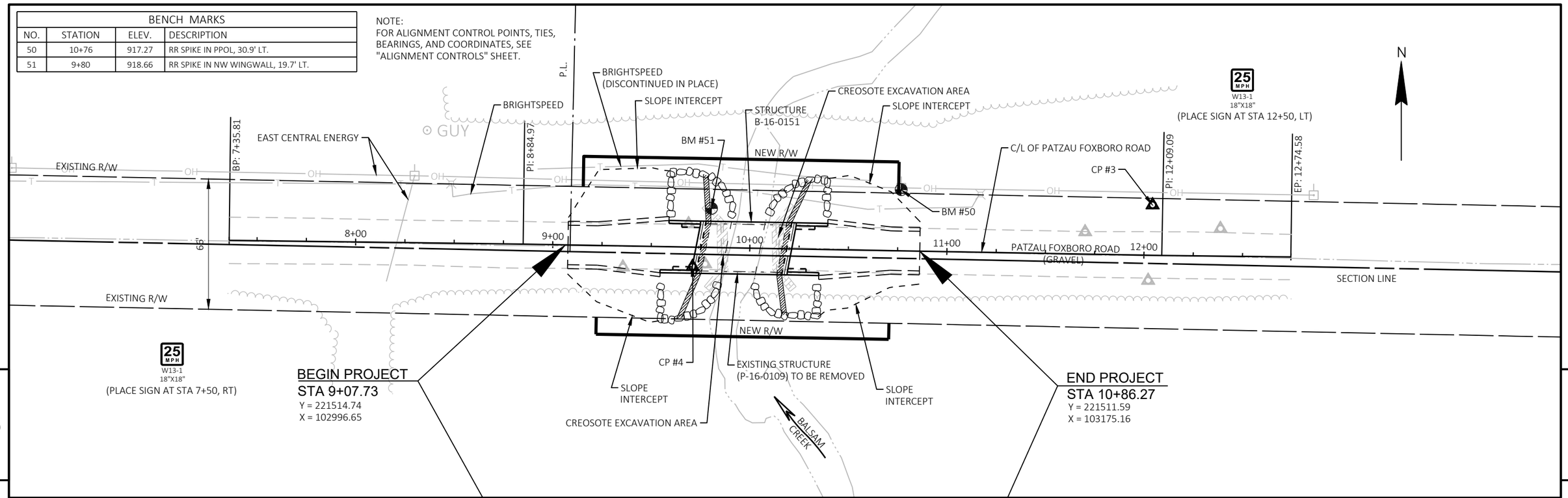
[signature] 11/19/2024
CHRISTOPHER R. BADTKE, P.L.S. S-3150 — DATE

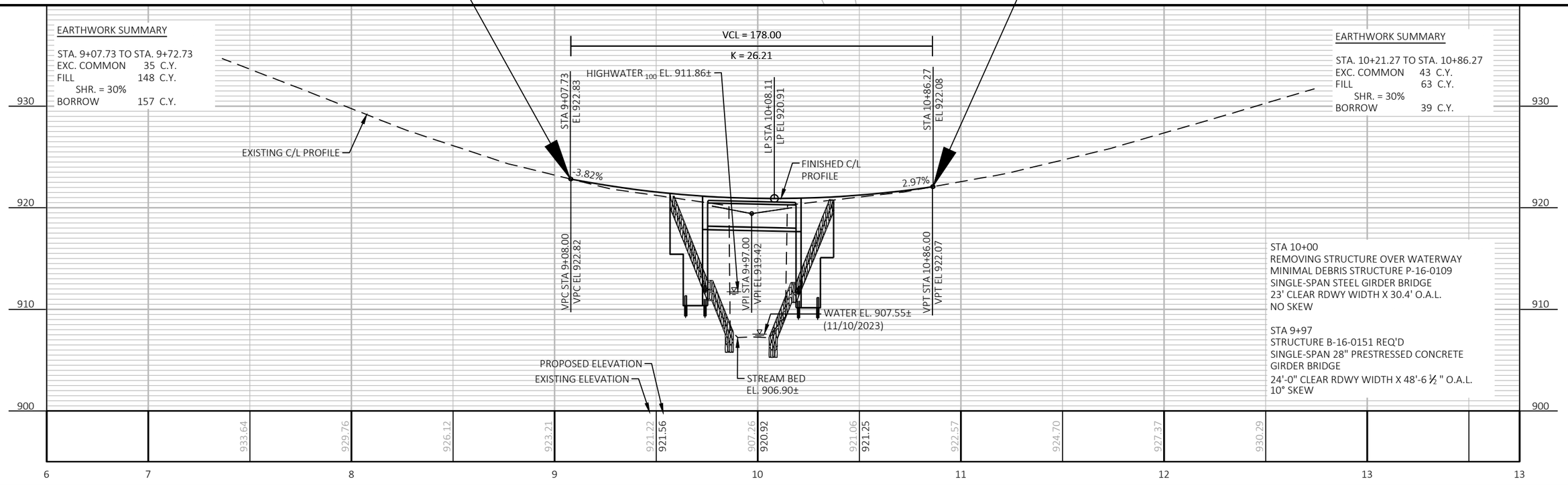


RECEIVED
JUN 6 2025
KACI JO LUNDGREN
COUNTY CLERK

BENCH MARKS			
NO.	STATION	ELEV.	DESCRIPTION
50	10+76	917.27	RR SPIKE IN PPOL, 30.9' LT.
51	9+80	918.66	RR SPIKE IN NW WINGWALL, 19.7' LT.

NOTE:
FOR ALIGNMENT CONTROL POINTS, TIES, BEARINGS, AND COORDINATES, SEE "ALIGNMENT CONTROLS" SHEET.





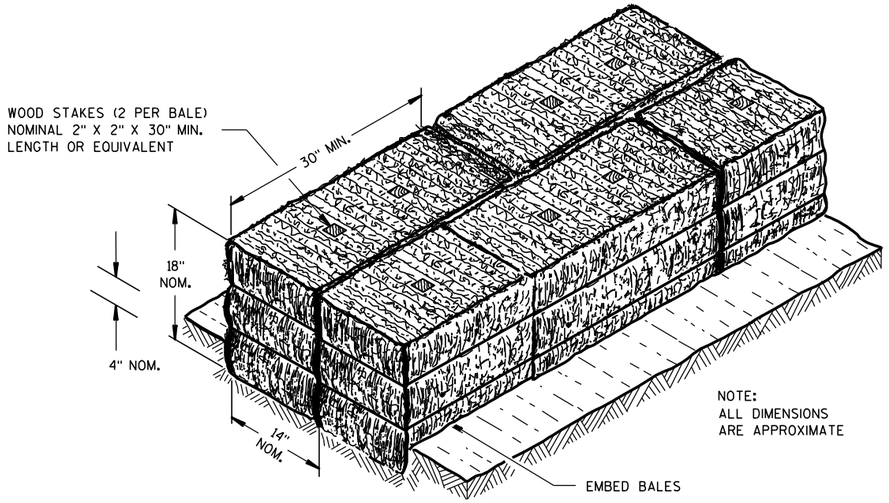
PROJECT NO: 8394-00-73	HWY: PATZAU FOXBORO ROAD	COUNTY: DOUGLAS	PLAN AND PROFILE:	SHEET 12	E

FILE NAME : I:\42\42-1400.00 - DOUGLAS CO, TN SUMMIT, PATZAU FOXBORO RD\C3D\SHEETS\050101-PP.DWG
LAYOUT NAME - PLAN AND PROFILE
PLOT DATE : 7/24/2025 2:25 PM
PLOT BY : WALDERA, KAREN
PLOT NAME :
PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 44

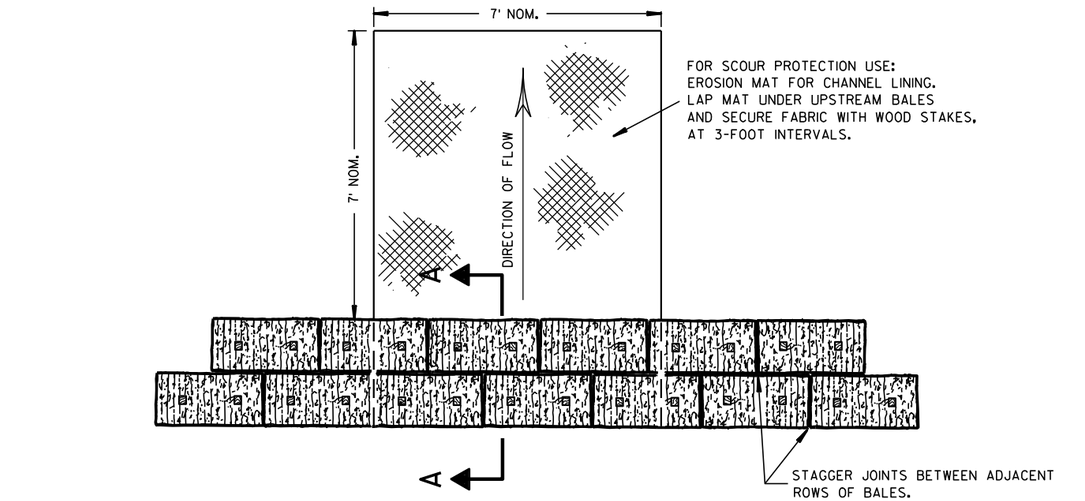
Standard Detail Drawing List

08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C06-12	SIGNING & MARKING FOR TWO LANE BRIDGES
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS

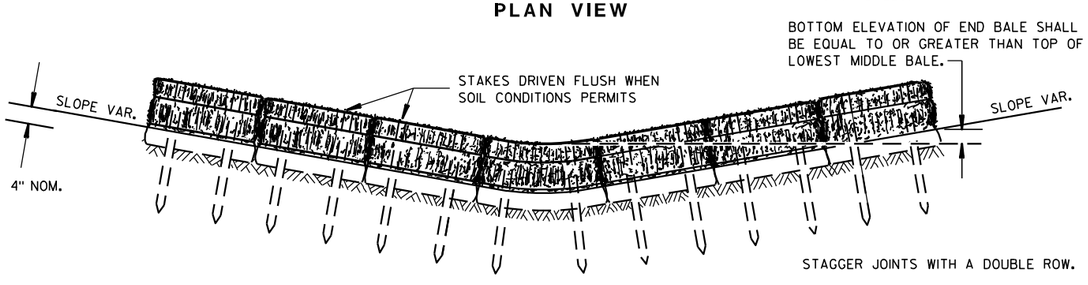
6



SECTION A-A



PLAN VIEW



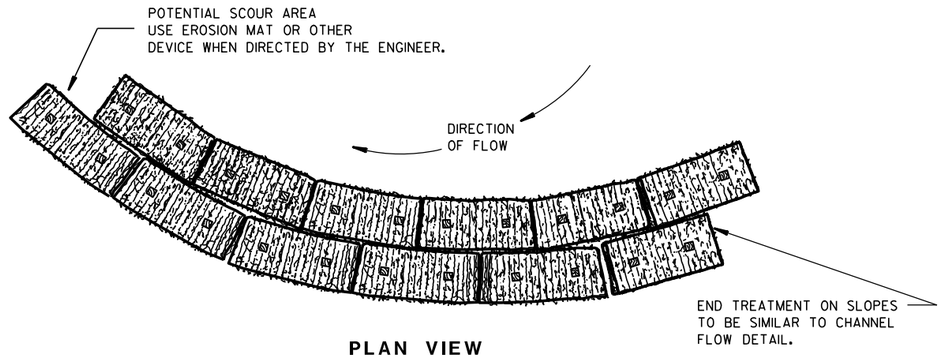
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

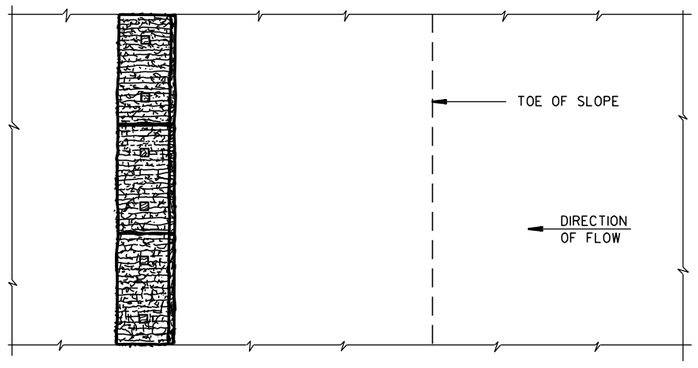
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

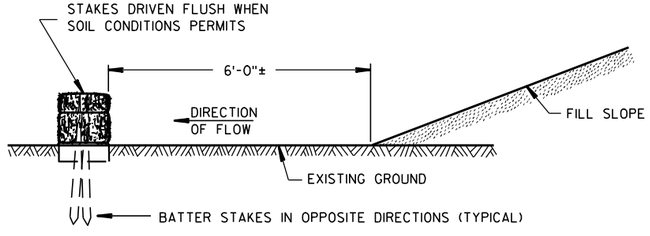


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

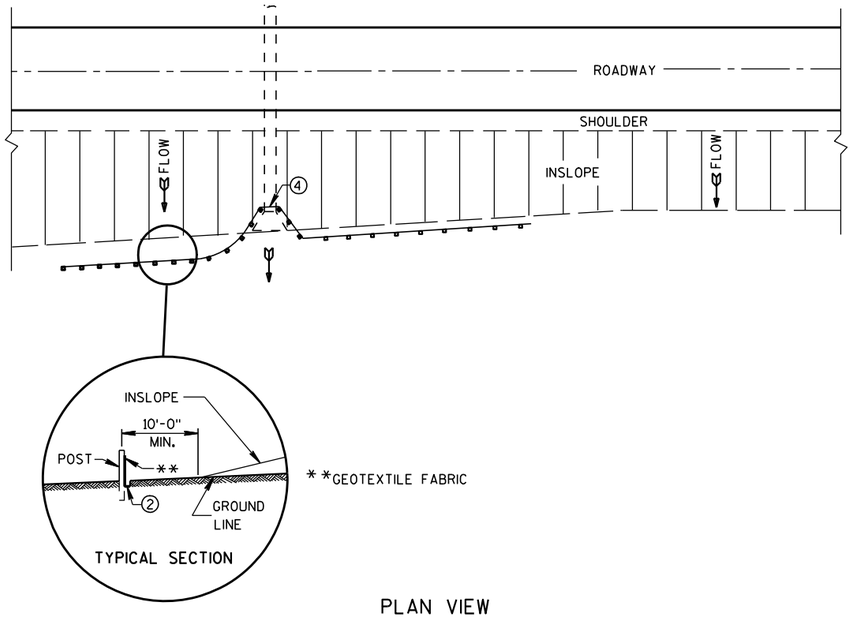
6/04/02 — DATE

/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

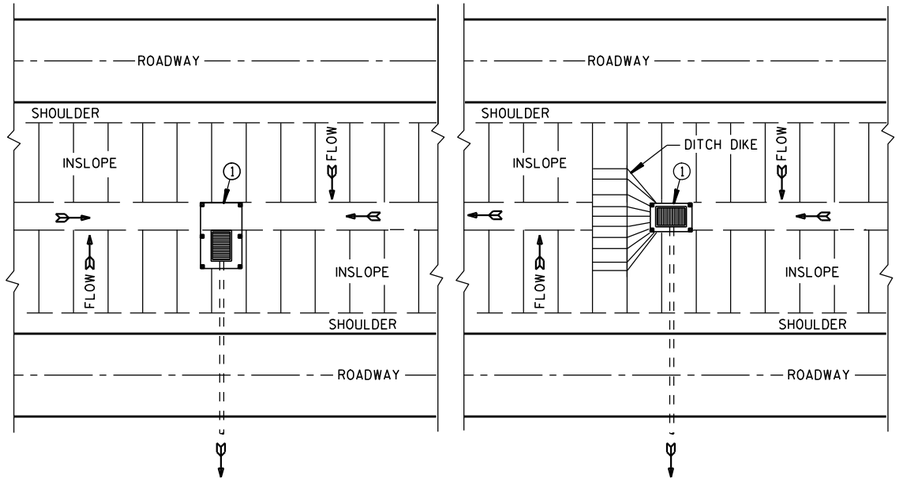
6

S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



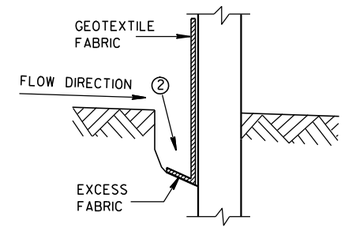
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

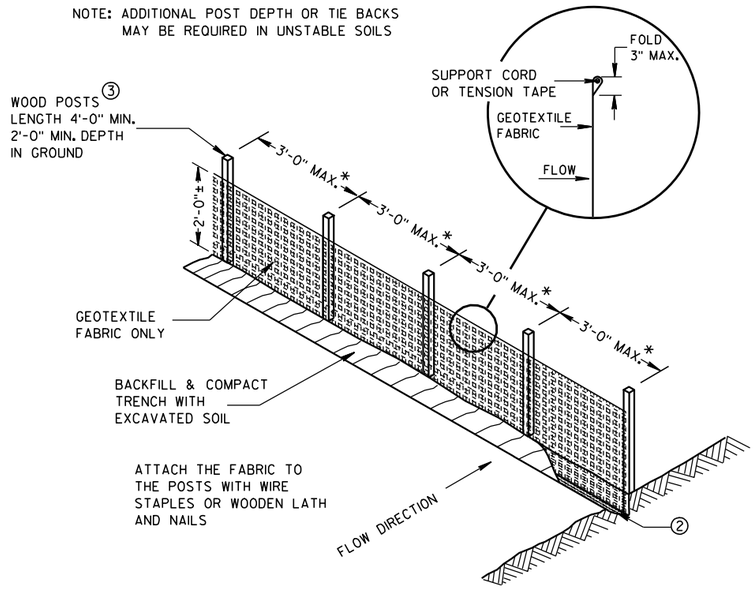
GENERAL NOTES

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

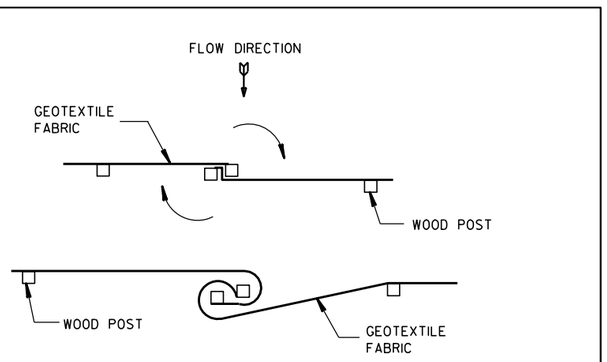
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.
4. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
5. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



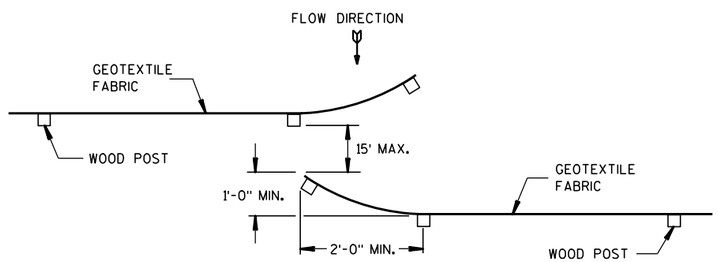
TRENCH DETAIL



SILT FENCE

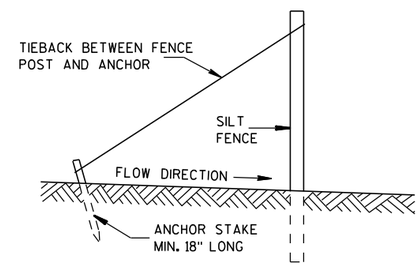


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

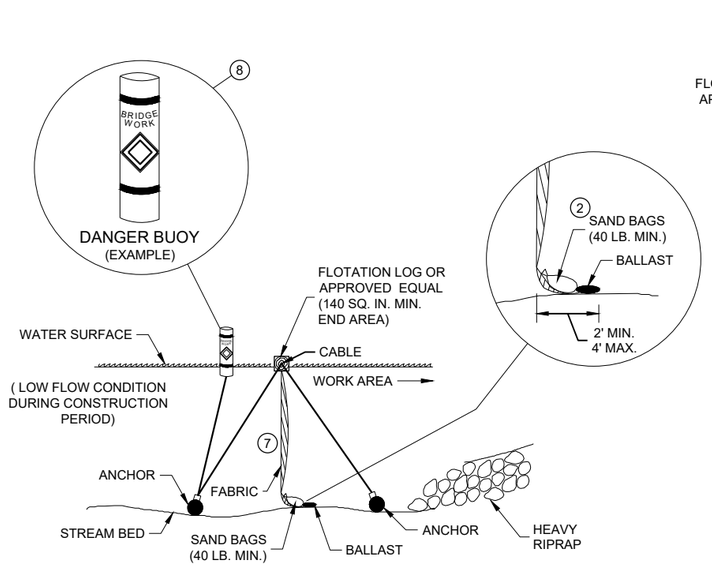
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

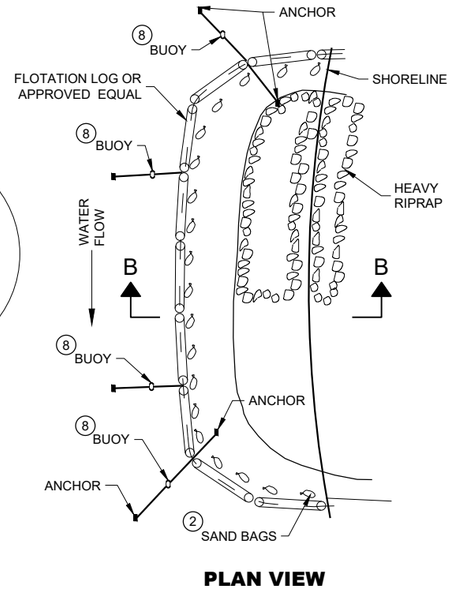
S.D.D. 8 E 9-6

6

S.D.D. 8 E 9-6

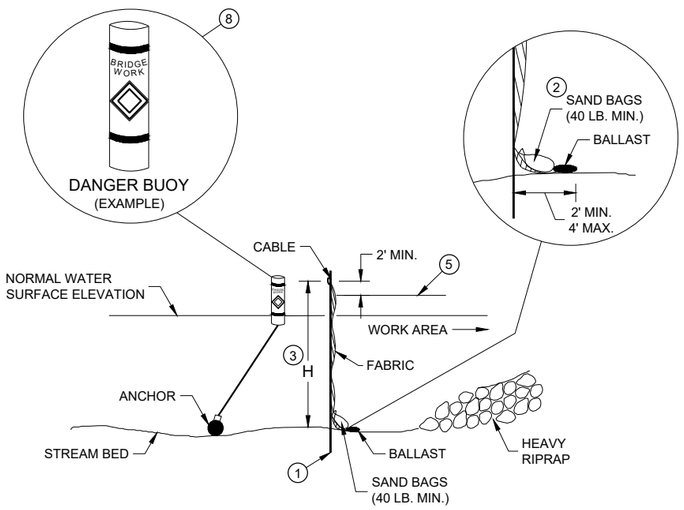


SECTION B - B

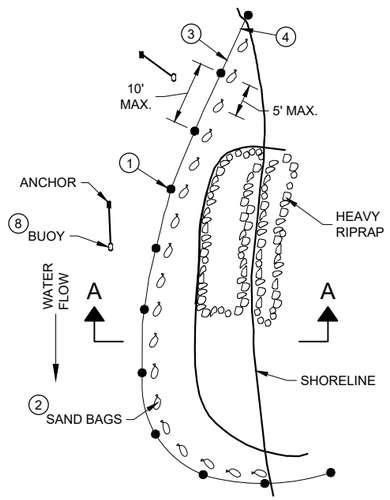


PLAN VIEW

TURBIDITY BARRIER - FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A - A



PLAN VIEW

TURBIDITY BARRIER - STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

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

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

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

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

(3) WHEN BARRIER HEIGHT "H" EXCEEDS 8 FEET, POST SPACING MAY NEED TO BE DECREASED.

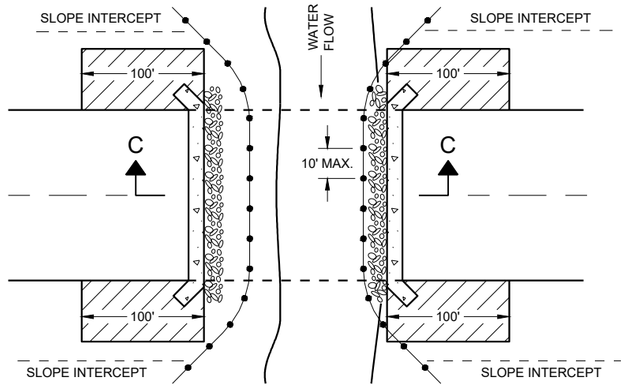
(4) IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

(5) ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE Q2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.

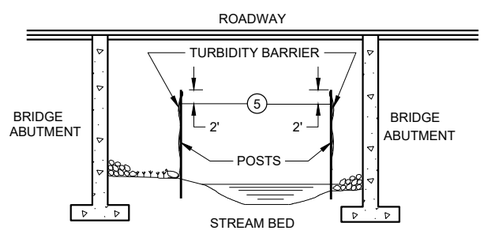
(6) FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BEDROCK PREVENTS THE INSTALLATION OF POSTS.

