90 Burnett Trail 45 North Fork Bridge Amendment

State of Wisconsin
Department of Natural Resources
dnr.wi.gov

Due Date: April 15

Motorized Recreation Grant Application

For: (choose all that apply)

☒ ATV/UTV Trail Aid
☒ Snowmobile Trail Aid

Form 8700-159 (R 02/2024)

Notice: Completion of this form is required under Wisconsin Statutes 23.09(26) and 23.33. Failure to complete this form will result in denial of financial assistance. Personally identifiable information found on this form is not intended to be used for any other purpose. The Department of Natural Resources (DNR) may provide this information to requesters as required by Wisconsin's Public Records law {ss. 19.31 – 19.39, Wis. Stats.}.

Instructions: Applications may combine more than one source of funds. They may be submitted for consideration of traditional ATV, UTV, Snowmobile and Motorized Stewardship funding. Submit one copy of all forms and attachments. See Page 2 for necessary attachments. Send applications to your Community Services Specialist.

DNR Use Only	
Category	Number

Section 1: Applicant Information

Applicant / Organization Name			Check Recipient: Individual other than authorized individual to act on behalf of the applicant. ☒ Select if the same as applicant.		
Burnett County Forest & Parks					
Individual Authorized to Act on Behalf of Applicant per Resolution			**Check Recipient Name** (Name to Appear on Check)		
Susan Tollander			Susan Tollander		
Title			Title		
Recreation Coordinator			Recreation Coordinator		
Address			Address		
8150 State Rd 70			8150 State Rd 70		
City	State	ZIP Code	City	State	ZIP Code
Siren	WI	54872	Siren	WI	54872
Telephone Number	Email Address				
(715) 349-2157	susan.tollander@burnettcountywi.gov				

Section 2: Project Information Required for all Projects

Project Title						**Current Funded Miles**	New Miles (if applicable)
Trail 45 North Fork Bridge						264	
County	Township	Range	Section	¼ ¼	¼	GPS Coordinates:	
Burnett	39 N	○E ◉W 18	28	SE	NE	Lat. 45.840273	
						Long. -92.592046	

Project Description Summary

Burnett County is requesting funding for a bridge replacement project on Snowmobile/Winter ATV Corridor Trail 45 in western Burnett County. The North Fork Flowage bridge was installed in 2004, is 40' x 12', and rated for 12,000 pounds. The bridge was placed on existing abutments in 2004, and the age of them is unknown. The abutments are now starting to fail, and erosion is occurring around them. We propose replacing this bridge with a new, 60' bridge on new abutments. The longer length is a better option for this site, and combined with new abutments will resolve the erosion issues that are currently occurring. This segment of Trail 45 runs through Crex Meadows State Wildlife Area and is an important corridor connecting Grantsburg to Danbury. This project was granted $82,000 in snowmobile and ATV funding in 2023, however, costs have increased due to additional engineering being required and higher bridge costs. RTP funding is also being applied for.

COST ESTIMATE: $344,219 GRANTS RECEIVED: $82,000 ADDITIONAL FUNDING NEEDED: $262,219
Snowmobile Request: $9,509.50 ATV Request: $9,509.50 RTP Request: $243,200

☒ I certify that all maintenance land use agreements are on file.

Estimated Cost

Maintenance	Acquisition	Insurance	Development	Bridge Rehab.	Trail Rehab.	Total Estimated Cost
				$262,219.00		$262,219.00

Leave Blank – DNR Use Only

Applicant Certification

Printed Name of Authorized Official	Official's Title
Susan Tollander	Recreation Coordinator

As the applicant's authorized official, I certify that, to the best of my knowledge, the information in this application is true and correct.

Susan Tollander
Signature of Authorized Official

4/14/25
Date Prepared

Appendix A – Required for Bridge Rehab/Replace, New, or Reroute with New Bridge

☒ Bridge Rehab/Replace ☐ New Bridge ☐ Reroute with new bridge

County	Township	Range	Section	¼ ¼	¼	GPS Coordinates:
Burnett	39 N	18 ○E ◉W	28	SE	NE	Lat. 45.840273 Long. -92.592046

Water Body Name	Bridge Name	County Inventory Number
North Fork Flowage	North Fork Flowage Bridge	BURNETT-13

Funded Trail Name or Number (SNARS if applicable)	Has this bridge site ever received development or rehabilitation funds in the past?
Corridor Trail 45	◉ Yes ○ No Year: 2004 $ 14,200.00

Bridge is located on:	Old Bridge/Culvert Size	New Bridge/Culvert Size
○ Private property ◉ Public property	40'x12'	60'x12'

Landowner Where Bridge is Located	Telephone Number	Length of Trail Use Agreement (5 year minimum)
Wisconsin DNR	(715) 463-2739	

Current maximum load	Proposed maximum load	Age of Bridge	Bridge Material
12,000 lbs.	25,000 lbs.	21 years	Steel frame, wood decking

Sponsoring Club Name	Club Contact	Telephone Number
Burnett County Snow Trails Association	Danny Carlson	(715) 566-0177

Do you have your trail bridges posted as to maximum load? ◉ Yes ○ No

What is the maximum load of the other bridges on the system if groomed with this bridge?

What is the weight of your puller & drag/grading equipment?

14,000 lbs

What other recreational trail uses are planned for this bridge?

No other recreational trail uses

If there are other Recreational uses planned, how much of the bridge cost will be paid for by non-snowmobile or non-ATV users?

◉ Yes ○ No Have you contacted your local DNR Water Management Specialist (WMS) regarding a permit?

○ Yes ◉ No Is a permit needed? (Please provide any written correspondence from WMS.)

○ Yes ◉ No Have you contacted your County Zoning Dept. regarding a floodplain determination?

○ Yes ◉ No Will an H & H (hydrologic and hydraulic) study be required?

Bridge Project Detailed Description

Burnett County is requesting funding for a bridge replacement project on Snowmobile/Winter ATV Corridor Trail 45 in western Burnett County. The North Fork Flowage bridge was installed in 2004, is 40' x 12', and rated for 12,000 pounds. The bridge was placed on existing abutments in 2004, and the age of them is unknown. The abutments are now starting to fail, and erosion is occurring around them. We propose replacing this bridge with a new, 60' bridge on new abutments. The longer length is a better option for this site, and combined with new abutments will resolve the erosion issues that are currently occurring. This segment of Trail 45 runs through Crex Meadows State Wildlife Area and is an important corridor connecting Grantsburg to Danbury. This project was granted $82,000 in snowmobile and ATV funding in 2023, however, costs have increased due to additional engineering being required by DNR and higher bridge costs than originally estimated. The revised cost estimate for the bridge is from SEH Engineering. RTP funding is also being applied for.

Appendix A (continued)

Summarize Costs in Appropriate Categories:

Bridge Structure

		Quote 1	Quote 2
		◉ Steel ○ Wooden	○ Steel ○ Wooden
Bridge Dimensions:		60'x12'	
Bridge Manufacturer:		Unknown - SEH Engineering Estimate	
Design Weight Load		25,000 lbs.	lbs.
Cost of Structure:	1. Engineering	$ 40,219	$
	2. Structure	$ 304,000	$
	Subtotal	$ 344,219	$

Installation Costs:	Quote 1 ○ Contractor or ○ Sponsor Estimate	Quote 2 ○ Contractor or ○ Sponsor Estimate
1. Engineering	$	$
2. Site Preparation	$	$
3. Abutments	$	$
4. Pilings/Piers	$	$
5. Approaches	$	$
6. Riprap	$	$
7. Labor	$	$
8. Equipment Rental	$	$
9. Culverts	$	$
10. H & H Study	$	$
11. Wetland Delineation	$	$
12. Other _____	$	$
Subtotal	$	$
Total Cost	$ 344,219	$

For the application grant, you must take the lowest of the two quotes.

Entire Deck and Railing Projects ○ Contractor ○ Sponsor ○ Club

Bridge Dimensions:	
Design Weight Load	lbs.
1. Materials	$
2. Labor	$
Total	$

State of Wisconsin
Department of Natural Resources
PO Box 7921, Madison WI 53707-7921
dnr.wi.gov

Recreation Grant Project Cost Estimate Worksheet

Form 8700-014 (R 02/23)

For use with Recreation Grant Application Forms

Project Name:		Prepared By:	Date
Trail 45 North Fork Flowage Bridge Rehabilitation		Susan Tollander	04/07/2025
County: Burnett	Project Applicant: Burnett County Forest & Parks	Landowner Name: Wisconsin DNR	◉ Public ○ Private

Indicate - (C) Contract , (F) Force Acct., (D) Donated

	DEVELOPMENT PROJECT ITEMS *List by individual item or break down by Use Areas* (See Item List On Back Of This Form)	Quantity	Unit of Measure	Component Costs	Estimated Total Item Cost
C	Replace existing bridge with new, 60'x12' bridge	1		$304,000.00	304,000.00
C	Engineering contract	1		$40,219.00	40,219.00
	Snowmobile/ATV Grants Received	2		($82,000.00)	
	ADDITIONAL FUNDING NEEDED			$262,219.00	
				TOTAL $	$344,219.00

NOTE:

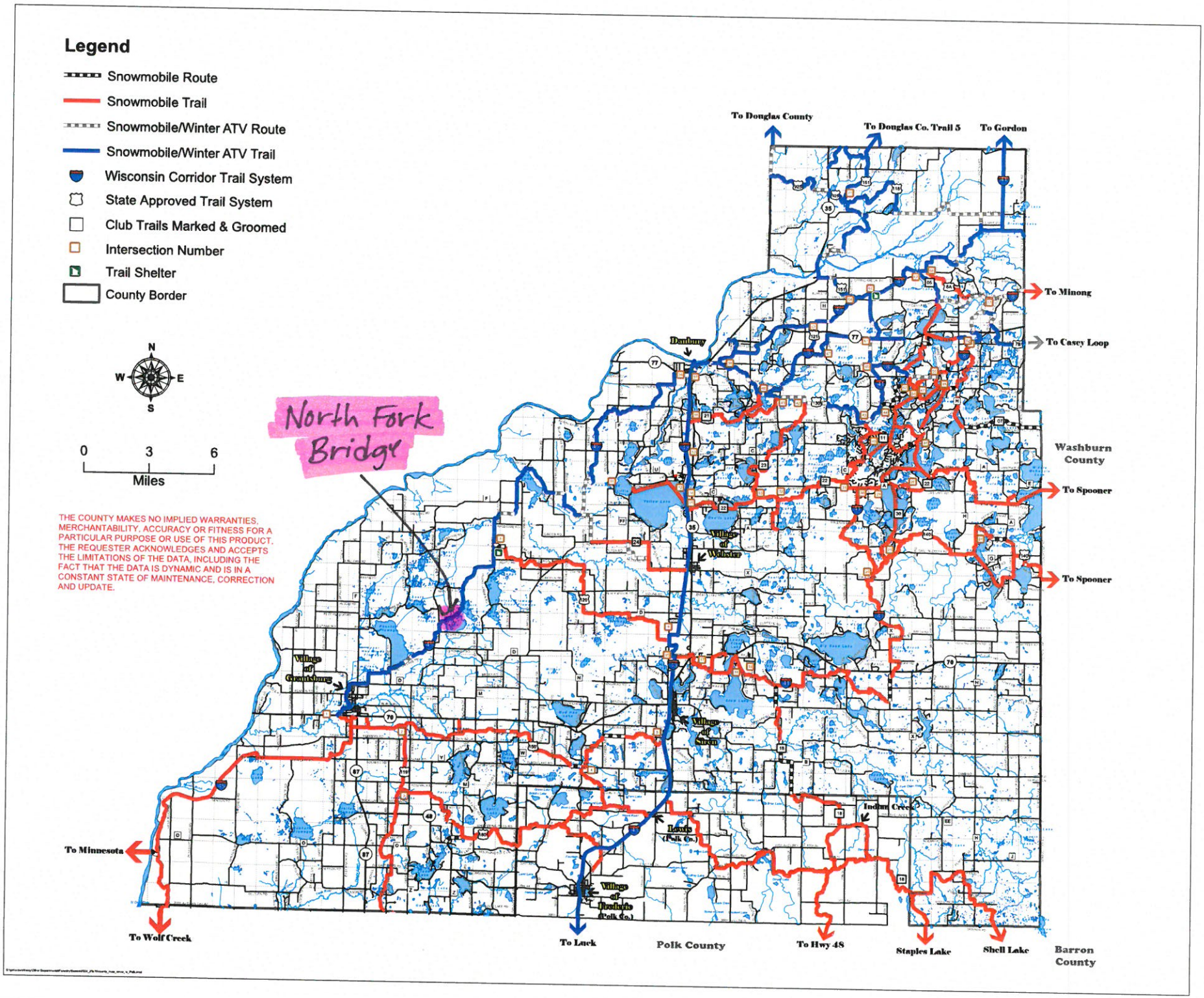
- **For development projects, contingency and indirect costs are <u>not</u> eligible expenses.**
- **For acquisition projects, complete the Acquisition Project Cost Estimate Section of this form.**