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

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



PLAN VIEW



SECTION C - C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

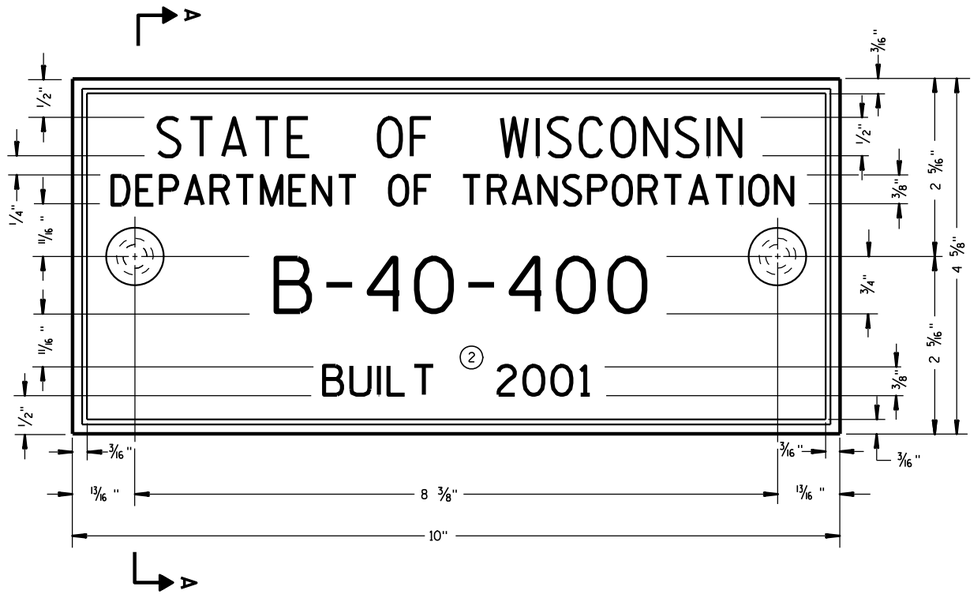
TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

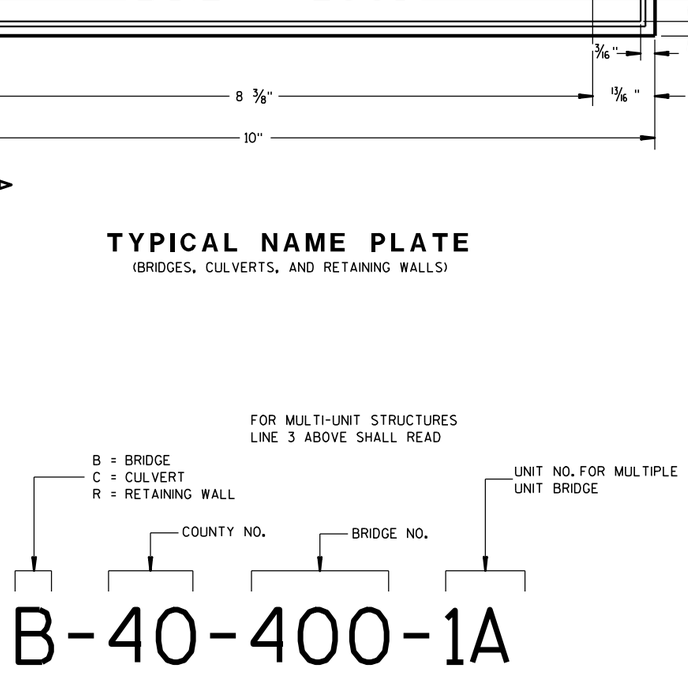
APPROVED
6/4/02
DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

6
SDD 08E11 - 02



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



NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

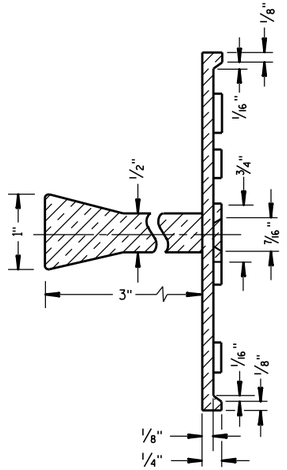
GENERAL NOTES

NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

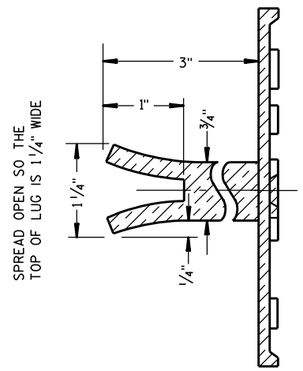
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

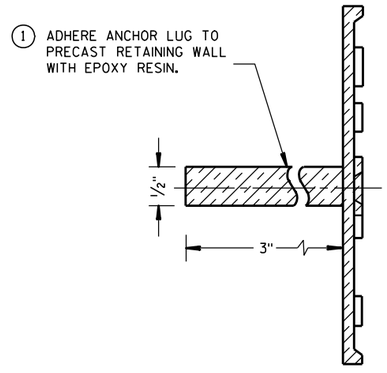
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10 DATE

/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOPMENT ENGINEER

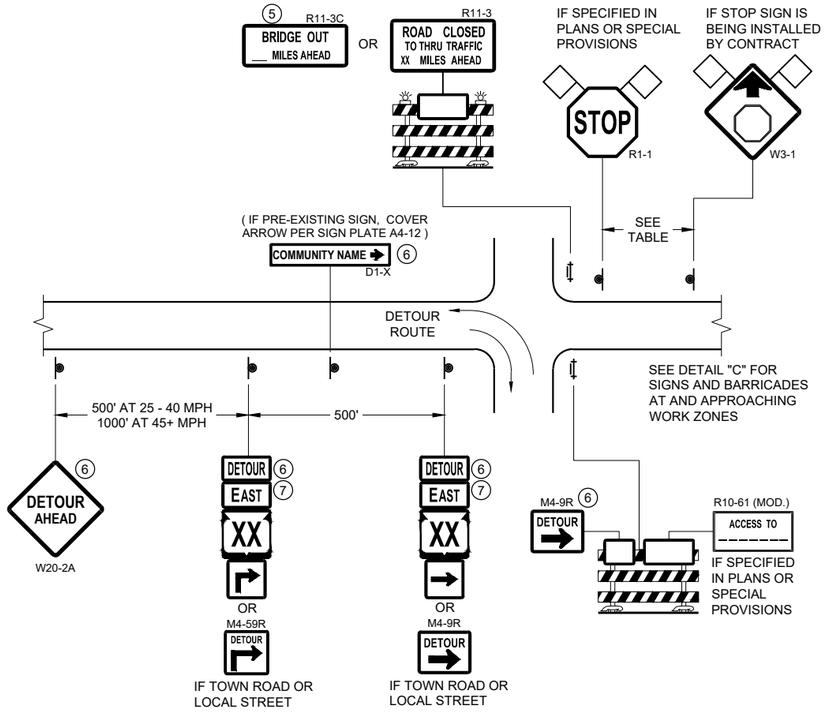
FHWA

6

S.D.D. 12 A 3-10

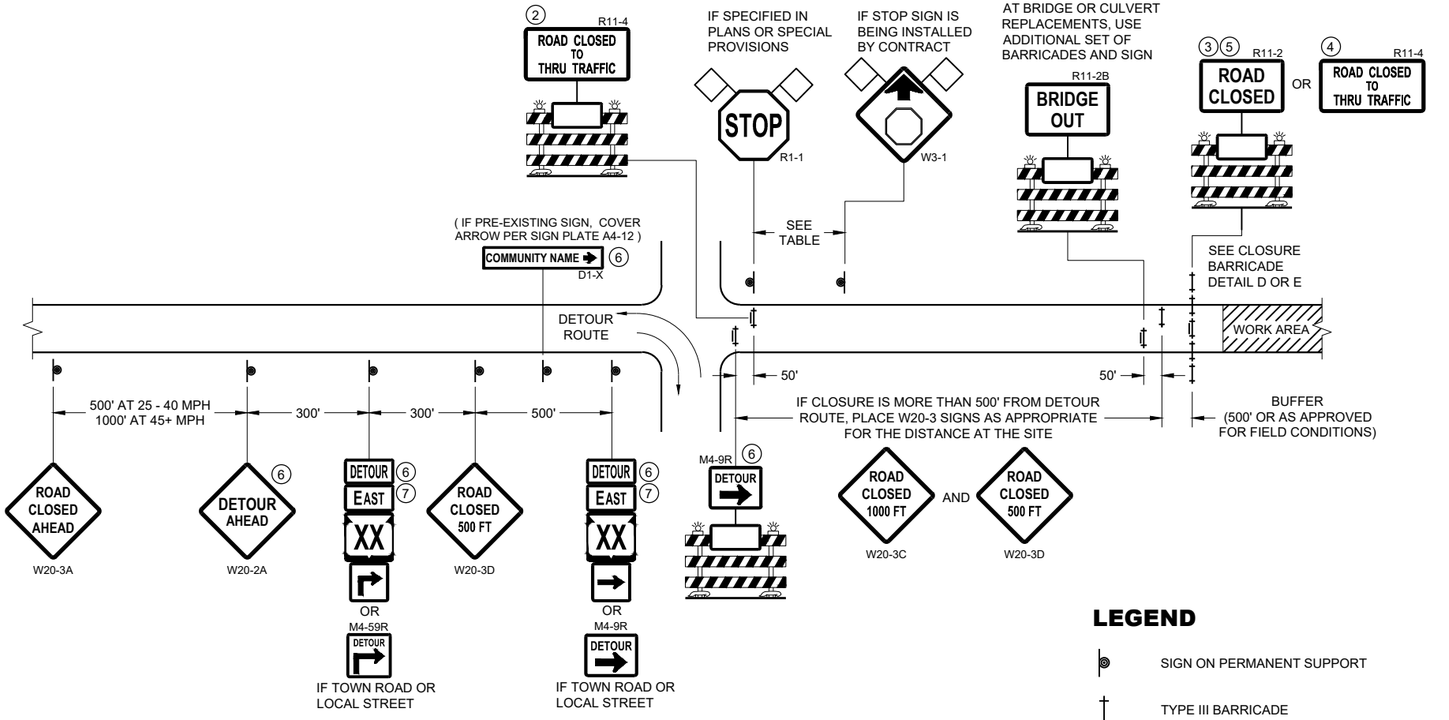
6

S.D.D. 12 A 3-10



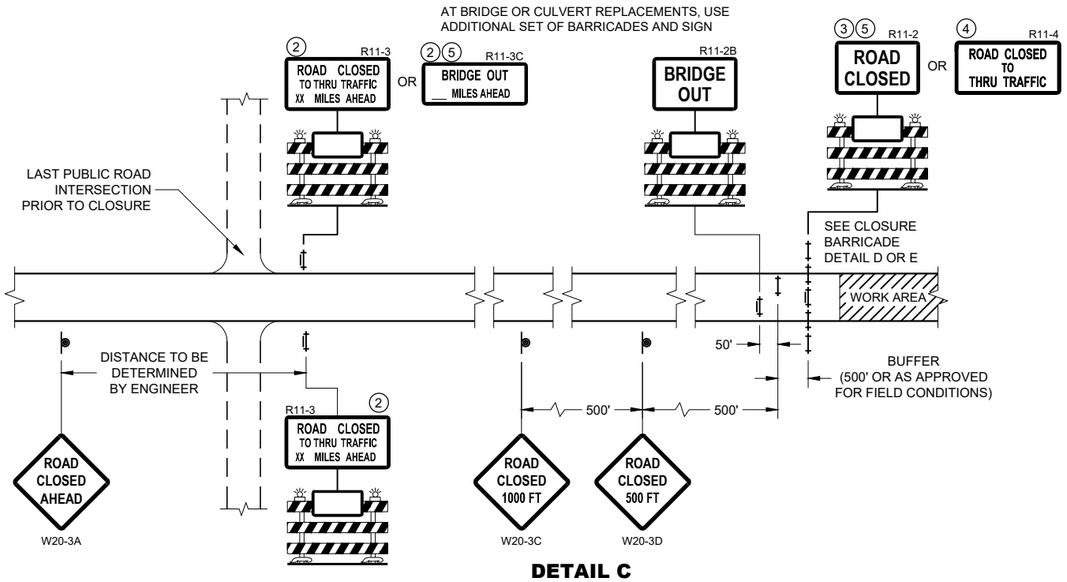
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)
- DETOUR — M4 - 8
- EAST — M3 - X
- XX — M1 - 4 OR XX — M1 - 6 OR COUNTY X — M1 - 5A
- M05 - 1 OR M06 - 1

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

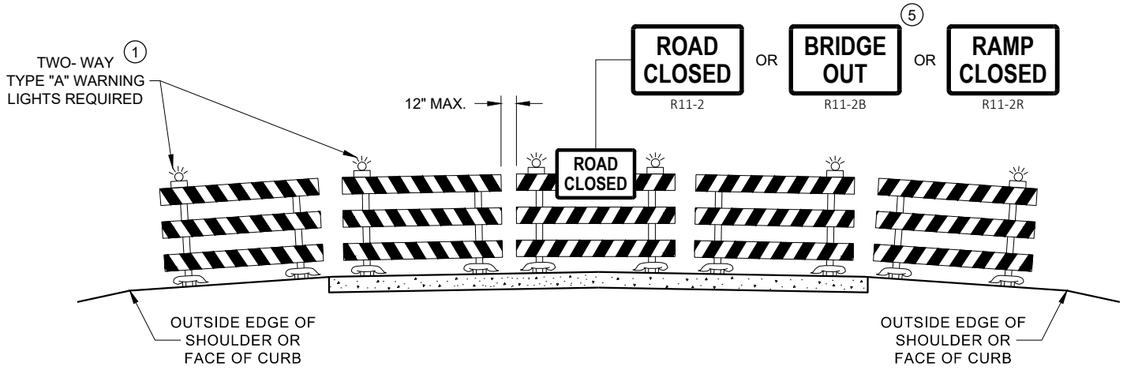
APPROVED
May 2023
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

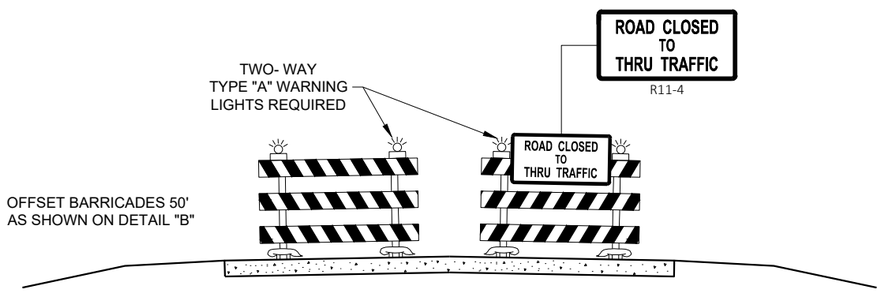
6

SDD 15C02 - 09a

SDD 15C02 - 09a



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

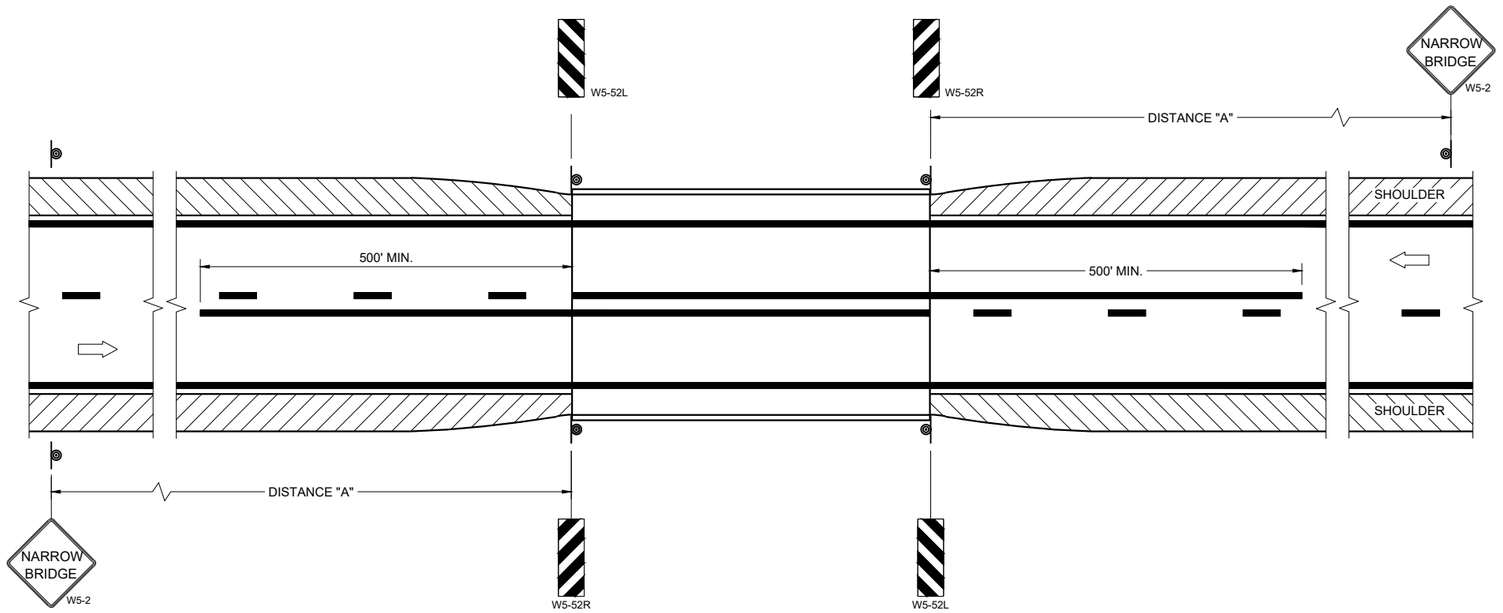
BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

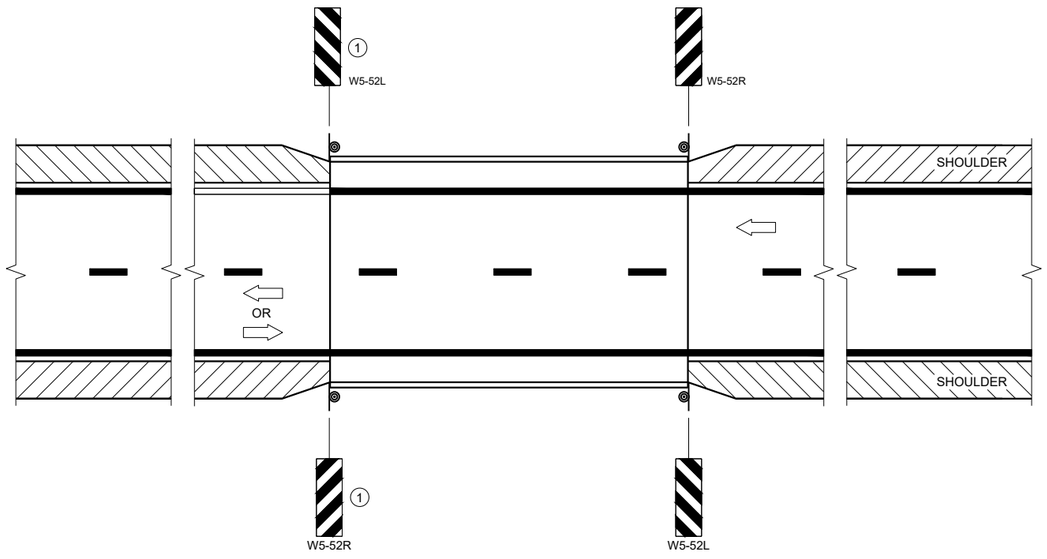
6

SDD 15C02 - 09b



SITUATION 1

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



SITUATION 2

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

GENERAL NOTES

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

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

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

ON BRIDGE ONLY PROJECTS, PLACE 300 FEET OF EDGELINE.

OMIT EDGELINES ON ROADWAYS WITHOUT EXISTING EDGELINES.

(1) OMIT ON ONE-WAY TRAVELED WAYS.

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

DISTANCE TABLE

POSTED OR 85TH PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	700'

SIGNING AND MARKING FOR TWO LANE BRIDGES

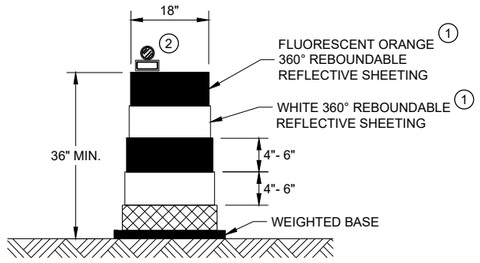
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Jeannie Silver
Statewide Pavement Marking Engineer
FHWA

6
SDD 15C06-12

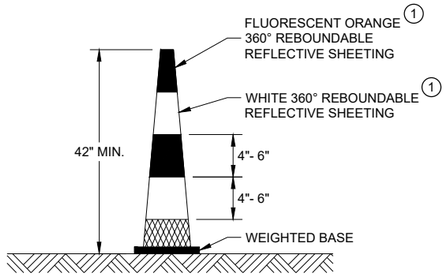
GENERAL NOTES

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



DRUM

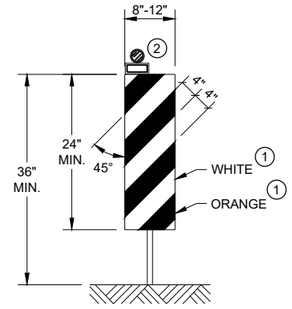
BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

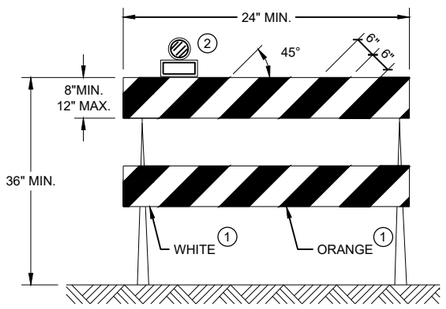
DO NOT USE IN TAPERS
½ SPACING OF DRUMS

BALLAST WIDTHS
RANGE FROM 14"-20"



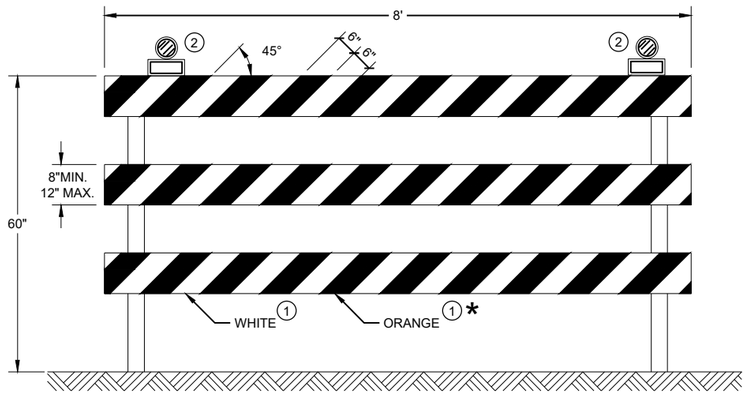
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022
DATE

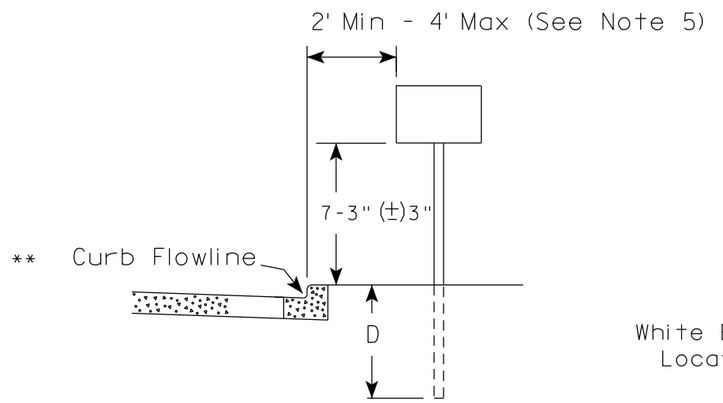
/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

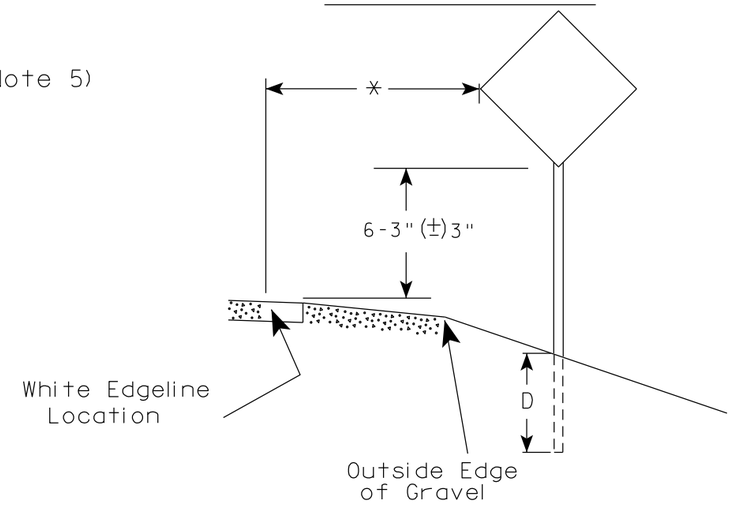
6

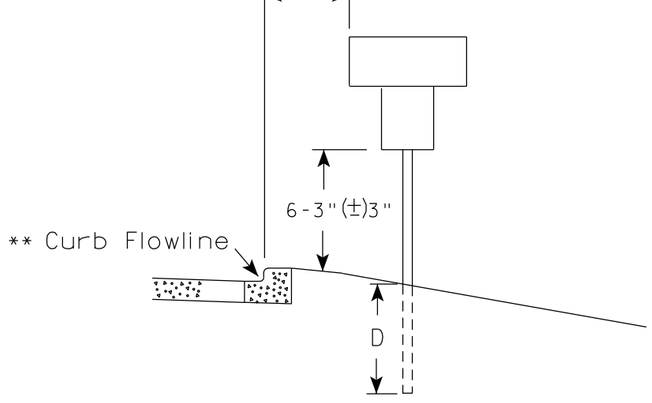
SDD 15C11 - 10b
SDD 15C11 - 10b

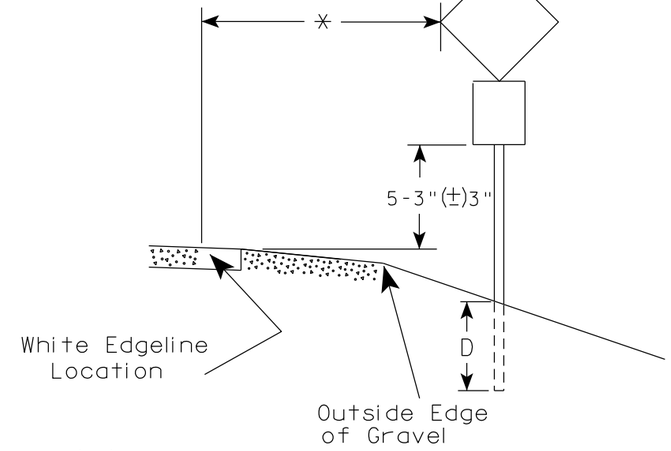
URBAN AREA



RURAL AREA (See Note 2)







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

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

POST EMBEDMENT DEPTH

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

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 directd by the Engineer.