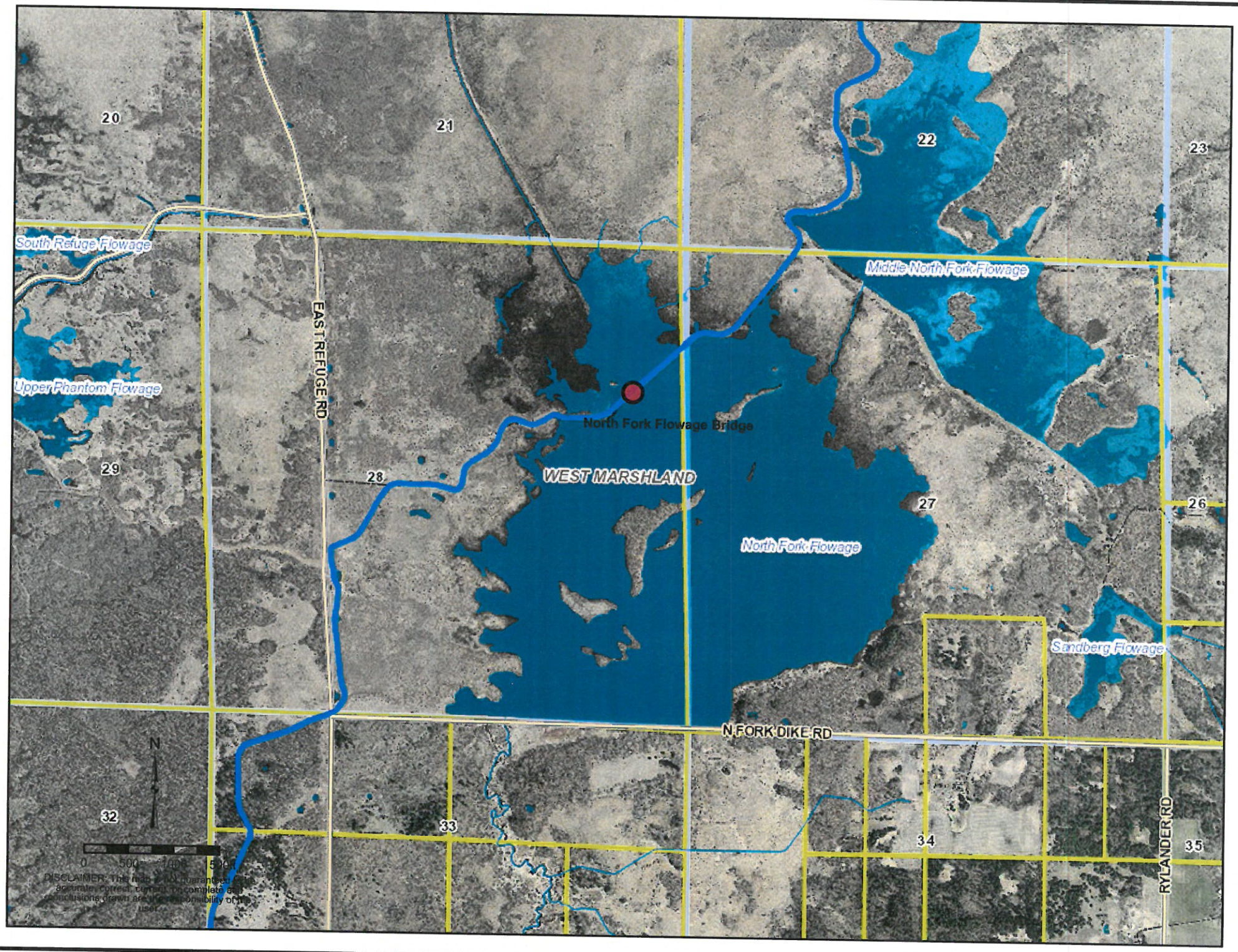
SEH Engineering Cost Estimate

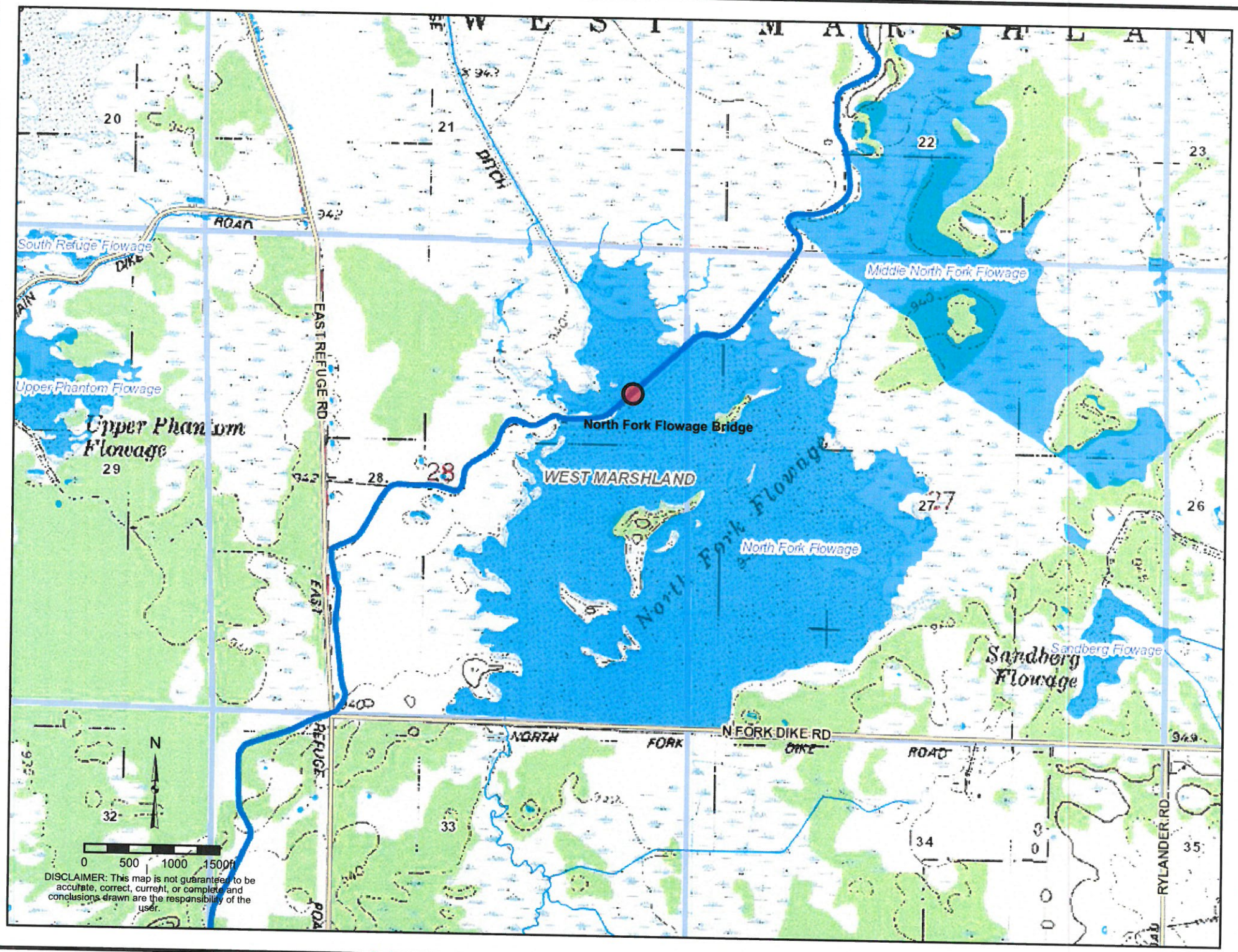
BRIDGE REPLACEMENT, TRAIL 45 OVER N. FK. FLOWAGE Burnett County, Wisconsin SEH No.: BURFP 181898 Client Project No. -				Engineer's Estimate	
Item No.	Item	Unit	Est. Quantity	Unit Price	Total Price
	Mobilization	LS	1	$ 10,000.00	$ 10,000.00
	Removing Structure	EA	1	$ 15,000.00	$ 15,000.00
	Excavation for Structure Bridge	LS	1	$ 7,500.00	$ 7,500.00
	Borrow	CY	360	$ 25.00	$ 9,000.00
	Base Aggregate Dense 1-1/4-Inch (6" Depth)	TONS	200	$ 50.00	$ 10,000.00
	Riprap Medium with Geotextile Fabric	CY	55	$ 60.00	$ 3,300.00
	Silt Fence	LF	1000	$ 3.50	$ 3,500.00
	Restore Disturbed areas (6" topsoil, seed, fertilizer and matting)	SY	700	$ 7.00	$ 4,900.00
	Prefab Steel PrattTruss Structure	LS	1	$ 150,000.00	$ 150,000.00
	12.75" CIP Piles	LF	480	$ 60.00	$ 28,800.00
	Concrete Abutments	EA	2	$ 15,000.00	$ 30,000.00
	Wing Wall Concrete	EA	4	$ 8,000.00	$ 32,000.00
SUBTOTAL				$	304,000.00

CONTINGENCY (15%) $ 45,600.00

TOTAL ESTIMATED COST OF CONSTRUCTION $ 349,600.00


Legend
Snowmobile Route
Snowmobile Trail
Snowmobile/Winter ATV Route
Snowmobile/Winter ATV Trail
Wisconsin Corridor Trail System
State Approved Trail System
Club Trails Marked & Groomed
Intersection Number
Trail Shelter
County Border
N
W
E
S
0
3
6
Miles
THE COUNTY MAKES NO IMPLIED WARRANTIES, MERCHANTABILITY, ACCURACY OR FITNESS FOR A PARTICULAR PURPOSE OR USE OF THIS PRODUCT. THE REQUESTER ACKNOWLEDGES AND ACCEPTS THE LIMITATIONS OF THE DATA, INCLUDING THE FACT THAT THE DATA IS DYNAMIC AND IS IN A CONSTANT STATE OF MAINTENANCE, CORRECTION AND UPDATE.
North Fork Bridge
To Douglas County
To Douglas Co. Trail 5
To Gordon
To Minong
To Casey Loop
Danbury
Washburn County
To Spooner
To Spooner
Village of Webster
Village of Grantsburg
Village of Siren
Indian Creek
Lewis (Polk Co.)
Village of Frederic (Polk Co.)
To Minnesota
To Wolf Creek
To Luck
Polk County
To Hwy 48
Staples Lake
Shell Lake
Barron County


20
21
22
23
South Refuge Flowage
Middle North Fork Flowage
EAST REFUGE RD
Upper Phantom Flowage
North Fork Flowage Bridge
29
28
WEST MARSHLAND
27
26
North Fork Flowage
Sandberg Flowage
N FORK DIKE RD
N
32
33
34
35
RYLANDER RD
0 500 1000
DISCLAIMER: This map is not guaranteed to be accurate, correct, current, complete and conclusions drawn are the responsibility of the user.


WEST MARSHLAND
North Fork Flowage Bridge
South Refuge Flowage
Middle North Fork Flowage
Upper Phantom Flowage
Upper Phantom Flowage
North Fork Flowage
North Fork Flowage
Sandberg Flowage
Sandberg Flowage
EAST REFUGE RD
N FORK DIKE RD
NORTH FORK DIKE ROAD
RYLANDER RD
DITCH
ROAD
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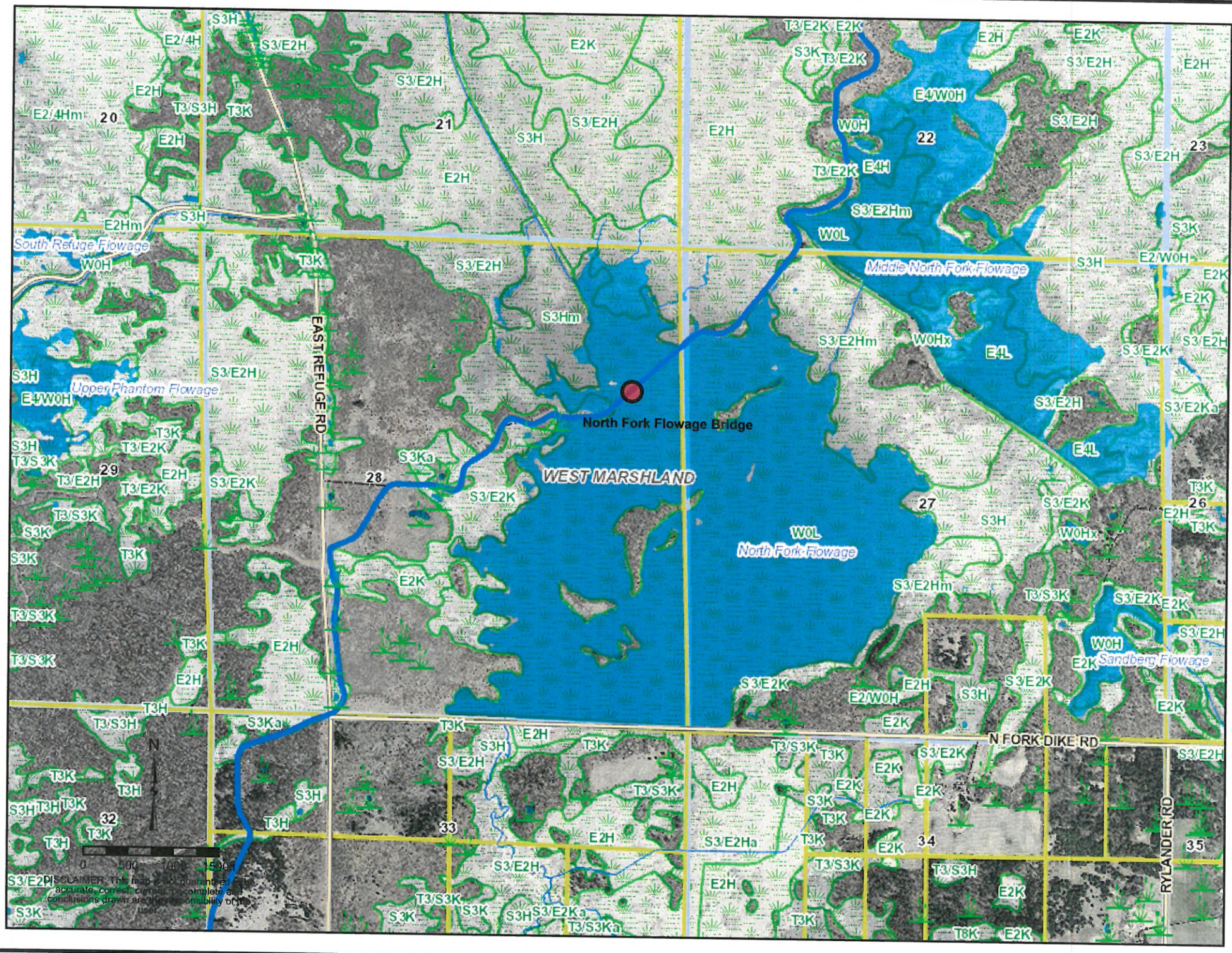
DISCLAIMER: This map is not guaranteed to be accurate, correct, current, or complete and conclusions drawn are the responsibility of the user.


North Fork Flowage Bridge
WEST MARSHLAND
EAST REFUGE RD
South Refuge Flowage
Upper Phantom Flowage
Middle North Fork Flowage
North Fork Flowage
Sandberg Flowage
N FORK DIKE RD
RYLANDER RD
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N
0 500 1000 1500 Feet
DISCLAIMER: This map is not guaranteed to be accurate, correct, current, or complete, and conclusions drawn are the responsibility of the user.

Tollander, Susan

From: Harrington, Dan - DNR <Dan.Harrington@wisconsin.gov>
Sent: Friday, February 7, 2025 9:00 AM
To: Dave Kafura
Cc: Tollander, Susan; Nichols, Jason
Subject: RE: Crex-North Fork Bridge Design
Attachments: Bridge Elevation Exhibit-EX1 COMPARISON EXHIBIT.pdf

Good Morning Everyone; I agree with David's statement that "the proposed bridge would meet the "In-Kind Replacement/Maintenance of a Previously Permitted Structure'" exemption. Be sure to send me photos of the completed project.

Regards, DAn

Dan Harrington
Phone: (715) 733-0019
Dan.Harrington@Wisconsin.gov

From: Dave Kafura <dave@wisconsincountyforests.com>
Sent: Tuesday, February 4, 2025 8:33 AM
To: Harrington, Dan - DNR <Dan.Harrington@wisconsin.gov>
Cc: Tollander, Susan <susan.tollander@burnettcountywi.gov>; Nichols, Jason <Jason.Nichols@burnettcountywi.gov>
Subject: Crex-North Fork Bridge Design

Good morning Dan;

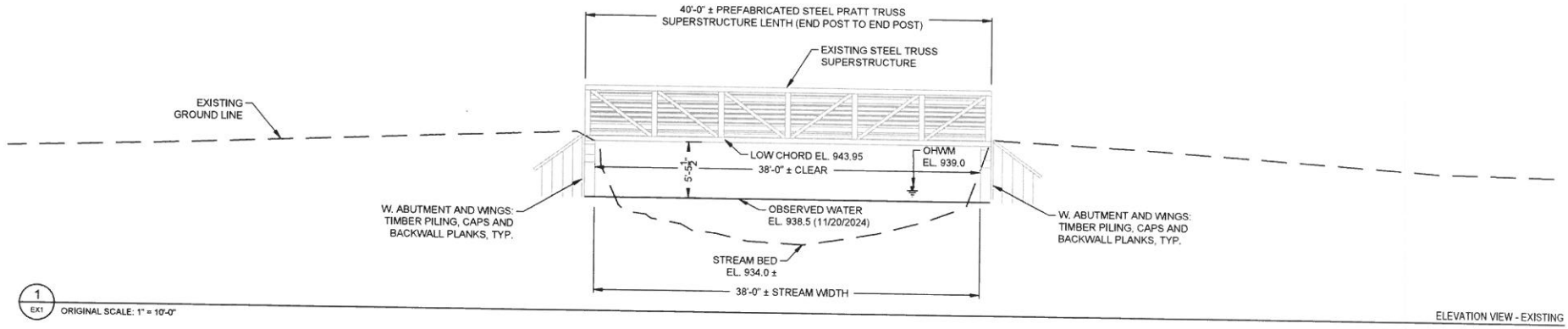
On behalf of Burnett County Forestry and Parks, please see the attached blueprint comparison document prepared by SEH Inc. As you recall, we visited the site on Nov. 12, 2024 to go over conceptual design issues for replacing the bridge over the pumphouse ditch that discharges into North Fork Flowage at Crex.

The multiple plan sheets provided to Burnett Co. were very detailed. I requested SEH to provide a simple addendum that would show the existing structure profile compared to the proposed bridge structure. Obviously the main purpose of my request was to provide you with a side-by-side comparison that would make a relatively easy regulatory decision on whether the proposed bridge would meet the "In-Kind Replacement/Maintenance of a Previously Permitted Structure'" exemption. The proposed NR 320 WI Admin. Code includes codification of the "In-Kind" exemption and allows for modification (ie; doesn't need to be exact replication). The current bridge was permitted by Ed Slaminski under a short form application.

We are seeking a determination that the proposed bridge replacement would be exempt from additional Ch. 30 permitting process under the In-Kind Replacement exemption.

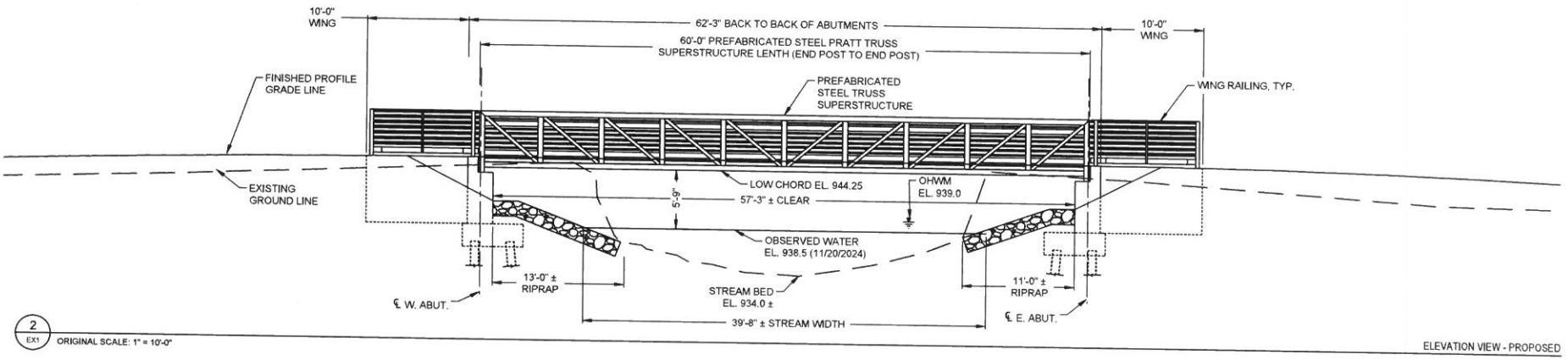
Thanks again Dan for coming out to the site and we look forward to a regulatory decision on the exemption assertion. Let me know if you need anything else or need any clarification.

SEH PROJECT NUMBER
181898



1 EX1 ORIGINAL SCALE: 1" = 10'-0"

ELEVATION VIEW - EXISTING



2 EX1 ORIGINAL SCALE: 1" = 10'-0"

ELEVATION VIEW - PROPOSED

IMPROVEMENT COMPARISON		
	EXISTING	PROPOSED
BRIDGE LENGTH (END POST TO END POST)	40'-0" ±	60'-0"
CLEAR OPENING WIDTH BETWEEN ABUTMENTS	38'-0" ±	57'-3"
VERTICAL CLEARANCE ABOVE OBS. WSE (11/2024)	5'-5 ½"	5'-9"
WATERWAY WIDTH	38'-0" ±	39'-8" ±

NO.	DATE	REVISION	BY

STRUCTURE TR45 @ N. FK. FLWG

DRAWN BY: ZM | PLANS CK'D

BRIDGE ELEVATION EXHIBIT

SHEETEX1

8

8

PLAN OF PROPOSED IMPROVEMENT

FOR

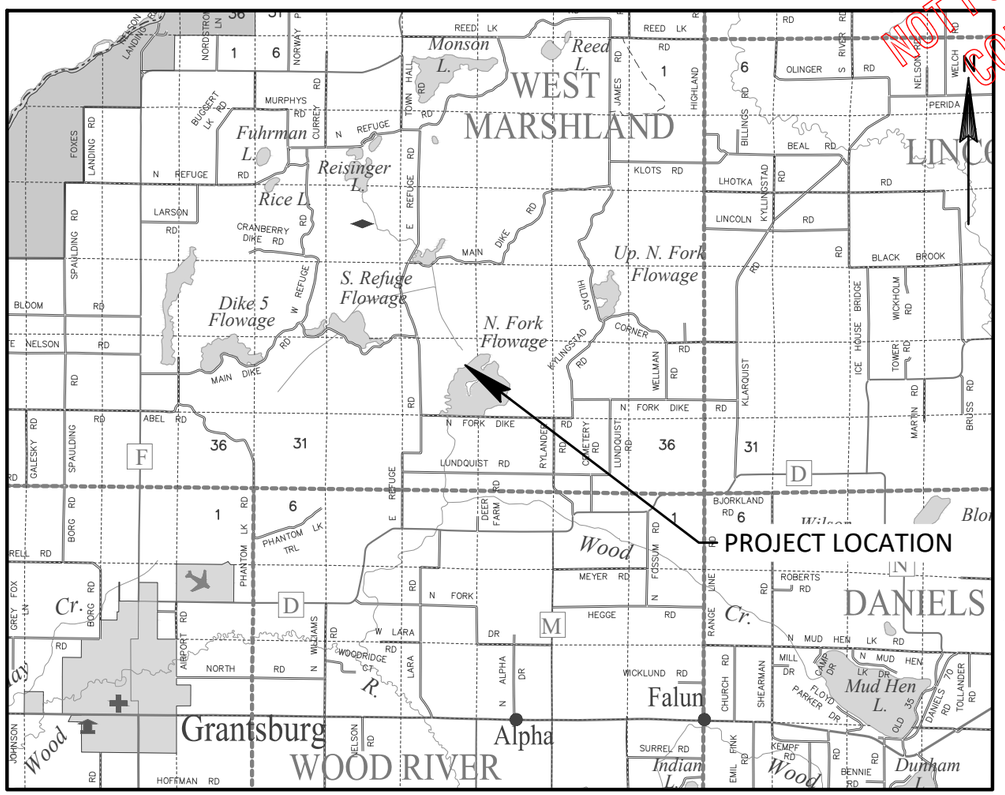
Trail 45 Bridge Over North Fork Flowage Replacement

IN THE

Town of West Marshland
Burnett County, Wisconsin

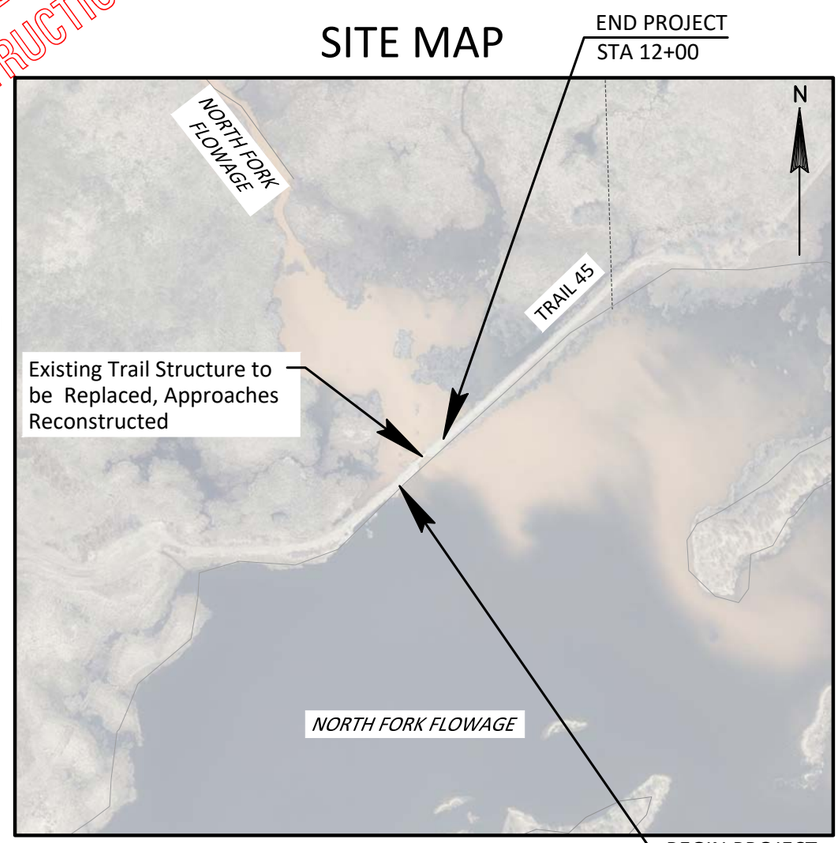
PRELIMINARY
NOT FOR BIDDING OR
CONSTRUCTION

VICINITY MAP
(West Burnett Co.)



LAYOUT
SCALE 0 1 MI. 2 MI.

SITE MAP



LAYOUT
SCALE 0 250 FT 500 FT

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), BURNETT 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 12A.

INDEX OF SHEETS

BURNETT COUNTY, WISCONSIN

Original Plans Prepared by

Short Elliott Hendrickson Inc.
326 S Main Street, Suite 100
Rice Lake, WI 54868
715.236.4000 main | 888.908.8166 fax
800.903.6970 toll free | www.sehinc.com
Building a Better World for All of Us™

(Signature) (Date)

Accepted For

Burnett County, Wisconsin
by:

(Signature) (Date)

(Title of Official)

FILE NO.
181898

STANDARD ABBREVIATIONS

ABUT	ABUTMENT
AC	ACRE
AGG	AGGREGATE
AECPRC	APRON ENDWALL FOR CULVERT PIPE REINFORCED CONCRETE
AECPCS	APRON ENDWALL FOR CULVERT PIPE CORRUGATED STEEL
ASPH	ASPHALTIC
AVG	AVERAGE
ADT	AVERAGE DAILY TRAFFIC
BF	BACK FACE
BM	BENCH MARK
BR	BRIDGE
CE	COMMERCIAL ENTRANCE
C/L	CENTER LINE
Δ	CENTRAL ANGLE OR DELTA
COB	CENTER OF BARRIER
CONC	CONCRETE
CPRC	CULVERT PIPE REINFORCED CONCRETE
CPRCHE	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL
CR	CREEK
CY	CUBIC YARD
C&G	CURB AND GUTTER
D	DEGREE OF CURVE
DHV	DESIGN HOUR VOLUME
DISCH	DISCHARGE
DG	DITCH GRADE
DWY	DRIVEWAY
X	EAST GRID COORDINATE
EAT	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
EOR	END POINT OF RADIUS
EL	ELEVATION
ENT	ENTRANCE
ESALS	EQUIVALENT SINGLE AXLE LOADS
EXC	EXCAVATION
EBS	EXCAVATION BELOW SUBGRADE
EXIST	EXISTING
FC	FACE OF CURB
FF	FACE TO FACE
FERT	FERTILIZE
FE	FIELD ENTRANCE
FL	FLOW LINE
FO	FIBER OPTIC
CWT	HUNDREDWEIGHT
HYD	HYDRANT
ID	INSIDE DIAMETER
INV	INVERT
IP	IRON PIPE ON PIN
LHF	LEFT-HAND FORWARD
L	LENGTH OF CURVE
LF	LINEAR FOOT
LC	LONG CHORD OF CURVE
LS	LUMP SUM
MH	MANHOLE
MOR	MID POINT OF RADIUS
NC	NORMAL CROWN
NO	NUMBER
OBLIT	OBLITERATE
PAVT	PAVEMENT
PE	PRIVATE ENTRANCE
PVRC	POINT OF VERTICAL REVERSE CURVE
QOR	QUARTER POINT OF RADIUS
R	RADIUS
REQ'D	REQUIRED
RES	RESIDENCE OR RESIDENTIAL
RHF	RIGHT-HAND FORWARD
R/W	RIGHT-OF-WAY
R	RIVER
RDWY	ROADWAY
R/L	REFERENCE LINE
SALV	SALVAGED
SAN	SANITARY SEWER
SF	SQUARE FEET
SY	SQUARE YARD
SDD	STANDARD DETAIL DRAWINGS
STA	STATION
SS	STORM SEWER
SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
SE	SUPERELEVATION RATE
TC	TOP OF CURB
T OR TN	TOWN
T	TRUCKS (PERCENT OF)
TYP	TYPICAL
VAR	VARIABLE
VC	VERTICAL CURVE
Y	NORTH GRID COORDINATE
YD	YARD

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 (955.36)
- 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

DNR AREA LIAISON:

DNR NORTHERN REGION HEADQUARTERS
810 W MAPLE STREET
SPOONER, WI 54801
TELEPHONE: 715.733.0019
ATTENTION: DAN HARRINGTON
EMAIL: DAN.HARRINGTON@WISCONSIN.GOV

MUNICIPAL CONTACT:

BURNETT COUNTY FOREST & PARKS
8150 State Road 70
SIREN, WISCONSIN, 54872
TELEPHONE: 715.349.2157
ATTENTION: SUSAN TOLLANDER
EMAIL: SUSAN.TOLLANDER@BURNETTCOUNTYWI.GOV

DESIGN CONTACT:

SHORT ELLIOTT HENDRICKSON INC.
10 N BRIDGE STREET
CHIPPEWA FALLS, WI 54729
TELEPHONE: 715.720.6246
ATTENTION: MATT GUNDRY
EMAIL: MGUNDRY@SEHINC.COM

UTILITY CONTACT LIST:

THERE ARE NO KNOWN UTILITY FACILITIES IN THE PROJECT AREA.

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

GENERAL NOTES:

1. NO TREES OR SHRUBS SHALL BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.
2. THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY LOCAL MUNICIPAL UTILITY WHICH IS NOT A MEMBER OF THE DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.
3. WETLANDS, WATERWAYS, AND OTHER ENVIRONMENTALLY SENSITIVE AREAS SHALL BE PROTECTED AT ALL TIMES. DO NOT STORE EQUIPMENT OR MATERIALS NEAR THESE SITES UNLESS APPROVED BY THE ENGINEER.
4. TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
5. THE EROSION CONTROL FEATURES AS SHOWN IN THE PLANS ARE AT SUGGESTED LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.
6. ASPHALTIC AND CONCRETE SURFACES SHALL BE SAWCUT AT THE MATCH LINE AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER.
7. DISTURBED AREAS WITHIN THE RIGHT OF WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE SALVAGED TOPSOILED, FERTILIZED AND SEEDED.
8. FERTILIZER SHALL NOT BE USED WITHIN 20 FEET OF NAVIGABLE WATERWAYS OR WETLANDS.

RUNOFF COEFFICIENT TABLE

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

TOTAL PROJECT AREA = 1.1 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.7 ACRES

NOTES:

WATER LEVELS OF NORTH FORK FLOWAGE IS SEASONALLY CONTROLLED. WATER LEVELS ARE DRAWN DOWN IN SPRING AND SUMMER TO PROMOTE VEGETATION GROWTH AND FLOODED IN AUTUMN TO FACILITATE WATERFOWN FEEDING. WATER SURFACE ELEVATIONS SHOWN IN THE PLAN REPRESENT OBSERVED FLOODED CONDITIONS IN LATE AUTUMN 2024.

1.7 MI. TO MAIN DIKE ROAD

N

NORTH FORK FLOWAGE

TRAIL 45

S28-T39N-R18W
WISCONSIN CONSERV. COMM.

END PROJECT
STA 12+00

EXISTING GROUND SURFACE CONTOURS (TYP)

REPLACE EXISTING 40' LONG STEEL TRUSS PEDESTRAIN BRIDGE ON TIMBER ABUTMENTS WITH 60' LONG STEEl TRUSS PEDESTRIAN BRIDGE ON CONCRETE ABUTMENTS AND STEEL PILING

WISCONSIN CONSERV. COMM.

NORTH FORK FLOWAGE

BEGIN PROJECT
STA 7+50

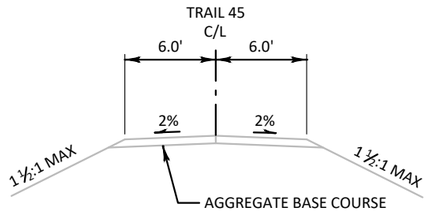
0.75 MI. TO EAST REFUGE ROAD

0 100 200 Feet

Save: 3/17/2025 2:47 PM mgundry Plot: 3/18/2025 2:27 PM X:\AE\B\BURFP\181898\S-final-dsgn\C3D Bunett Cnty Trailsheets\SEC 02 Typ Sec & Details\020201-po (Project Overview).dwg

SEH Project	181898	Rev.#	Revision Issue Description	Date	Rev.#	Revision Issue Description	Date	Trail 45 Bridge Replacement TOWN OF WEST MARSHLAND	**PROJECT OVERVIEW**
Drawn By	GE								3
Designed By	MJG								of 21
Checked By	MJG								

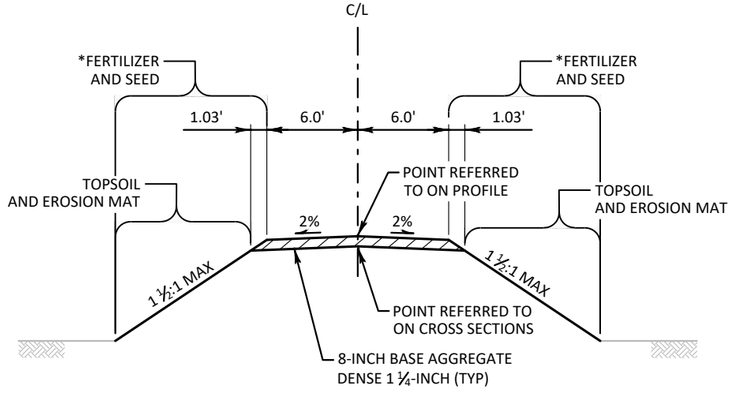
PLOT SCALE: 1.0 IN = 100.0 FT



TYPICAL EXISTING SECTION

TRAIL 45

STA 7+50 - STA 9+79
STA 10+21 - STA 12+00



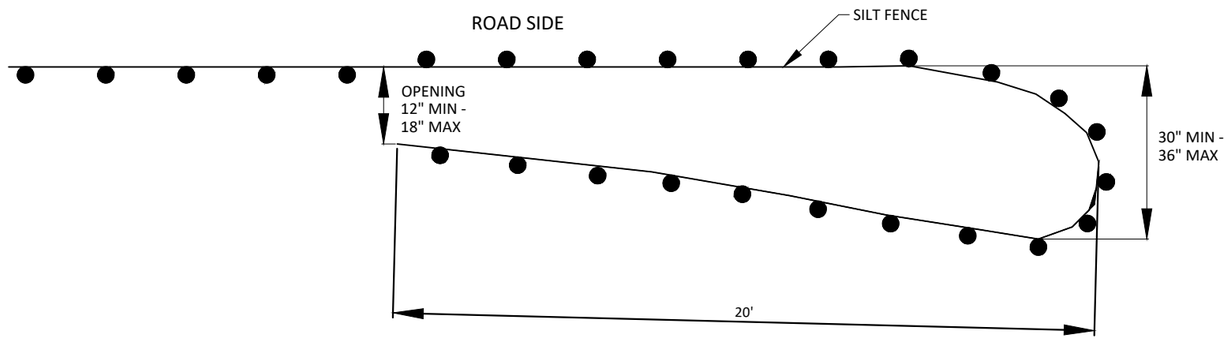
* = OMIT FERTILIZER WITHIN 20.0' OF THE EDGE OF WATER

TYPICAL FINISHED SECTION

TRAIL 45

STA 7+50 - STA 9+69
STA 10+31 - STA 12+00

SEH Project	181898	Rev.#	Revision Issue Description	Date	Rev.#	Revision Issue Description	Date	Trail 45 Bridge Replacement TOWN OF WEST MARSHLAND	**TYPICAL SECTIONS**	4
Drawn By	GE									of 21
Designed By	MJG									
Checked By	MJG									



PLAN VIEW

TEMPORARY SMALL ANIMAL TURN-AROUND

GENERAL NOTES:
SILT FENCE POSTS FOR THE TURN-AROUND SHOULD BE ON THE OUTSIDE OF THE TURN-AROUND AND TRENCHED IN ACCORDING TO SILT FENCE REQUIREMENTS. THE PURPOSE OF THE TURN-AROUNDS ARE TO REDIRECT SMALL REPTILES AWAY FROM THE CONSTRUCTION ZONE.

SEH Project	181898
Drawn By	GE
Designed By	MJG
Checked By	MJG

Rev.#		Revision Issue Description	Date
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##	##		##
##	##		##

Rev.#		Revision Issue Description	Date
##	##		##
##	##		##
##	##		##
##	##		##

Trail 45 Bridge Replacement
TOWN OF WEST MARSHLAND

CONSTRUCTION DETAILS

TRAIL 45

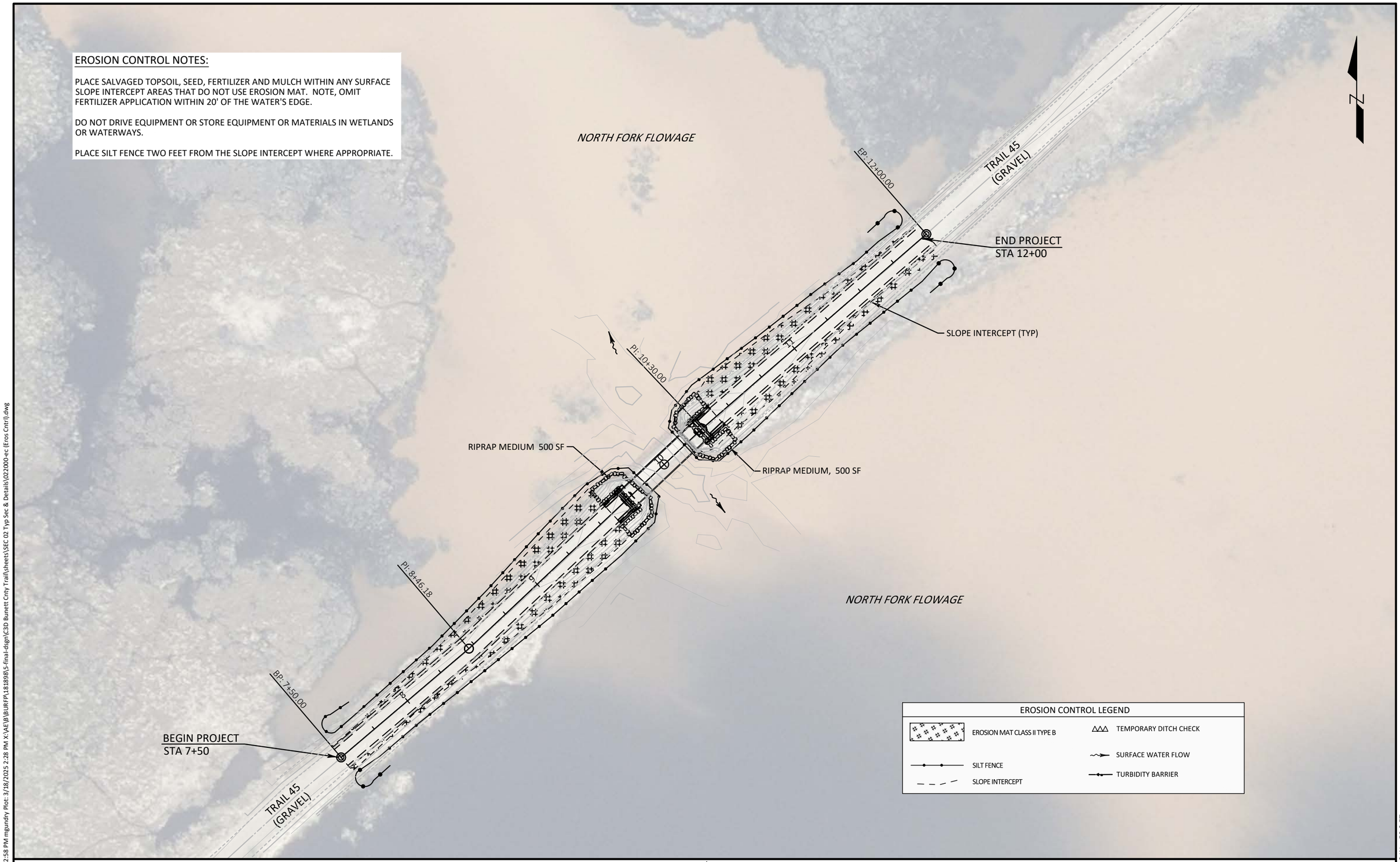
PLOT SCALE: 1.0 IN = 50.0 FT

EROSION CONTROL NOTES:

PLACE SALVAGED TOPSOIL, SEED, FERTILIZER AND MULCH WITHIN ANY SURFACE SLOPE INTERCEPT AREAS THAT DO NOT USE EROSION MAT. NOTE, OMIT FERTILIZER APPLICATION WITHIN 20' OF THE WATER'S EDGE.