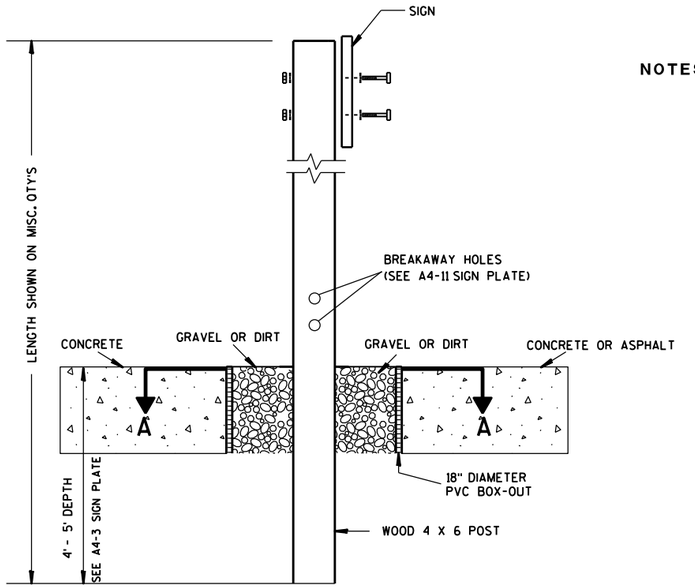
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

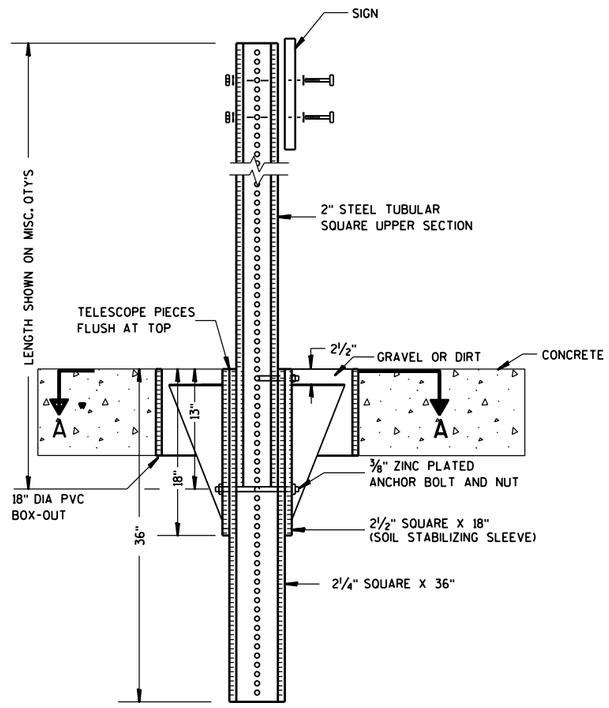
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 22	E



ELEVATION VIEW

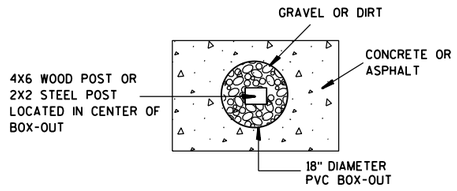
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

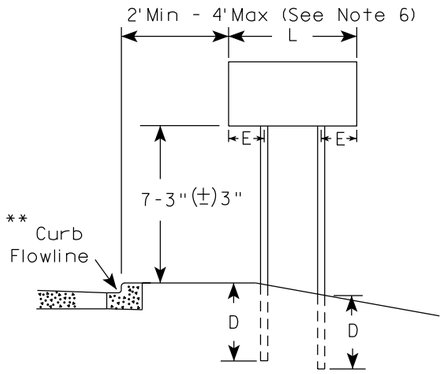
APPROVED Matthew R Rauch
for State Traffic Engineer

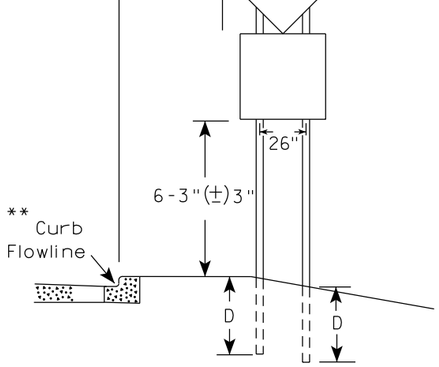
DATE 1/27/14 PLATE NO. A4-3B.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

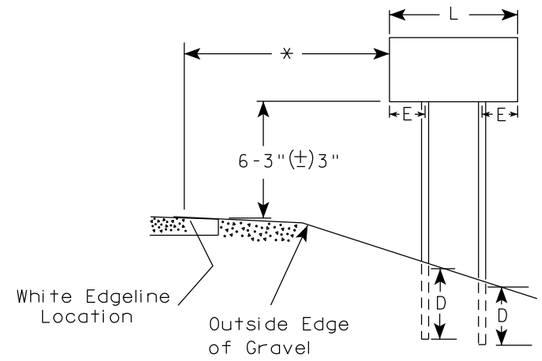
URBAN AREA

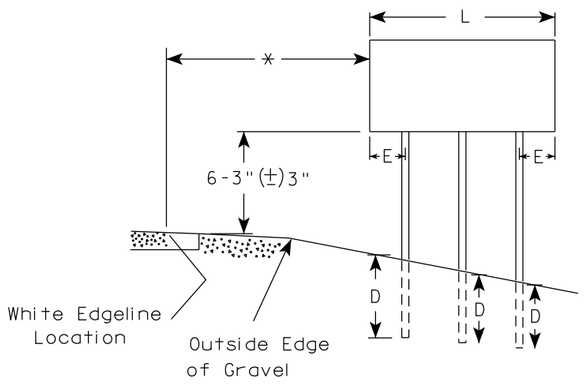


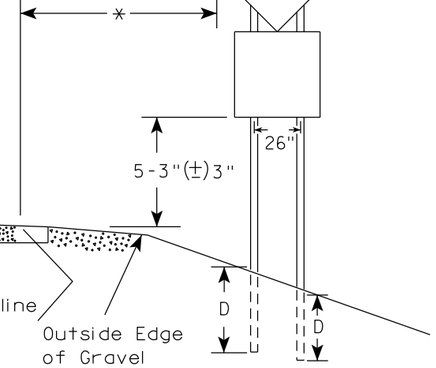


48" DIAMOND WARNING SIGN

RURAL AREA (See Note 3)







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"

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.

POST EMBEDMENT DEPTH

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

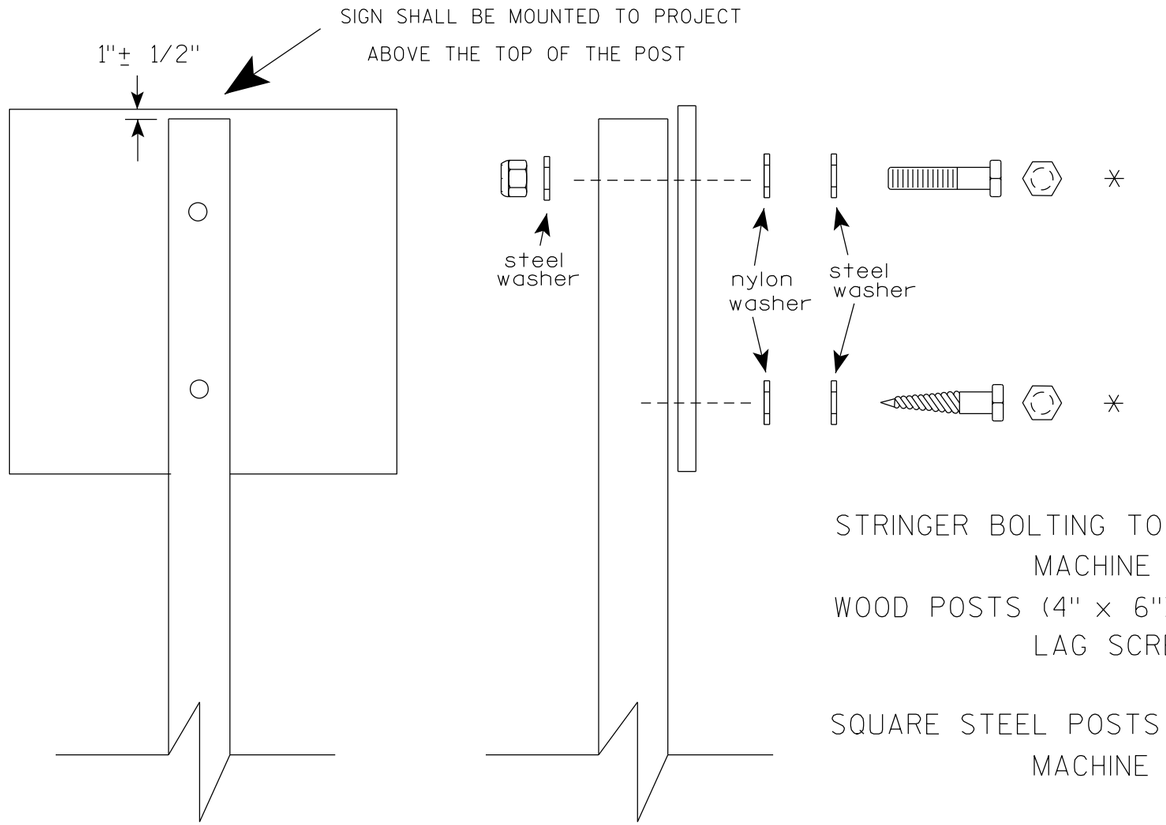
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 24	E



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

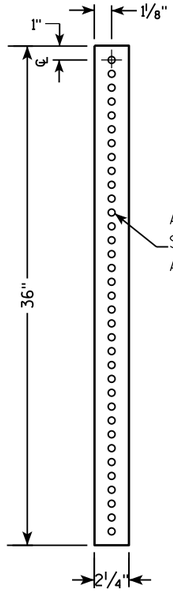
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

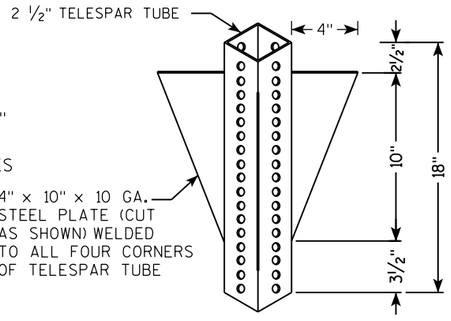
DATE 4/1/2020 PLATE NO. A4-8.9

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

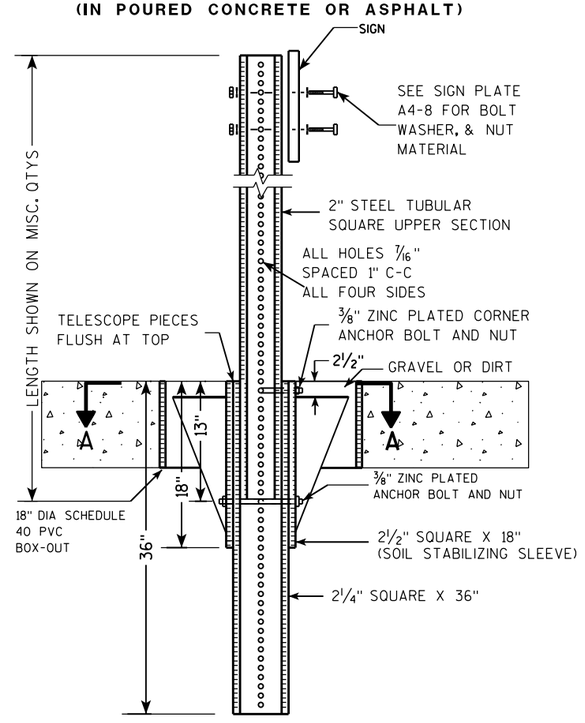
2 ¼ " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



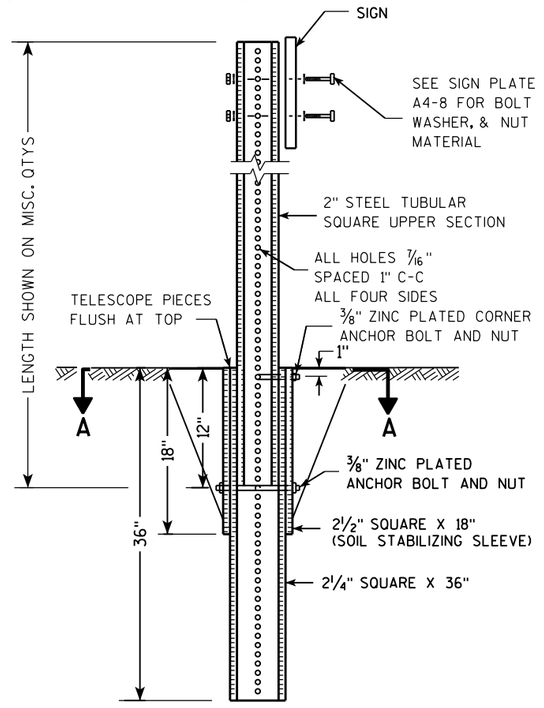
2 ½ " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

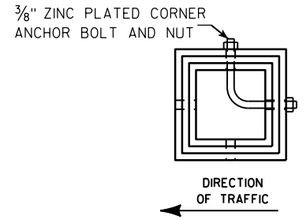


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

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

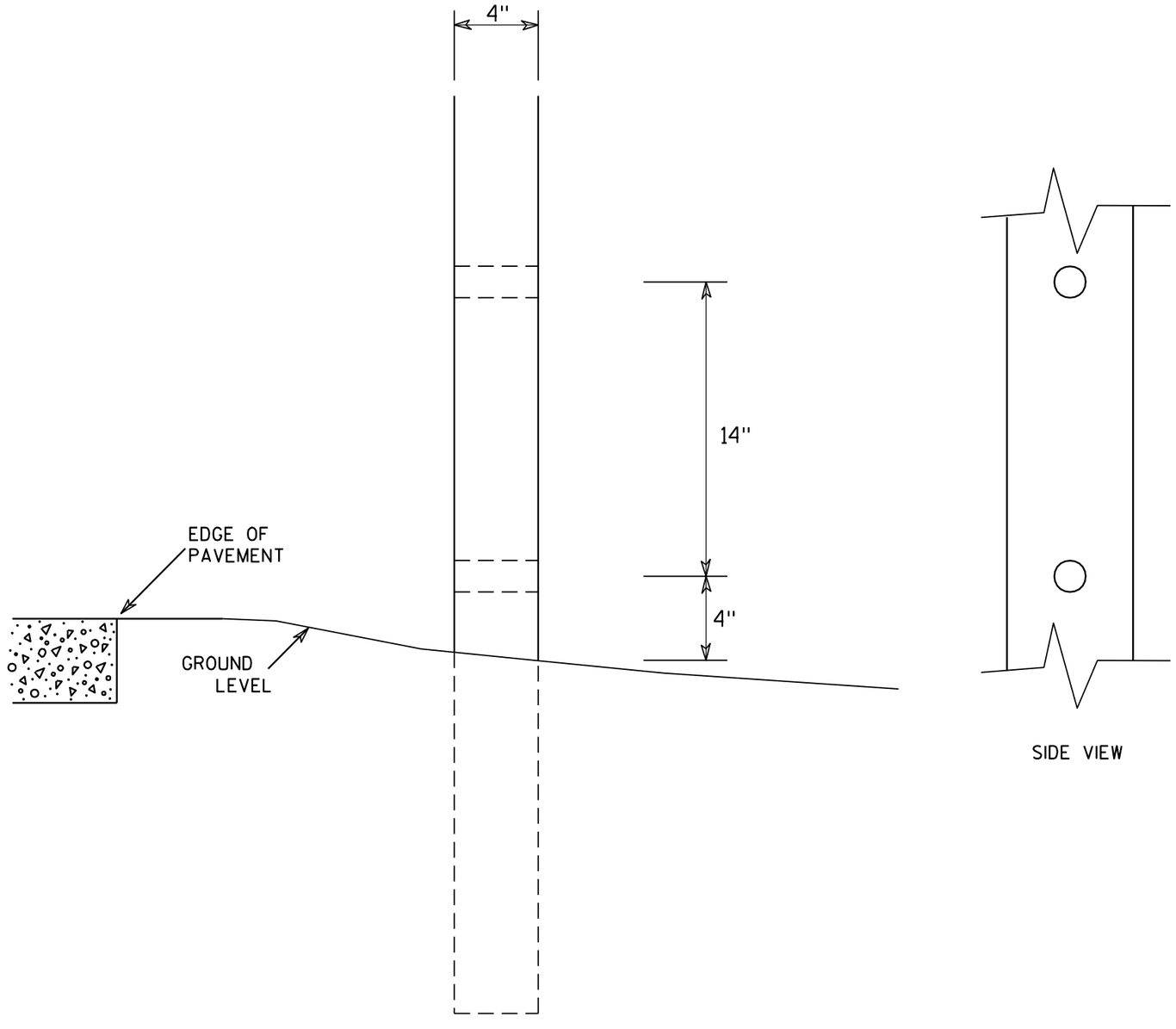
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A49.DGN PLOT DATE : 05-FEB-2015 17:09 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42



SIDE VIEW

GENERAL NOTES

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

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

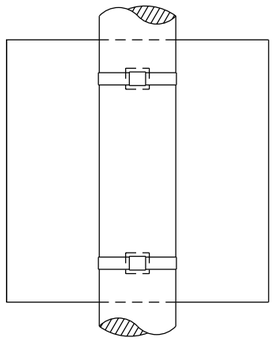
APPROVED Chester J Spang for State Traffic Engineer

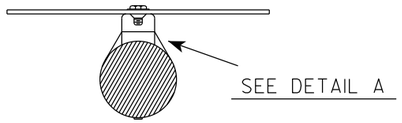
DATE 3/27/97 PLATE NO. A4-11.2

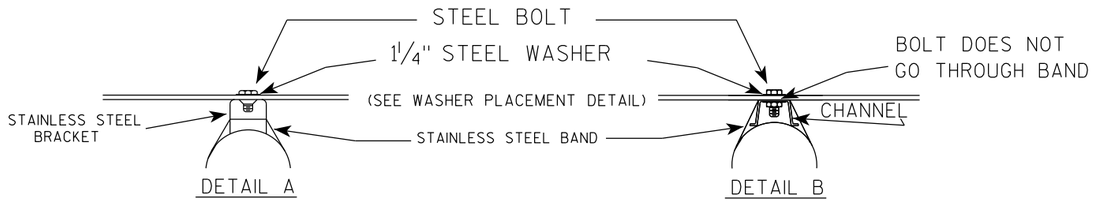
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 27	E

BANDING

SINGLE SIGN



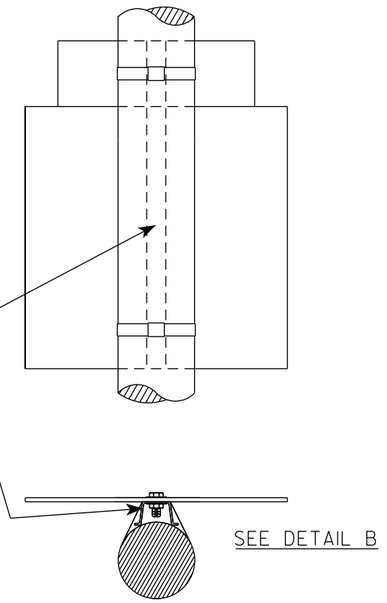




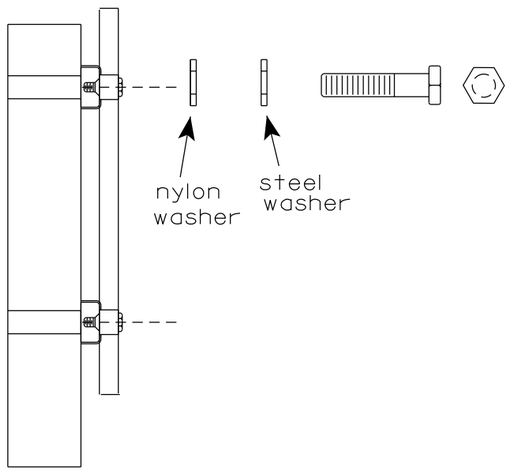
GENERAL NOTES

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 ¾" 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

"J" ASSEMBLY



WASHER PLACEMENT



WASHERS (ALL POSTS) -
1-1/4" O.D. X ⅜" I.D. X 1/16" STEEL
1-1/4" O.D. X ⅜" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

STANDARD SIGN
SIGN BANDING DETAILS

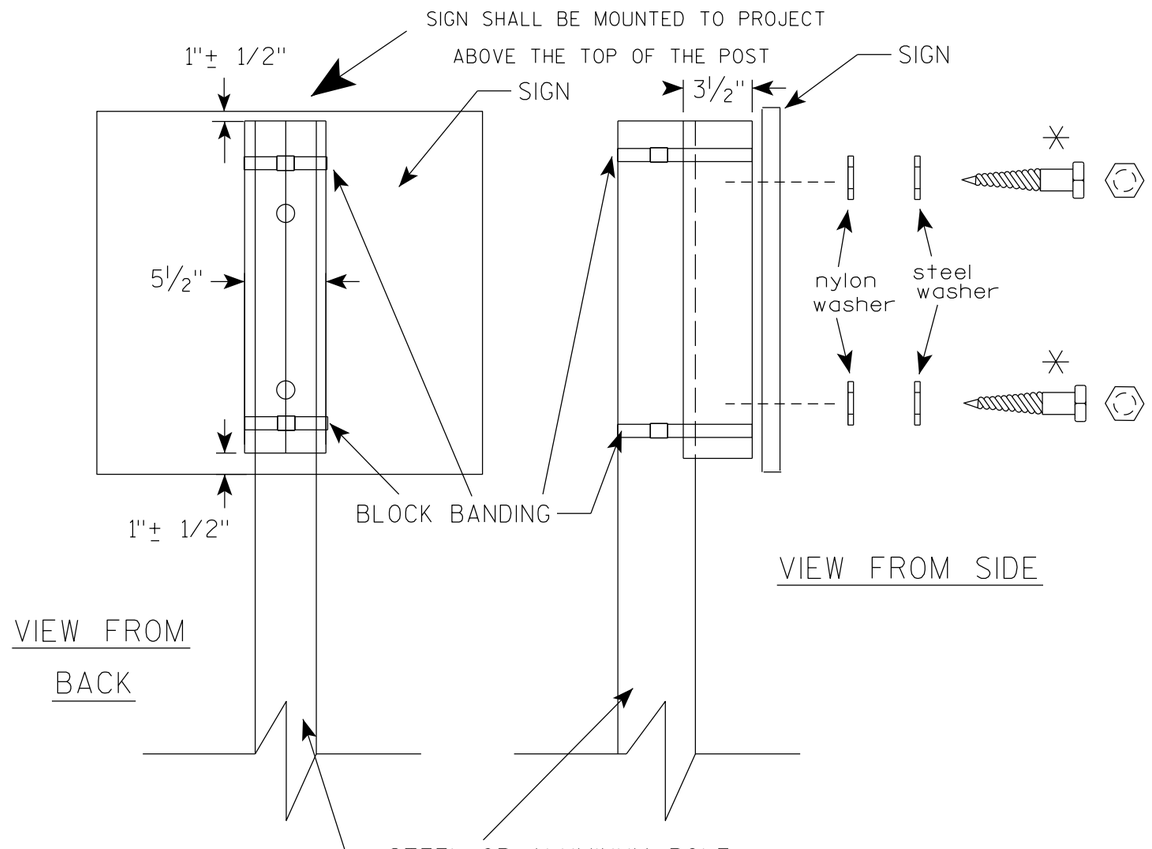
WISCONSIN DEPT OF TRANSPORTATION

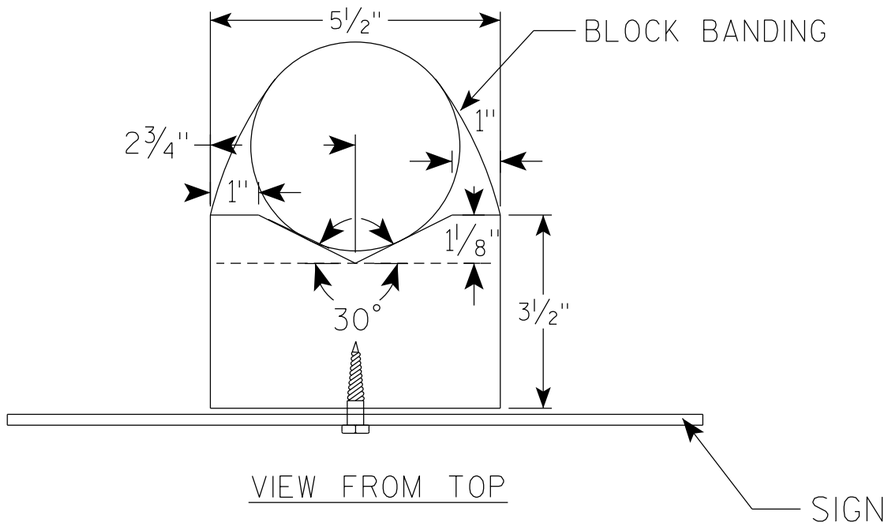
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 28	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A59.dgn PLOT DATE : 10-JUN 2019 4:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$





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, ¾" 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 NORNALLY 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 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

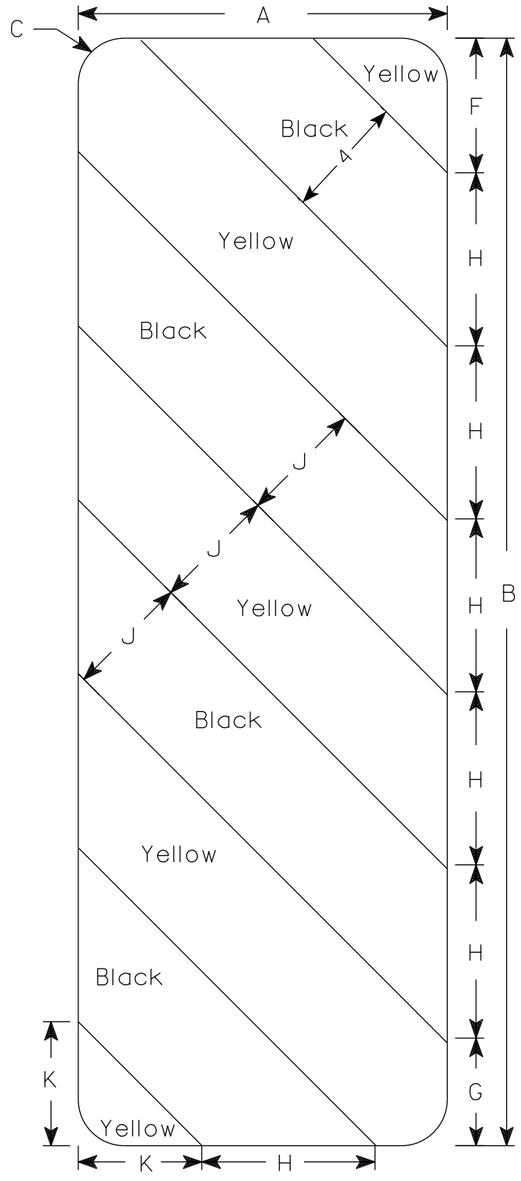
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

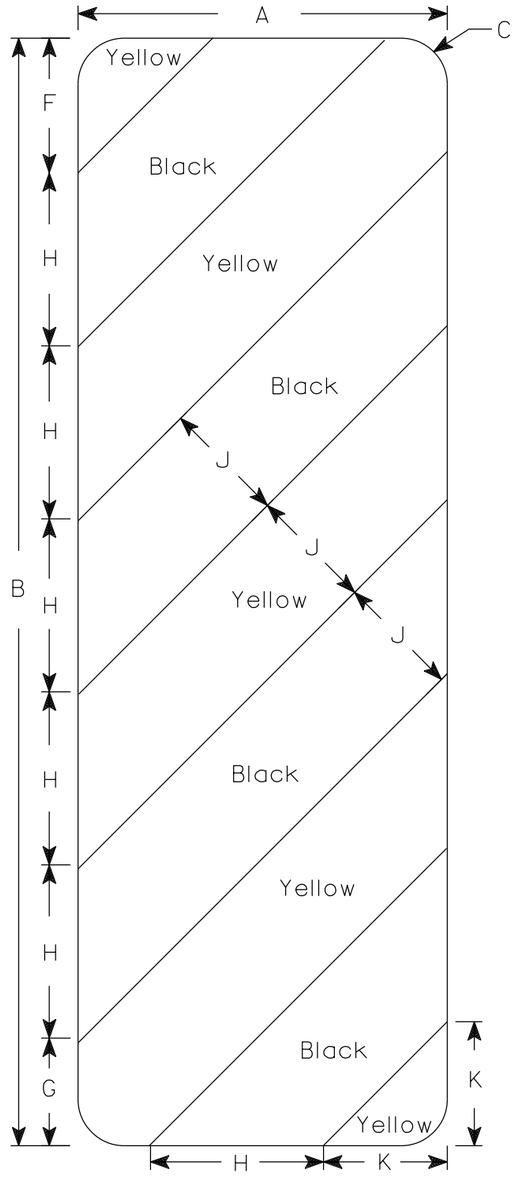
DATE 4/19/2022 PLATE NO. A5-10.3

PROJECT NO:

SHEET NO: 29 E



W5-52L



W5-52R

NOTES

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

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

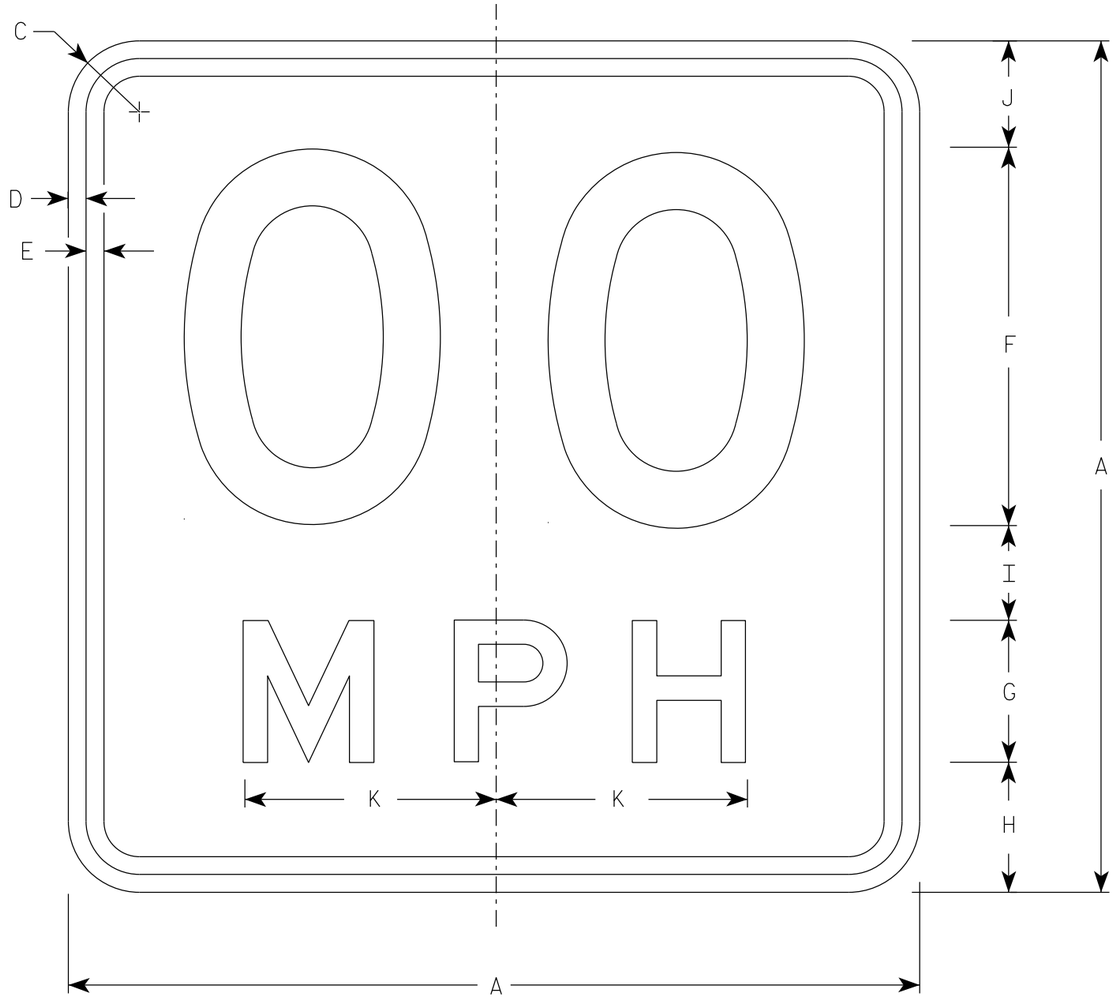
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/4/2024 PLATE NO. W5-52.10

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 30 E



W13-1

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - See Note 5
4. Substitute appropriate numerals and optically space about centerline to achieve proper balance.
5. Line 1 is Series D
   Line 2 is Series E

* For 30" x 30" Warning Signs, use 18" x 18" W13-1 signs.
For 36" x 36" Warning Signs, use 24" x 24" W13-1 signs.

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	18		1 1/2	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
* 2S	18		1 1/2	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
* 2M	18		1 1/2	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
3	24		1 1/2	3/8	1/2	10	4	4	2 3/4	3 1/4	6 5/8																4.00
4	36		2 1/4	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
5	36		2 1/4	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00

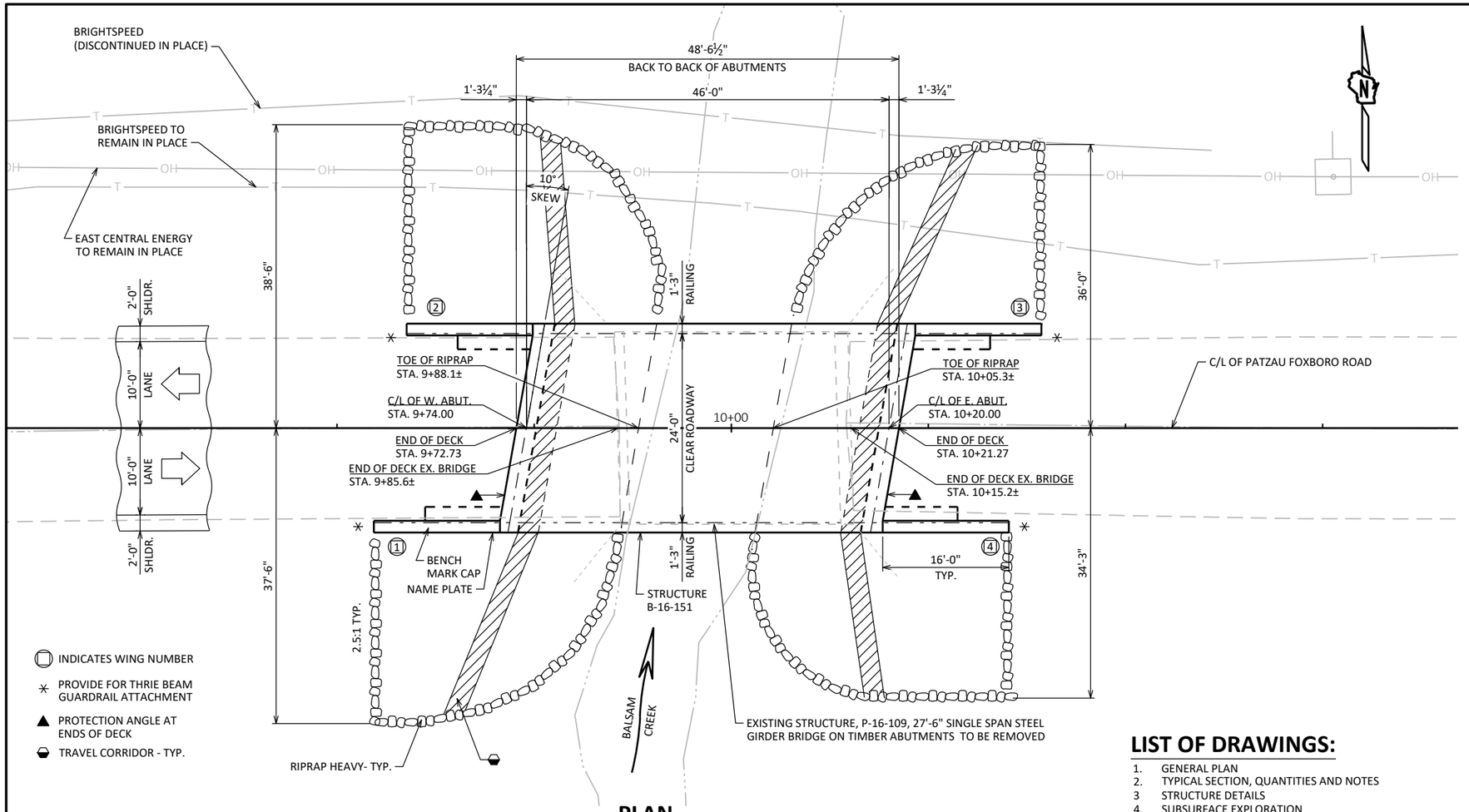
STANDARD SIGN
W13-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

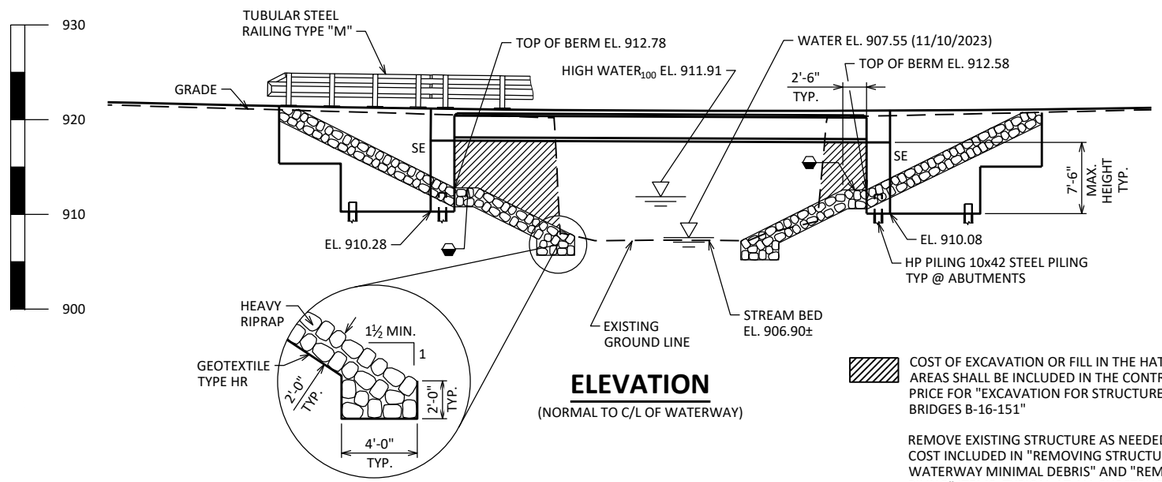
DATE 1/8/2024 PLATE NO. W13-1.17

PROJECT NO: | HWY: | COUNTY: | SHEET NO: E



PLAN

SINGLE SPAN 28" PRESTRESSED CONCRETE GIRDER BRIDGE



ELEVATION

(NORMAL TO C/L OF WATERWAY)

COST OF EXCAVATION OR FILL IN THE HATCHED AREAS SHALL BE INCLUDED IN THE CONTRACT PRICE FOR "EXCAVATION FOR STRUCTURES BRIDGES B-16-151"

REMOVE EXISTING STRUCTURE AS NEEDED. COST INCLUDED IN "REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS" AND "REMOVING PILING" ITEMS. TYPICAL AT ALL SUBSTRUCTURES.

STATE PROJECT NUMBER

8394-00-73

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING: RF = 1.16
OPERATING RATING: RF = 1.53
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 (KIPS)

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

MATERIAL PROPERTIES:

CONCRETE MASONRY:
SUPERSTRUCTURE — f'_c = 4,000 PSI
ALL OTHER — f'_c = 3,500 PSI

BAR STEEL REINFORCEMENT
GRADE 60 — f_y = 60,000 PSI

28" PRESTRESSED GIRDERS:
CONCRETE MASONRY — f'_c = 8,000 PSI
STRANDS: 0.5" DIA. WITH ULTIMATE TENSILE STRENGTH OF 270,000 P.S.I.

FOUNDATION DATA

WEST ABUTMENT TO BE SUPPORTED ON 10 x 42 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED 65'-0" LONG.

EAST ABUTMENT TO BE SUPPORTED ON 10 x 42 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED 65'-0" LONG.

**THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE PILE CAPACITY.

HYDRAULIC DATA

100-YEAR FREQUENCY:

Q_{100}= 550 C.F.S.
V_{100}= 5.8 F.P.S.
HW_{100}= EL. 911.91
WATERWAY AREA = 95 SQ. FT.
DRAINAGE AREA = 8.9 SQ. MI.
ROADWAY OVERTOPPING = N/A
SCOUR CRITICAL CODE = 5

2-YEAR FREQUENCY:

Q_2= 130 C.F.S.
V_2= 3.6 F.P.S.
HW_2= EL. 909.51

TRAFFIC DATA

FEATURE ON:

ADT = <100 (2025)
ADT = <100 (2045)
R.D.S. = 25 MPH

LIST OF DRAWINGS:

10/27/2025

STRUCTURE DESIGN CONTACTS:

AARON BONK 608-261-0261
DANIEL SYDOW 715-834-3161

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY
AYRES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED JLR 12/01/25
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-16-151

PATZAU FOXBORO ROAD OVER BALSAM CREEK

COUNTY	TOWN
DOUGLAS	SUMMIT

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATION

DESIGNED BY	DESIGNED CK'D	DRAWN BY	PLANS CK'D
NBE	DRS	JMC/CLP	DNS

GENERAL PLAN

SHEET 1 OF 18
32

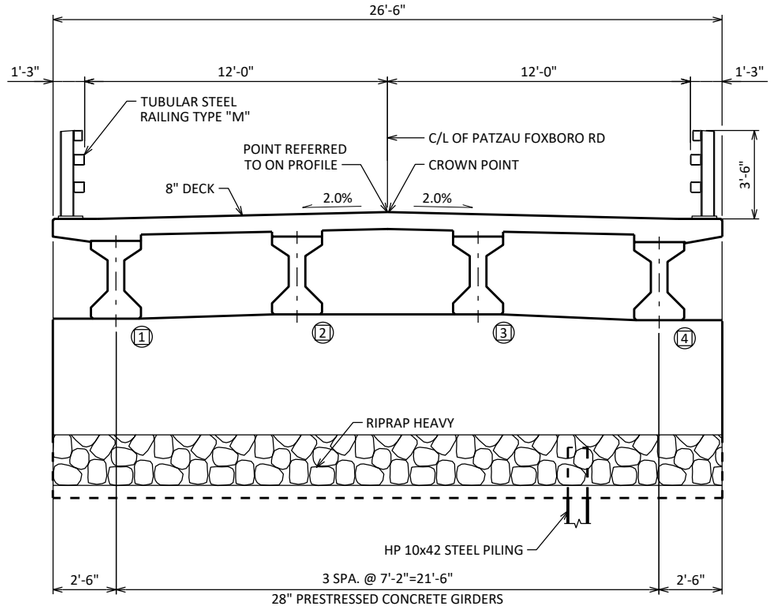
I.D. DATE:

STATE PROJECT NUMBER

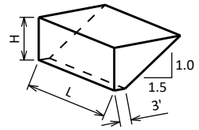
8394-00-73

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SUPER	W ABUT.	E ABUT.	TOTALS
203.0260	REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS (P-16-109)	EACH	---	---	---	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-16-151	EACH	---	---	---	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	---	210	210	420
502.0100	CONCRETE MASONRY BRIDGES	CY	51.3	42.1	42.1	135
502.3200	PROTECTIVE SURFACE TREATMENT	SY	165	20	20	205
503.0128	PRESTRESSED GIRDER TYPE I 28-INCH	LF	188	---	---	188
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	---	1,880	1,880	3,760
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	8,930	1,970	1,970	12,870
506.0105	STRUCTURAL STEEL CARBON	LB	470	---	---	470
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	---	4	4	8
506.4000	STEEL DIAPHRAGMS B-16-151	EACH	3	---	---	3
513.4061	RAILING TUBULAR TYPE M	LF	97	34	34	165
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	---	9	9	18
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	---	390	390	780
606.0300	RIPRAP HEAVY	CY	---	160	150	310
612.0406	PIPE UNDERDRAIN WRAPPED 6 - INCH	LF	---	90	90	180
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	---	50	50	100
645.0120	GEOTEXTILE TYPE HR	SY	---	280	260	540
SPV.0195.01	SELECT CRUSHED MATERIAL FOR TRAVEL CORRIDOR	TON	---	8	8	16
	NON-BID ITEMS					
	FILLER	SIZE	---	---	---	½", ¾"

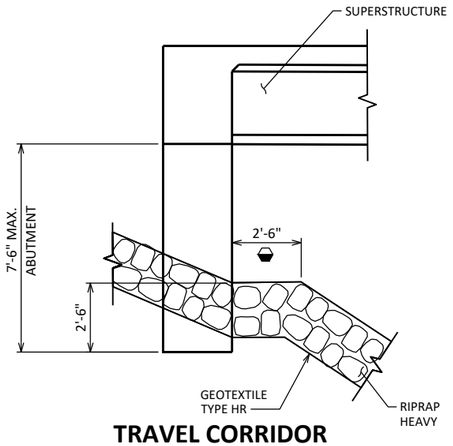


TYPICAL SECTION THRU BRIDGE



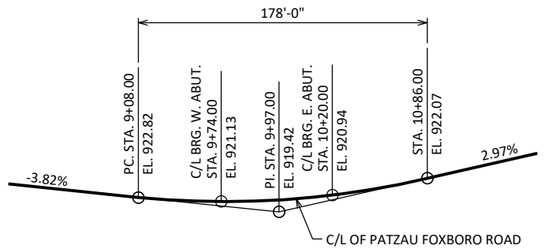
ABUTMENT BACKFILL DIAGRAM

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



TRAVEL CORRIDOR

FILL VOIDS WITH SELECT CRUSHED MATERIAL FOR TRAVEL CORRIDOR AFTER RIPRAP IS PLACED.



PROFILE GRADE LINE

BENCH MARK

NO.	STATION	DESCRIPTION	ELEV.
50	10+76	RR SPIKE IN PPOL, 30.9' LT.	917.27
51	9+80	RR SPIKE IN NW. WINGWALL, 19.7' LT	918.66

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES B-16-151" SHALL BE THE EXISTING GROUNDLINE.

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

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

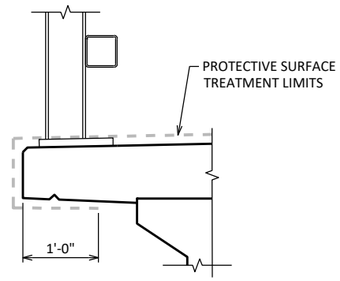
PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE EXPOSED TOP OF DECK, EXTERIOR EXPOSED FACE OF WINGS, AND FRONT FACE OF ABUTMENTS TO 1'-0" PAST THE EDGE OF DECK.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH HEAVY RIPRAP AND GEOTEXTILE TYPE "HR" TO THE EXTENT SHOWN ON SHEET 1 AND THE ABUTMENT DETAILS.

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE 28" PRESTRESSED GIRDER DETAILS SHEET.

THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON "BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND ABUTMENTS AND ABUTMENT WINGS FOR 3 FEET. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES

EXISTING SUBSTRUCTURE LOCATIONS ARE BASED ON SURVEY. EXTENT OF BELOW GRADE SUBSTRUCTURES ARE NOT KNOWN. REMOVE EXISTING SUBSTRUCTURES AS NEEDED TO BUILD NEW SUBSTRUCTURES. COST OF SUBSTRUCTURE REMOVAL IS INCLUDED IN "REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS" AND "REMOVING PILING" ITEMS.



PROTECTIVE SURFACE TREATMENT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-16-151

DRAWN BY JMC | PLANS CK'D DRS

TYPICAL SECTION, QUANTITIES AND NOTES

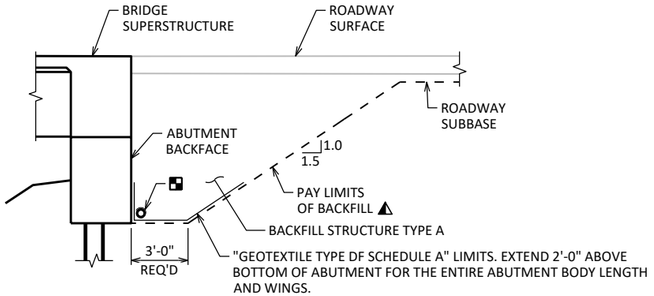
SHEET 2 OF 18

8

8

STATE PROJECT NUMBER

8394-00-73

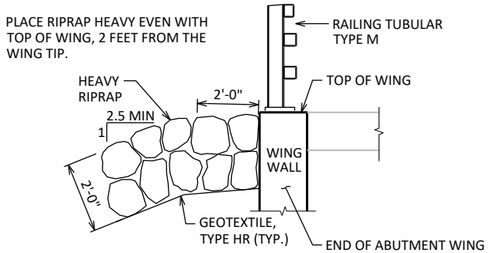


TYPICAL SECTION THRU ABUTMENT

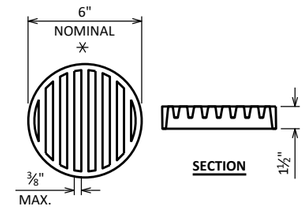
⚠ BACKFILL PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

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

NOTE: PLACE RIPRAP HEAVY AS SHOWN ON GENERAL PLAN SHEET



TYPICAL FILL SECTION AT WING TIPS

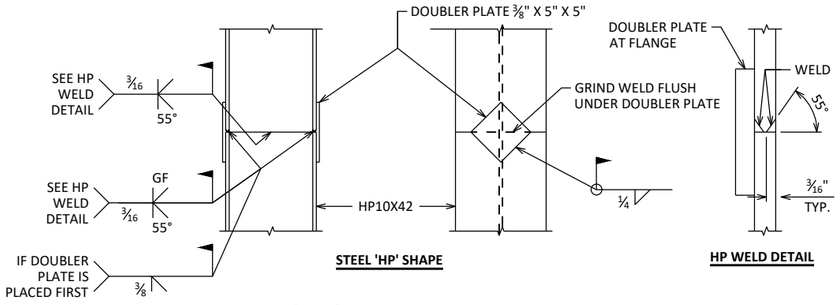


RODENT SHIELD DETAIL

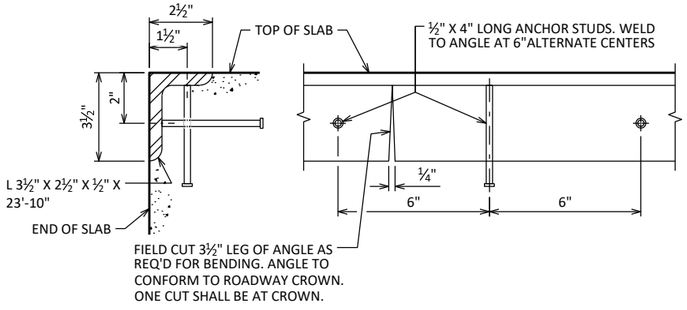
⚹ DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.