DO NOT DRIVE EQUIPMENT OR STORE EQUIPMENT OR MATERIALS IN WETLANDS OR WATERWAYS.

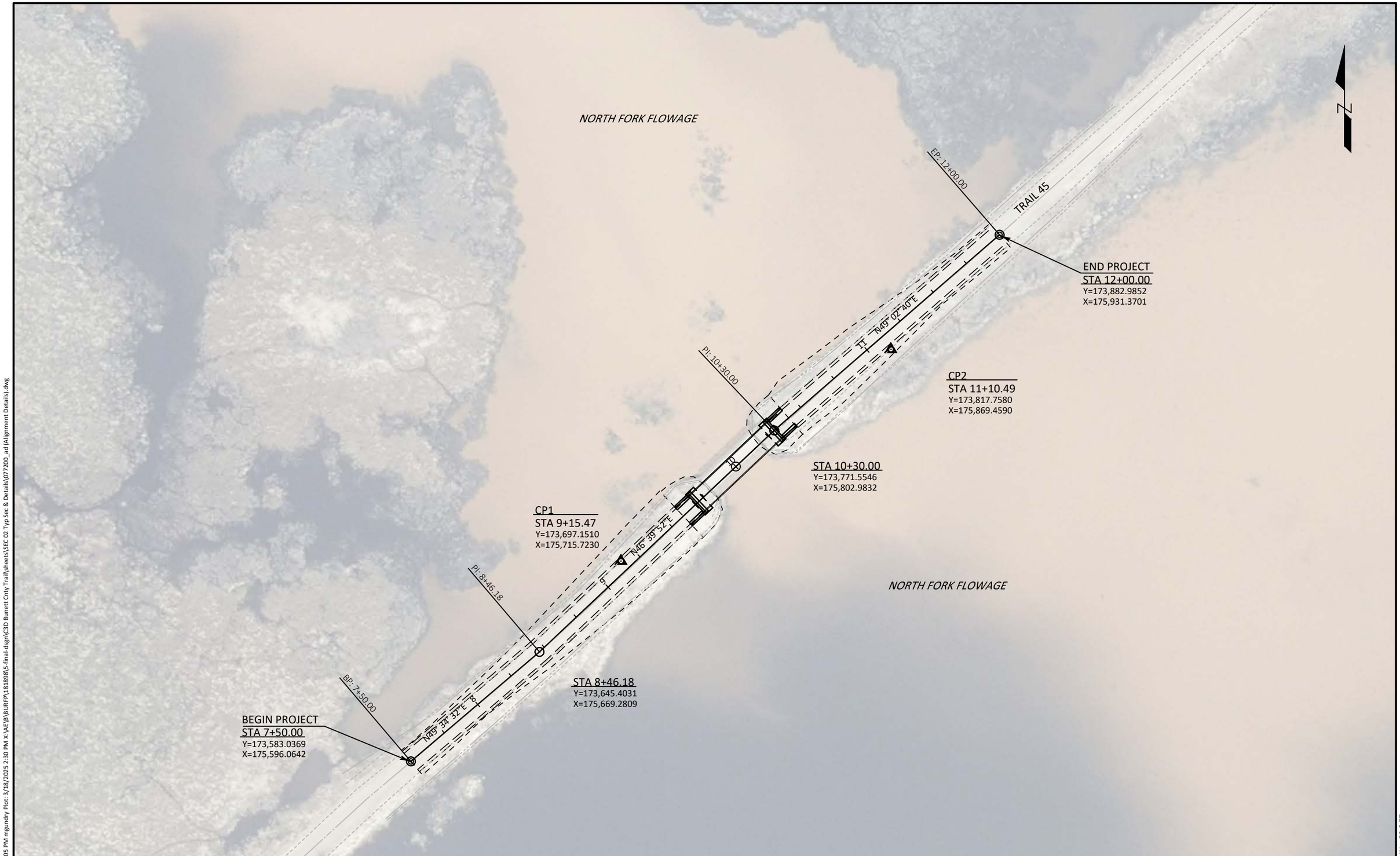
PLACE SILT FENCE TWO FEET FROM THE SLOPE INTERCEPT WHERE APPROPRIATE.



SEH Project	181898	Rev.#	Revision Issue Description	Date	Rev.#	Revision Issue Description	Date	Trail 45 Bridge Replacement TOWN OF WEST MARSHLAND	**EROSION CONTROL**	6 of 21
Drawn By	GE									
Designed By	MJG									
Checked By	MJG									

PLOT SCALE: 1.0 IN = 50.3 FT

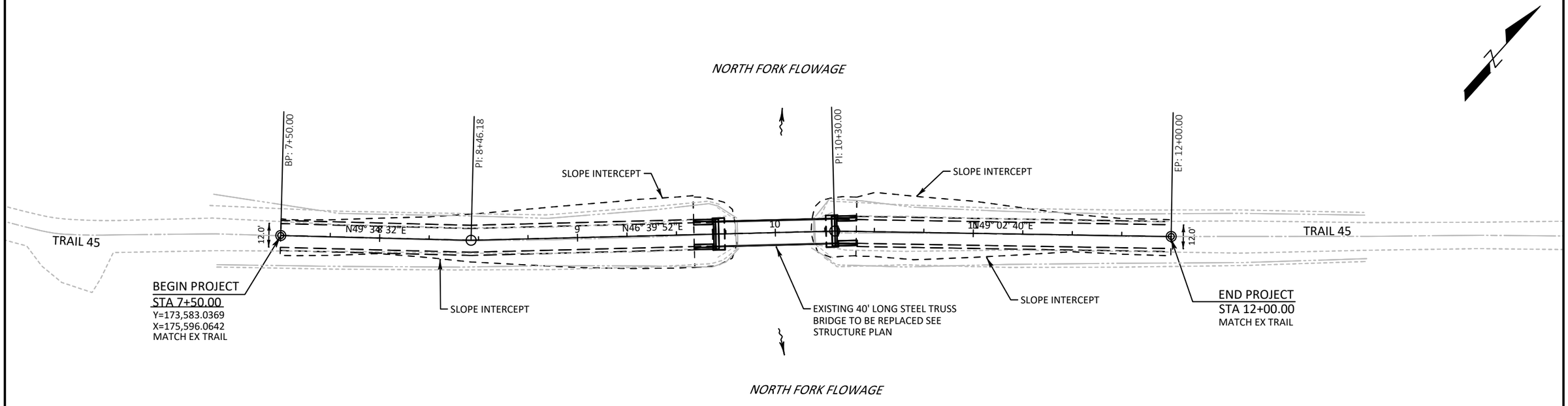
Save: 3/17/2025 2:58 PM migundry Plot: 3/18/2025 2:28 PM X:\AE\B\BURFP\181898\5-final-dsgn\C3D Bunett Cnty Trail\sheets\SEC 02 Typ Sec & Details\022000-esc (Eros Cntrl).dwg

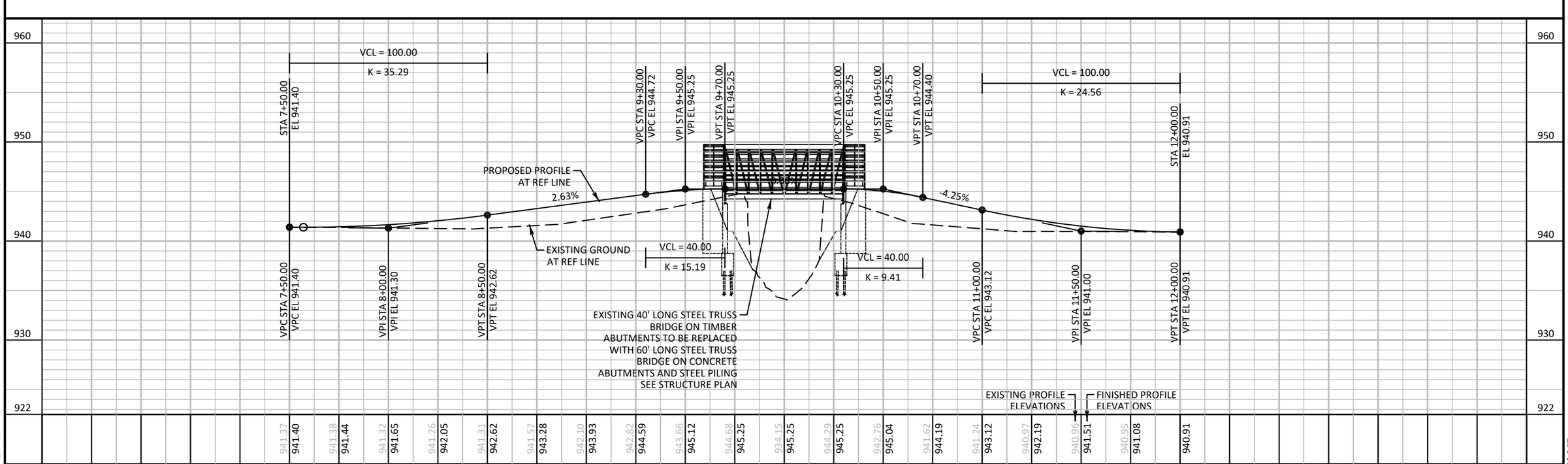


SEH Project	181898	Rev.#	Revision Issue Description	Date	Rev.#	Revision Issue Description	Date	Trail 45 Bridge Replacement TOWN OF WEST MARSHLAND	**ALIGNMENT DETAILS** **TRAIL 45**
Drawn By	GE								7 of 21
Designed By	MJG								
Checked By	MJG								

Save: 3/17/2025 2:05 PM mgundry Plot: 3/18/2025 2:30 PM X:\AE\B\BURFP\181898\5-final-dsgn\C3D Bunett Cnty Trail\sheets\SEC 02 Typ Sec & Details\D77200_ad (Alignment Details).dwg

PLOT SCALE: 1.0 IN = 50.0 FT

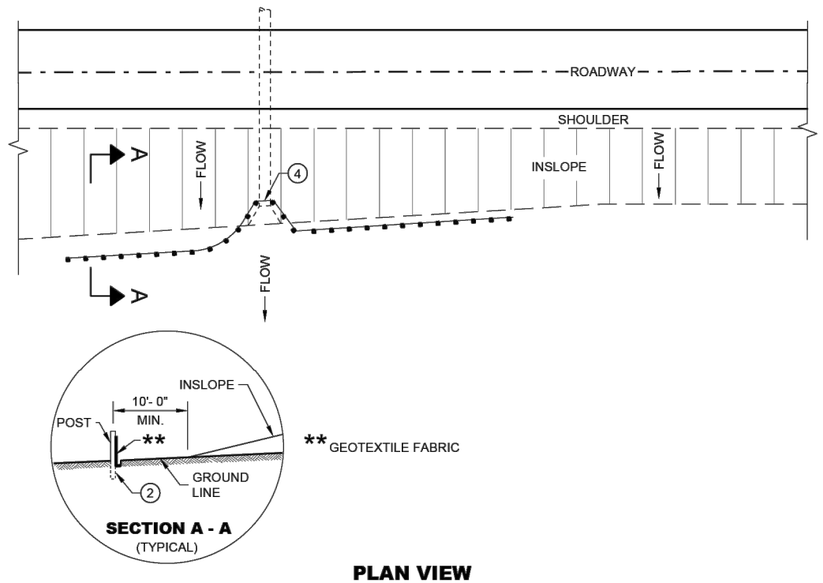




SEH Project	181898	Rev.#	Revision Issue Description	Date	Rev.#	Revision Issue Description	Date	Trail 45 Bridge Replacement TOWN OF WEST MARSHLAND	**PLAN AND PROFILE TRAIL 45**
Drawn By	GE								8 of 21
Designed By	MJG								
Checked By	MJG								

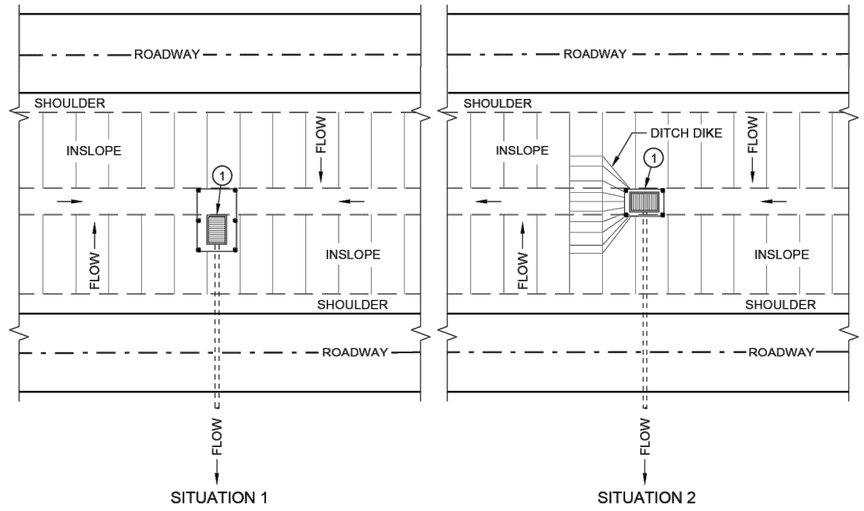
Save: 3/18/2025 1:56 PM mgundry Plot: 3/18/2025 2:30 PM X:\AE\BA\BURFP\181898\S-final-dsgn\C3D Bunett Cnty Trail\sheets\SEC 05 Plan & Profile\050101-pp (Plan & Profile).dwg

PLOT SCALE: 1.0 IN = 50.0 FT



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



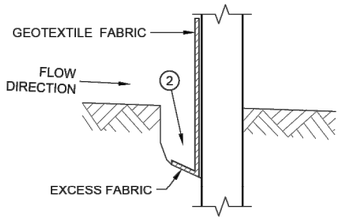
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

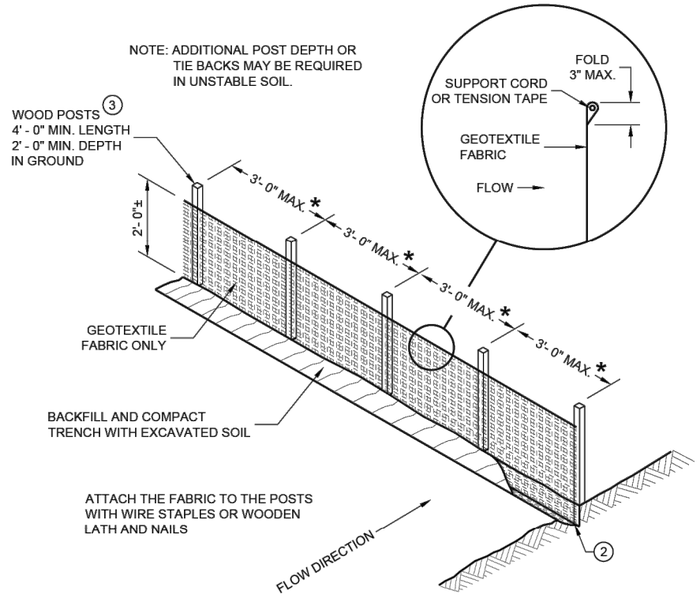
GENERAL NOTES

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

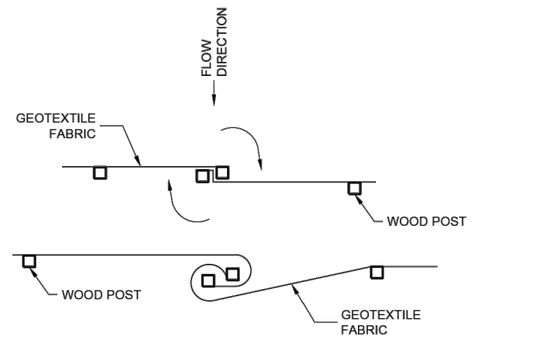
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE AND 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL AND COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 ⅛" X 1 ⅛" 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.