'HP' PILE DETAILS



PROTECTION ANGLE ARMOR

SANDBLAST PROTECTION ANGLE AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING" AFTER BLAST CLEANING, THE PROTECTION ANGLE SHALL BE HOT DIPPED GALVANIZED.

ANGLE AND STUDS TO BE PAID FOR AT THE UNIT PRICE BID FOR "STRUCTURAL STEEL CARBON". (NO PAINT REQ'D.)

NO SPLICE SHALL BE PERMITTED IN ANGLES.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-16-151

DRAWN BY JMC | PLANS CK'D DRS

STRUCTURE DETAILS

SHEET 3 OF 18

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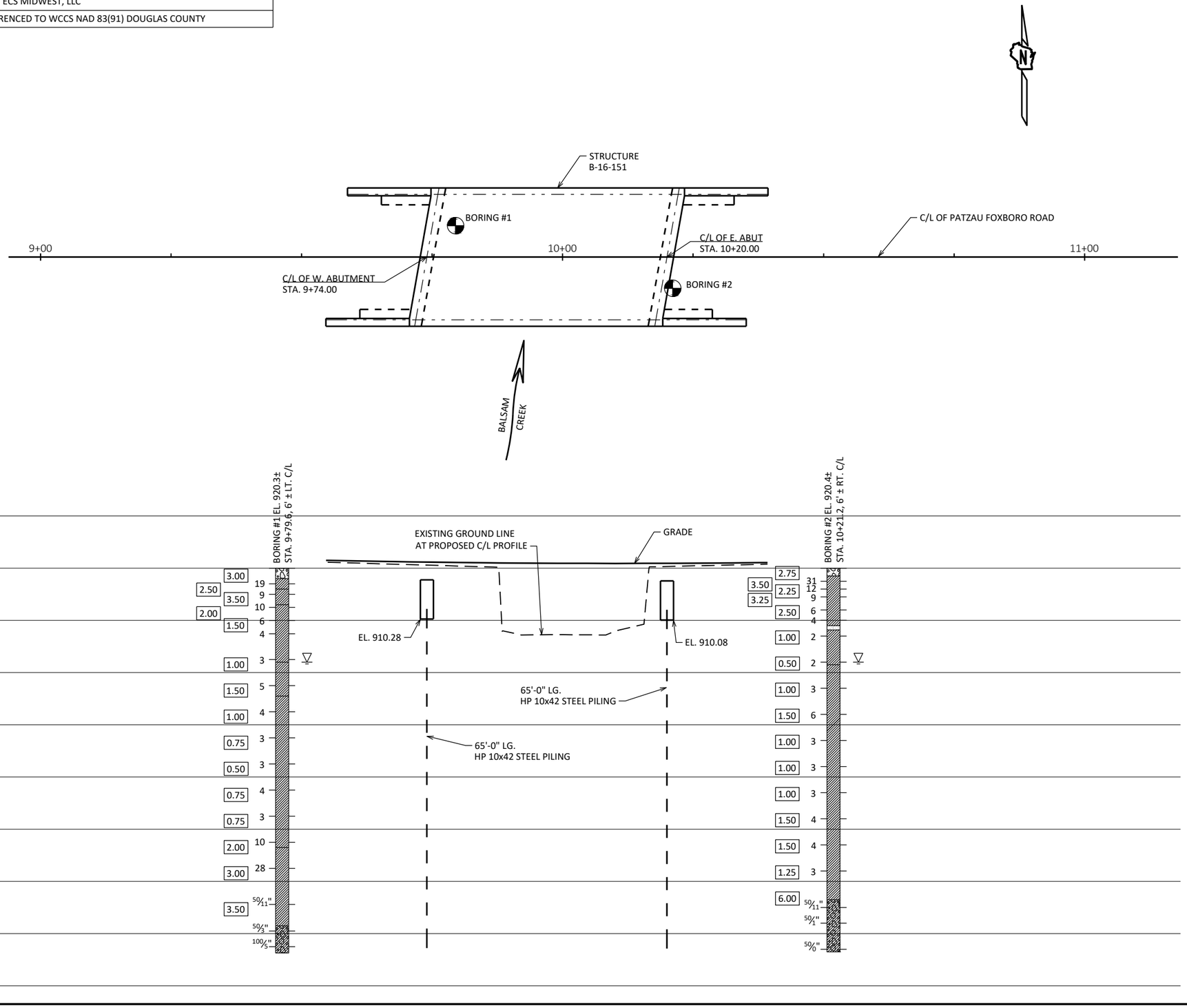
8

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B-01	2/6/2024	221519.470	103068.520
B-02	2/7/2024	221506.740	103109.890
BORINGS COMPLETED BY: ECS MIDWEST, LLC			
REPORT COMPLETED BY: ECS MIDWEST, LLC			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) DOUGLAS COUNTY			



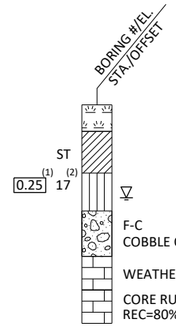
STATE PROJECT NUMBER

8394-00-73

MATERIAL SYMBOLS

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

LEGEND OF BORING



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

AT TIME OF DRILLING
END OF DRILLING
AFTER DRILLING

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-16-151

DRAWN BY JMC | PLANS CK'D DRS

SUBSURFACE EXPLORATION

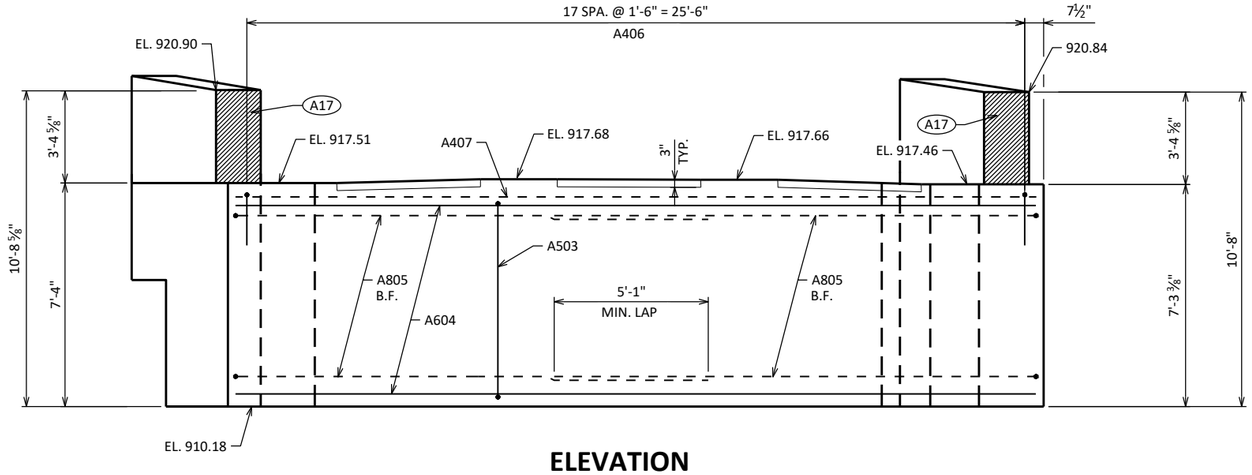
SHEET 4 OF 18
35

8

8

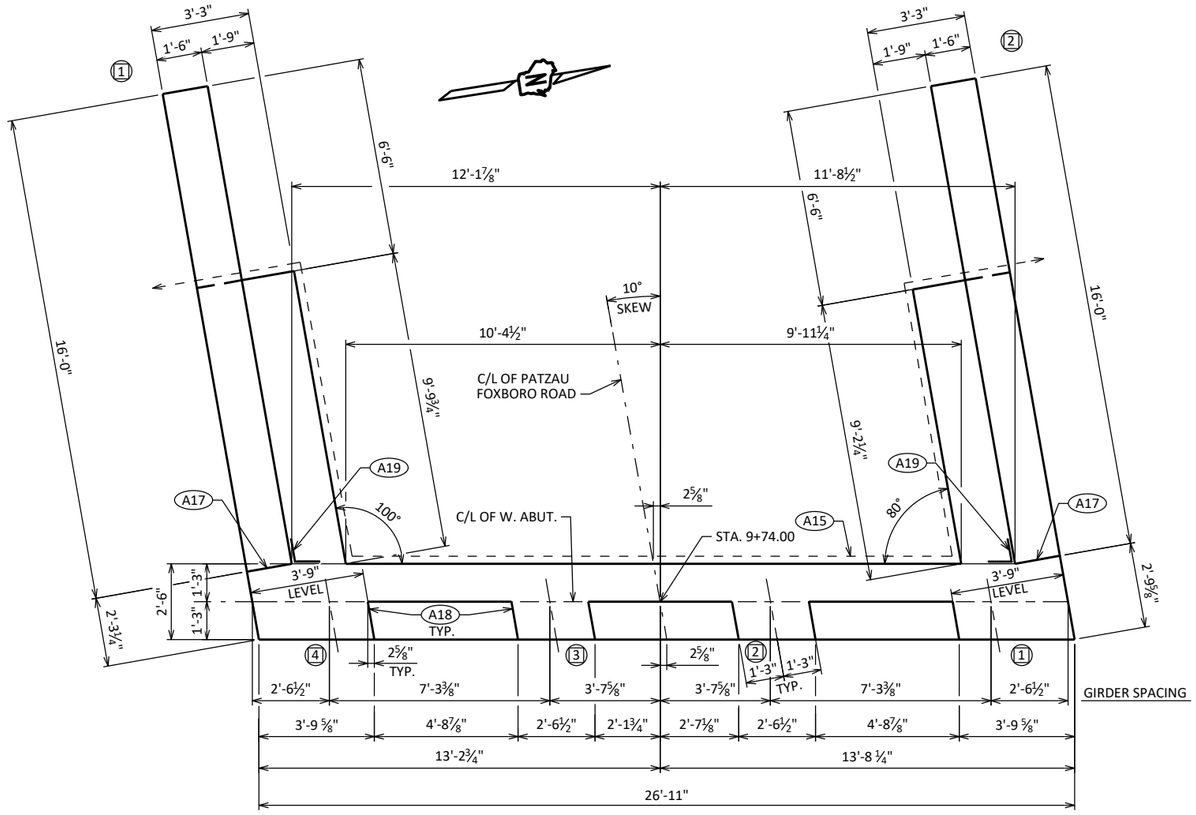
STATE PROJECT NUMBER

8394-00-73

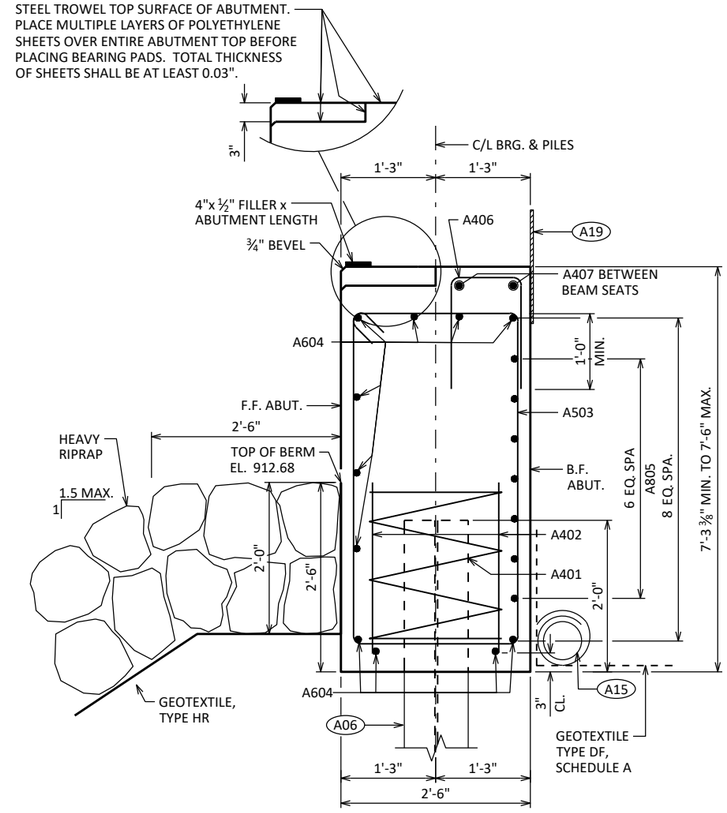


ELEVATION

(LOOKING WEST)



PLAN



SECTION THRU BODY

A06 SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING, ESTIMATED 65'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.

A15 PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

A17 ½" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

A18 ¾" CORK FILLER UP VERT. BEAM SEAT FACES THE RUN PARALLEL WITH GIRDER.

A19 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-16-151

DRAWN BY CLP | PLANS CK'D DRS

WEST ABUTMENT

SHEET 5 OF 18

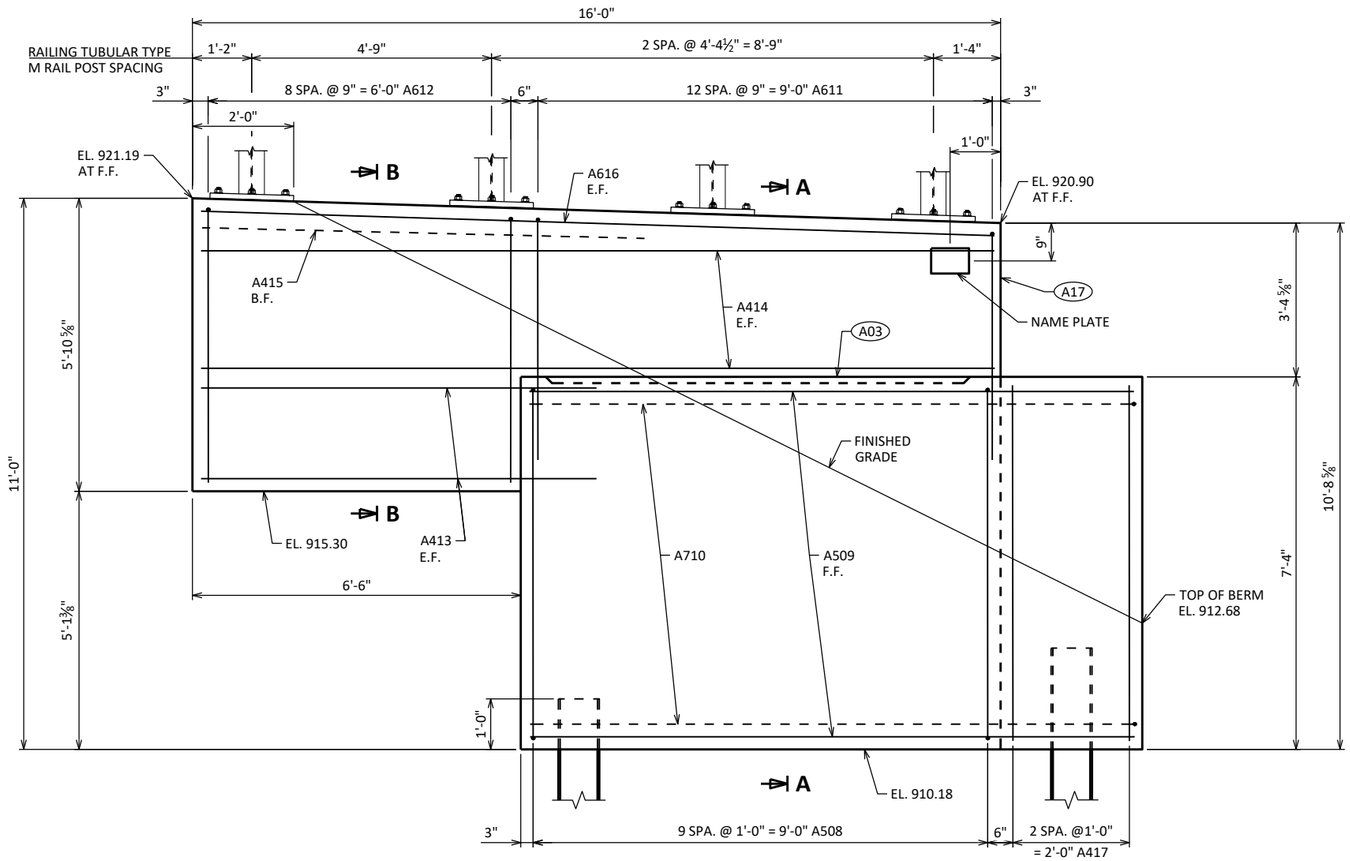
36

8

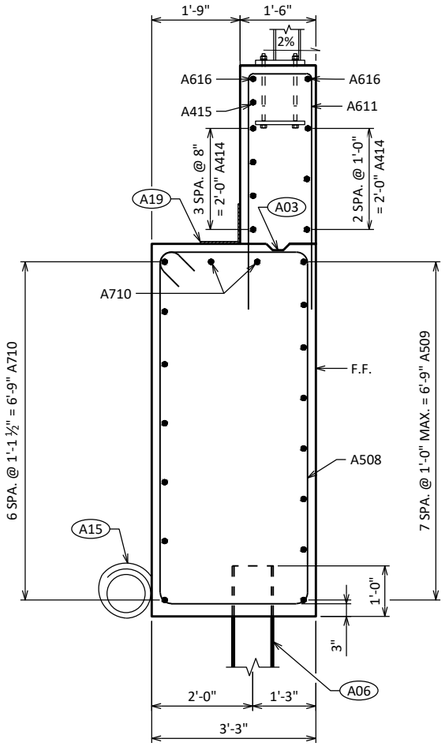
8

STATE PROJECT NUMBER

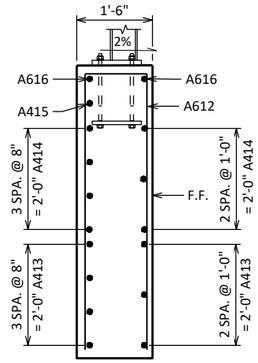
8394-00-73



ELEVATION - WING 1



SECTION A



SECTION B

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-16-151

DRAWN BY CLP | PLANS CK'D DRS

WEST ABUTMENT WING 1 DETAILS

SHEET 6 OF 18

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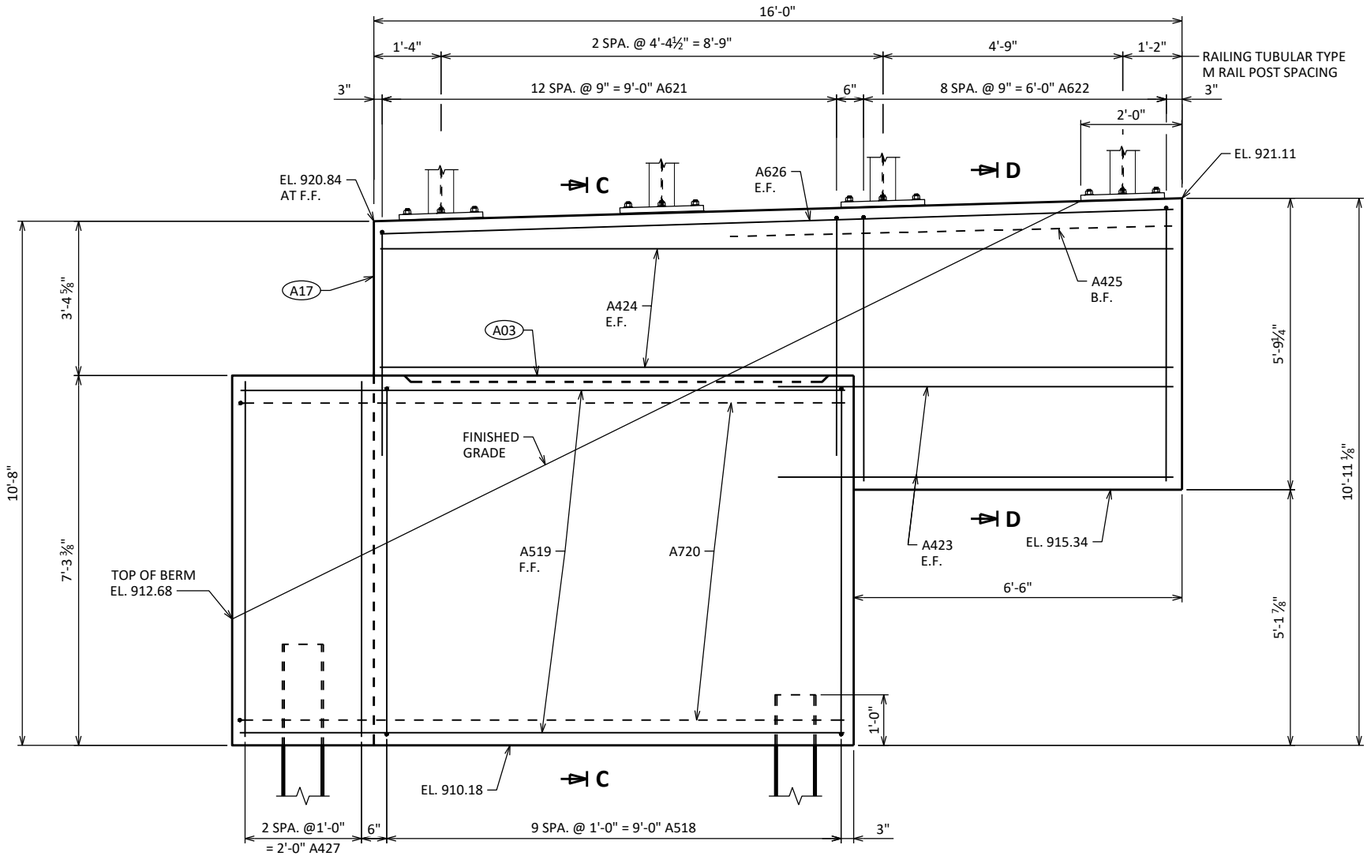
8

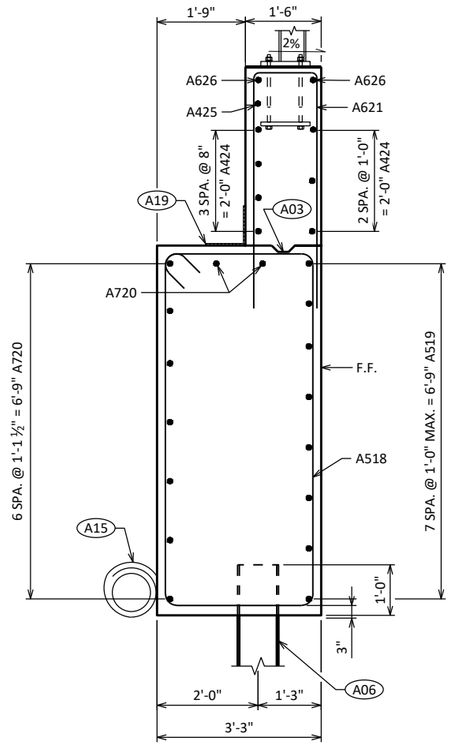
8

STATE PROJECT NUMBER

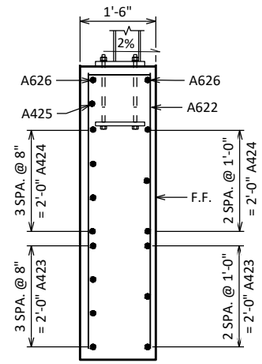
8394-00-73



ELEVATION - WING 2



SECTION C



SECTION D

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-16-151

DRAWN BY CLP | PLANS CK'D DRS

WEST ABUTMENT WING 2 DETAILS

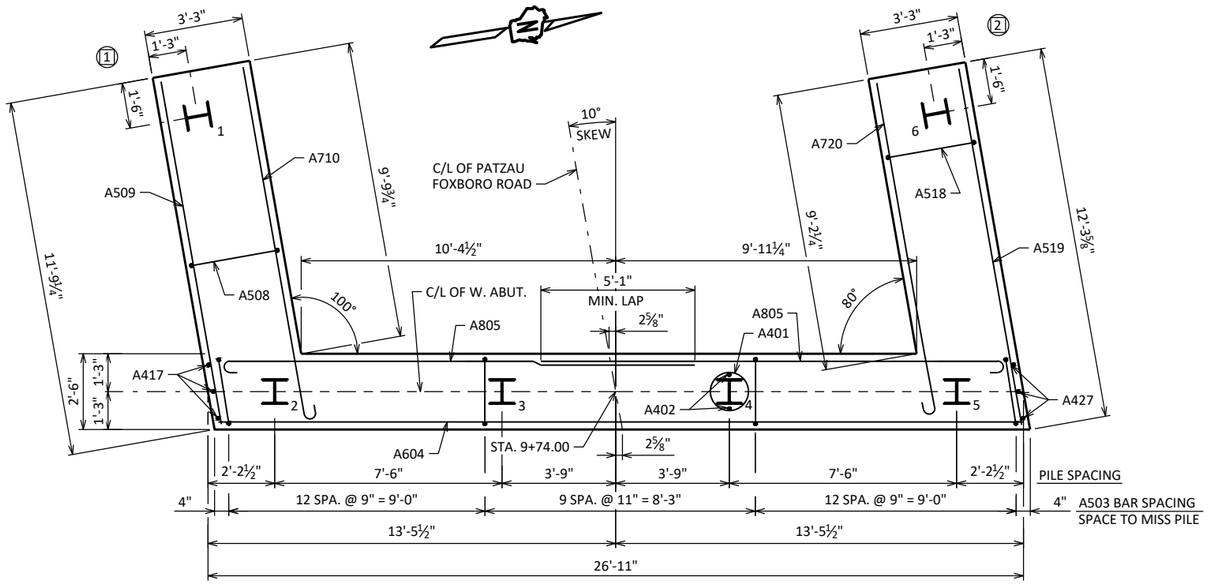
SHEET 7 OF 18

8

8

STATE PROJECT NUMBER

8394-00-73



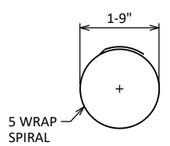
PILE LAYOUT

BILL OF BARS

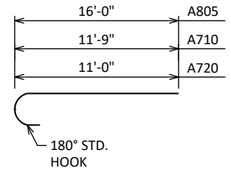
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A401		4	28'-0"	X		BODY @ PILES
A402		8	2'-3"			BODY @ PILES
A503		34	18'-2"	X		BODY VERT.
A604		11	26'-7"			BODY HORIZ.
A805		14	16'-11"	X		BODY HORIZ. B.F.
A406		18	3'-9"	X		BODY VERT. TOP
A407		2	26'-7"			BODY HORIZ. TOP
A508	X	10	20'-0"	X		WING 1 VERT.
A509	X	8	11'-5"			WING 1 HORIZ. F.F.
A710	X	9	12'-7"	X		WING 1 HORIZ.
A611	X	13	11'-5"	X		WING 1 VERT.
A612	X	9	11'-8"	X		WING 1 VERT.
A413	X	7	7'-11"			WING 1 HORIZ. E.F.
A414	X	7	15'-8"			WING 1 HORIZ. E.F.
A415	X	1	8'-9"			WING 1 HORIZ. B.F.
A616	X	2	15'-8"			WING 1 HORIZ. E.F. TOP
A417	X	3	6'-10"			BODY VERT. END @ WING 1
A518	X	10	20'-0"	X		WING 2 VERT.
A519	X	8	11'-11"			WING 2 HORIZ. F.F.
A720	X	9	11'-10"	X		WING 2 HORIZ.
A621	X	13	11'-5"	X		WING 2 VERT.
A622	X	9	11'-4"	X		WING 2 VERT.
A423	X	7	7'-11"			WING 2 HORIZ. E.F.
A424	X	7	15'-8"			WING 2 HORIZ. E.F.
A425	X	1	8'-9"			WNG 2 HORIZ. B.F.
A626	X	2	15'-8"			WING 2 HORIZ. E.F. TOP
A427	X	3	6'-10"			BODY VERT. END @ WING 2

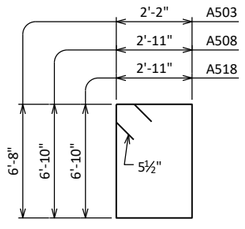
BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



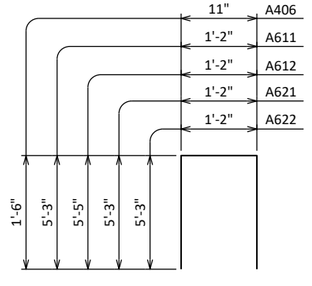
A401



A805, A710, A720



A503, A508, A518



A406, A611, A612
A621, A622

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-16-151

DRAWN BY CLP | PLANS CK'D DRS

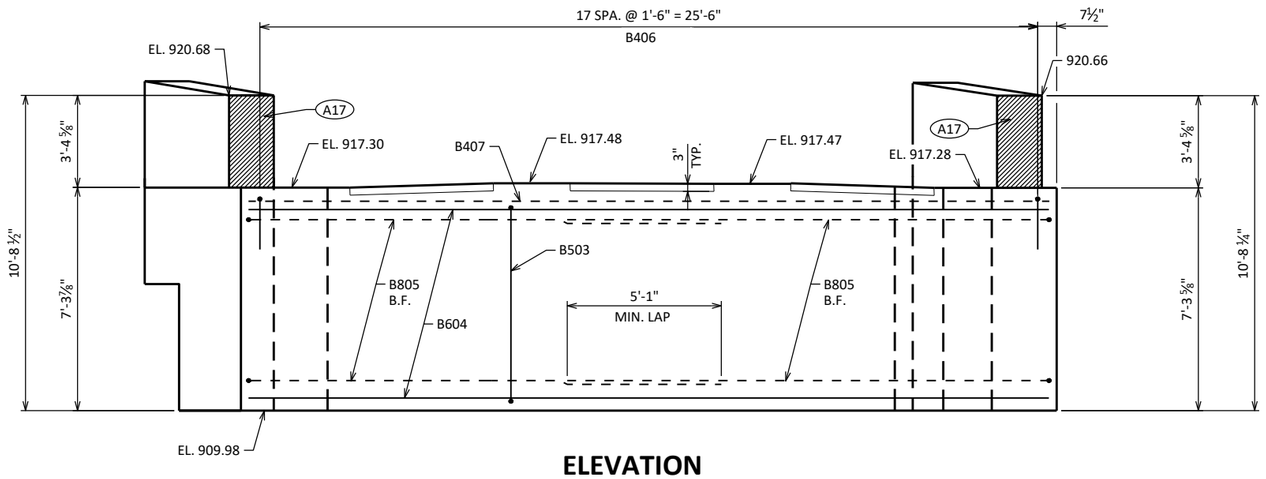
WEST ABUTMENT PILE LAYOUT AND BILL OF BARS

SHEET 8 OF 18

8

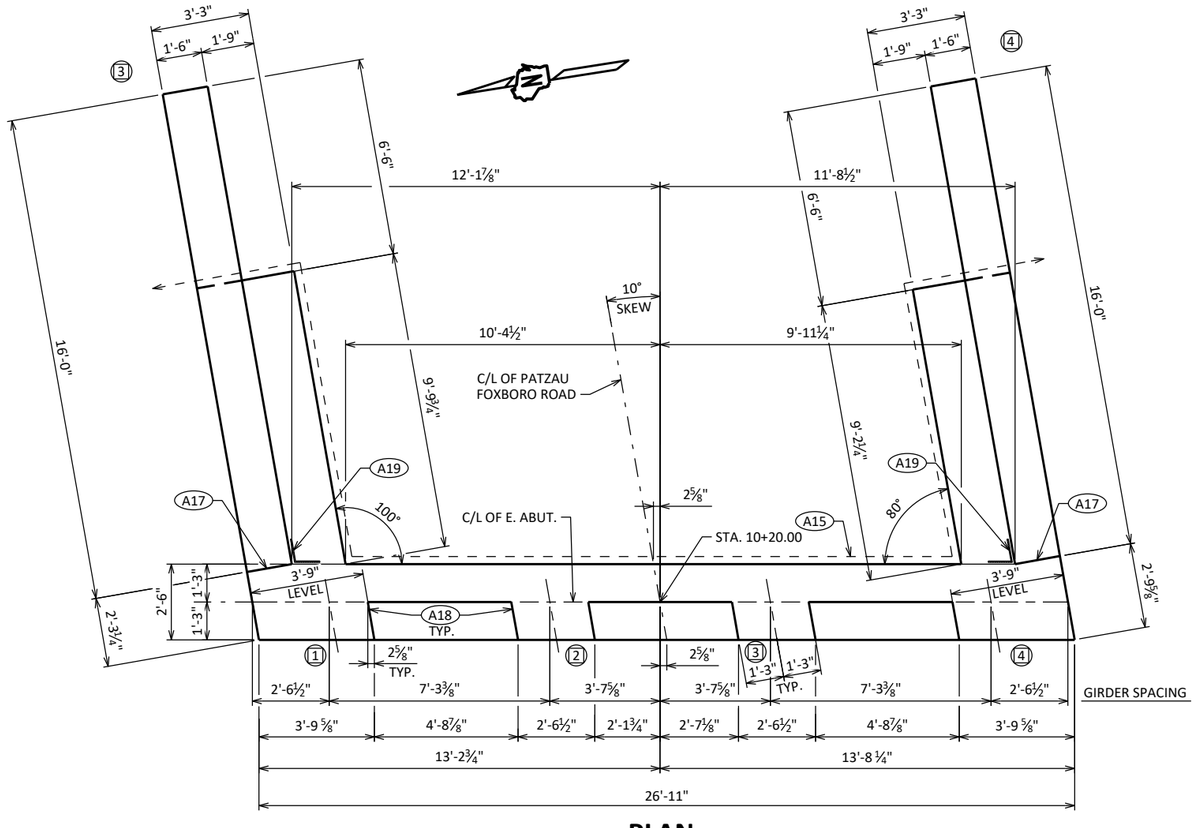
8

STATE PROJECT NUMBER
8394-00-73

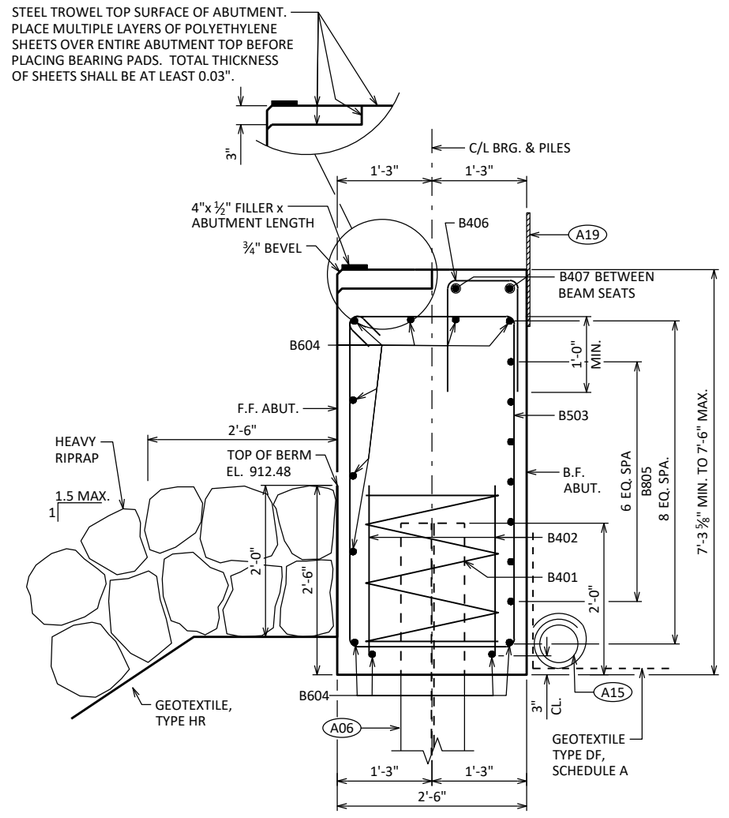


ELEVATION

(LOOKING EAST)



PLAN



SECTION THRU BODY

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-16-151

DRAWN BY CLP | PLANS CK'D DRS

EAST ABUTMENT

SHEET 9 OF 18

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8

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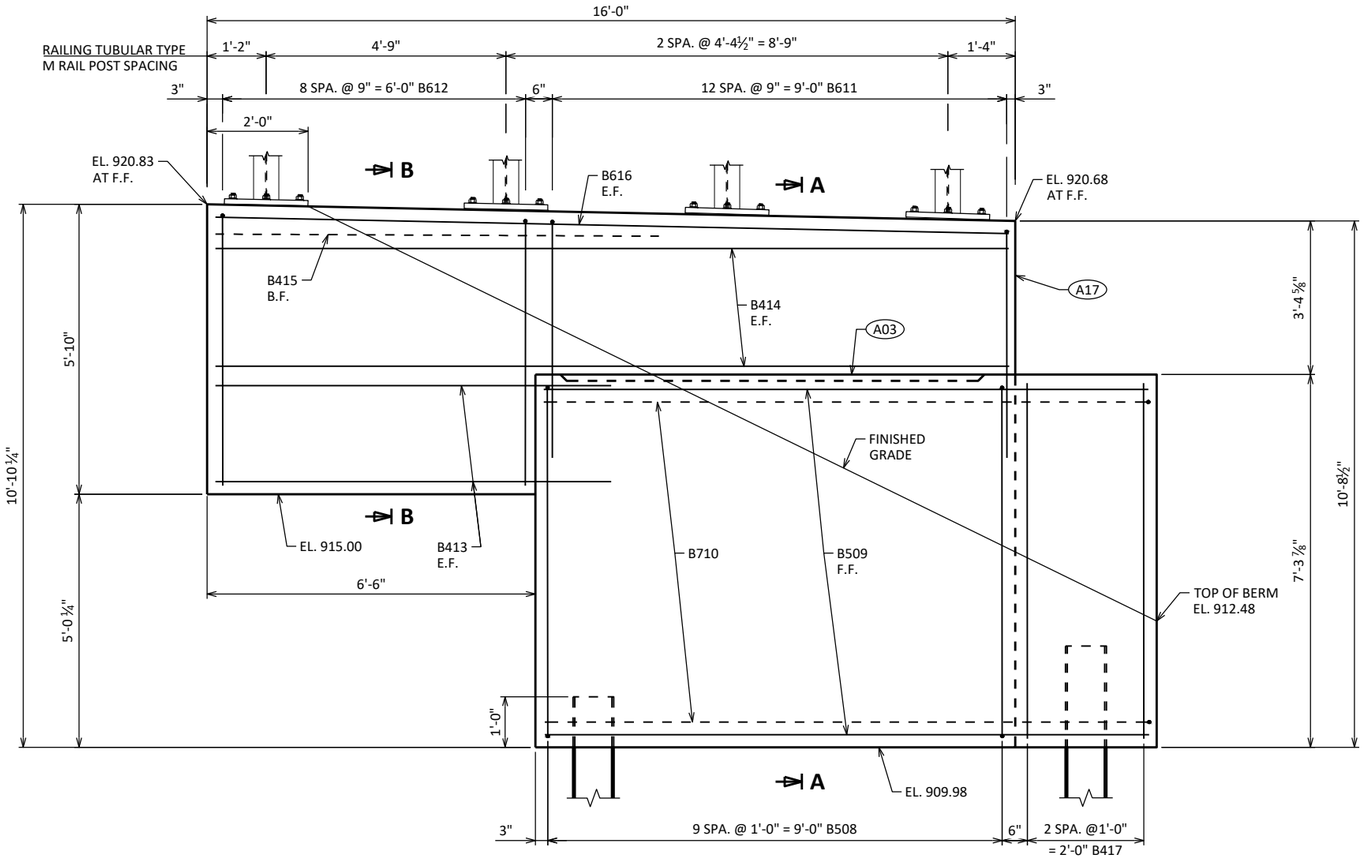
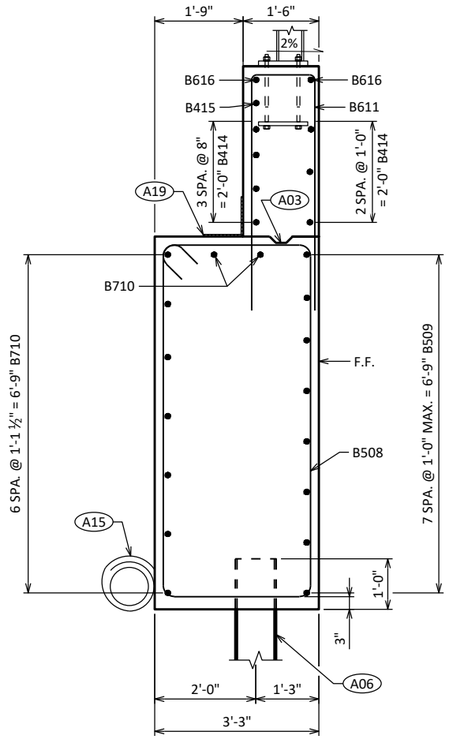
STATE PROJECT NUMBER

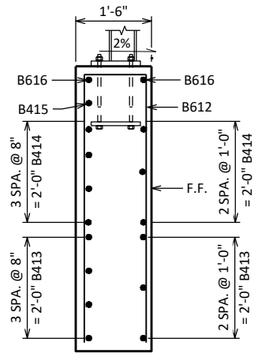
8394-00-73



ELEVATION - WING 3



SECTION A



SECTION B

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-16-151

DRAWN BY CLP | PLANS CK'D DRS

EAST ABUTMENT WING 3 DETAILS

SHEET 10 OF 18

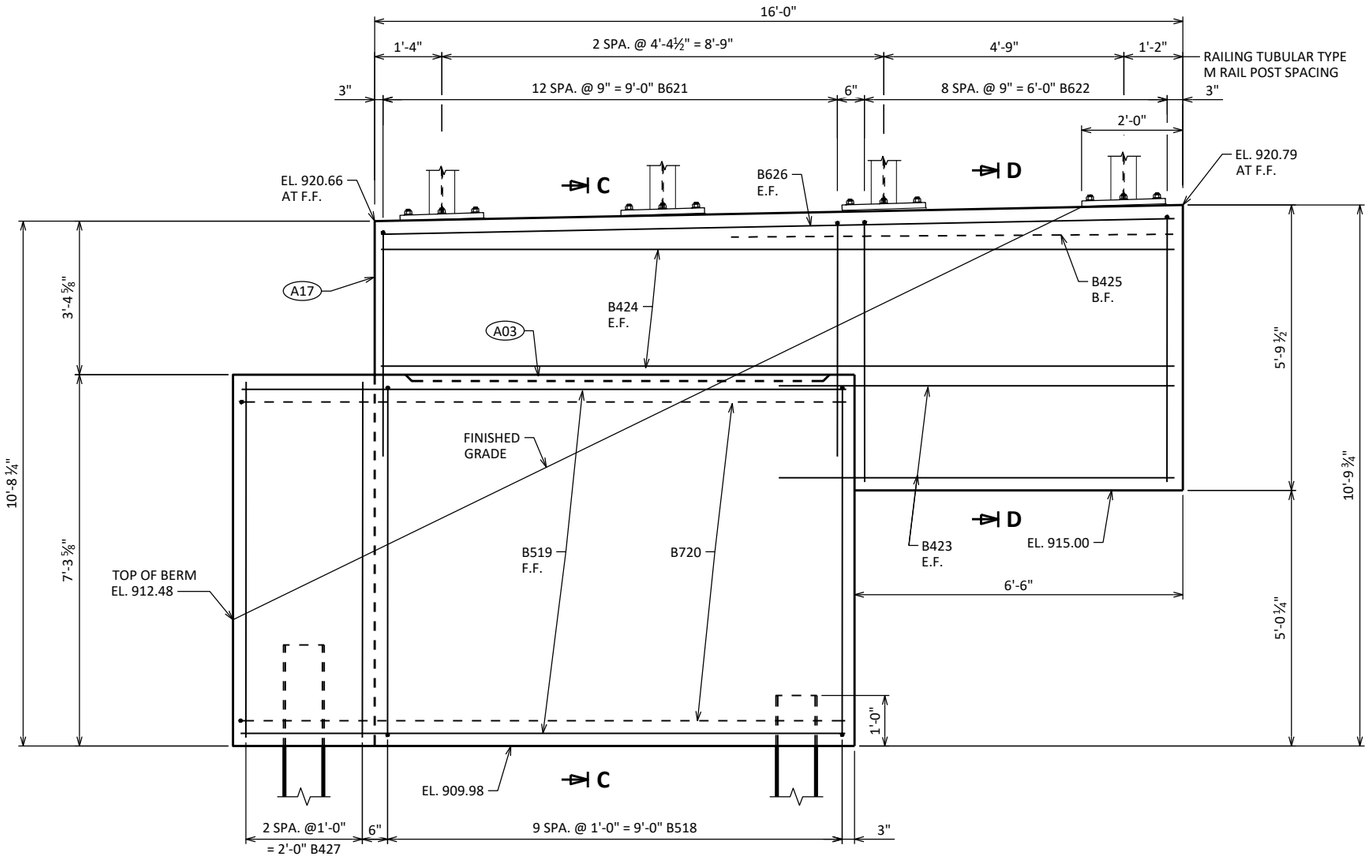
41

8

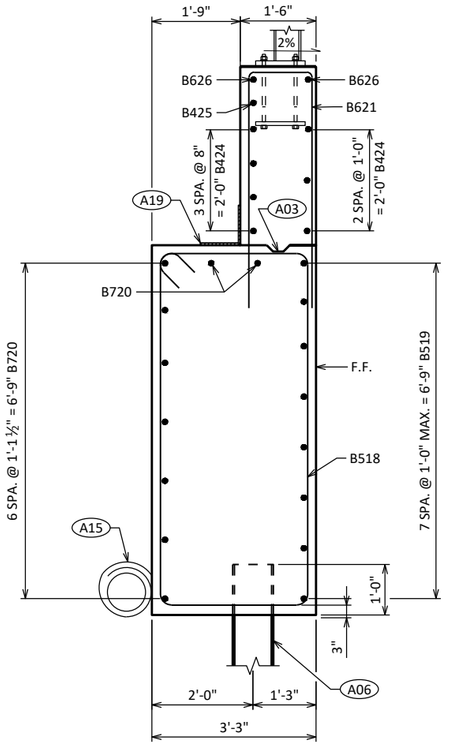
8

STATE PROJECT NUMBER

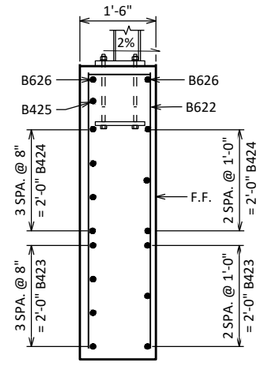
8394-00-73



ELEVATION - WING 4



SECTION C



SECTION D

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-16-151

DRAWN BY	CLP	PLANS CK'D	DRS

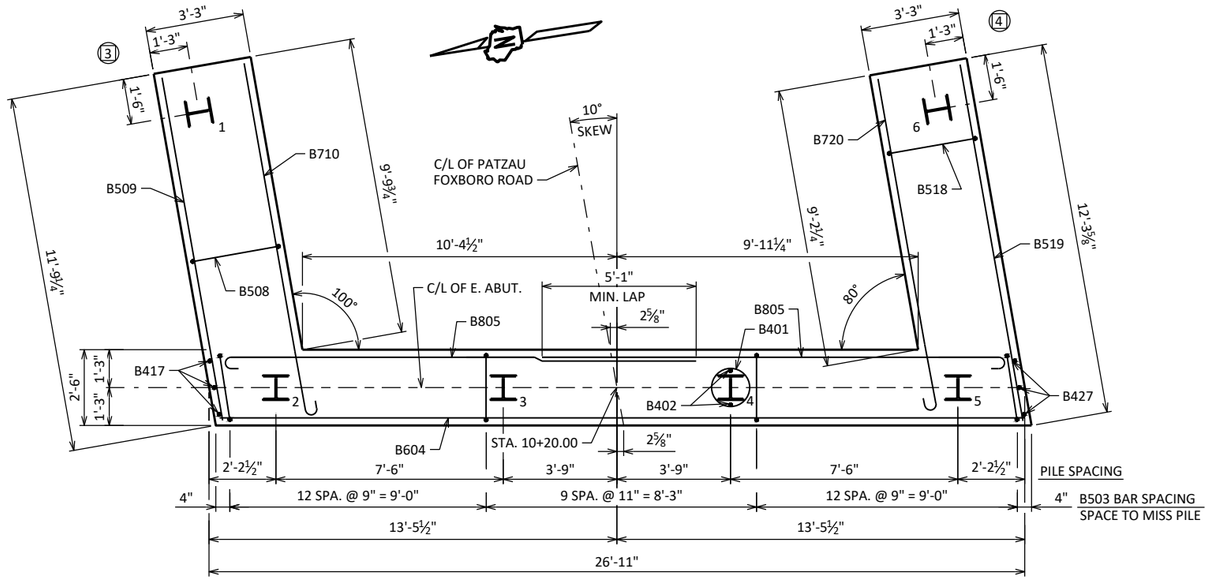
EAST ABUTMENT WING 4 DETAILS

SHEET 11 OF 18

42

STATE PROJECT NUMBER

8394-00-73



PILE LAYOUT

BILL OF BARS

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B509	X	8	11'-5"			WING 3 HORIZ. F.F.
B710	X	9	12'-7"	X		WING 3 HORIZ.
B611	X	13	11'-5"	X		WING 3 VERT.
B612	X	9	11'-8"	X		WING 3 VERT.
B413	X	7	7'-11"			WING 3 HORIZ. E.F.
B414	X	7	15'-8"			WING 3 HORIZ. E.F.
B415	X	1	8'-9"			WING 3 HORIZ. B.F.
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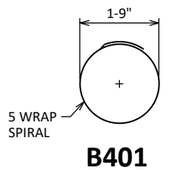
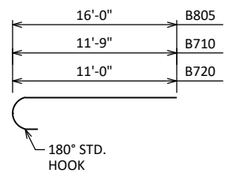
B518	X	10	20'-0"	X		WING 4 VERT.
B519	X	8	11'-11"			WING 4 HORIZ. F.F.
B720	X	9	11'-10"	X		WING 4 HORIZ.
B621	X	13	11'-5"	X		WING 4 VERT.
B622	X	9	11'-4"	X		WING 4 VERT.
B423	X	7	7'-11"			WING 4 HORIZ. E.F.
B424	X	7	15'-8"			WING 4 HORIZ. E.F.
B425	X	1	8'-9"			WNG 4 HORIZ. B.F.
B626	X	2	15'-8"			WING 4 HORIZ. E.F. TOP
B427	X	3	6'-10"			BODY VERT. END @ WING 4

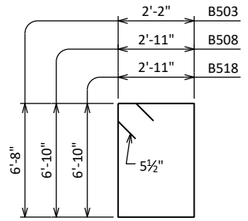
BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



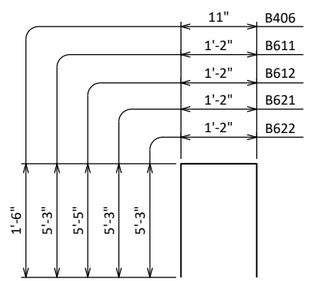
B401



B805, B710, B720



B503, B508, B518



B406, B611, B612
B621, B622

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-16-151

DRAWN BY CLP | PLANS CK'D DRS

EAST ABUTMENT PILE LAYOUT AND BILL OF BARS

SHEET 12 OF 18

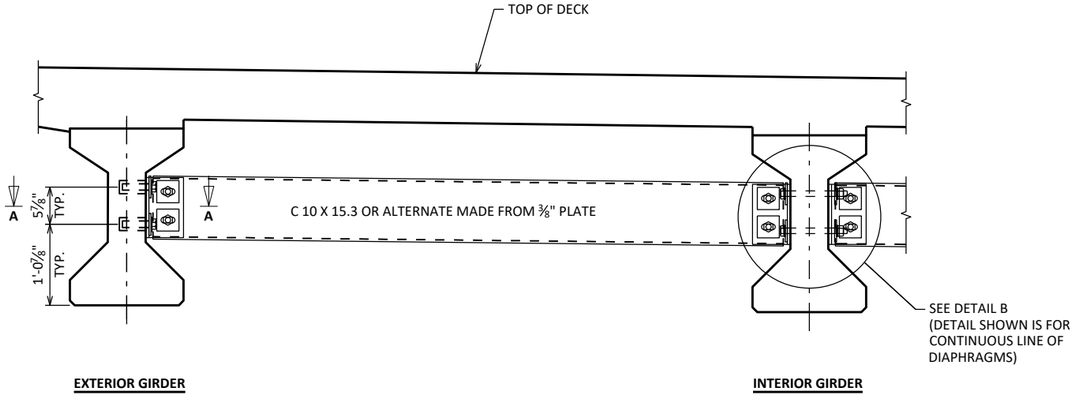
43

8

8

STATE PROJECT NUMBER

8394-00-73



EXTERIOR GIRDER **INTERIOR GIRDER**

PART TRANSVERSE SECTION AT DIAPHRAGM

NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-16-151", EACH.