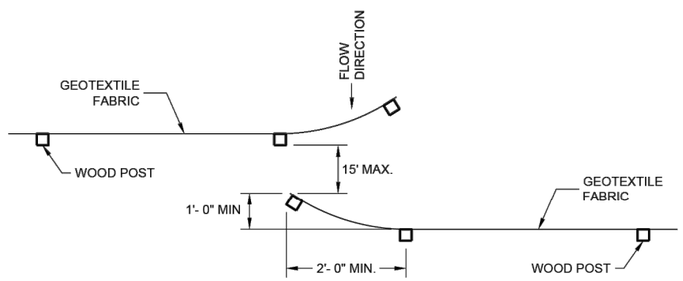
TRENCH DETAIL



SILT FENCE

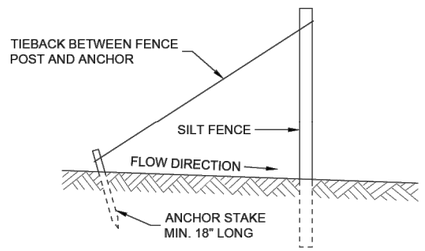


TWIST METHOD



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

SDD 08E09 - 06

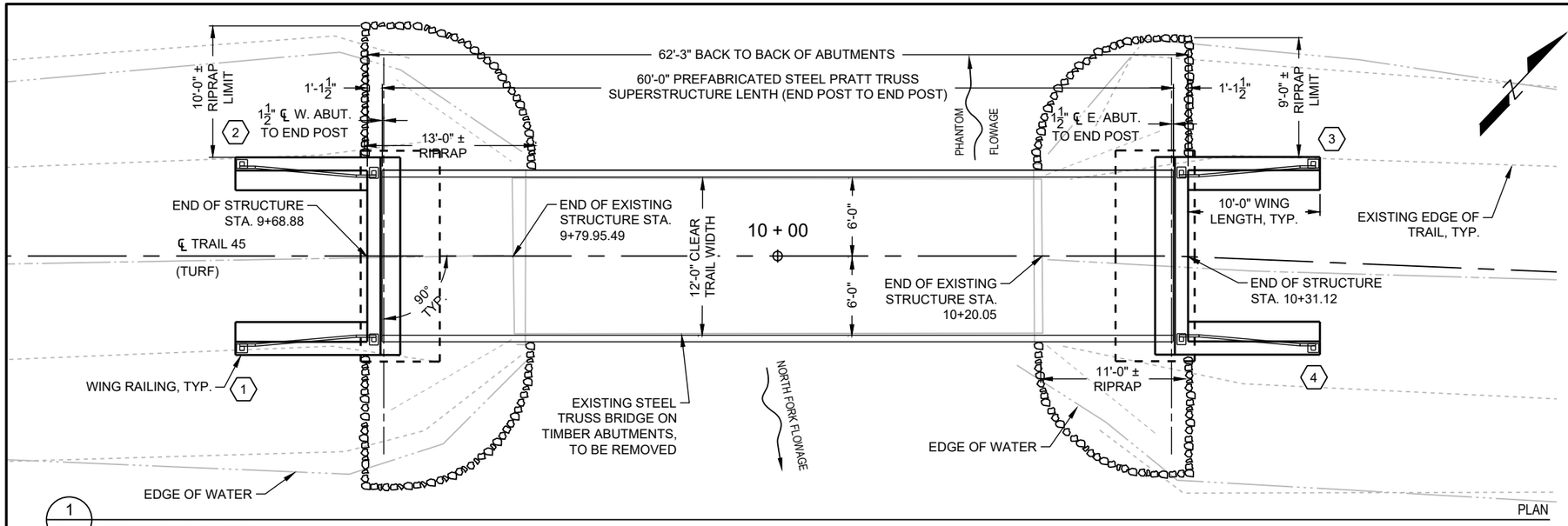
6

SEH Project	181898
Drawn By	GE
Designed By	MJG
Checked By	MJG

Rev.# | Revision Issue Description | Date | Rev.# | Revision Issue Description | Date

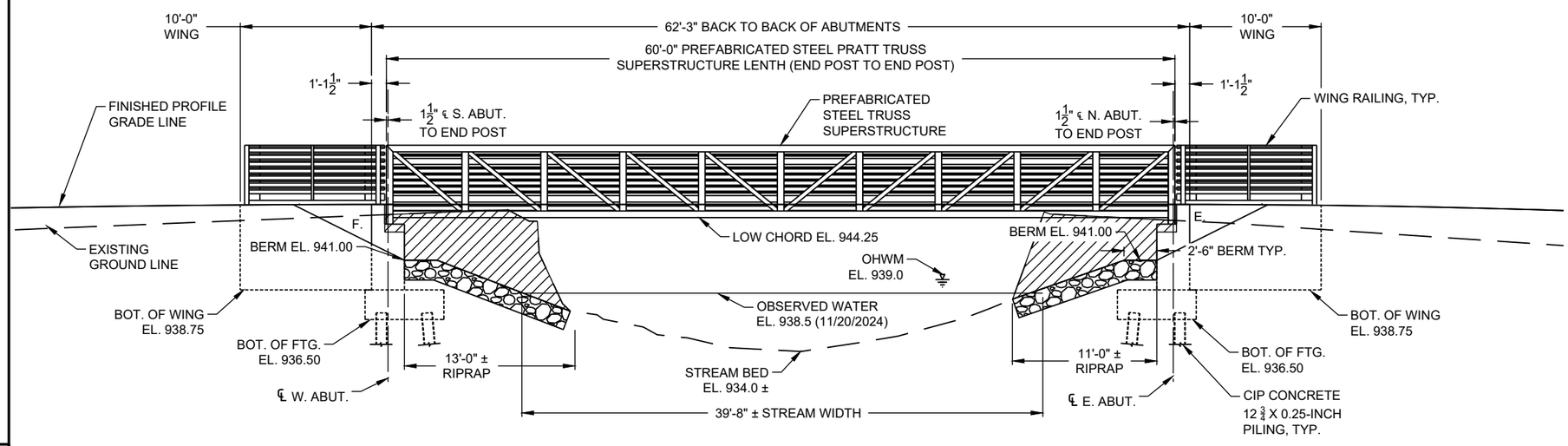
Trail 45 Bridge Replacement
TOWN OF WEST MARSHLAND

WISDOT STANDARD DETAIL DRAWINGS



1 / S800 ORIGINAL SCALE: 1" = 10'-0"

PLAN



2 / S800 ORIGINAL SCALE: 1" = 10'-0"

ELEVATION VIEW

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL DIMENSIONS AND REINFORCING BARS ARE IN ENGLISH UNITS. ALL STATIONS AND ELEVATIONS ARE IN FEET.

IF DEWATERING IS REQUIRED TO PLACE AND CONSTRUCT ABUTMENTS, SUBMIT A DEWATERING PLAN CONFORMING TO THE REQUIREMENTS OF SECTION 31 23 19 FOR APPROVAL PRIOR TO COMMENCING DEWATERING OPERATIONS.

THE SLOPE IN FRONT OF THE ABUMENTS SHALL BE COVERED WITH MEDIUM RIPRAP AND GEOTEXTILE FABRIC TYPE HR TO THE EXTENT SHOWN ON THIS SHEET AND IN THE ABUTMENT DETAILS.

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

THE FIRST DIGIT OF A THREE DIGIT BAR MARK OR FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

CHAMFER ALL EXPOSED 90° CONCRETE EDGES WITH A ¾" CHAMFER STRIP.

ALL PREFABRICATED TRUSS BEARING ANCHOR BOLTS SHALL BE SUPPLIED BY THE PREFABRICATED BRIDGE MANUFACTURER. FINAL ANCHOR BOLT LOCATIONS AT THE ABUTMENTS WILL BE DETERMINED BY THE PREFABRICATED BRIDGE MANUFACTURER.

BRIDGE SEAT REINFORCEMENT SHALL BE CAREFULLY PLACED / ADJUSTED AS NECESSARY TO AVOID INTERFERENCE WITH DRILLING HOLES FOR ANCHOR BOLTS. THE PREFABRICATED TRUSS SHALL BE ERECTED IN ITS FINAL POSITION PRIOR TO DRILLING HOLES FOR AND PLACING THE ANCHOR BOLTS.

THE MINIMUM CENTERLINE DECKING PROFILE-TO-LOW CHORD ELEVATION FOR THE PREFABRICATED TRUSS IS 3'-0". THE VERTICAL DISTANCE FROM THE TOP OF THE DECK TO THE CONCRETE BEARING SEAT IS 3'-6". ANY ADJUSTMENT TO THE BRIDGE SEAT ELEVATION REQUIRES PRIOR APPROVAL BY THE ENGINEER.

AT THE BACKFACE OF THE ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL TYPE A.

THE EXISTING STRUCTURE IS A SINGLE-SPAN STEEL TRUSS FOOT BRIDGE ON TIMBER ABUTMENTS. THE BRIDGE HAS AN OVERALL LENGTH OF APPROXIMATELY 40 FEET AND TOTAL WIDTH OF APPROXIMATELY 11 FEET. THE EXISTING BRIDGE IS TO BE SALVAGED AND DELIVERED TO BURNETT COUNTY PRIOR TO CONSTRUCTION OF THE NEW BRIDGE.

REMOVE EXISTING TIMBER PILES LOCATED WITHIN THE ORDINARY HIGH WATER MARKS FLUSH WITH THE STREAMBED. REMOVE OTHER EXISTING TIMBER PILES FLUSH TO THE FINISHED GROUND SLOPE OR 1-FOOT BELOW NEW STRUCTURAL ELEMENTS, AS APPROPRIATE.

PREFABRICATED BRIDGE MANUFACTURER SHALL INCLUDE BRIDGE NAME PLATE / LOAD LIMIT PLATE AT ABUTMENT END ONLY. PLATE SHALL STATE "12.5 TON VEHICLE LOAD LIMIT." IF LOAD LIMIT PLATE IS OBSTRUCTED, ADDITIONAL PLATES WILL BE PROVIDED UPON REQUEST TO THE BRIDGE MANUFACTURER.

THE REQUIRED DRIVING RESISTANCE (RDR) GIVEN FOR THE PILING REPRESENTS <50% OF THE MAXIMUM PILE CAPACITY. CLOSELY MONITOR DRIVING OPERATIONS TO ENSURE PILING ARE NOT OVERDRIVEN. THE DEPARTMENT WILL NOT PAY FOR DRIVEN PILE LENGTHS GREATER THAN THAT NECESSARY TO ACHIEVE THE RDR.

DESIGN DATA

LIVE LOAD:

AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS - 9TH EDITION
AASHTO LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES - 2ND EDITION

LIVE LOAD:

DESIGN LIVE PEDESTRIAN LOAD:	90 PSF
DESIGN VEHICLE LOAD:	AASHTO H12.5 TRUCK
RAILING LOAD:	50 PLF TRANS. AND VERT. SIMULTANEOUSLY ON EACH LONG. MEMBER

MATERIAL PROPERTIES:

CONCRETE MASONRY:	F`c = 3,500 PSI
HIGH STRENGTH BAR STEEL REINFORCEMENT:	Fy = 60,000 PSI
STRUCTURAL CARBON STEEL:	Fy = 36,000 PSI (ASTM A709 GRADE 36)

HYDRAULIC DATA

STRUCTURE IS LOCATED AT THE DIVIDE BETWEEN TWO SEASONALLY FLOODED BASINS, EACH WITH MANAGED DISCHARGE CONTROL. THE STRUCTURE ACTS AS A LEVELER BETWEEN THE TWO BASINS. CONTRIBUTING DRAINAGE AREA TO THE STRUCTURE IS NEGLIGIBLE. ANY FLOW BELOW THE STRUCTURE IS A FUNCTION OF DIFFERENTIAL RATES OF IMPOUNDMENT OR DRAWDOWN BETWEEN THE TWO BASINS.

OBSERVED WATER SURFACE ELEVATIONS REPRESENT THE SEASONAL HIGH. WATER SURFACE ELEVATIONS ARE INCREASED IN AUTUMN TO FACILITATE WATERFOWL FEEDING OF FLOODED VEGETATION.

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON CIP CONCRETE 12 ¾ X 0.25-INCH PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 60 TONS **PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.

ESTIMATED XX'-0" PILE LENGTH AT W. ABUTMENT.
ESTIMATED XX'-0" PILE LENGTH AT E. ABUTMENT.

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

LEGEND

EXCAVATION AS INDICATED IN THE HATCH AREAS

INDICATES WING NUMBER

CONSULTANT CONTACT

MATT GUNDRY, P.E.
(715) 720-6246

LIST OF DRAWINGS

SEH PROJECT NUMBER
181898

NO.	DATE	REVISION	BY

STRUCTURE TR45 @ N. FK. FLWG

DRAWN BY ZM | PLANS CK'D MJG

GENERAL PLAN

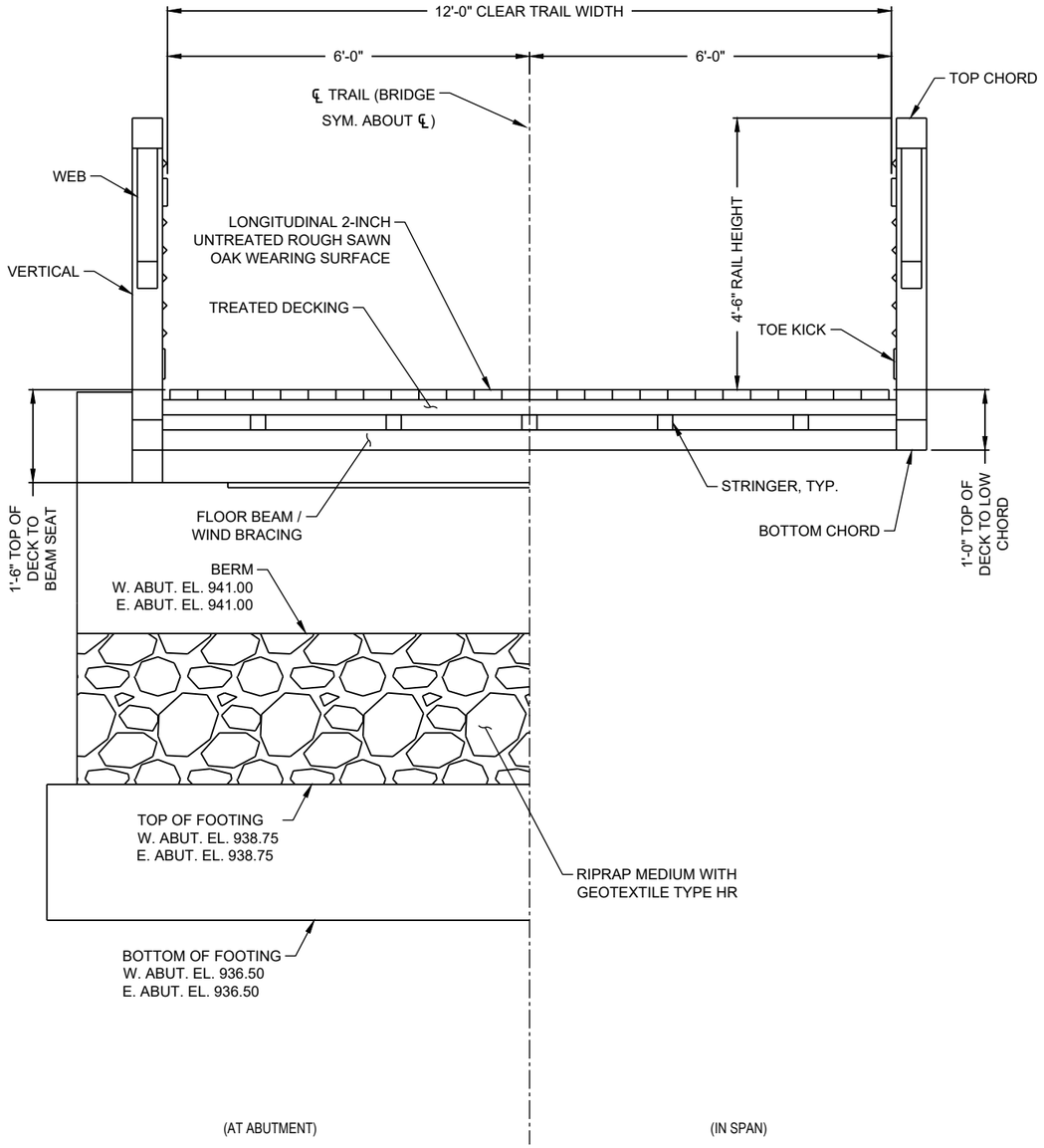
SHEET 10

8

8

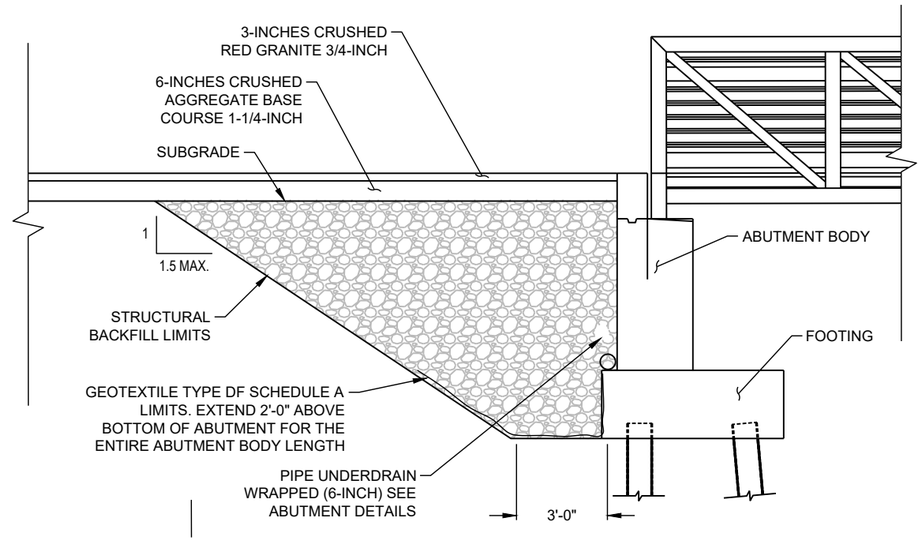
SEH PROJECT NUMBER

181898



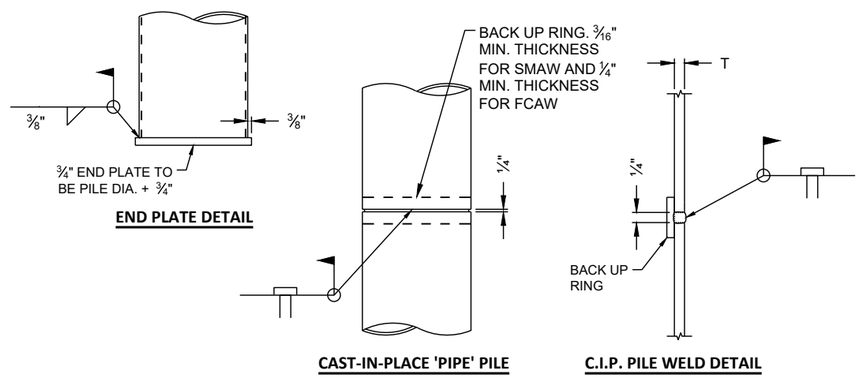
1 / S801 — CROSS SECTION THRU SUPERSTRUCTURE

ORIGINAL SCALE: 1" = 2'-6"



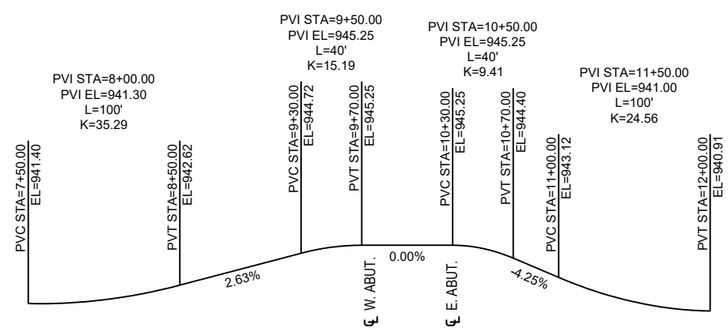
2 / S801 — STRUCTURE BACKFILL DETAIL AT ABUTMENT

ORIGINAL SCALE: 1" = 5'-0"



3 / S803 — CIP PILING DETAILS

ORIGINAL SCALE: N.T.S.



4 / S801 — PROFILE GRADE LINE, TRAIL 45

ORIGINAL SCALE: N.T.S.

8

8

NO.	DATE	REVISION	BY

STRUCTURE TR45 @ N. Fk. FLWG

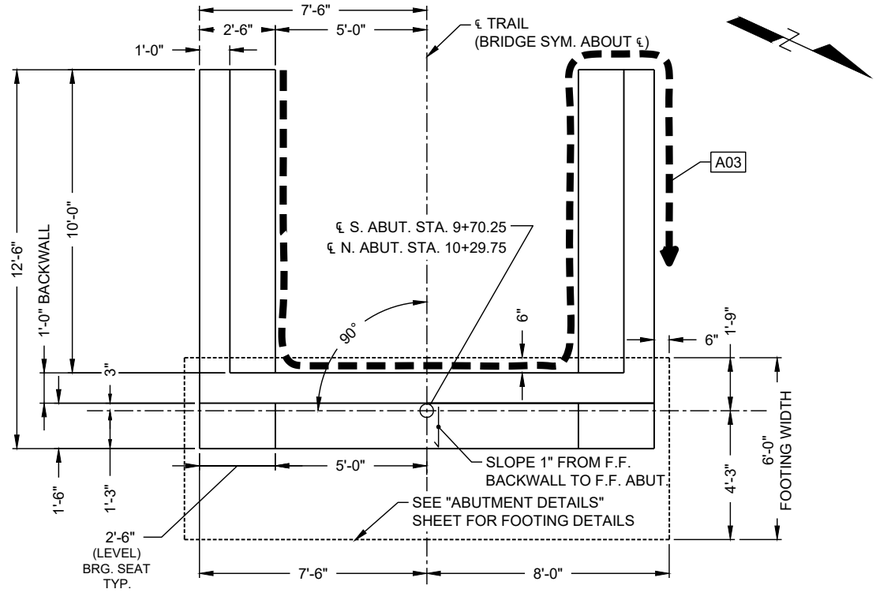
DRAWN BY ZM | PLANS CK'D MJG

CROSS SECTION, PROFILE, & DETAILS

SHEET 11

SEH PROJECT NUMBER

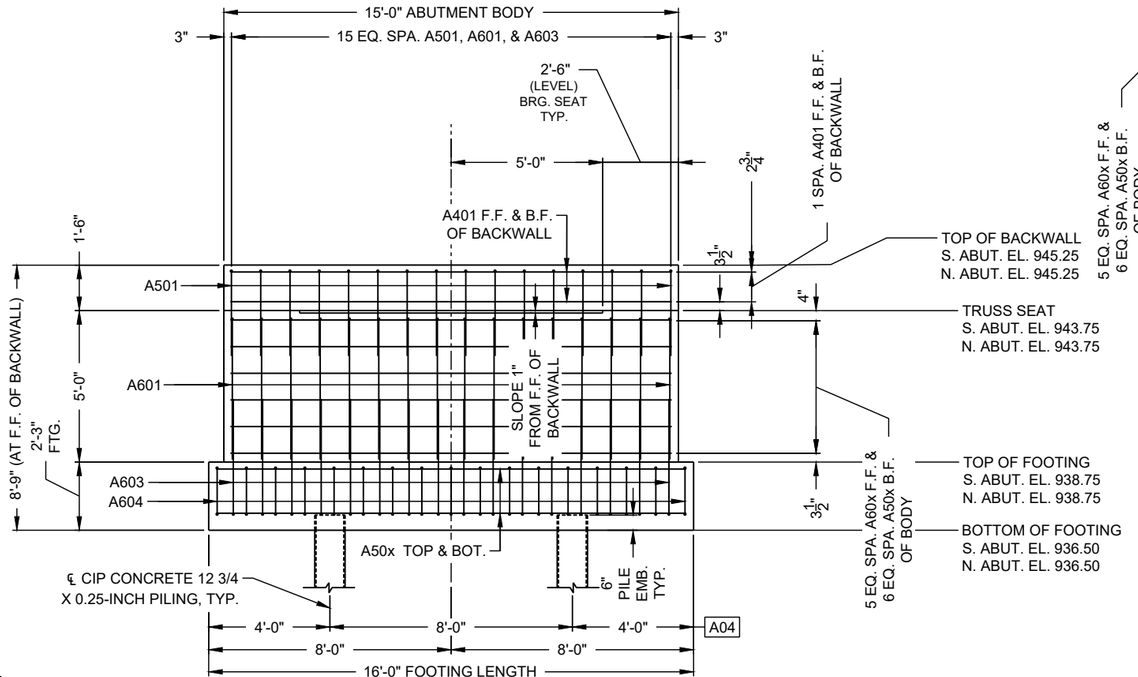
181898



1 / S802 ORIGINAL SCALE: 1" = 5'-0"

PLAN VIEW

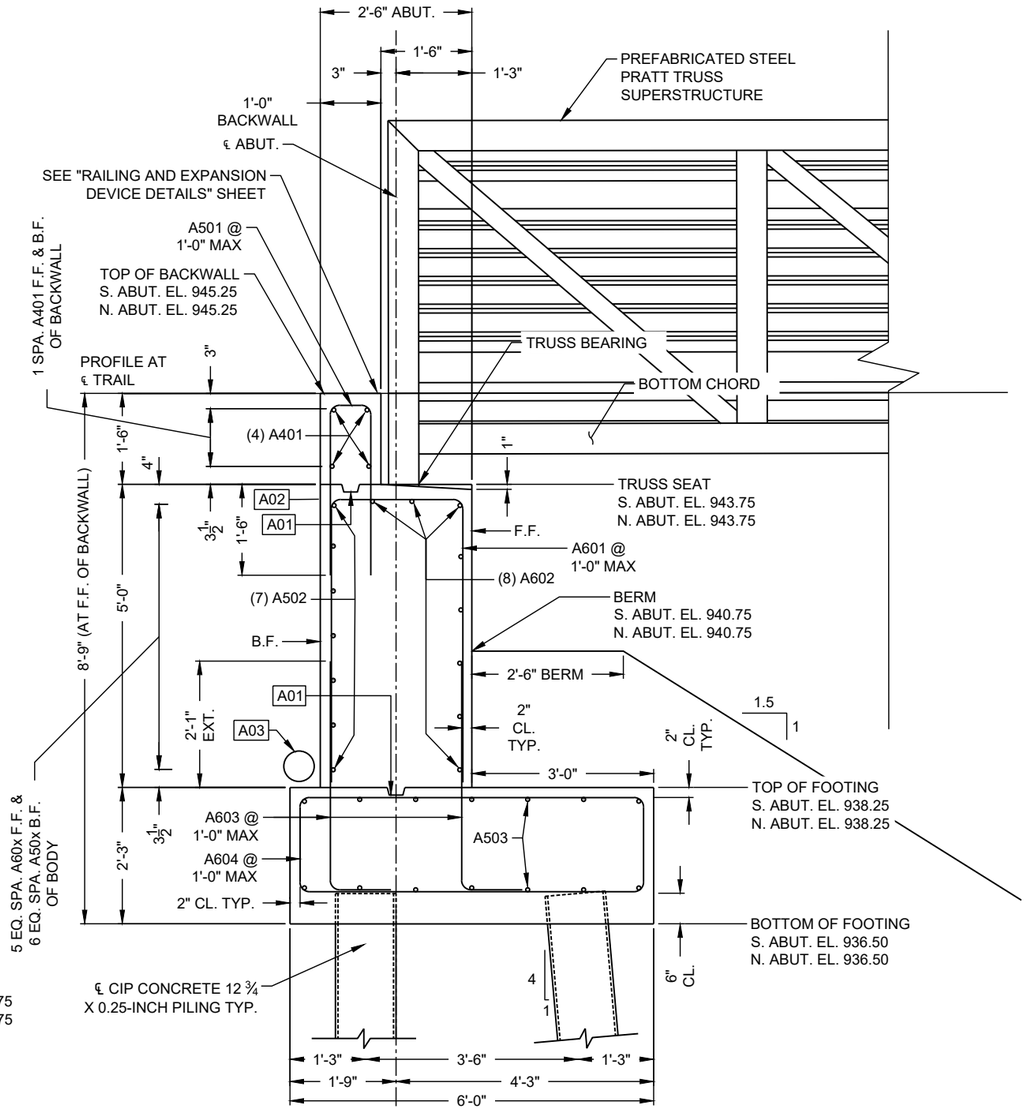
S. ABUT. SHOWN. N. ABUT. SIMILAR)



2 / S802 ORIGINAL SCALE: 1" = 5'-0"

FRONT ELEVATION

S. ABUT. LOOKING SOUTH, N. ABUT. SIMILAR



3 / S802 ORIGINAL SCALE: 1" = 2'-6"

TYPICAL SECTION THRU ABUTMENT AT TRAIL

NOTES

F.F. DENOTES FRONT FACE

B.F. DENOTES BACK FACE

A01 OPTIONAL CONSTRUCTION JOINT WITH 2"x6" BEVELED KEYWAY

A02 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. AND VERT. JOINTS ON BACKFACE ABOVE FOOTING

A03 PIPE UNDERDRAIN WRAPPED (6-INCH) SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED IN "ABUTMENT DETAILS" SHEET

A04 CONTACT ENGINEER IF PILE SPACING CANNOT BE MAINTAINED DUE TO CONFLICT WITH EXISTING SUBSTRUCTURE

NO.	DATE	REVISION	BY

STRUCTURE TR45 @ N. Fk. FLWG

DRAWN BY ZM | PLANS CK'D MJG

ABUTMENT

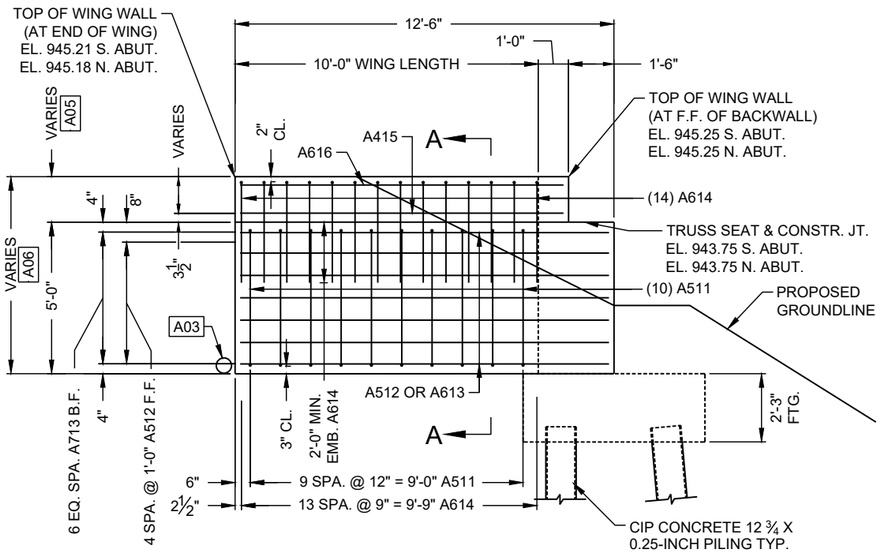
SHEET 12

8

8

SEH PROJECT NUMBER

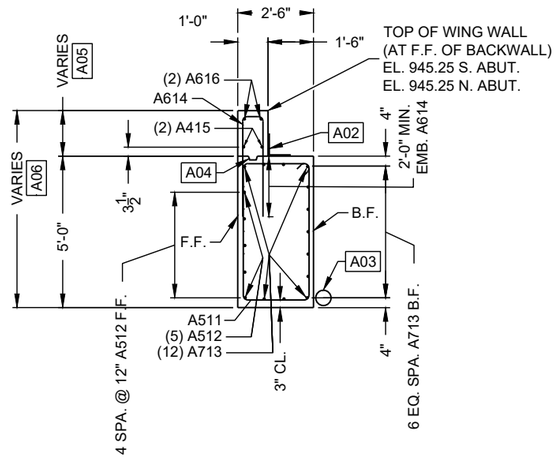
181898



1 S803 ORIGINAL SCALE: 1" = 5'-0"

WING ELEVATION VIEW

WING 1 SHOWN. WINGS 2, 3, & 4 SIMILAR



2 S803 ORIGINAL SCALE: 1" = 5'-0"

SECTION A-A

NOTES

F.F. DENOTES FRONT FACE

B.F. DENOTES BACK FACE

A01 OPTIONAL CONSTRUCTION JOINT WITH 2"x6" BEVELED KEYWAY

A02 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. AND VERT. JOINTS ON BACKFACE ABOVE FOOTING

A03 PIPE UNDERDRAIN WRAPPED (6-INCH) SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED IN "ABUTMENT DETAILS" SHEET

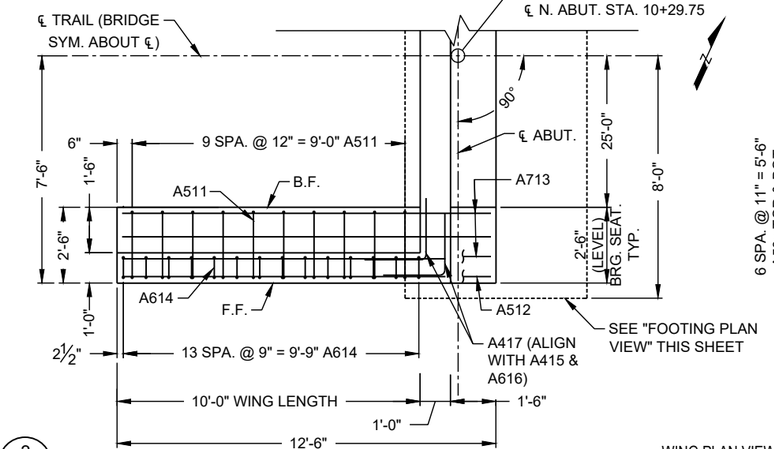
A04 CONTACT ENGINEER IF PILE SPACING CANNOT BE MAINTAINED DUE TO CONFLICT WITH EXISTING SUBSTRUCTURE

A05 CONSTRUCTION JOINT WITH 2"x6" BEVELED KEYWAY

NOTES

A05 S. ABUT. VARIES 1'-5 1/2" AT END OF WING TO 1'-6" AT F.F. OF BACKWALL
N. ABUT. VARIES 1'-6" AT F.F. OF BACKWALL TO 1'-5 1/4" AT END OF WING

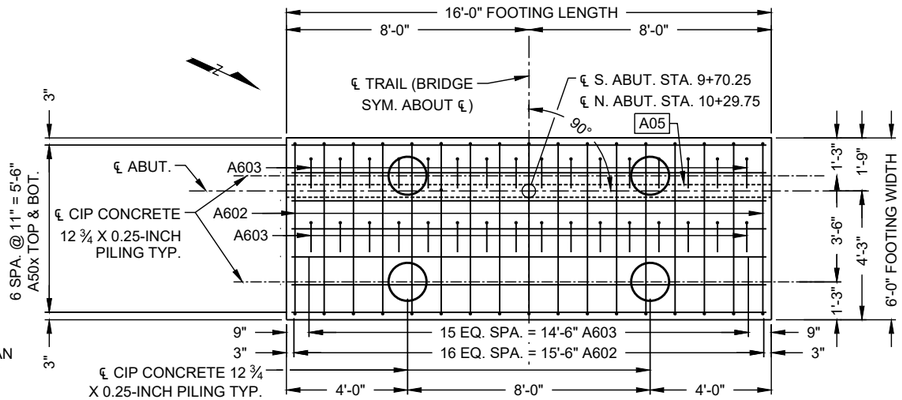
A06 S. ABUT. VARIES 6'-5 1/2" TO 6'-6"
N. ABUT. VARIES 6'-6" TO 6'-5 1/4"



3 S803 ORIGINAL SCALE: 1" = 5'-0"

WING PLAN VIEW

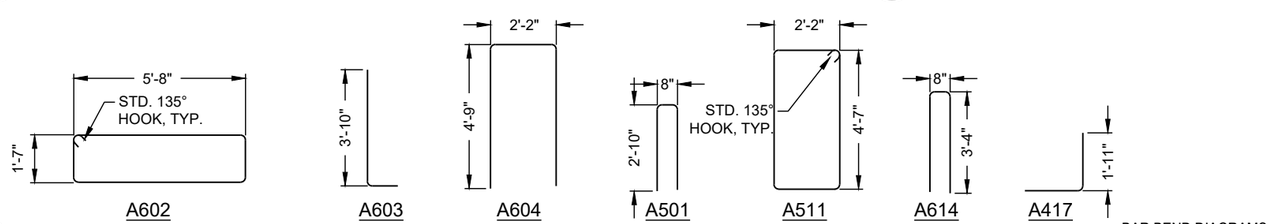
WING 1 SHOWN. WINGS 2, 3, & 4 SIMILAR



4 S803 ORIGINAL SCALE: 1" = 5'-0"

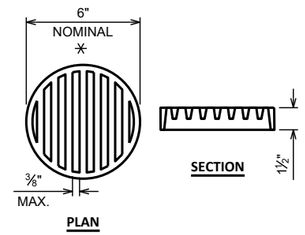
FOOTING PLAN VIEW

S. ABUT. SHOWN. N. ABUT. SIMILAR



5 S803 ORIGINAL SCALE: NTS

BAR BEND DIAGRAMS



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.

NO.	DATE	REVISION	BY

STRUCTURE TR45 @ N. Fk. FLWG

DRAWN BY ZM | PLANS CK'D MJG

ABUTMENT DETAILS

SHEET 13

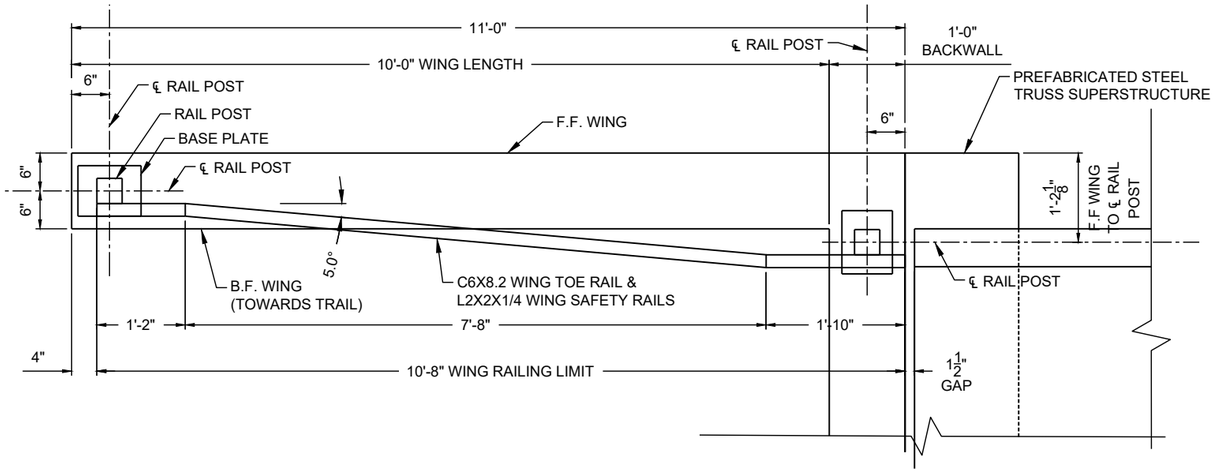
8

8

tb-11x17

SEH PROJECT NUMBER

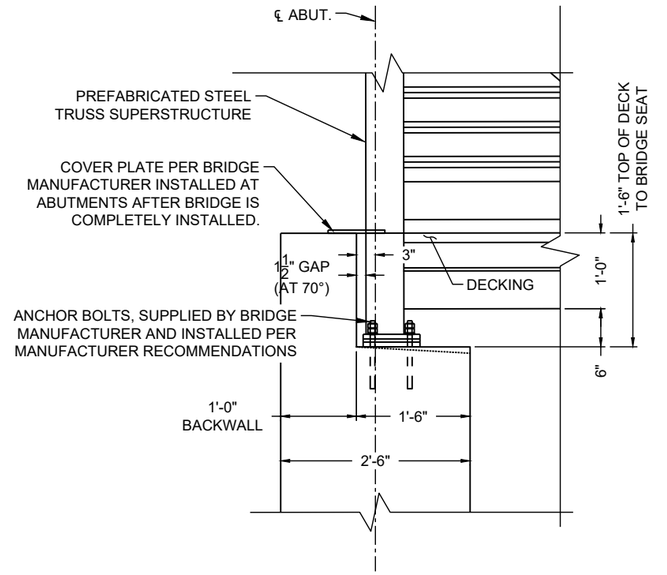
181898



1 / S804 — WING RAILING PLAN VIEW

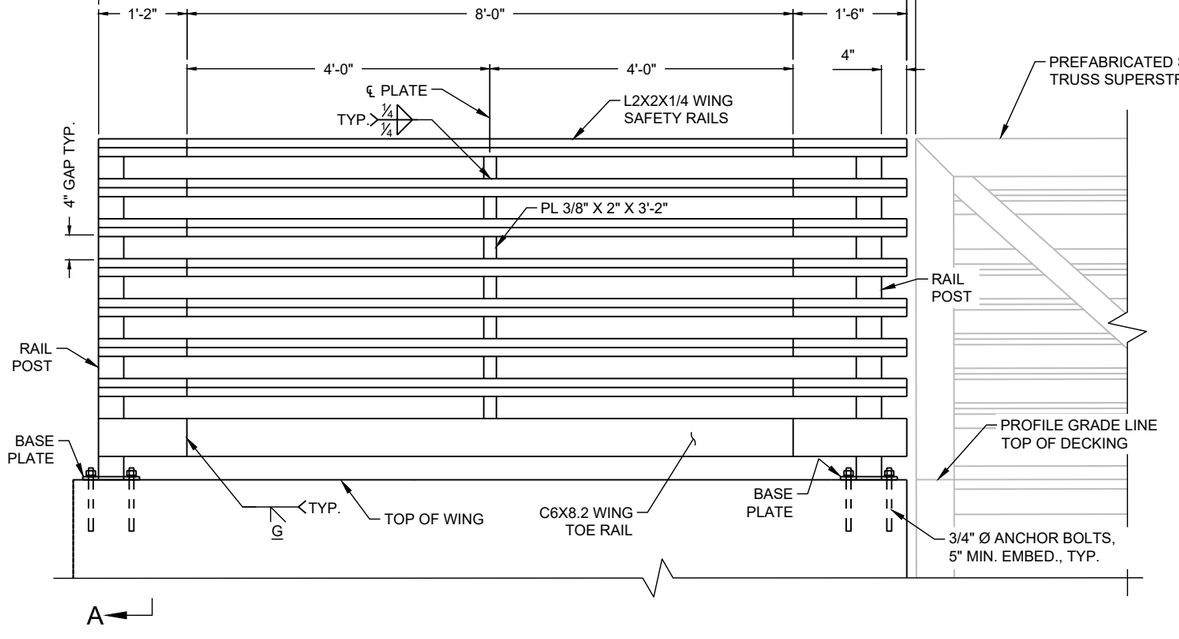
ORIGINAL SCALE: 1" = 4'-0"

WING 2 SHOWN. WINGS 1, 3, & 4 SIMILAR



2 / S804 — BEARING & EXPANSION DEVICE ELEVATION VIEW

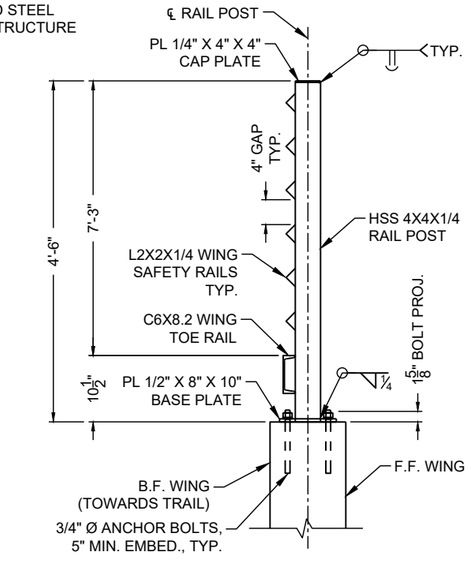
ORIGINAL SCALE: 1" = 4'-0"



3 / S804 — WING RAILING ELEVATION VIEW

ORIGINAL SCALE: 1" = 2'-0"

WING 2 SHOWN. WINGS 1, 3, & 4 SIMILAR



4 / S804 — SECTION A-A

ORIGINAL SCALE: 1" = 2'-0"

NOTES

ALL STEEL COMPONENTS (BASE PLATE, VERTICAL POSTS, MISC. STEEL AND HORIZONTAL RAIL ELEMENTS) AND WELD MATERIAL USED IN THE FABRICATION AND CONSTRUCTION OF THE STEEL RAILING AT BOTH ABUTMENTS SHALL CONFORM TO SECTION 32 31 13 OF THE DFD MASTER SPECIFICATIONS, ASTM A709 GRADE 50W WEATHERING STEEL. WELDING AND WELD QUALIFICATION TESTS SHALL CONFORM TO THE PROVISIONS OF AWS D1.1/D1.1M. THE FLUX CORE ARC WELDING (FCAW) PROCESS, UTILIZING E80 ELECTRODES WITH SIMILAR WEATHERING CHARACTERISTICS AS THE BASE MATERIAL SHALL BE USED FOR ALL SHOP AND FIELD WELDS.

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

ALL POST SPACING IS TAKEN HORIZONTAL ALONG THE CENTERLINE OF THE RAILING AT THE BASE OF THE POST.

GALVANIZED STEEL SHIMS SHALL BE USED UNDER THE BASE PLATES WHERE REQUIRED FOR ALIGNMENT.

CAULK AROUND THE PERIMETER OF THE BASE PLATE WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

THE ANCHOR BOLTS,, WASHERS, AND NUTS FOR WING RAILS SHALL BE STAINLESS STEEL AND SHALL CONFORM TO SECTION 32 21 13 OF THE DFD MASTER SPECIFICATIONS FOR CONCRETE MASONRY ADHESIVE ANCHORS, 3/4-INCH. ONLY EPOXY EMBEDDED ANCHORS WILL BE ALLOWED AT THE RAIL POST BASE PLATES. THE DESIGN ALLOWABLE PULLOUT STRENGTH PER ANCHOR BOLT SHALL BE 3.6 KIPS WITH A MINIMUM EMBEDMENT DEPTH OF 5".

CUT THE BOTTOM OF THE RAIL POSTS TO MAKE VERTICAL IN THE TRANSVERSE DIRECTION.

ANCHOR BOLTS FOR THE PREFABRICATED STEEL PRATT TRUSS STRUCTURE AND RAILING ARE TO BE POST-INSTALLED. PRIOR TO CONCRETE BEING POURED, USE A TEMPLATE FOR LOCATING POSITION OF PREFRABRICATED STEEL PRATT TRUSS STRUCTURE AND RAILING ANCHORS. SHIFT REBAR ACCORDINGLY TO AVOID CONFLICT WITH ALL POST-INSTALLED ANCHOR BOLTS.

F.F. - DENOTES FRONT FACE
B.F. - DENOTES BACK FACE

NO.	DATE	REVISION	BY

STRUCTURE TR45 @ N. Fk. FLWG

DRAWN BY ZM | PLANS CK'D MJG

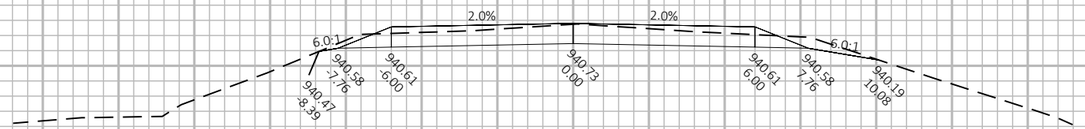
RAILING DETAILS

SHEET 14

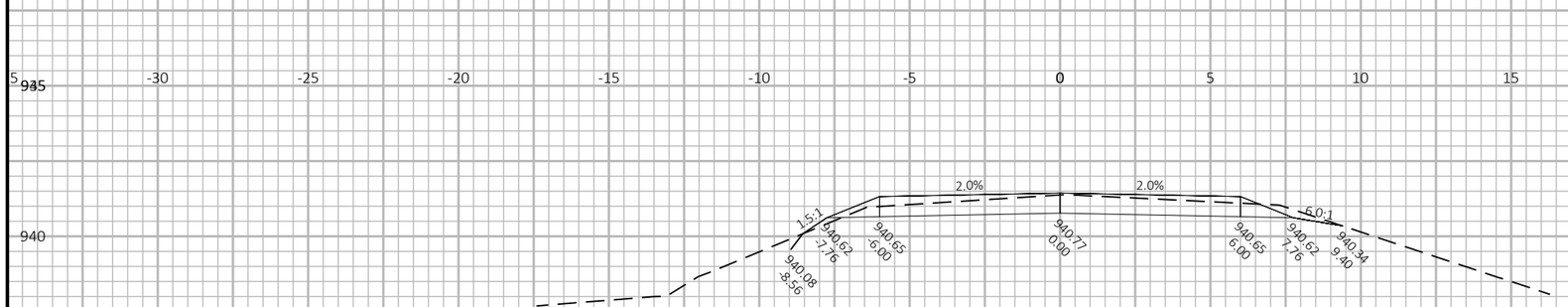
8

8

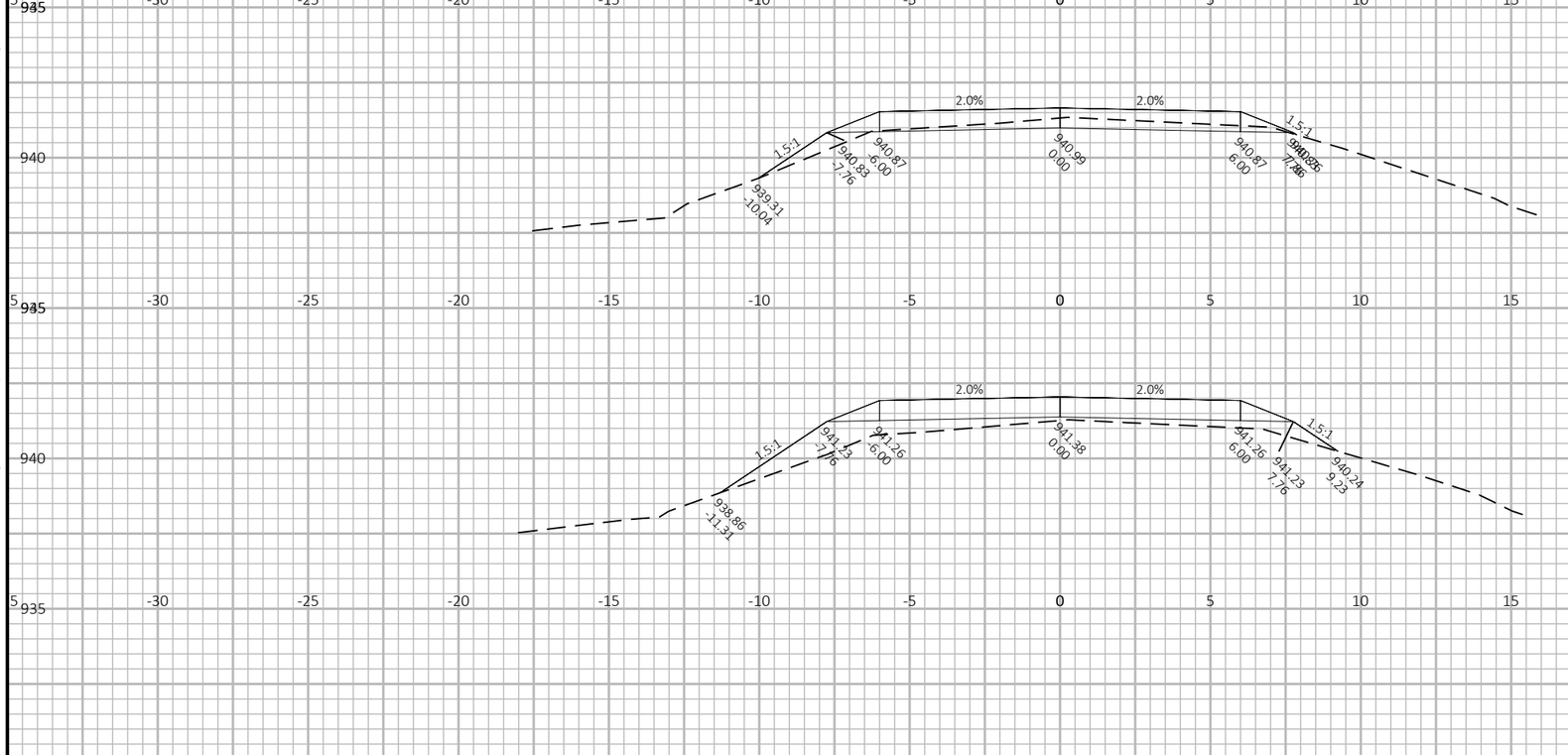
BEGIN PROJECT
STA 7+50



7+50

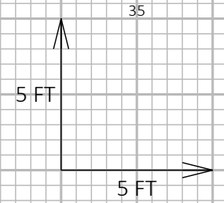


7+75



8+00

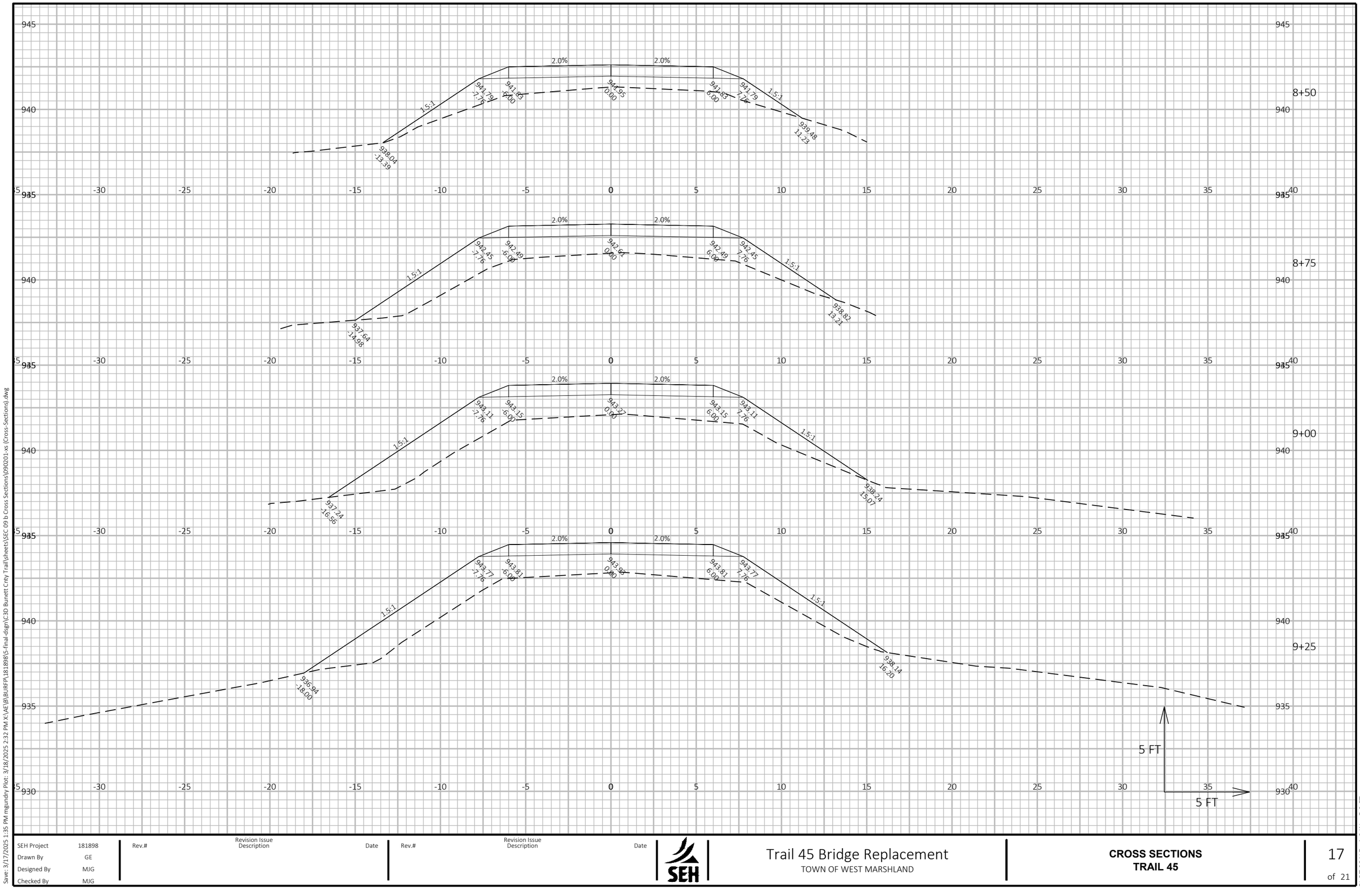
8+25



SEH Project	181898	Rev.#	Revision Issue Description	Date	Rev.#	Revision Issue Description	Date	Trail 45 Bridge Replacement TOWN OF WEST MARSHLAND
Drawn By	GE							**CROSS SECTIONS** **TRAIL 45**
Designed By	MJG							16 of 21
Checked By	MJG							

Save: 3/17/2025 1:35 PM mgundry Plot: 3/18/2025 2:32 PM X:\AE\B\BU\RFP\181898\5-final-dsgn\C3D Bunett Cnty Trail\sheets\SEC 09 b Cross Sections\090201-xs (Cross-Sections).dwg

PLOT SCALE: 1.0 IN = 5.0 FT



SEH Project	181898	Rev.#	Revision Issue Description	Date	Rev.#	Revision Issue Description	Date	Trail 45 Bridge Replacement TOWN OF WEST MARSHLAND	**CROSS SECTIONS TRAIL 45**
Drawn By	GE								17 of 21
Designed By	MJG								
Checked By	MJG								

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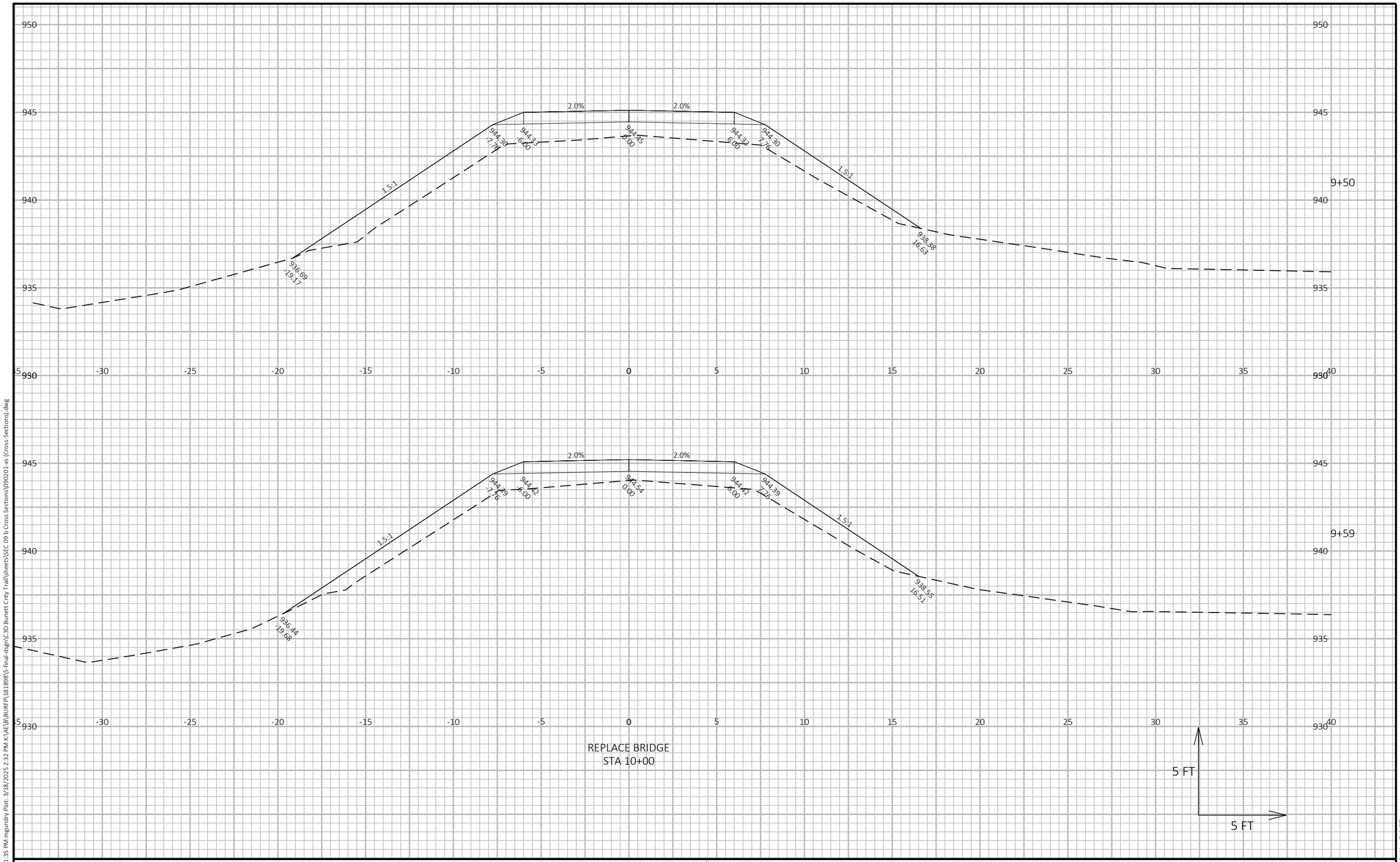
PLOT SCALE: 1.0 IN = 5.0 FT



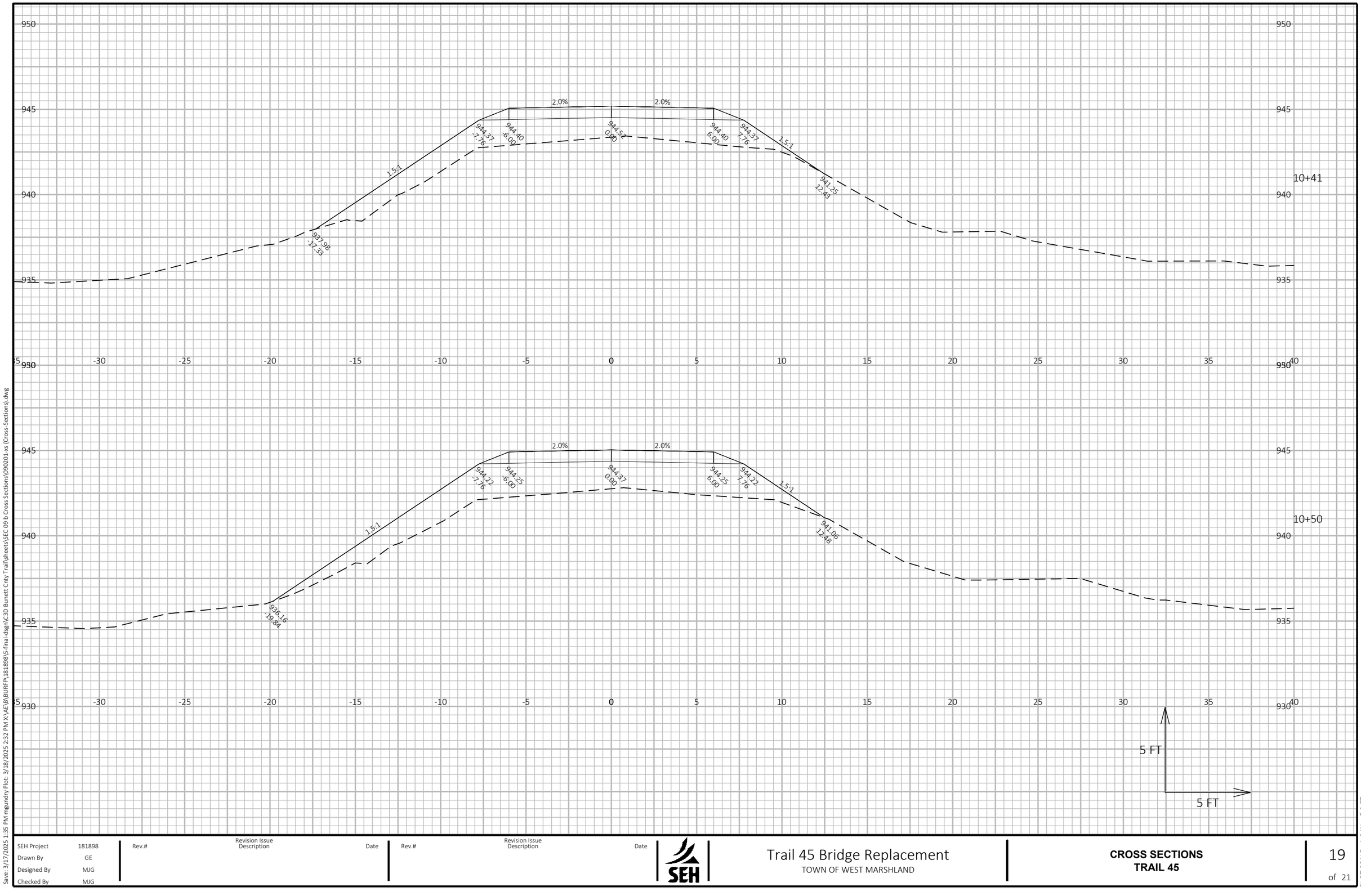
REPLACE BRIDGE
STA 10+00

SEH Project	181898	Rev.#	Revision Issue Description	Date	Rev.#	Revision Issue Description	Date	Trail 45 Bridge Replacement TOWN OF WEST MARSHLAND	**CROSS SECTIONS TRAIL 45**
Drawn By	GE								
Designed By	MJG								
Checked By	MJG								

18
of 21

Save: 3/17/2025 1:35 PM mgundry Plot: 3/18/2025 2:32 PM X:\AE\B\BUR\PW\181898\S-final-dsgn\C3D Bunett Cnty Trail\sheets\SEC 09 b Cross Sections\090201-xs (Cross-Sections).dwg

PLOT SCALE: 1.0 IN = 5.0 FT



SEH Project	181898	Rev.#	Revision Issue Description	Date	Rev.#	Revision Issue Description	Date	SEH	Trail 45 Bridge Replacement TOWN OF WEST MARSHLAND	**CROSS SECTIONS TRAIL 45**	19 of 21
Drawn By	GE										
Designed By	MJG										
Checked By	MJG										

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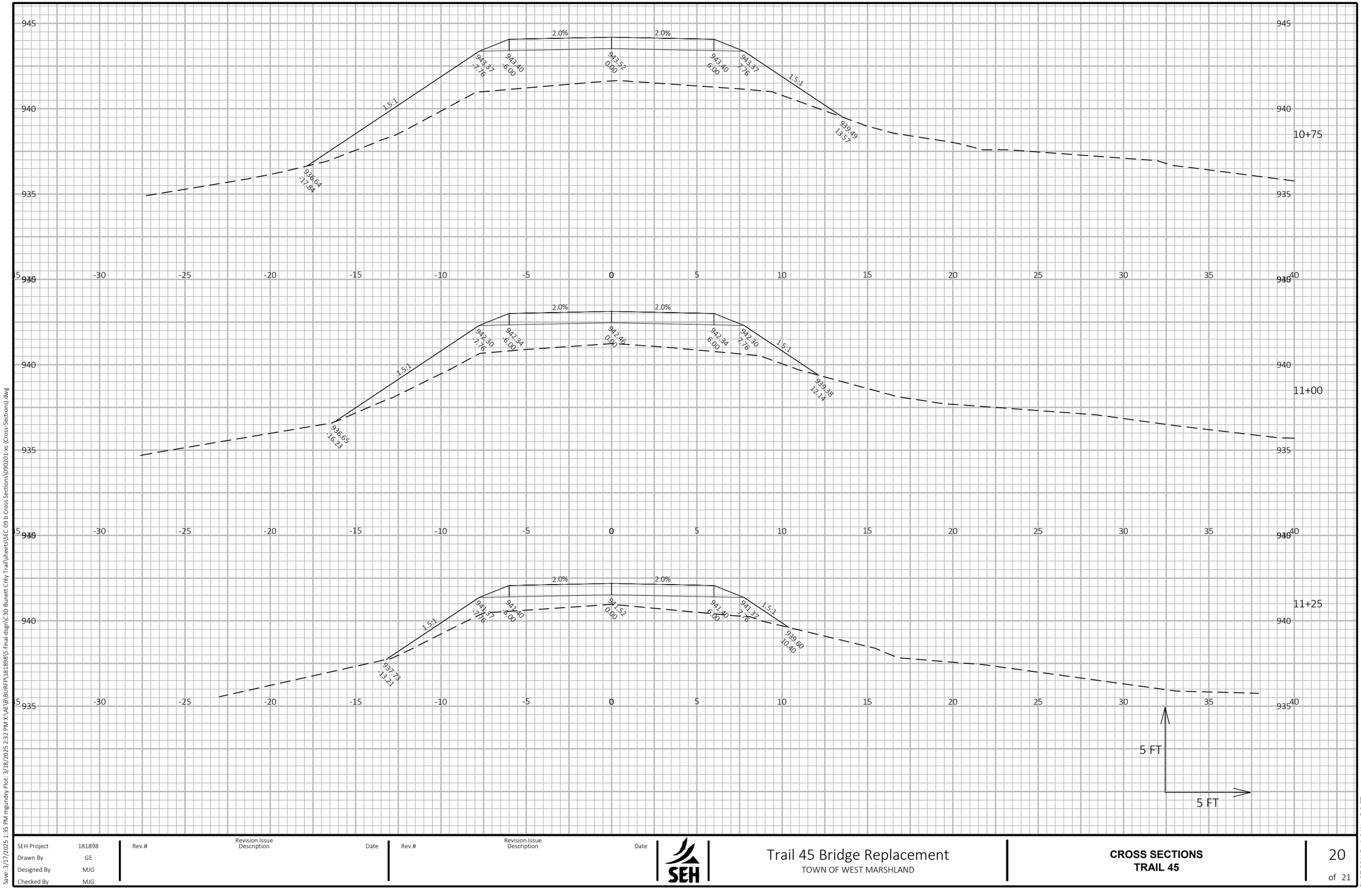
PLOT SCALE: 1.0 IN = 5.0 FT



SEH Project	181898	Rev.#	Revision Issue Description	Date	Rev.#	Revision Issue Description	Date	Trail 45 Bridge Replacement TOWN OF WEST MARSHLAND	**CROSS SECTIONS TRAIL 45**	20 of 21
Drawn By	GE									
Designed By	MJG									
Checked By	MJG									

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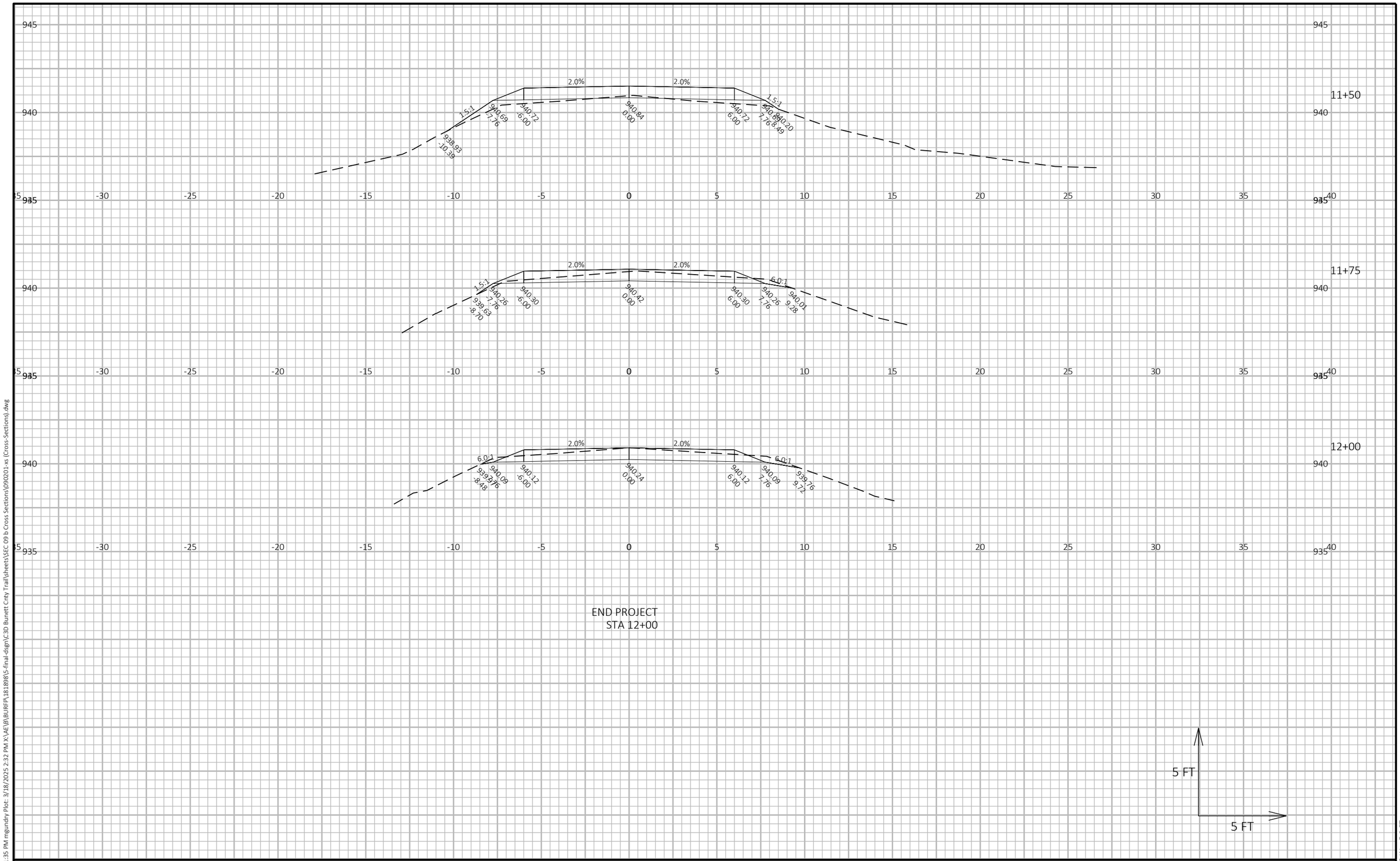

SEH Project	181898	Rev.#	Revision Issue Description	Date	Rev.#	Revision Issue Description	Date	SEH	Trail 45 Bridge Replacement TOWN OF WEST MARSHLAND	**CROSS SECTIONS TRAIL 45**	21 of 21
Drawn By	GE										
Designed By	MJG										
Checked By	MJG										

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PLOT SCALE: 1.0 IN = 5.0 FT