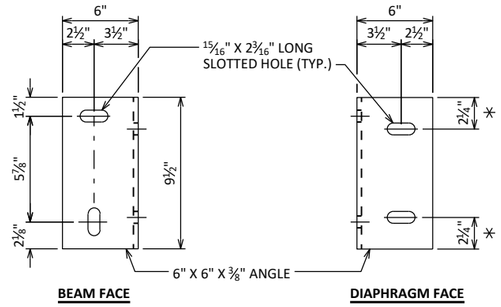
EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

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

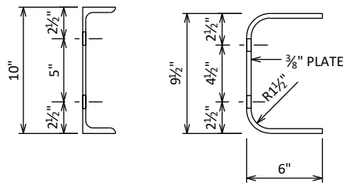
STEEL DIAPHRAGM TO CONCRETE WEB CONNECTION SHALL BE SNUG-TIGHT PLUS 1/4 TURN, UNLESS NOTED OTHERWISE. HIGH STRENGTH BOLTS FOR WEB CONNECTION SHALL MEET THE REQUIREMENTS FOR ASTM A325 OR ASTM A449.

FOR DIAPHRAGM SPACING, SEE SHEET 16.



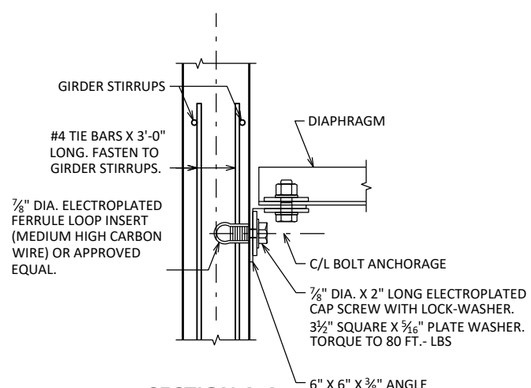
DIAPHRAGM SUPPORT

* 2½" FOR ALTERNATE PLATE DIAPHRAGM



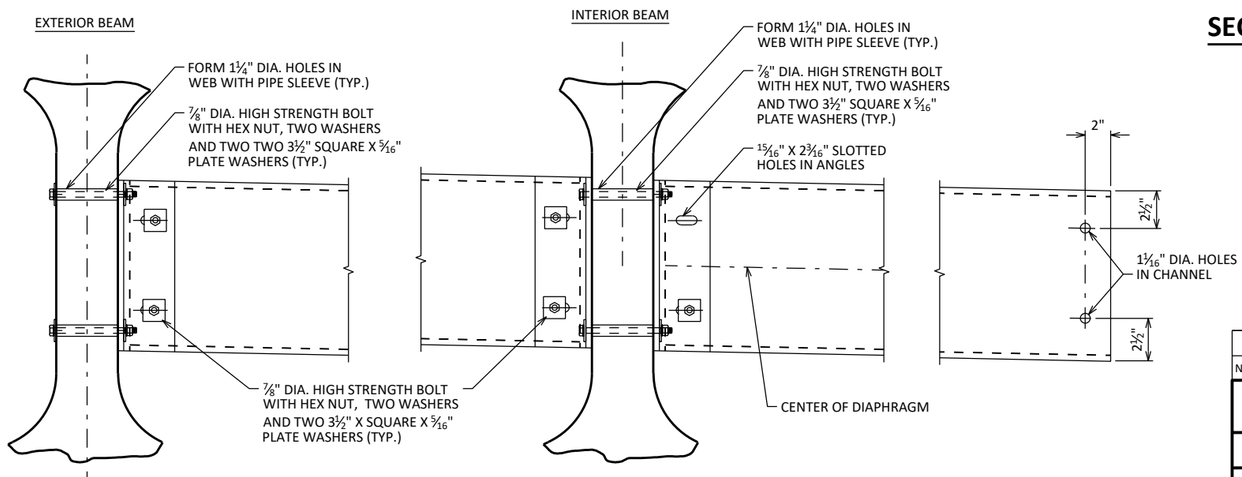
C10 X 15.3 **ALTERNATE DIAPHRAGM**

SECTION THRU DIAPHRAGM



SECTION A-A

(FOR EXTERIOR ATTACHMENT)



(FOR STAGGERED DIAPHRAGM)

DETAIL B

(FOR CONTINUOUS LINE OF DIAPHRAGMS)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-16-151

DRAWN BY CLP | PLANS CK'D DRS

STEEL DIAPHRAGM

SHEET 13 OF 18

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SCALE = 2.00

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8

STATE PROJECT NUMBER

8394-00-73

NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 2" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 2" OF THE TOP FLANGE.

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

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS. SEE SECT. 503.3.4 OF STANDARD SPECIFICATIONS FOR GUIDANCE.

STRANDS SHALL BE FLUSH WITH END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, END OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER.

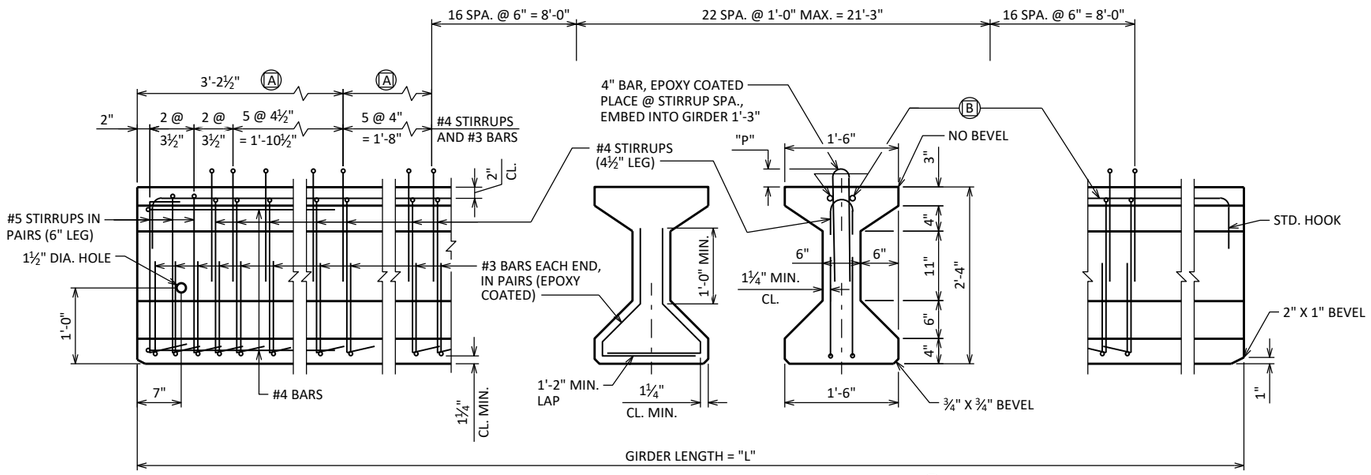
ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

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

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

PRESTRESSING STRANDS SHALL BE (0.5" DIA.) -7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI.

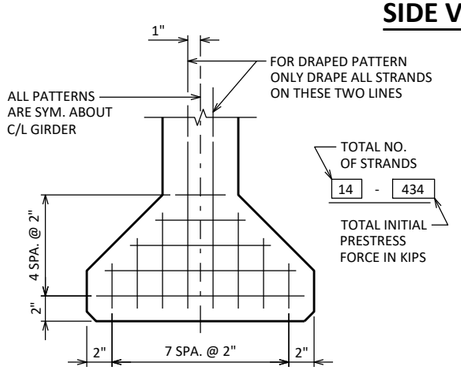
FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.



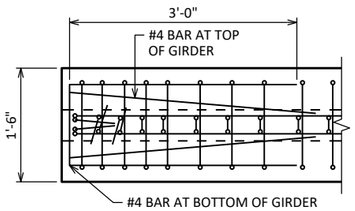
SIDE VIEW & TYPICAL SECTION IN SPAN

Ⓐ DETAIL TYP. AT EACH END

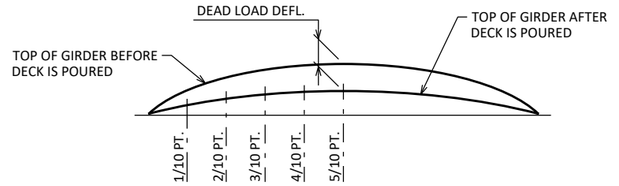
Ⓑ 2 #4 BARS, FULL LENGTH, MIN. LAP =2'-4", STD. HOOK AT ENDS



TYP. STRAND PATTERN



TOP VIEW OF GIRDER ENDS



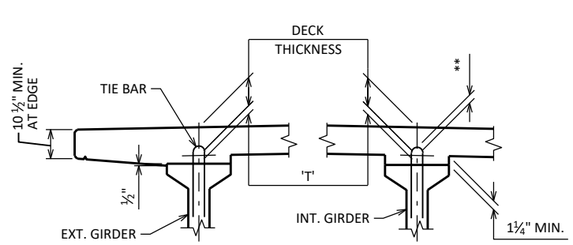
DEAD LOAD DEFLECTION DIAGRAM

* THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

SPAN	CAMBER (IN.) *
1	1.2

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

THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.



DECK HAUNCH DETAIL

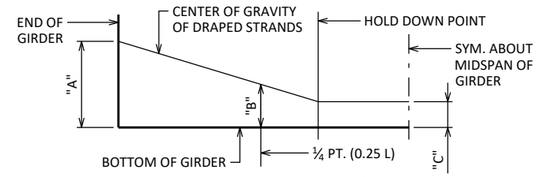
IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR, THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

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

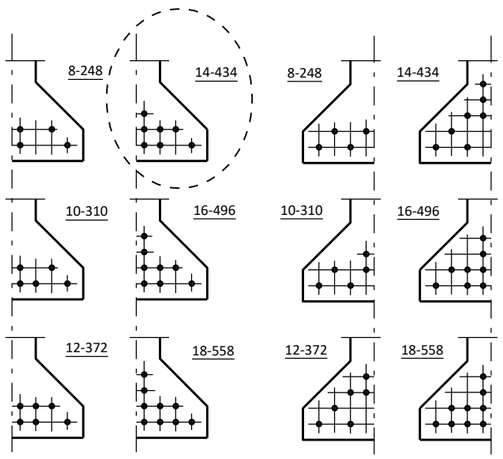
TO DETERMINE 'T', ELEVATION OF TOP OF GIRDERS AT C/L OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
- DECK THICKNESS
= HAUNCH HEIGHT "T"

NOTE: AN AVERAGE HAUNCH ('T') OF 3" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



DRAPED STRAND PROFILE



DRAPED PATTERN

0.5" DIA. STRANDS

UNDRAPED PATTERN

0.5" DIA. STRANDS

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

GIRDER DATA																							
SPAN	GIRDER	GIRDER LENGTH "L" (FEET)	DEAD LOAD DEFL. (IN.)										CONC. STRGTH. f'c (P.S.I.)	"P" (IN.)			DIA. OF STRAND (IN.)	DRAPED PATTERN					
			1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10			1ST ⅓ OF GIRDER	MID ⅓ OF GIRDER	END ⅓ OF GIRDER		TOTAL NO. OF STRANDS	f'ci (P.S.I.) ✻	(IN.) "A"	"B" MIN.	"B" MAX.	"C"
1	1 & 4	47'-0"	0.2	0.3	0.4	0.5	0.5	0.5	0.4	0.3	0.2		8,000	8"	7"	8"	0.5	14	6,400	24	9	12	4
1	2 & 3	47'-0"	0.2	0.3	0.5	0.5	0.6	0.5	0.5	0.3	0.2		8,000	8"	7"	8"	0.5	14	6,400	24	9	12	4

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-16-151

DRAWN BY CLP | PLANS CK'D DRS

28" PRESTRESSED GIRDER DETAILS

SHEET 14 OF 18

45

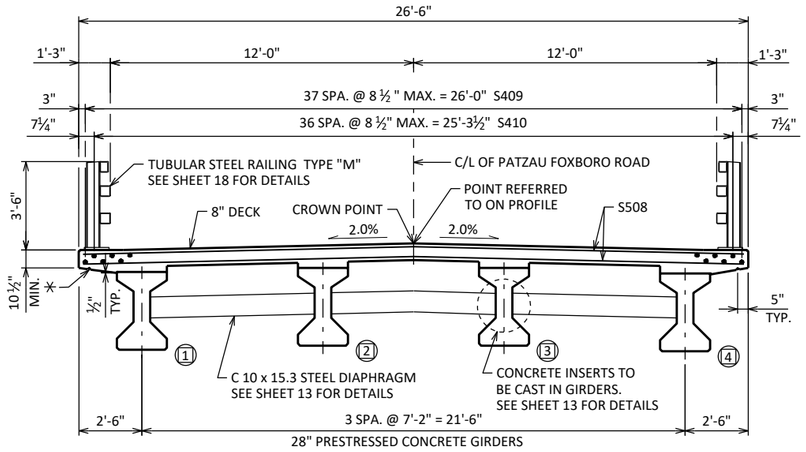
SCALE = 1:24

8

8

STATE PROJECT NUMBER

8394-00-73



✳ ¾" V-GROOVE. EXTEND V-GROOVE TO 6" FROM F.F. OF ABUTMENT DIAPHRAGMS - TYP.

TYPICAL SECTION THRU BRIDGE

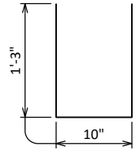
(LOOKING EAST)

BILL OF BARS

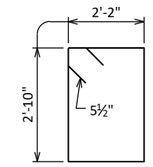
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S401	X	36	3'-2"	X		DIAPH. @ ABUT. NOTCH VERT.
S402	X	12	4'-4"			DIAPH. @ ABUT. NOTCH HORIZ.
S503	X	60	10'-8"	X		DIAPH. @ ABUT. VERT.
S604	X	10	26'-6"			DIAPH. @ ABUT. HORIZ.
S605	X	6	4'-5"	X		DIAPH. @ ABUT. HORIZ. @ WINGS 1 & 3
S606	X	18	5'-5"			DIAPH. @ ABUT. BTW. GIRDERS HORIZ.
S507	X	16	6'-0"			DIAPH. @ ABUT. THRU GIRDERS HORIZ.
S508	X	137	26'-6"			DECK TRANS. TOP & BOTTOM
S409	X	76	24'-11"			DECK LONG. BOTTOM
S410	X	74	24'-11"			DECK LONG. TOP
S611	X	32	12'-0"	X		DECK @ RAIL POSTS
S612	X	48	6'-0"			DECK @ INT. RAIL POSTS
S613	X	16	4'-8"	X		DECK @ END RAIL POSTS
S414	X	10	2'-10"			DIAPH. @ ABUT. VERT. @ ENDS
S615	X	6	4'-11"	X		DIAPH. @ ABUT. HORIZ. @ WINGS 2 & 4

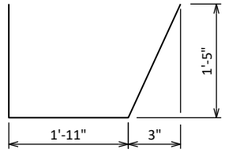
BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



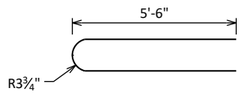
S401



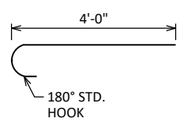
A503



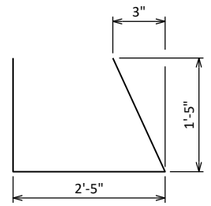
S605



S611



S613



S615

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-16-151

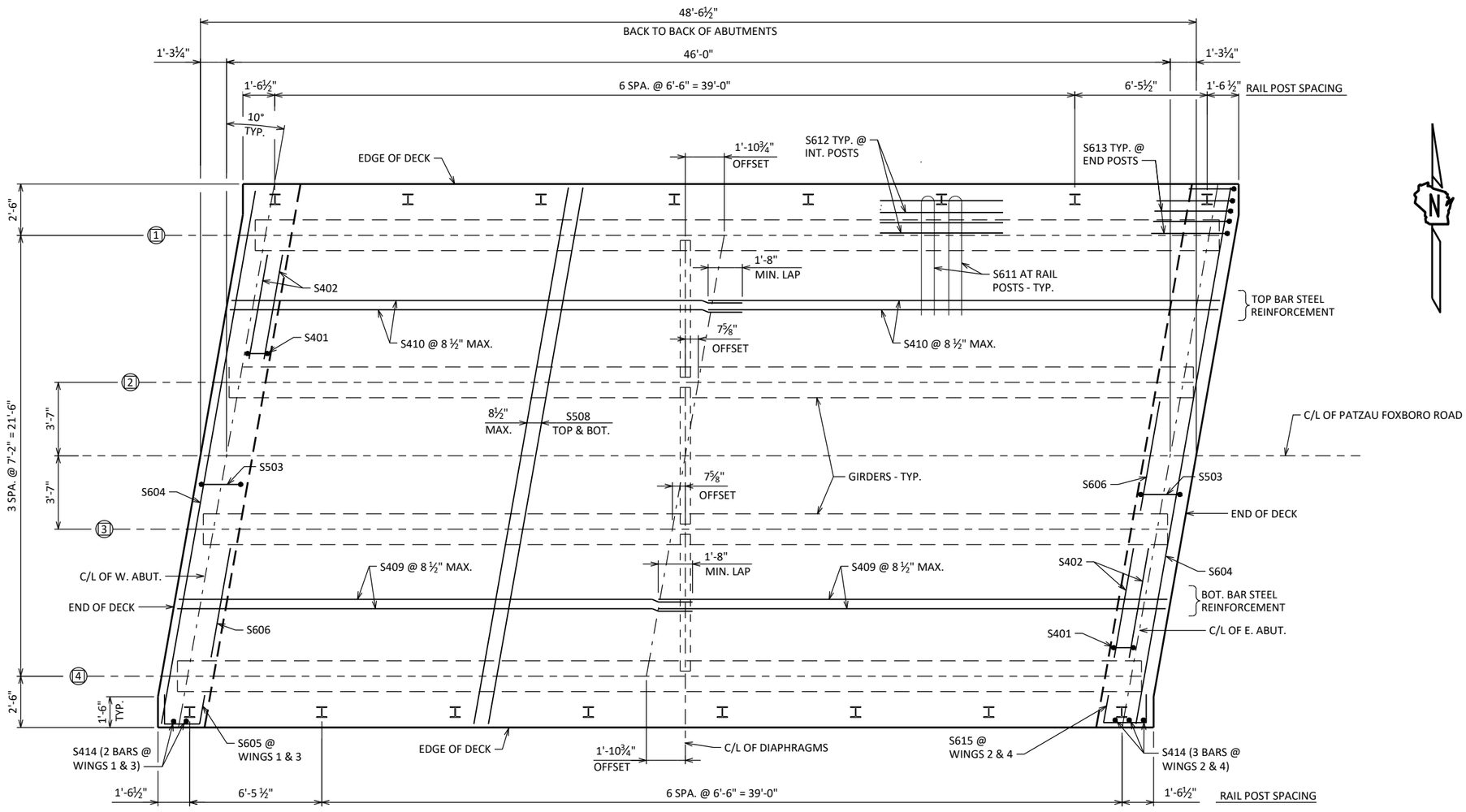
DRAWN BY CLP | PLANS CK'D DRS

SUPERSTRUCTURE

SHEET 15 OF 18

STATE PROJECT NUMBER

8394-00-73



PLAN

TOP OF DECK ELEVATIONS

LOCATION	C/L W. ABUT.	⅒ PT.	⅖ PT.	⅗ PT.	⅘ PT.	⅕ PT.	⅙ PT.	⅐ PT.	⅛ PT.	⅑ PT.	C/L E. ABUT.
N. EDGE OF DECK	920.84	920.78	920.74	920.71	920.68	920.66	920.65	920.64	920.65	920.66	920.68
GIRDER 1	920.89	920.84	920.79	920.76	920.73	920.71	920.70	920.69	920.70	920.71	920.73
GIRDER 2	921.05	921.00	920.95	920.91	920.88	920.86	920.84	920.84	920.84	920.85	920.87
C/L OF PATZAU FOXBORO RD	921.13	921.07	921.03	920.99	920.96	920.93	920.92	920.91	920.91	920.92	920.94
GIRDER 3	921.07	921.01	920.96	920.92	920.89	920.86	920.85	920.84	920.84	920.85	920.86
GIRDER 4	920.94	920.88	920.83	920.79	920.75	920.73	920.71	920.70	920.69	920.70	920.71
S. EDGE OF DECK	920.90	920.84	920.79	920.74	920.71	920.68	920.66	920.65	920.64	920.65	920.66

8

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-16-151

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SUPERSTRUCTURE PLAN

SHEET 16 OF 18

STATE PROJECT NUMBER

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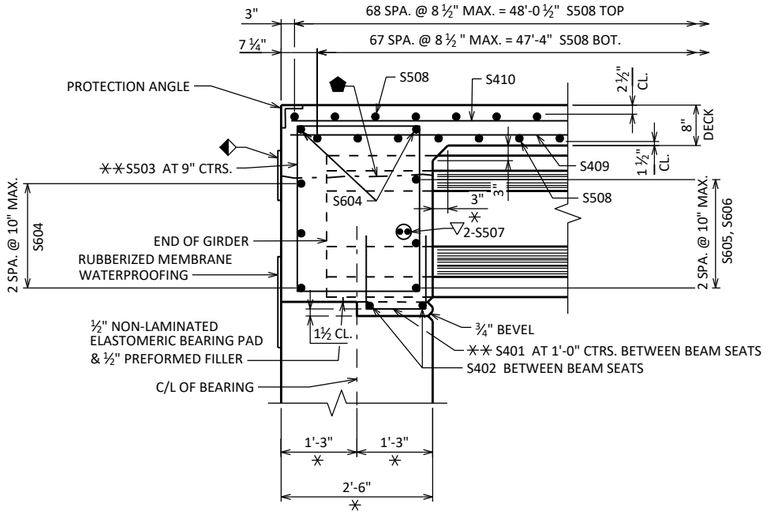
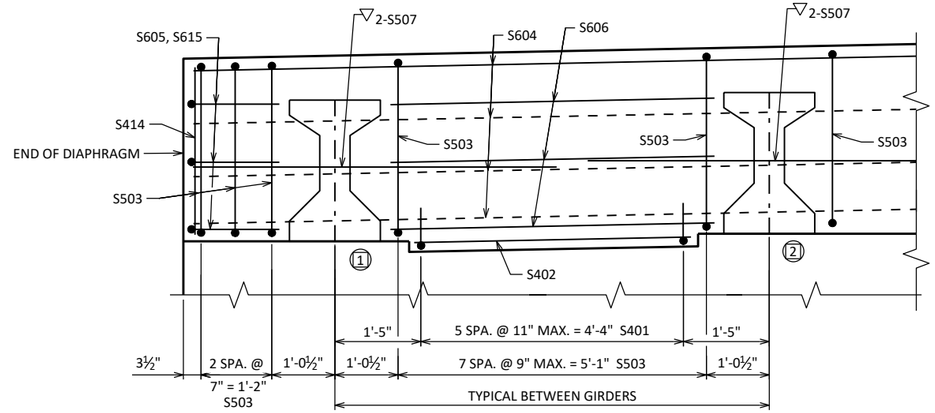
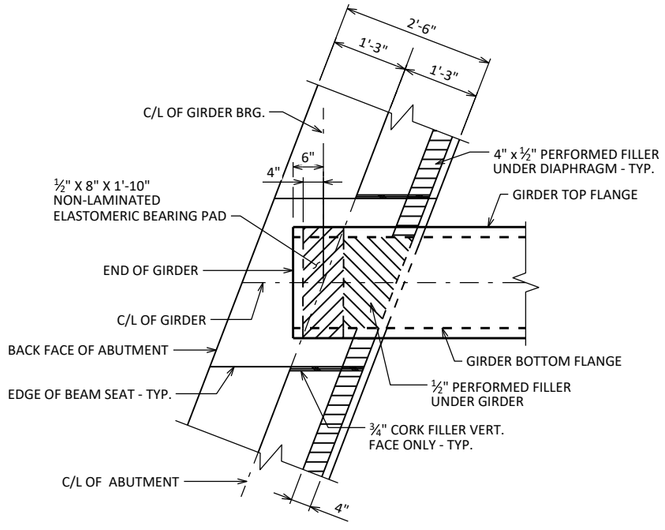


PART. LONGIT. SECTION



PART. SECTION AT ABUTMENT

GIRDERS 1 AND 2 SHOWN, REST ARE THE SAME



AT ABUTMENTS

BEARING PAD DETAIL

⚹ DIMENSION IS TAKEN NORMAL TO C/L SUBSTRUCTURE UNITS

⚹⚹ BARS PLACED PARALLEL TO GIRDERS SPACING PERPENDICULAR TO C/L GIRDERS

◆ 18" RUBBERIZED MEMBRANE WATERPROOFING IF CONST. JT. IS USED. COST INCLUDED WITH BID ITEM "CONCRETE MASONRY BRIDGES".

⬟ OPTIONAL CONSTRUCTION JOINT. IF USED, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR.

▽ 2 - S507 BARS. FIELD BEND ALONG SKEW 1 ½" DIA. HOLE IN WEB.

8

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-16-151

DRAWN BY CLP | PLANS CK'D DRS

SUPERSTRUCTURE 28" PRESTRESSED GIRDER DETAILS

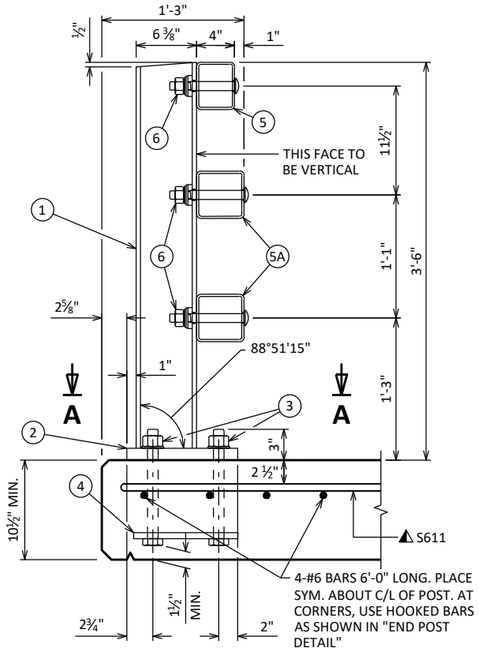
SHEET 17 OF 18

48

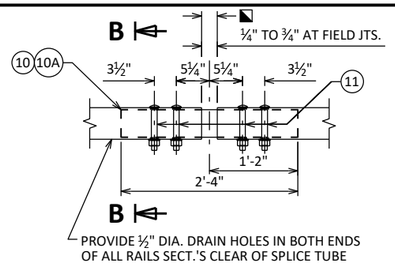
SCALE = 1:24

STATE PROJECT NUMBER

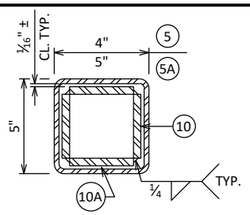
8394-00-73



SECTION THRU RAILING ON DECK



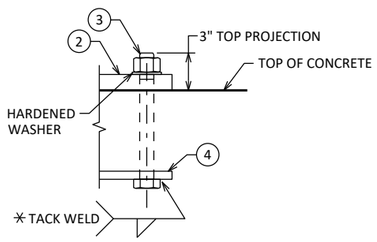
FIELD ERECTION JOINT DETAIL



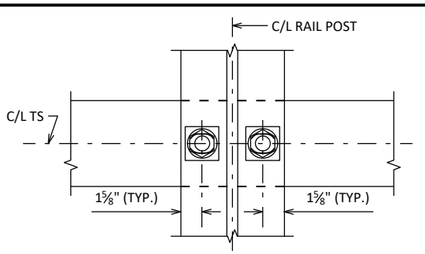
SHOP RAIL SPLICE DETAIL

LOCATION MUST BE SHOWN ON SHOP DRAWINGS

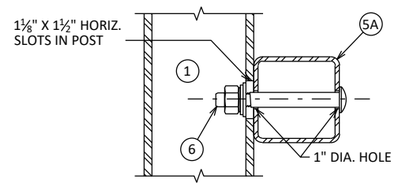
SECTION B-B



ANCHOR BOLTS



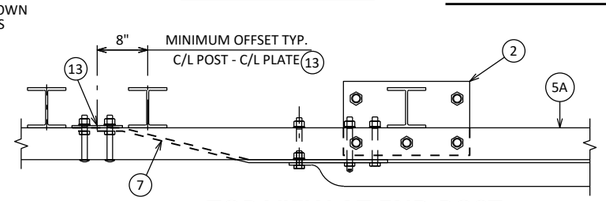
SECTION THRU POST WEB



SECTION THRU RAIL

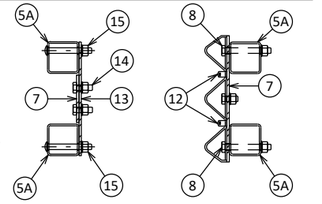
NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

TYPICAL RAIL TO POST CONNECTIONS



TOP VIEW AT END POST

THRIE BEAM RAIL ATTACHMENT



SECTION C-C

SECTION D-D

LEGEND

1. W6 X 25 WITH 1⅛" X 1½" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
2. PLATE 1¼" X 11¾" X 1'-8" WITH 1 7/16" DIA. OVERSIZED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN.
3. ASTM A449 - 1⅛" DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED). 5 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. USE 1'-9" LONG IN ABUTMENT WINGS. AT POSTS ON CONCRETE SLAB SUPERSTRUCTURES WHERE THE SLAB THICKNESS IS > 16" USE 1'-3" LONG. USE 10¾" LONG AT ALL OTHER LOCATIONS. (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D. FOR CONSTRUCTABILITY.)
4. ⅝" X 11" X 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1 3/16" DIA. HOLES FOR ANCHOR BOLTS NO. 3
5. TS 5 X 4 X 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
5A. TS 5 X 5 X 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
6. ⅞" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3/16" X 1⅝" X 1⅝" MIN. WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)
7. ½" THK. BACK-UP PLATE WITH 2 - ⅞" X 1½" THREADED SHOP WELDED STUDS (NO. 12). BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.
8. 1" DIA. HOLES IN PLATE NO. 7 & TUBES NO. 5A FOR ⅞" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.
9. SPLICE SLEEVE FABRICATED FROM ¼" PLATE. PROVIDE "SLIDING FIT".
10. ⅜" X 3⅝" X 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
10A. ⅜" X 2⅝" X 2'-4" PLATE USED IN NO. 5, ⅜" X 3⅝" X 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.
11. ⅞" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 15/16" X 1¼" LONGIT. SLOTTED HOLES IN PLATE NO. 10A. AT FIELD JOINTS AND 15/16" X 2¼" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A. PROVIDE 15/16" DIA. ROUND HOLES IN TUBES NO. 5 AND NO. 5A.
12. ⅞" DIA. X 1½" LONG THREADED SHOP WELDED STUDS (2 REQ'D).
13. ⅜" X 8" X 1'-6" PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D. AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYM. ABOUT TUBES NO. 5A.
14. ⅞" DIA. X 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).
15. 1" DIA. HOLES IN TUBES NO. 5A FOR ⅞" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

GENERAL NOTES

1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M" WHICH INCLUDES ALL ITEMS SHOWN.
2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 KSI. ANCHOR PLATES, AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
3. THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL ⅛ TURN.
4. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE. RAILS SHALL BE SPLICED IN A PANEL OVER EXPANSION JOINTS.
5. ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
6. WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
7. FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 AND CAULK AROUND PERIMETER OF PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.
8. POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.
9. ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY SSPC SPECIFICATIONS.

SECTION A-A

END POST DETAIL

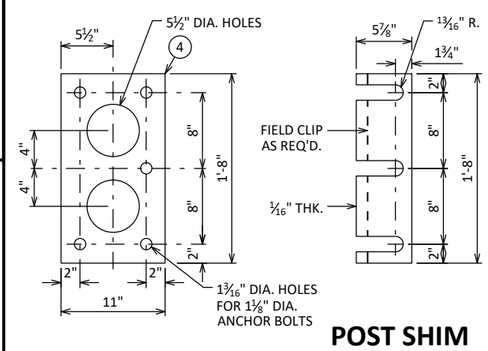
REINFORCEMENT AT CORNERS

DETAIL AT END POST

THRIE BEAM RAIL ATTACHMENT

ANCHOR PLATE

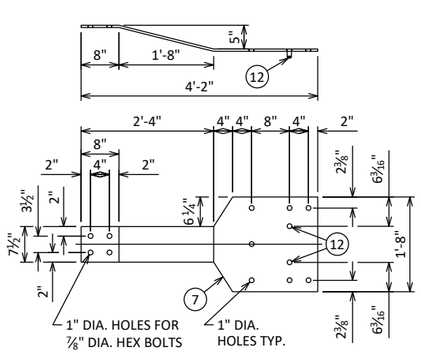
AT BEAM GUARD ATTACHMENT



ANCHOR PLATE

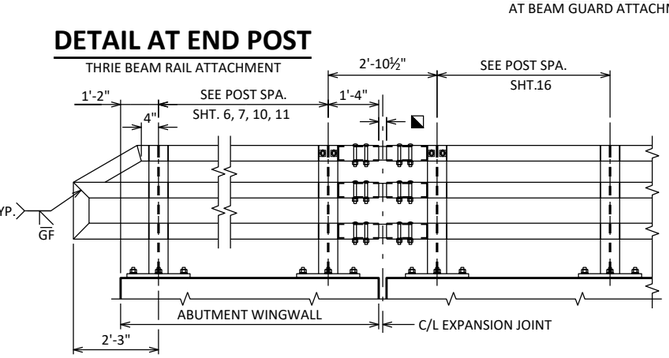
AT RAIL TO DECK CONNECTION

POST SHIM DETAIL



BACK-UP PLATE DETAIL

AT BEAM GUARD ATTACHMENT



PART ELEVATION OF RAILING

▲ TIE TO TOP MAT OF STEEL.

✳ ANCHOR BOLT ASSEMBLY MAY BE TACK WELDED, EITHER IN THE SHOP, OR IN THE FIELD AFTER THE ANCHOR PLATE IS PLACED.

◥ RDWY. OPENING OR 2½" MIN. FOR STRIP SEAL EXP. JOINT & (¼" TO ¾") OPENING FOR A1 ABUTMENT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-16-151

DRAWN BY CLP | PLANS CK'D DRS

TUBULAR STEEL RAILING TYPE "M"

SHEET 18 OF 18

49

SCALE = 2.00

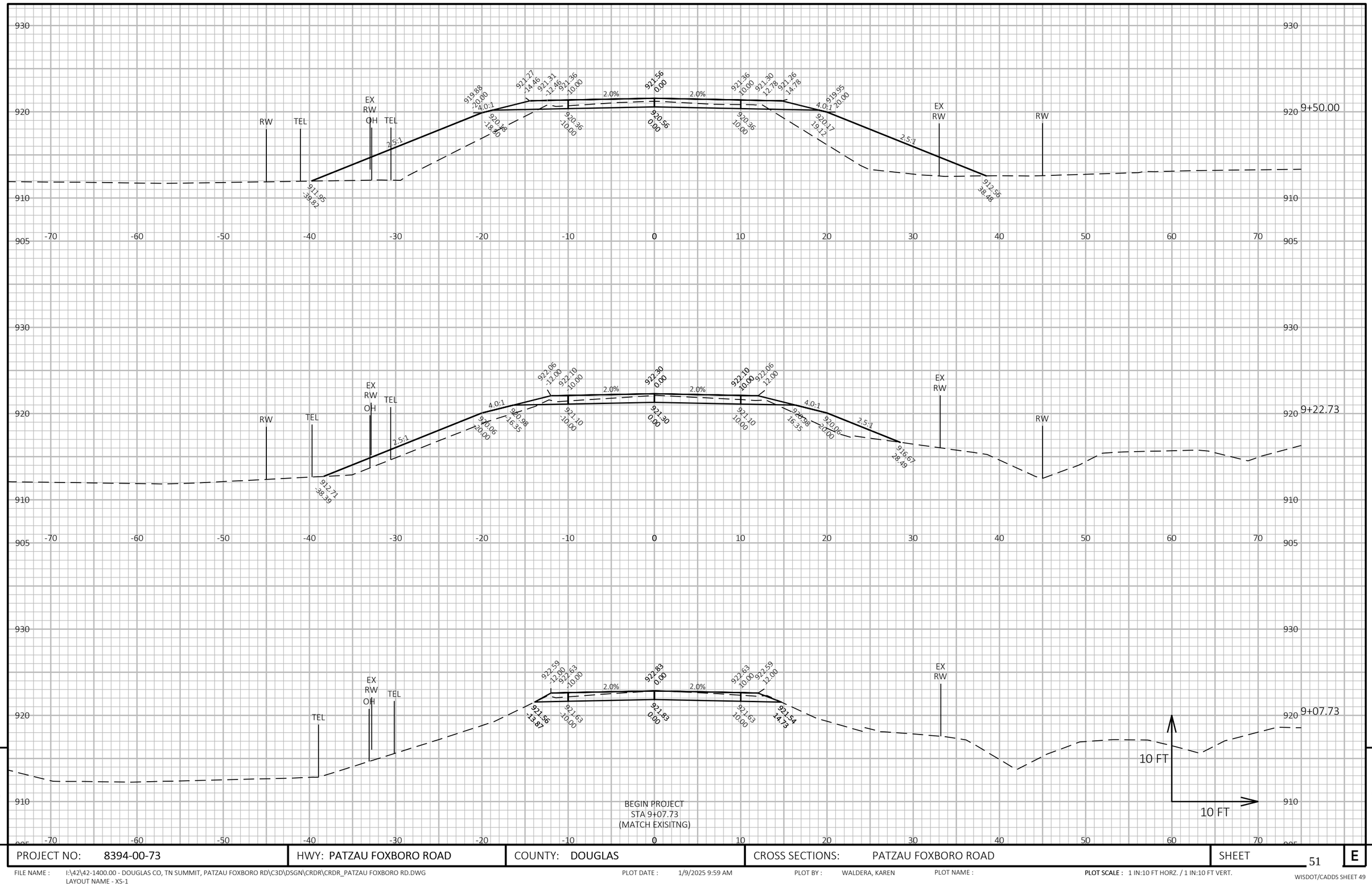
8

8

PATZAU FOXBORO ROAD COMPUTER EARTHWORK

Station	Distance	Area (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	Cut	Fill	Cut	Expanded Fill	
						1.00	1.30	
				Note 1	Note 2	Note 1		Note 3
9+07.73	--	21.1	0.0					
9+22.73	15	15.3	40.8	10	11	10	15	-5
9+50.	27	13.1	132.4	14	87	24	128	-104
9+54.66	5	12.6	118.4	2	22	27	157	-130
9+58.8	4	12.3	55.8	2	13	29	174	-145
9+72.73	14	12.3	0.0	6	14	35	193	-157
BRIDGE	--	--	--	--	--	--	--	--
10+21.27	--	14.9	0.0	--	--	--	--	--
10+35.2	14	14.9	24.3	8	6	43	201	-157
10+39.34	4	15.6	56.5	2	6	45	209	-163
10+50.	11	17.9	57.6	7	23	52	238	-186
10+71.27	21	19.9	7.6	15	26	66	272	-204
10+86.27	15	22.9	0.0	12	2	78	274	-196
				78	211			

Note 1 - Cut	Volume need to be cut.
Note 2 - Fill	Volume needed to be filled.
Note 3 - Mass Ordinate	(Cut) - (Fill * 1.30)



BEGIN PROJECT
STA 9+07.73
(MATCH EXISITNG)

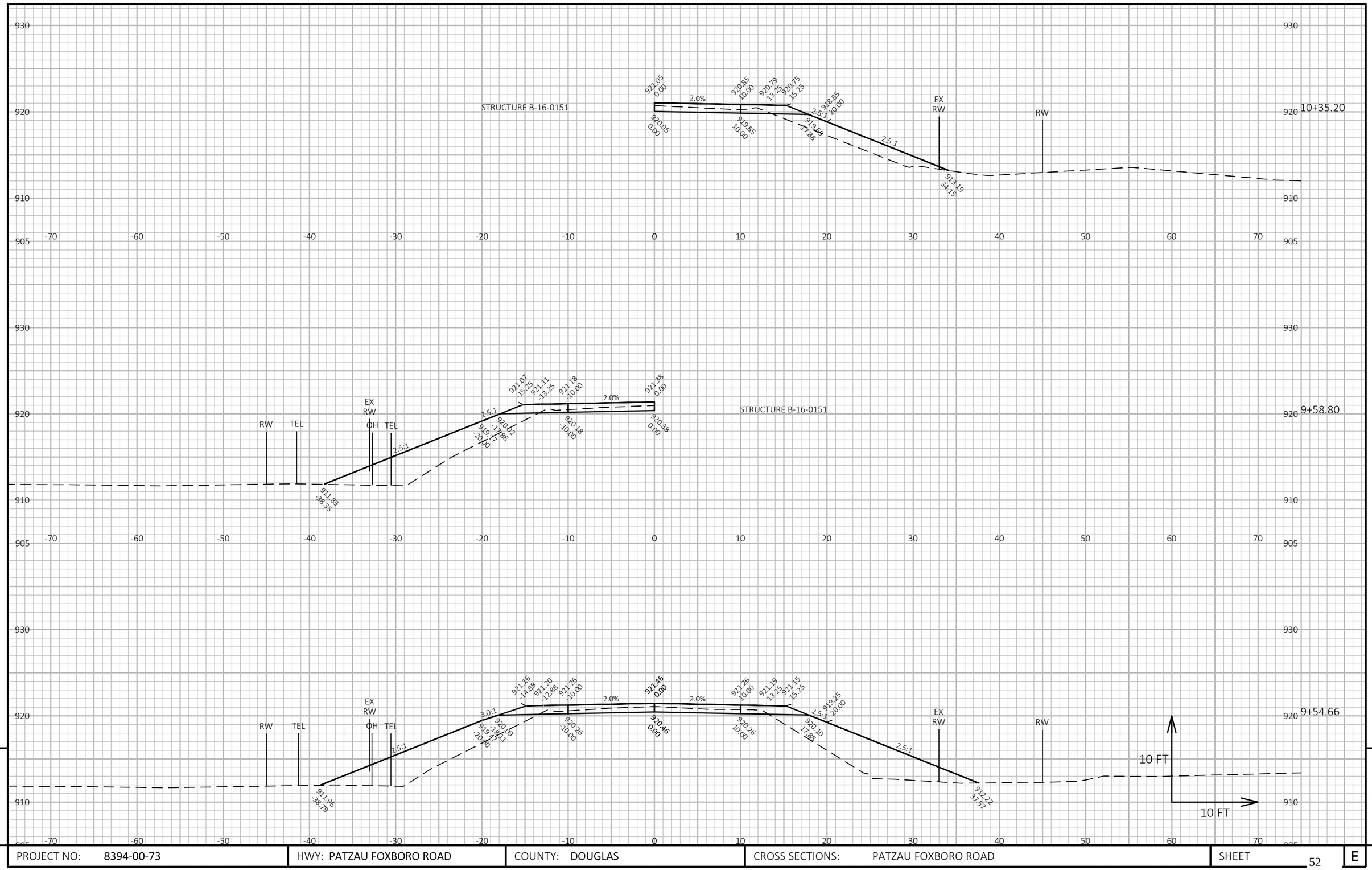
9

9

PROJECT NO: 8394-00-73	HWY: PATZAU FOXBORO ROAD	COUNTY: DOUGLAS	CROSS SECTIONS: PATZAU FOXBORO ROAD	SHEET 51	E

FILE NAME : I:\42\42-1400.00 - DOUGLAS CO, TN SUMMIT, PATZAU FOXBORO RD\C3D\DSGN\CRDR\CRDR_PATZAU FOXBORO RD.DWG
LAYOUT NAME - XS-1

PLOT DATE : 1/9/2025 9:59 AM PLOT BY : WALDERA, KAREN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



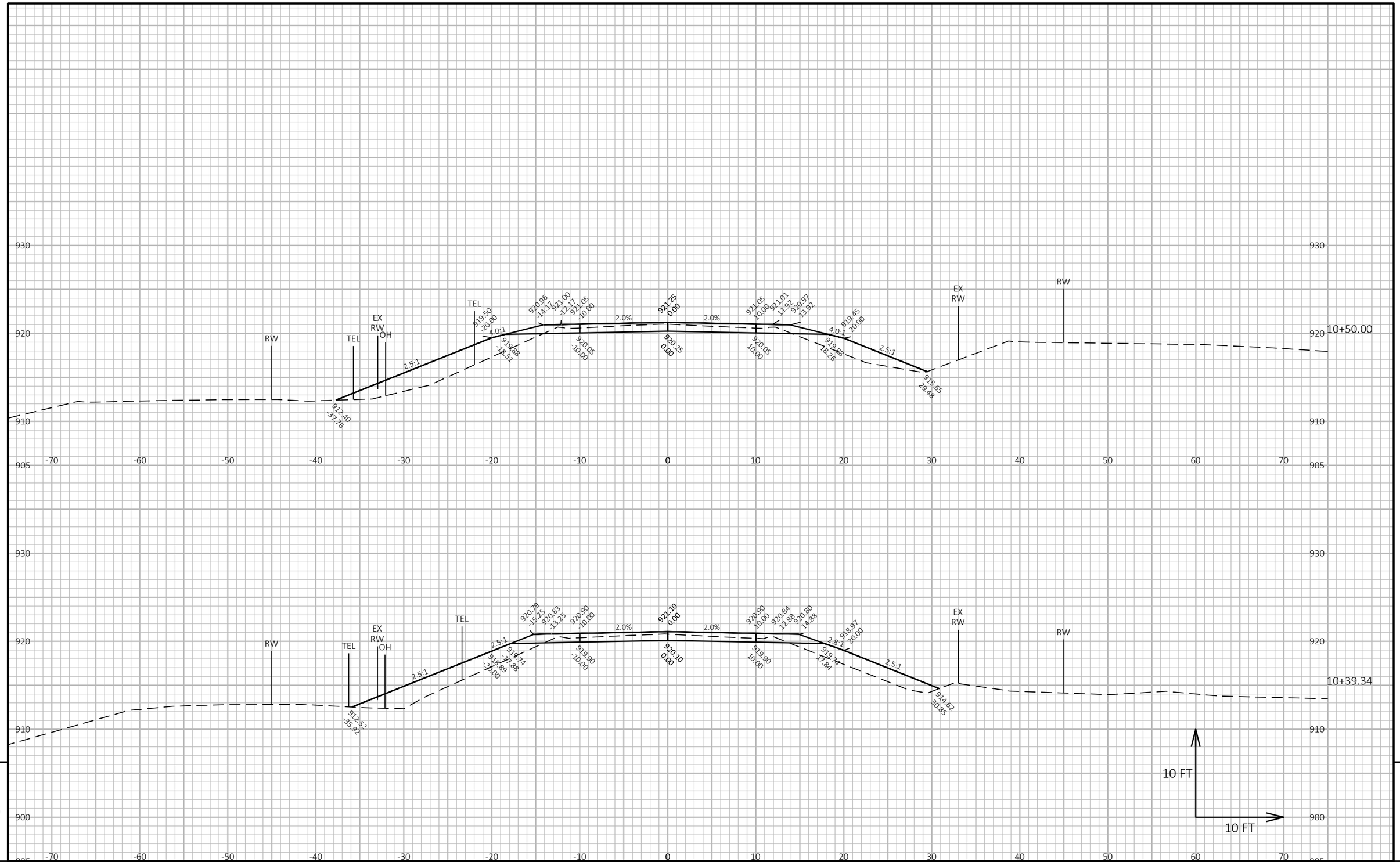
9

9

PROJECT NO: 8394-00-73	HWY: PATZAU FOXBORO ROAD	COUNTY: DOUGLAS	CROSS SECTIONS: PATZAU FOXBORO ROAD	SHEET 52	E

FILE NAME : I:\42\42-1400.00 - DOUGLAS CO, TN SUMMIT, PATZAU FOXBORO RD\C3D\DSGN\CRDR\CRDR_PATZAU FOXBORO RD.DWG
LAYOUT NAME - XS-2

PLOT DATE : 1/9/2025 9:59 AM PLOT BY : WALDERA, KAREN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



PROJECT NO: 8394-00-73	HWY: PATZAU FOXBORO ROAD	COUNTY: DOUGLAS	CROSS SECTIONS: PATZAU FOXBORO ROAD	SHEET 53	E

FILE NAME : I:\42\42-1400.00 - DOUGLAS CO, TN SUMMIT, PATZAU FOXBORO RD\C3D\DSGN\CRDR\CRDR_PATZAU FOXBORO RD.DWG
LAYOUT NAME - XS-3

PLOT DATE : 1/9/2025 10:00 AM

PLOT BY : WALDERA, KAREN

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

END PROJECT
STA 10+86.27
(MATCH EXISITNG)

930
920
910
905

-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

EX RW
OH
TEL
EX RW
10+86.27

921.84 -12.00
921.88 -10.00
2.0%
922.08 0.00
2.0%
921.88 -10.00
921.84 -12.00

920.78 -14.83
920.88 -10.00
921.08 0.00
920.88 -10.00
920.74 16.74

930
920
910
905

-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

RW
EX RW
OH
TEL
RW
EX RW
10+71.27

921.43 -12.00
921.47 -10.00
2.0%
921.67 0.00
2.0%
921.47 -10.00
921.43 -12.00
-22.3%

2.5:1
4.0:1
919.43 -20.00
920.35 -16.35
915.53 -29.75
920.47 -10.00
920.67 0.00
920.47 -10.00
920.33 16.92

10 FT
10 FT

9 9

PROJECT NO: 8394-00-73	HWY: PATZAU FOXBORO ROAD	COUNTY: DOUGLAS	CROSS SECTIONS: PATZAU FOXBORO ROAD	SHEET 54	E

FILE NAME : I:\42\42-1400.00 - DOUGLAS CO, TN SUMMIT, PATZAU FOXBORO RD\C3D\DSGN\CRDR\CRDR_PATZAU FOXBORO RD.DWG
LAYOUT NAME - XS-4

PLOT DATE : 1/9/2025 10:00 AM PLOT BY : WALDERA, KAREN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov