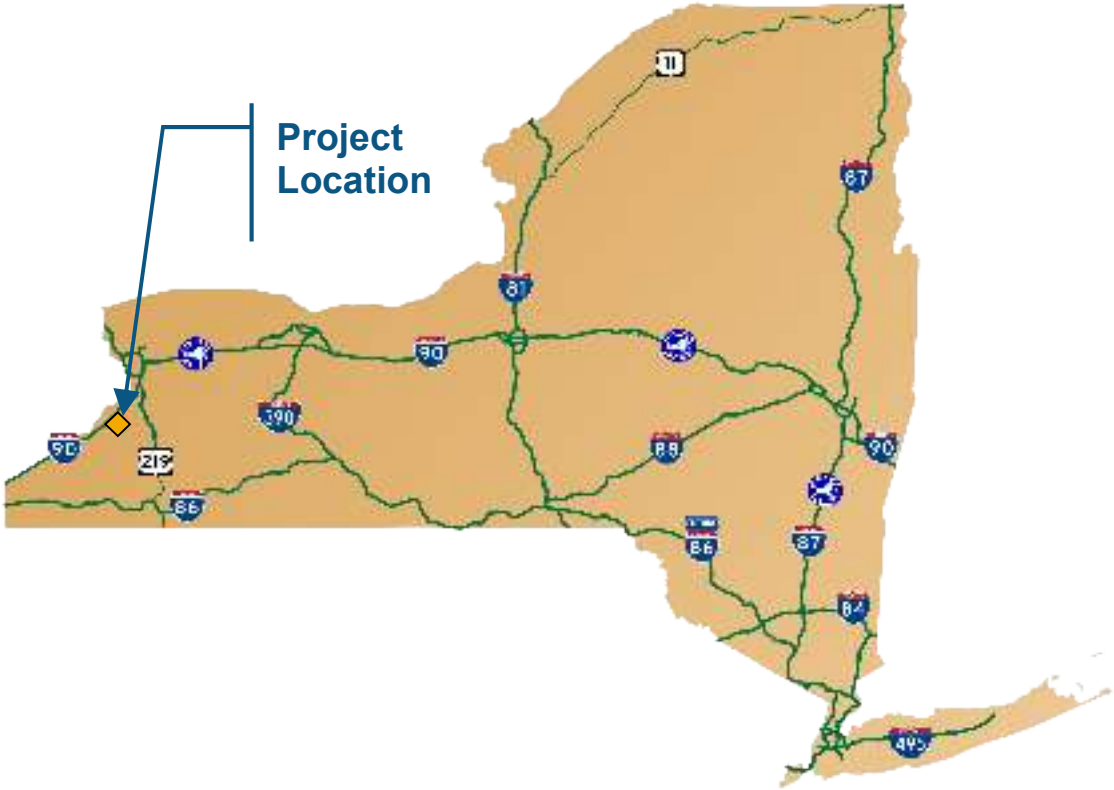
Transportation Project Report

Project Scoping Report/Final Design Report

August 2026

Versailles Plank Road Bridge over Big Sister Creek
Project Identification Number (PIN): 5765.33
Bridge Identification Number (BIN): 3327390
Town of Evans
Erie County



NEW YORK STATE Department of Transportation

U.S. Department of Transportation
Federal Highway Administration

Project Approval Sheet

Milestones	Signatures	Dates
A. Recommendation for, Scope and Design Approval:	The project cost and schedule are consistent with the Regional Capital Program. Nickolas J. Kinderman, P.E. Regional Planning and Program Manager, NYSDOT	Date
B. Recommendation for Scope, Design, and Nonstandard Feature Approval:	All requirements requisite to these actions and approvals have been met, the required independent quality control reviews separate from the functional group reviews have been accomplished, and the work is consistent with established standards, policies, regulations, and procedures, except as otherwise noted and explained. No nonstandard features have been identified, created, or retained. David Jenkinson, P.E. Project Manager, Popli Design Group	Date
C. Public Hearing Certification:	A public hearing was not required. David Jenkinson, P.E. Project Manager, Popli Design Group	Date
D. Categorical Exclusion Determination on Behalf of FHWA	This project qualifies as a Categorical Exclusion under the National Environmental Policy Act per the NYSDOT/FHWA Programmatic Agreement Regarding Categorical Exclusions. Eric A Meka, P.E. Regional Director, NYSDOT	Date
E. Local Project Nonstandard Feature Approval	No nonstandard features are being retained or created on Non-NHS local roadways. Darlene M. Svilokos, P.E. Responsible Local Official, Erie County DPW	Date
F. Local Project Scope and Design Approval	The required environmental determinations have been made, and the preferred alternative for this project is ready for final design. Darlene M. Svilokos, P.E. Responsible Local Official, Erie County DPW	Date

List of Preparers

Consultant Responsible for Production of this Project Scoping Report/Final Design Report (PSR/FDR):

David Jenkinson, P.E., Project Manager, Bridge Design

Description of Work Performed: Directed the preparation of the PSR/FDR in accordance with established standards, policies, regulations and procedures, except as otherwise explained in this document.

Note: *It is a violation of law for any person, unless they are acting under the direction of a licensed professional engineer, architect, landscape architect, or land surveyor, to alter an item in any way. If an item bearing the stamp of a licensed professional is altered, the altering engineer, architect, landscape architect, or land surveyor shall stamp the document and include the notation "altered by" followed by their signature, the date of such alteration, and a specific description of the alteration.*

Table of Contents

Project Approval Sheet i
List of Preparers ii
Table of Contents iii
Table of Appendices v

CHAPTER 1 – PROJECT DEVELOPMENT 1-1

1.1. Introduction 1-1
1.1.1. Project Location 1-1
1.2. Purpose, Need and Objectives 1-1
1.2.1. Project Need 1-1
1.2.2. Project Purpose 1-1
1.2.3 Project Objectives 1-2
1.3. Project Alternative(s) 1-2
1.4 Project Effects 1-3
1.4.1 Environmental Classification 1-3
1.4.2 Comparison of Considered Alternatives 1-3
1.4.3 Anticipated Permits/Coordination/Certifications 1-4
1.5 Preferred Alternative 1-5
1.6 Project Schedule and Cost 1-5
1.7 Public Involvement 1-7

CHAPTER 2 – EXISTING AND PROPOSED CONDITIONS AND CONSIDERATIONS 2-1

2.1 Functional Classification/National Highway System/Truck Access 2-1
2.2 Planning Considerations 2-1
2.2.1 Abutting Highway Segments and Future Plans 2-1
2.2.2 Local Plans for the Project Area 2-1
2.2.3 Access Control 2-1
2.3 Traffic Considerations 2-1
2.3.1 Traffic Volumes 2-1
2.3.2 Speed Studies 2-2
2.3.3 Level of Service Analysis 2-2
2.3.4 Safety and Crash History Analysis 2-2
2.3.5 Pedestrians, Bicyclists and Transit 2-4
2.4 Structures 2-5
2.4.1 Structures Data 2-5
2.4.2 Hydraulic Considerations 2-6
2.5 Design Standards 2-8
2.5.1 Critical Design Elements 2-8
2.5.2 Other Design Parameters 2-10
2.5.3 Existing and Proposed Highway/Bridge Plan and Section 2-10
2.5.4 Nonstandard/Nonconforming Features 2-10
2.6 Other Infrastructure Considerations 2-12
2.6.1 Pavement and Shoulder Conditions 2-12
2.6.2 Right of Way 2-12
2.6.3 Geotechnical 2-12
2.6.4 Access Management 2-12
2.6.5 Traffic Control Devices 2-13
2.6.6 Drainage Systems 2-13
2.6.7 Utilities and Lighting 2-13
2.6.8 Guide Railing, Median/Roadside Barriers and Impact Attenuators 2-14
2.6.9 Intelligent Transportation Systems (ITS) 2-14
2.6.10 Landscape and Community Enhancement Considerations 2-14
2.7 Work Zone Safety and Mobility 2-14
2.7.1 Transportation Management Plan 2-14

2.7.2 Proposed Work Zone Traffic Control 2-14
2.8 Additional Considerations....2-15
2.8.1 Constructability Review 2-15
2.8.2 Ownership and Maintenance Jurisdiction....2-15
2.8.3 Miscellaneous Information 2-15

CHAPTER 3 – SOCIAL, ECONOMIC AND ENVIRONMENTAL CONSIDERATIONS 3-1

3.1 National Environmental Policy Act (NEPA) 3-1
3.1.1 NEPA Cooperating/Participating Agencies....3-1
3.2 State Environmental Quality Review Act (SEQRA)....3-1
3.3 Additional Environmental Information....3-1
3.3.1 Community Planning....3-1
3.3.2 Detour 3-1
3.3.3 Wetlands 3-2
3.3.4 Surface Waterbodies 3-3
3.3.5 Stormwater Management 3-3
3.3.6 Floodplains....3-3
3.3.7 Threatened and Endangered Species....3-4
3.3.8 Invasive Species....3-4
3.3.9 Historic and Cultural Resources (Section 106)....3-4
3.3.10 Farmlands 3-5
3.3.11 Air Quality 3-5
3.3.12 Asbestos Containing Materials and Lead Paint....3-5
3.3.13 Hazardous Waste / Contaminated Materials 3-5

Table of Appendices

A.	Location Map, Detour Map, Plans, Profiles and Typical Sections

B.	Environmental Information
	• FEAW
	• SEERC
	• SEAF
	• ERM
	• FEMA FIRMette
	• FHWA Section 106 Determination Letter
	• USFWS
	  ○ Transmittal Form
	  ○ NLEB MANLAA Concurrence Letter
	  ○ CE ESA Monarch Butterfly Letter
	  ○ Species List
	  ○ Bridge Bat Assessment Form
	• Wetland Delineation Report
	• Asbestos/Haz Waste Report

C.	Traffic Information • Traffic Volume Calculation • Highway Safety Investigation Report

D.	Structures Information
	• Bridge Rehabilitation Justification Report (BRJR)
	  ○ Preliminary Rehabilitation Estimate
	  ○ Preliminary Replacement Estimate
	  ○ Life Cycle Analysis
	• Hydraulic Memo
	• InDepth Inspection Report
	• Bridge Record Plans

E.	Public Involvement
F.	Risk Management

CHAPTER 1 – PROJECT DEVELOPMENT

1.1. Introduction

This report was prepared in accordance with the NYSDOT Project Development Manual and FHWA NEPA guidance including but not limited to 23 CFR (Code of Federal Regulations) 771. Transportation needs have been identified (section 1.2.2), objectives established (1.2.3) to address the needs, and cost-effective alternatives developed (1.3). This project is federally funded.

23 CFR 771.117 b notes that actions normally classified as a Categorical Exclusion under NEPA will require FHWA to conduct environmental studies when unusual circumstances exist prior to determining NEPA classification. 23 CFR 771.117 b (4) identifies “Inconsistencies with any Federal, State, or local law, requirement or administrative determination relating to the environmental aspects of the action” as one of these unusual circumstances. Erie County, as the applicant, has made their SEQRA determination under separate cover prior to requesting signature on the Categorical Exclusion determination.

1.1.1. Project Location

A. Route number: N/A
B. Route name: Versailles Plank Road
C. SH (state highway) number and official highway description: N/A
D. BIN (Bridge Identification Number) and feature crossed: 3327390 / Big Sister Creek
E. City/Village/Township: Town of Evans
F. County: Erie
G. Length: Bridge and approaches (approx. 100 ft south and 250 ft north of the bridge)
H. From: N/A
I. Any other description information which is pertinent: N/A

See Appendix A for Location Map.

1.2. Purpose, Need and Objectives

1.2.1. Project Need

The project is needed to restore and prolong the service life of the structure. The structure was R-Posted after the 2020 Biennial Inspection. The bridge exhibits localized section loss of up to 20% on steel members along with deteriorating concrete elements and stream erosion resulting in undermining.

While the existing bridge has a current New York State (NYS) General Recommendation of 5.0, which does not categorize the bridge as “Deficient” under the NYS definition of having a general recommendation of less than 5.0, the bridge is fairly busy and used as a main north and south corridor for the area. Action will be necessary soon to restore the bridge to a fully functional condition.

1.2.2. Project Purpose

The purpose of this project is to correct the bridge’s structural deficiencies while improving the safety and functionality of the roadway by conforming to Federal, State, and Local Standards.

1.2.3 Project Objectives

(1) Eliminate structural deficiencies and provide a safe crossing meeting current Federal, State and County standards using cost effective techniques to minimize the life cycle cost of maintenance and extend structure service life.
(2) Meet the objectives above in a socially, economically, and environmentally sensitive manner.

1.3. Project Alternative(s)

Alternatives Under Consideration:

No Build: This alternative will result in the continued deterioration of the structure and roadway, resulting in increased maintenance and eventually requiring the structure to be closed to traffic. Although this alternative does not meet the project objectives, it will be retained for comparison to the other reasonable alternatives.

Bridge Rehabilitation: This alternative consists of the rehabilitation or replacement of the structurally deficient elements of the existing bridge. The scope of the rehabilitation will be superstructure replacement with repairs to the substructures.

The scope of work includes replacing the existing fracture critical steel girder-floorbeam-stringer superstructure with a new approximately 113’-0” long single span steel multi-girder superstructure with composite concrete deck. The bridge rail-to-rail width will remain as existing and will provide two paved 11’-0” lanes bounded on the outside with 6’-0” wide shoulders.

The existing abutments will be strengthened by removing a portion of the front face and installing a new facing with a reinforcement mat and anchors into rock/structure behind. Loads are expected to be increased only at the abutments due to the proposed bridge being one span so surface repairs will be performed at the wingwalls and retaining walls where necessary. New bridge pedestals will be constructed to accommodate the new superstructure and new elastomeric or MR bearings will be provided. The existing retaining wall in the north-east quadrant will be extended to ensure that the toe of embankment slope remains within the existing ROW.

The roadway improvements consist of full depth reconstruction of the roadway on the immediate approaches to the bridge and mill and overlay to tie into the existing roadway.

The existing steel bridge rail will be replaced with four rail bridge rail meeting current NYSDOT standards. To accommodate the additional space needed to install the railing, the bridge out-to-out will need to be widened 2” on both sides, increasing the out-to-out from 37’-0” to 37’-4”. The bridge rail will transition to guiderail at the end of bridge limits.

For a more in-depth discussion of the design criteria for the reasonable alternative under consideration see Section 2.5 of this report.

Alternatives Found to Be Not Reasonable:

Bridge Replacement: This alternative consists of the complete removal of the existing structurally deficient structure and construction of a new bridge on the same horizontal alignment. This alternative will satisfy the project objectives but would be more expensive and exceeds the funding amount available to the county and has been removed from further consideration. See the Bridge Rehabilitation Justification Report (BRJR) for the Rehabilitation versus Replacement Analysis in Appendix D of this report.

1.4 Project Effects

1.4.1 Environmental Classification

Exhibit 1-1 Environmental Classification Summary				
NEPA Classification	Class II CE	BY	NYSDOT on behalf of the Federal Highway Administration (FHWA)	
SEQRA Type:	Type II	BY	Erie County	

1.4.2 Comparison of Considered Alternatives

Exhibit 1-2 Comparison of Considered Alternatives		
Category	**Alternatives Evaluated**	
	No Build	**Bridge Rehabilitation – Superstructure Replacement**
Community Planning	Not consistent with the Evans-Angola Comprehensive Plan goals of maintaining and improving existing transportation infrastructure.	Consistent with the Evans-Angola Comprehensive Plan
Detour	None	Temporary Construction Impacts
Wetlands	None	Temporary Impacts – 0 ac Permanent Impacts – 0 ac USACE NWP 3 Section 401 WQC (Blanket)
Surface Waterbodies	None	Temporary Impacts USACE NWP 3 Section 401 WQC (Blanket)
Stormwater Management	None	Erosion and Sediment Controls as Required
Floodplains	None	No Adverse Impact Floodplain Development Permit Req'd
Endangered/ Threatened Species, Federal Review	None	NLEB (Endangered)– MA,NLAA Monarch Butterfly (Prop. Threatened) – No Jeopardy/No Conference
Endangered/ Threatened Species, State Review	None	NLEB - "Take Not Likely"
Invasive Species	None	Best Management Practices Req'd.
Cultural Resources (Section 106)	None	No Historic Properties Affected

Exhibit 1-2 Comparison of Considered Alternatives		
Category	**Alternatives Evaluated**	
	No Build	**Bridge Rehabilitation – Superstructure Replacement**
Farmland	None	No Effect
Air Quality	None	Exempt
Asbestos-Containing Materials	None	None
Lead-Based Bridge Paintings/Coatings	None	Impact
Hazardous Waste/Contaminated Materials	None	None
Social Impacts		
Property Impacts	None	None
Mobility (Pedestrian, bicycle, transit, etc.)	None	None
Crash Costs	Low	Low
Emergency Services	Bridge is currently R-Posted and will continue to deteriorate	Removal of R posting. Maintained and improved vehicular access to emergency services
Economic and/or Operational Impacts		
Economic Impacts	None	Improved vehicular access to residences, and emergency services
Temporary Detours	None	An off-site detour will be utilized for the closure of the road.
Utilities	None	Potential conflict during construction.
Construction Cost	None	$ 3.6M

Proposed Mitigation:

No mitigation is proposed for this project.

1.4.3 Anticipated Permits/Coordination/Certifications

The following environmental commitments (including permits, certifications, approvals, etc.) as well as coordination and consultation have either been begun or are anticipated for this project. Additional information is included in Chapter 3.

Exhibit 1-3 Anticipated Permits/Certifications/Coordination
Permits
NYS Department of Environmental Conservation (NYSDEC):
• Water Quality Certification (Blanket)
Army Corps of Engineers (USACE):
• Nationwide Permit #3 (PCN)
Others
• Town of Evans Floodplain Development Permit
Coordination
NYSDEC Article 24 Jurisdictional Determination
New York State Historic Preservation Officer (SHPO)
US Fish and Wildlife Service
New York Natural Heritage Program
Municipalities – Town of Evans
Metropolitan Planning Organization - Greater Buffalo-Niagara Regional Transportation Co
Utilities -Verizon, Spectrum, National Grid

1.5 Preferred Alternative

Only one reasonable build alternative, Bridge Rehabilitation, has been identified that meets the project objectives. A decision to enter final design will not be made until after the environmental determination is made and evaluation of the comments on the draft design approval document and comments received from the public informational meeting has been completed.

The No Build Alternative will be retained for use as a baseline to measure and evaluate impacts that might accrue from the preferred alternative.

1.6 Project Schedule and Cost

Exhibit 1-4 - Project Schedule	
Activity	**Date Occurred/Tentative**
Scope/Design Approval	October 2026
ROW Acquisition	N/A
Construction Start	April 2028
Construction Complete	November 2028

Risk Management:

i. Market volatility in construction materials pricing represents the highest-scored risk to the project, with the potential for cost escalation and a likely delay to ensure additional funding is available should costs increase. To mitigate this risk, price quotes for any material identified as vital to the project will be obtained from additional sources to help ensure competitive and honest pricing is

obtained. Where alternative options are available for a given task, the cost of the alternative will be evaluated against the specified material to identify the best value for the project.

ii. The BridgeNY Program allows 24 months for design and 30 months for construction. To mitigate this risk, all responsible parties will be made aware of the schedule timelines established by BridgeNY, and milestones will be set for responsible parties to achieve throughout design and construction to help keep the project on schedule.

iii. Repairs to existing substructures and the installation of drilled and grouted anchors carry the risk of exposing unexpected concrete conditions or poor strata behind existing abutments once work begins. A contingency has been added to the estimate to account for additional repair area, and repairs will be based on in-situ conditions encountered during construction rather than assumptions made during design. For anchor installation, pullout tests will be performed during construction to confirm anchors are installed to their design capacity, reducing the risk of a rework or schedule delay associated with inadequate anchor performance.

Refer to Appendix F Risk Management for additional information on risk management.

Exhibit 1-5 - Project Cost

Activities		Recommended Alternative
Construction Costs	Bridge	$ 2,088,000
	Highway	$ 378,000
	Field Change Item (5%)	$ 123,300
Subtotal 1		$ 2,589,300
Contingency (20%)		$ 517,860
Mobilization (4%)		$ 103,572
Subtotal 2 (Rounded)		$ 3,211,000
Expected Award Amount (Inflate current costs/prices at 3%/yr. to 2027)		$ 3,307,000
Construction Inspection (TIP Estimated Cost)		$ 300,000
ROW Cost (TIP Estimated Cost)		$ 0
Total Alternative Cost		$ 3,607,000
Design Cost		$ 330,000
Total Project Cost		$ 3,937,000

The estimated project costs exceed the available funds of $3,307,350. Should the actual project costs exceed funding levels, Erie County will pay the overrun amount.

A detailed construction cost estimate is provided in Appendix D. The construction estimate is based on approximate itemized quantities and NYSDOT pay item unit prices, adjusted as necessary based on similar projects and item quantities. The estimate includes incidentals and contingencies.

1.7 Public Involvement

An open house format and public website was utilized allowing stakeholders to submit questions or concerns on their own accordance during the comment period.

Outreach letters were sent to public officials, emergency responders, schools, adjacent property owners, and other potential stakeholders to notify them of the proposed project and outline potential impacts. A comment form included allowed recipients to submit questions or concerns.

Refer to Appendix E for public outreach information.

Exhibit 1-6
Public Involvement Plan Schedule of Milestone Dates

Activity	Date Occurred/Tentative
Open House Start	TBD
Public Outreach (Website)	TBD
Public Outreach (Mailers)	TBD
End of Comment Period (End of Open House and Website)	TBD
Current Project Letting date	October 2027

For additional information or to provide comments, please contact:

Mailing Address: Jonathan DePlanche', P.E., Project Manager
Erie County DPW – Highways
Erie County Rath Office Building
95 Franklin Street, Suite 1400
Buffalo, New York 14202
Email Address: Jonathan.DePlanche@erie.gov
Telephone: (716) 858-6605

Please include the six-digit Project Identification Number (PIN) 5765.33 in any correspondence.

The remainder of this report is a detailed technical evaluation of existing conditions, anticipated impacts of the one reasonable/preferred alternative and comparison to the null alternative, copies of technical reports and plans and other supporting information.

CHAPTER 2 – EXISTING AND PROPOSED CONDITIONS AND CONSIDERATIONS

2.1 Functional Classification/National Highway System/Truck Access

Exhibit 2-1 Classification Data	
Route(s)	Versailles Plank Road
Functional Classification	09 – Local Road, Rural
National Highway System (NHS)	No
Designated Truck Access Route	No
Qualifying Highway	No
Within 1 mile of a Qualifying Highway	No
Within the 16 ft vertical clearance network	No

2.2 Planning Considerations

2.2.1 Abutting Highway Segments and Future Plans

Erie County has confirmed that there are no plans to reconstruct or widen this highway segment, or the adjoining segments, within the next 20 years.

2.2.2 Local Plans for the Project Area

This project is on the approved Greater Buffalo-Niagara Regional Transportation Council (GBNRTC) 2023-2027 Transportation Improvement Program (TIP) with the Project Identification Number (PIN) 5765.33.

There are no approved developments planned within the project area that will impact traffic operations.

2.2.3 Access Control

Access is uncontrolled along Versailles Plank Road. Several local street connections and many driveways exit onto the roadway. The project will not change the existing access control.

2.3 Traffic Considerations

2.3.1 Traffic Volumes

Exhibit 2-2 Existing and Forecast Traffic Volumes				
	VERSAILLES PLANK ROAD		PONTIAC ROAD	
Year	AADT	DHV	AADT	DHV
Existing (2026)	2,862	266	348	28
ETC (2027)	2,877	268	350	28

ETC+10 (2037)	3,024	281	368	30
ETC+20 (2047)	3,179	296	387	31

Note: ETC is the Estimated Time of Completion

Forecast no-build design year traffic volumes – The Estimated Time of Completion (ETC) + 20 design year was selected per HDM Chapter 5.

2.3.2 Speed Studies

Exhibit – 2-3 Speed Data		
Route	Versailles Plank Road	Pontiac Road
Existing Speed Limit (mph)	45	Not Posted
Operating Speed (mph) and Method Used for Measurement	53 (85th Percentile, 2022)[1]	52 (85th Percentile, 2022)[1]

1. 85th percentile speeds sourced from NYSDOT Traffic Data Viewer from "Actual" measurements

2.3.3 Level of Service Analysis

The low volume of traffic indicates that a formal level of service analysis is not needed for this project. Erie County does not anticipate any capacity improvements within 20 years.

2.3.4 Safety and Crash History Analysis

A Highway Safety Investigation was completed for the project location in accordance with the Highway Design Manual Chapter 5 from 03/01/2022 to 02/28/2025. The study area was one-half mile radius around the Versailles Plank Road bridge in the Town of Evans in Erie County. The area includes the intersection of Versailles Plank Road and Pontiac Road. The study analyzed the data as both a roadway segment and an intersection. The Highway Safety Investigation report can be found in Appendix C.

The PSI (Potential for Safety Improvement) is the difference between the expected crash frequency and the predicted crash frequency. The Highway Safety Manual (HSM) refers to the PSI as the Excess Expected Average Crash Frequency. When the PSI is greater than zero, a site experiences more crashes than expected. When the PSI is less than zero, a site experiences fewer crashes than expected.

The Level of Service of Safety (LOSS) is a measure of standard deviations above 0 PSI.

Level 4: > 90th percentile.

Level 3: 50th to 90th percentile.

Level 2: 10th to 50th percentile.

Level 1: < 10th percentile.

The PSI for segment analysis within this project area is listed in Exhibit 2-4. The PSI for the intersection analysis is listed in Exhibit 2-5.

Exhibit 2-4

Roadway Facilities from Highway Safety Screening							
Total Crashes							
Site	**Begin MP/ Ref Mrkr**	**End MP/ Ref Mrkr**	**Observed Crashes /yr**	**Predicted Crashes/ yr (spf)**	**Expected Crashes /yr**	**PSI**	**LOSS**
Versailles Plank Road	0.5 mile south of bridge	0.5 mile north of bridge	2.0	2.5062	2.1679	-0.3382	2
Fatal and Injury Crashes							
Site	**Begin MP/ Ref Mrkr**	**End MP/ Ref Mrkr**	**Observed Crashes /yr**	**Predicted Crashes/ yr (spf)**	**Expected Crashes /yr**	**PSI**	**LOSS**
Versailles Plank Road	0.5 mile south of bridge	0.5 mile north of bridge	0.67	0.3727	0.4449	0.0722	3

Exhibit 2-5 Intersections from Highway Safety Screening							
Total Crashes							
Intersection	**Reference Marker**	**Type**	**Observed Crashes/yr**	**Predicted Crashes/yr (spf)**	**Expected Crashes/yr**	**PSI**	**LOSS**
Versailles Plank Road	Pontiac Road	Pontiac Road	1.3	0.4740	0.8662	0.3922	3
Fatal and Injury Crashes							
Intersection	**Reference Marker**	**Type**	**Observed Crashes/yr**	**Predicted Crashes/yr (spf)**	**Expected Crashes/yr**	**PSI**	**LOSS**
Versailles Plank Road	Pontiac Road	Pontiac Road	0.67	0.1438	0.2840	0.1402	3

There are no PILs (Priority Investigation Locations) within the study area. The project area does not overlap with ARWP sites.

This location is not eligible for any systemic safety improvements or does not appear as an eligible site for any systemic safety action plans.

The statistical Test of Proportions (Exhibit 2-6) shows the proportions and number crash types:

Exhibit 2-6 Statistical Test of Proportions	
Versailles Plank Road From ½ mile south of bridge to ½ mile north of bridge	
Run off the Road	33% (2)
Animal	17% (1)
Right Angle	33% (2)
Rear End	17% (1)

The analysis identified no treatable patterns of crashes within the segment analysis. The analysis identified the following crash patterns within the intersection analysis. See Exhibit 2-7.

Exhibit 2-7
Patterns and Trends – Intersection

Intersection	Ref Mrkr	Type	Crash Type	Pattern/Trend
Versailles Plank / Pontiac Road	N/A	Rural 3-Leg Stop-Controlled	Right Angle	Failure to Yield the ROW

Based on the Highway Safety Screening results a MUTCD W4-4P – "CROSS TRAFFIC DOES NOT STOP" signs is proposed to be installed as supplementary signage on both of the intersection legs for Pontiac Road. Additionally, turning radii for all quadrants of the intersection between Versailles Plank Road and Pontiac Road will be increased.

2.3.5 Pedestrians, Bicyclists and Transit

Pedestrians

There are no existing separate provisions for pedestrians within the project limits. There is low-density residential development in the project area that generates infrequent pedestrian travel. The pedestrian trips that do exist are anticipated to be primarily recreational trips without a specific destination along with some residence to residence travel. Pedestrians may legally use the 6-ft. paved shoulder per the NYS Vehicle and Traffic Law Section 1156(b). No pedestrian-specific accommodations are warranted. This is consistent with HDM Chapter 18.

Bicyclists

The existing level of and potential for bicycling is characterized as low due to the rural nature of the project area. There are generators of infrequent bicycle traffic within and near the project limits, such as a post office, and scattered highway-related restaurants and services. The route is not a designated bicycle route.

Given the rural nature of the roadway, a shoulder is the primary means of accommodating bicyclists. Bicyclists may legally use the paved shoulder and roadway consistent with the NYS Vehicle and Traffic Law Section 1234.

Transit

There are no transit facilities present within the project area.

2.4 Structures

2.4.1 Structures Data

The existing bridge is described below. The project proposes to replace the existing fracture critical steel girder-floorbeam-stringer superstructure with a new approximately 113'-0" long single span steel multi-girder superstructure with composite concrete deck. The bridge rail-to-rail width will remain as existing and will provide two paved 11'-0" lanes bounded on the outside with 6'-0" wide shoulders. Strengthening will be performed at the abutments with repairs occurring to wingwalls and retaining walls where necessary and the existing pier will be demolished. New bridge pedestals will be constructed to accommodate the new superstructure and new elastomeric or MR bearings will be provided. The existing retaining wall in the north-east quadrant will be extended to ensure that the toe of embankment slope remains within the existing ROW.

Exhibit 2-8
Structure Data

DATA	EXISTING STRUCTURE	PROPOSED STRUCTURE
BIN	3327390	
Feature Carried/Crossed	Versailles Plank Road over Big Sister Creek	
Type of Bridge	Steel Girder-Floorbeam-Stringer	Steel Multi-Girder
Number and Length of Spans	Span 1 – 56'-3" Span 2 – 56'-9"	Span 1 – 113'-0"
Lane Width(s)	11'-0"	11'-0"
Shoulder Width(s)	6'-0"	6'-0"
Sidewalk(s)	N/A	N/A
Utilities Carried	None	None
Horizontal Clearance(s)	6'-0" (Shoulder)	6'-0" (Shoulder)
Vertical Clearance(s)	N/A	N/A
State Condition Rating	5.0	7.0
Bridge Design Criteria	NYSDOT Standard Specifications for Highway Bridges, HS 20 Loading with LFR Inventory Rating Factor ≥ 1.0	Superstructure: NYSDOT LRFD Bridge Design Specifications with LRFR Inventory Rating Factor ≥ 1.2 Substructure: NYSDOT Standard Specifications for Highway Bridges, HS 20 Loading with LFR Inventory Rating Factor ≥ 1.0

History & Deficiencies –

The existing bridge was built in 1928 and is a two-span steel girder-floorbeam-stringer bridge. The bridge underwent major rehabilitation in 1980 during which steel repairs were carried out, the deck, bearings, and railings were replaced and repairs were made to the substructures. The bridge out-to-out width is 37'-0" and the spans are 56'-3" and 56'-9". See record plans in Appendix D.

Per the 2024 Biennial Bridge Inspection Report, the following elements are rated as Condition State 3 or lower, indicated that they are in poor condition:

- Reinforced Concrete Deck
- Steel Stringer
- Steel Floor Beam
- Reinforced Concrete Abutment
- Reinforced Concrete Pile Cap/Footing
- Reinforced Concrete Pier Cap
- Reinforced Concrete Approach Slab
- Erosion or Scour
- Stream Hydraulics
- Backwall

Inspection -

An in-depth inspection was performed during the scoping phase to determine the condition of the existing abutments, wingwalls, and retaining walls. The concrete substructures were sounded in accessible areas to determine the full extent of repairs needed for these elements. The existing abutments and wingwalls exhibit numerous areas of spalled and hollow sounding concrete and cracks were typically less than 1/8 of an inch. The in-depth inspection report is included in Appendix D of this report which provides sketches of these substructures.

The last Biennial Inspection of the bridge was completed in September 4, 2024. The following provides a summary of the findings of the Biennial Inspection Report:

- Bridge is R-Posted.
- Fascia overhangs have isolated spalls along the undersides and edges. Spall depth reached 2” at the worst locations and spalls have exposed deck reinforcing bars in several of the spalls.
- The underside of deck has some transverse hairline cracks that extend fully or partially across the bays. The cracks have light efflorescence staining in the worst locations.
- The bridge was painted prior to the 2026 inspection and the protective coating remains intact. There are no signs of active corrosion but there still is section loss of up to 20% on some steel elements.
- The existing abutments exhibit multiple spalls, cracks, and areas of hollow sounding concrete.
- Runoff from the above roadway over time has eroded the shale creek bank along the south wingwall footings and as a result the south wingwalls are being undermined by up to 18” in the worst location.
- Creek action over time has eroded the shale creek stream bed and as a result the begin abutment footing is undermined up to 3” in the worst location and the pier footing is undermined up to 12” in the worst location.

Restrictions –

The bridge is currently R-Posted since 2020.

Waterway –

A Coast Guard Checklist is not required.

2.4.2 Hydraulic Considerations

Big Sister Creek is a perennial stream. The drainage area at Versailles Plank Road is 26.7 mi^2 as delineated by *USGS StreamStats*. In accordance with New York State Department of Transportation

(NYSDOT) guidance, the *USGS StreamStats* application was utilized to approximate peak discharges at the project location. The 50-year and 100- year flow from StreamStats, increased by 10% to account for climate change and future development, are 4,059 cfs and 4,719 cfs, respectively.

The FEMA Flood Insurance Rate Map (Panels 36029C0626H, 36029C0627H, and 36029C0464H) for Erie County, New York shows the project area within a detailed (Zone AE) study area with a delineated floodway; therefore, FEMA will not allow any increase (0.00 ft) to the 100-yr water surface elevation (based on FEMA's published 100-yr flow) from existing to proposed conditions. The published 50-yr and 100-yr flows nearest the project site in the FIS for Big Sister Creek, reported "Upstream of confluence with Unnamed Tributary" with a drainage area of 45.8 mi^2, are 6,100 cfs and 6,800 cfs, respectively.

The FEMA discharges are significantly larger than the flows determined by *StreamStats*. This discrepancy can largely be attributed to the difference in drainage area between the *USGS StreamStats* (26.7 mi^2) and the FEMA flows (45.8 mi^2). The FIS does not provide flows for Big Sister Creek anywhere closer to the project location. Therefore, the *USGS StreamStats* flows, increased by 10% to account for future development and climate change in accordance with NYSDOT guidance, were used as the design flows in the hydraulic analysis and to assess the structure against bridge design criteria. The published FEMA 100-yr flow was also included to ensure the project complies with federal requirements.

A steady state, 1-dimensional hydraulic model was developed for Big Sister Creek within the project area utilizing HEC-RAS Version 6.6. The model was built using project survey data and 2019 1-meter digital elevation models (DEM) obtained from the NYS GIS Clearinghouse.

Existing Conditions

The existing bridge was modeled with a 109 ft clear span and a low chord elevation of 716.94 ft. The existing pier is centered within the overall span. The pier width varies from 8.5 ft at the streambed to 5.1 ft where it meets the superstructure. The bridge has an out-to-out width of 37 ft. The vertical clearance of the hydraulic opening is approximately 26-27 ft. The superstructure is elevated well above the bottom of the gorge.

The existing conditions hydraulic model indicates that there is 19.6 ft of freeboard to the low chord for the Design 50-yr event. The Design 100-yr water surface flows through the bridge with 18.9 ft of freeboard to the low chord. The velocities in the channel range from 4 to 10 ft/s. There is 17.2 ft of freeboard to the low chord over the FEMA 100-yr water surface elevation.

Proposed Conditions

The proposed rehabilitation includes the replacement of the two-span superstructure with a single-span superstructure. The existing pier will be removed in its entirety. The existing abutments will be repaired in a way that does not increase their encroachment on the channel. The proposed conditions model was created by duplicating the existing conditions hydraulic model and eliminating the pier. The rest of the proposed model remains the same as existing since the pier is the only element of the bridge that affects flow and its removal is the only hydraulically significant change. As a result of removing the pier, the hydraulic opening will be increased by 6% (from 2,666 ft^2 to 2,823 ft^2). The bridge out-to-out width will need to be increased 2" on both sides to accommodate the proposed bridge rail, increasing the out-to-out from 37'-0" to 37'-4".

The results of the proposed hydraulic analysis show 19.7 ft of freeboard to the low chord at the Design 50-yr event, which exceeds NYSDOT's 2 ft freeboard requirement. The Design 100-yr water surface flows through the bridge with freeboard (19.0 ft), which exceeds NYSDOT's requirement of the Design 100-yr flow passing through the bridge without impacting the superstructure. Water surface elevations for both the Design 50-yr and Design 100-yr events are maintained or slightly lowered throughout the modeled reach of Big Sister Creek. There is no rise to water surface elevations for the FEMA 100-yr flow, which meets federal requirements.

Scour

The entire channel width is bedrock. Scour is dependent on the competency of the rock determined by the geotechnical analysis. Typical scour computations are not appropriate.

Based on the velocities, medium stone is recommended for protection along the abutments where designated in the plans. Given the bedrock nature of the stream, anchoring the stone into the bedrock or some other measure should be considered to help keep the stone in place.

The hydraulic analysis shows that the overall velocities through the bridge have slightly decreased due to the proposed removal of the existing pier. Therefore, there is no increased risk of scour through the rehabilitated structure.

Summary

The results of the hydraulic modeling show that the proposed bridge will not increase Design 50-yr and Design 100-yr water surface elevations within the project reach. The proposed bridge will not increase FEMA 100-yr water surface elevations, which meets federal requirements for projects located within Detailed (Zone AE) study areas with a delineated floodway. The proposed bridge exceeds NYSDOT bridge design criteria with regard to freeboard for the Design 50-yr event and the Design 100-yr event does not impact the superstructure.

The proposed low chord elevation matches existing in this analysis. Since the freeboard over all modeled events, including the FEMA 100-yr is greater than 17 ft, the elevation of the proposed low chord may be adjusted as needed to accommodate the depth of a single span superstructure without affecting water surface elevations and design criteria.

Documentation regarding the hydraulic analysis is included in Appendix D.

2.5 Design Standards

2.5.1 Critical Design Elements

Exhibit 2-9
Critical Design Elements for Versailles Plank Road

PIN	5765.33	**BIN** (if applicable)		3327390	
Functional Class:	Rural Local	**NHS**	☐	**Non-NHS**	X
Design Class:	Local	**Context Class:**		Rural	
Project Type:	Bridge Rehabilitation	**Terrain:**		Flat	
Design Year AADT:	3,177 (2047, ETC+20)	**Percentage of Trucks:**		5%	
Truck Access or Qualifying Highway (QH)?	Neither	**If not a QH, is project within 1 mi of a QH?**		No	
Existing or Proposed Bicycle Route?	No	**Anticipated level of bicycle activity**		Low	

	Element	Standard	Existing Condition	Proposed Condition
1	Design Speed	50-55 mph HDM Section 2.7.4.1-A	45 mph posted	55 mph[1]

Exhibit 2-9
Critical Design Elements for Versailles Plank Road

PIN	5765.33	**BIN** (if applicable)		3327390	
Functional Class:	Rural Local	**NHS**	☐	**Non-NHS**	X
Design Class:	Local	**Context Class:**		Rural	
Project Type:	Bridge Rehabilitation	**Terrain:**		Flat	
Design Year AADT:	3,177 (2047, ETC+20)	**Percentage of Trucks:**		5%	
Truck Access or Qualifying Highway (QH)?	Neither	**If not a QH, is project within 1 mi of a QH?**		No	
Existing or Proposed Bicycle Route?	No	**Anticipated level of bicycle activity**		Low	

Element		**Standard**	**Existing Condition**	**Proposed Condition**
2	Lane Width	11 ft HDM Section 2.7.4.1-B, EX 2-7	Appx. 10'-6"	11'-0"
	Approach Lane Width		Appx. 10'-6"	11'-0"
3	Shoulder Width	6 ft HDM Section 2.7.4.1-C, EX 2-7	Appx. 2'-0"	6'-0"
	Approach Shoulder Width		Appx. 5'-0"	6'-0"
4	Horizontal Curve Radius	651 ft Min (at e_{max}= **8%**) HDM Section 2.7.4.1-D, EX 2-7	Tangent	Tangent
5	Superelevation	e_{max} = **8%** HDM Section 2.7.4.1-E, EX 2-1b	Normal Crown	Normal Crown
6	Stopping Sight Distance (Horizontal and Vertical)	455 ft Min. HDM Section 2.7.4.1-F, EX 2-7	>455 ft	>455 ft
7	Maximum Grade	6% HDM Section 2.7.4.1-G, EX 2-7	2.7%	3.6%
8	Cross Slope	1.5% Min., 3.0% Max. HDM Section 2.7.4.1-H	2%	2%
9	Vertical Clearance	14 ft Min.BM Section 2.3.1, Table 2-2	Unlimited	Unlimited
10	Design Loading Structural Capacity	Superstructure: NYSDOT LRFD Bridge Design Spec. with LRFR Inventory Rating Factor ≥ 1.2 and NYSDOT Standard Spec. for Highway Bridges, HS 20 Loading with LFR Inventory Rating Factor ≥ 1.0 Substructure: NYSDOT LRFD Bridge Design Spec. BM Section 2.5.1 and Table 2-4	NYSDOT Standard Specifications for Highway Bridges, HS 20 Loading with LFR Inventory Rating Factor ≥ 1.0	Superstructure: HL-93 with LRFR ≥ 1.2 & HS-20 with LFR ≥ 1.0 Substructures: NYSDOT Standard Specifications for Highway Bridges, HS 20 Loading with LFR Inventory Rating Factor ≥ 1.0

Exhibit 2-9 Critical Design Elements for Versailles Plank Road					
PIN	5765.33	**BIN** (if applicable)		3327390	
Functional Class:	Rural Local	**NHS**	☐	**Non-NHS**	X
Design Class:	Local	**Context Class:**		Rural	
Project Type:	Bridge Rehabilitation	**Terrain:**		Flat	
Design Year AADT:	3,177 (2047, ETC+20)	**Percentage of Trucks:**		5%	
Truck Access or Qualifying Highway (QH)?	Neither	**If not a QH, is project within 1 mi of a QH?**		No	
Existing or Proposed Bicycle Route?	No	**Anticipated level of bicycle activity**		Low	

Element		Standard	Existing Condition	Proposed Condition
11	Americans with Disabilities Act Compliance[2]	HDM Chapter 18 and the Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way (PROWAG)	No existing pedestrian facilities	No new proposed pedestrian facilities.

Notes:

1 The proposed Design Speed of 55 mph is consistent with the anticipated off-peak 85th percentile speed and is within the design classification's range of design speeds for terrain and volume.

2 Refer to Section 2.3.5 for detailed pedestrian facility information.

2.5.2 Other Design Parameters

Exhibit 2-10 Other Design Parameters			
Element	**Parameter**	**Existing Conditions**	**Proposed Condition**
Freeboard (BM 2.4.3)	2 ft for the 50-year design flood	>2-ft Freeboard	>2-ft Freeboard
Bridge Railing (BM 6)	BD-RS	Non-standard 4-rail Steel Rail	Four rail bridge rail meeting current NYSDOT standards

2.5.3 Existing and Proposed Highway/Bridge Plan and Section

The existing bridge roadway features two (2) 11-foot lanes with 6-foot shoulders, giving a total rail-to-rail width of approximately 34 feet. The existing approach roadway features two (2) 10.5-foot lanes with approximately 2-foot shoulders, giving a total width of 25 feet.

The proposed bridge and roadway will feature two (2) 11-foot lanes with 6-foot shoulders within the project limits, giving a total rail-to-rail width of 34 feet. For the Proposed Highway/Bridge Plans and Sections, see Typical Sections, Plan, and Profile sheets in Appendix A.

2.5.4 Nonstandard/Nonconforming Features

There are no nonstandard features within the project limits.

Corrected Nonconforming Features

Bridge Rail

The existing bridge rail is nonconforming, and proper transitions from the bridge rail to highway guide rail do not exist. The proposed bridge rail will utilize four rail bridge rail meeting current NYSDOT standards. The bridge rail will transition to guiderail outside of the bridge limits. Proper transitions will be installed.

The following nonconforming features are proposed to be retained.

Nonconforming Features

1) Minimum Length of Sag Vertical Curve
2) Intersection Turning Radii
3) Barrier Warrant
4) Point of Need
5) Barrier Height

Correcting these non-conforming features would be beyond the scope of this project. Below are descriptions of each retained feature.

Minimum Length of Sag Vertical Curve

Existing vertical curves to the north and south of the structure do not meet the desired minimum length of sag vertical curves, which is three times the design speed. The length of the proposed vertical curve south of the structure cannot be increased to meet this length due to the impact that performing the work would have on the structure's elevation and the intersection of Versailles Plank Road and Pontiac Road. As a result, the existing vertical curve length south of the structure is considered a non-conforming feature and is being carried forward. The vertical curve north of the structure has been increased to meet this length.

Intersection Turning Radii

Existing turning radii in all quadrants at the intersection of Versailles Plank Road and Pontiac Road are less than 30'. The northeast, northwest, and southwest radii of these quadrants cannot be increased to meet the desired radius of 30', as doing so would increase the amount of pavement reconstruction work to be performed on Pontiac Road beyond the intended scope of the project. Additional pavement is proposed to be added to the shoulders in the quadrants mentioned above and the radii of the curves will be increased to improve upon the existing condition. The radius of the southwest quadrant of the intersection will be retained as 19', but will have a widened shoulder to improve sight distance. The radius of the northwest quadrant has been increased from approximately 18.5' to 21', and the northeast quadrant's radius has been increased from approximately 9.5' to 13'. The radius of the southeast quadrant has been increased to 35', bringing that quadrant into conformance. As a result, the remaining turning radii for the northeast, northwest, and southwest quadrants are considered a non-conforming feature and are to be carried forward.

Barrier Warrant

The existing guiderail northwest of the structure does not meet current standards for length of need for a non-bypassable hazard due to constraints from an existing driveway. The barrier has been extended as far as is feasible for the project area, but the location of the driveway intercepts this runout. Given horizontal and vertical geometric characteristics of the site, features present in the area outside the roadway, and the lack of history of crashes at the location, it is unlikely that a vehicle could reach the creek area. The proposed condition will be increasing the length of the existing barrier to protect as much of the area as possible to mitigate risk to the traveling public.

Point of Need

The existing guiderail northwest of the structure do not meet current standards to protect a possible angle of departure from Versailles Plank Road due to constraints from an existing driveway. This feature will be maintained for the same reasons as described above in the “Barrier Warrant” section. As such, this nonconforming feature will be carried forward.

Barrier Height

Corrugated beam guide railing present in the northwest quadrant of the intersection between Versailles Plank Road and Pontiac Road is not set at a sufficient height. Replacing the entire run of guiderail to meet this standard is beyond the scope of this project. Segments of corrugated beam guide rail that will be installed at this location after transitioning from bridge rail will be mounted at a sufficient height for as long as is feasible before connecting to the existing rail system. As a result, corrugated beam guide railing beyond the limits of work will be maintained.

2.6 Other Infrastructure Considerations

2.6.1 Pavement and Shoulder Conditions

The bridge has an asphalt overlay that was placed in the past over the original monolithic reinforced concrete deck. The overlay was not carried into the shoulders and the original concrete deck surface is exposed in the left and right shoulders along the bridge. The asphalt overlay is in fair condition with minor transverse cracking and scrapes. The exposed concrete deck is in good condition in both shoulders.

The bridge rehabilitation will provide for a reconstructed pavement section with shoulders. The proposed typical section will provide 11’-0” lanes with 6’-0” shoulders and will consist of full depth asphalt with gravel subbase. See Appendix A for the typical section.

2.6.2 Right of Way

The approximate existing Right of Way (ROW) width is 66.0 feet based on historical documentation of when Versailles Plank Road was established. A permanent easement was established during the 1980 rehabilitation to the north west quadrant of the bridge. It is anticipated that this easement will allow for access to the underside of the bridge and stream.

The northeast wingwall is outside of the highway boundary and no records of an easement in this area exist. The in-depth inspection report indicates that there are no repairs to this wingwall in this area and therefore access to this section of wingwall is not needed.

The northeast retaining wall that supports the north approach slab and retains the fill under may need to be extended approximately 13’-0” to keep highway grading toe of slopes within the highway boundary.

The northwest retaining wall does not need to be extended due to the permeant easement.

Additional right-of-way will not be needed to perform the rehabilitation work of this project.

2.6.3 Geotechnical

There are no special geotechnical concerns with the soils or rock slopes within the project area. The existing substructures will be utilized and are founded on rock.

2.6.4 Access Management

Access to Versailles Plank Road will continue to have uncontrolled access.

2.6.5 Traffic Control Devices

There are currently no traffic signals within or near the project area. The existing signs are in fair to good condition and will be evaluated during final design and replaced as necessary. Two MUTCD W4-4 “Cross Traffic Does Not Stop” signs will be added as supplements for the stop sings on Pontiac Road. Other new signs will be added where required.

2.6.6 Drainage Systems

The drainage to the northwest is closed until approximately 130ft from the bridge with a drainage pipe discharging at the northwest wingwall. Between the bridge and 130ft northwest, stormwater flows off the roadway shoulders following the natural grade of the ground to the stream.

Stormwater to the northeast and south approaches flow freely off the roadway down the stream bank and into the stream. A closed drain pipe that runs under Pontiac Road to the southwest also discharges into the stream at the southwest quadrant.

The ditch at the southwest corner of the intersection of Versailles Plan Rd with Pontiac Rd will be filled in and require the placement of a new drainage inlet to accommodate stormwater runoff in that location.

The grading at the south of the bridge produces a gutter line for the water run-off from the top of roadway along the interface of the stream bank slope and existing southeast and southwest wingwalls. Over time, the stream bank has eroded along this gutter line and the wingwalls once keyed into rock are now currently undermined. The undermining of the wingwall bottoms ranges from 9” to 18” at the worst locations along the steep stream bank slopes. The undermining of the wingwall will be repaired with structural concrete and a gutter of grouted rip-rap will be installed alongside the wingwalls. The gutter will be sloped away from the wingwalls diverting water away from the structure mitigating the potential for future erosion at the wingwall and stream bank interface.

2.6.7 Utilities and Lighting

Exhibit - 2-11
Utilities

Owner	Type	Location/Side	Length	Condition/Conflict
National Grid	OH Power Line	West side of Versailles Plank Rd	South of Pontiac Rd	Pole in the southwest corner has the potential to be in conflict during construction. Located within highway boundary limits.
Spectrum	OH Communications Lines			
Verizon	OH Communications Lines			
TBD	Underground Communications Lines	East side of Versailles Plank Rd	South of the bridge there is buried cable crossing under Pontiac Rd	Potential conflict during construction. Located within highway boundary limits.
Verizon	OH Communications Lines	East side of Versailles Plank Rd	From Pontiac Rd heading north out of the project area.	Pole in the southeast corner of the bridge has the potential to be in conflict during construction. Located within highway boundary limits.

The aerial utilities identified above are mounted on poles located within the highway boundary. The respective utility owners will be responsible for permanently or temporarily relocating, de-energizing, or otherwise modifying their facilities to resolve the conflict. All associated utility work costs will also be the responsibility of the owners.

A utility coordination meeting will be held with the owners during final design to review the scope of work, develop a plan to address the conflicts and finalize any necessary agreements.

2.6.8 Guide Railing, Median/Roadside Barriers and Impact Attenuators

The existing bridge rail is nonconforming, and proper transitions from the bridge rail to highway guide rail do not exist. Concrete barrier was considered for this project, however, due to drainage recommendations from Erie County guide/bridge railing will be used. The proposed bridge rail will utilize four rail bridge rail meeting current NYSDOT standards. The bridge rail will include proper transitions to a highway rail system at all four corners of the bridge. Standard highway rail systems will be utilized where a rigid rail is not necessary due to grade drop-off or other reasons.

Exhibit 2-12
Proposed Location of Guide Railing, Median Barriers and Impact Attenuators

Type	Location	Side	Length (ft)
Corrugated Beam	Northwest quadrant of Versailles Plank/Pontiac Intersection	LT	50±
Box Beam	Northeast quadrant of Versailles Plank/Pontiac Intersection	RT	72 (Type 1 End Assembly)
Box Beam	West side of Versailles Plank Road, North of structure	LT	18 and 25± (Type 2A End Assembly)
Box Beam	East side of Versailles Plank Road, South of structure	RT	72 (Type 1 End Assembly)

2.6.9 Intelligent Transportation Systems (ITS)

There are no existing ITS features within the project limits and the Town and Evans does not plan to install any ITS elements.

2.6.10 Landscape and Community Enhancement Considerations

No landing scaping or community enhancements are required.

2.7 Work Zone Safety and Mobility

2.7.1 Transportation Management Plan

Erie County has determined that the subject project is not significant per 23 CFR 630.1010.

A Transportation Management Plan (TMP) will be prepared for the project consistent with 23 CFR 630.1012. The TMP will consist of a Temporary Traffic Control (TTC) plan. Transportation Operations (TO) and Public Information (PI) components of a TMP will be considered during final design.

2.7.2 Proposed Work Zone Traffic Control

An off-site detour will be required to maintain traffic during construction. The shortest off-site detour that uses County roads would utilize Gowans Road, Mill Street, North Main/South Main Street, and Pontiac Road (Option 1). This would add approximately 8.7 miles (15 minutes) to the journey. This detour route would require that the intersection with Pontiac Road and Versailles Plank Road remain fully open during construction. To achieve this the roadway to the south of the bridge in the intersection will have to be constructed utilizing staged construction.

An alternative off-site detour route would utilize Eden-Evans Center Road, North/South Main Street, and Cain Road (Option 2). This would add approximately 12.0 miles (20 minutes) to the journey. This route minimizes turning movements in the Village of Angola and directs traffic around the intersection of Versailles Plank and Pontiac Road in the event a lane closure of Pontiac Road is necessary for construction.

Signs will be placed along the off-site detour in accordance with the NYSDOT Manual for Uniform Traffic Control Devices to guide the travelling public. All signs shall be placed entirely within the right of way. See Appendix A for Detour Maps.

Off-site detour option will be determined prior to PS&E.

2.8 Additional Considerations

2.8.1 Constructability Review

A constructability review has not been performed for this project. The project work elements are expected to be routine. The schedule is not expected to be compressed and the work area should not be overly confined or restrictive. A final constructability review should be performed by the proposed construction inspection staff during the final design phase of the project.

2.8.2 Ownership and Maintenance Jurisdiction

Erie County currently owns and maintains this roadway and bridge. Ownership and maintenance jurisdiction will not change after construction.

2.8.3 Miscellaneous Information

There is no other pertinent information on the existing and proposed conditions.

CHAPTER 3 – SOCIAL, ECONOMIC AND ENVIRONMENTAL CONSIDERATIONS

Refer to the Social, Economic and Environmental Resources Checklist (SEERC) included in Appendix B for information on all environmental issues for which the project was screened.

3.1 National Environmental Policy Act (NEPA)

Per the Federal Highway Administration's regulations in 23 CFR 771.117, this project qualifies as a Categorical Exclusion (CE). The project is primarily a bridge rehabilitation, reconstruction or replacement or the construction of grade separation to replace existing at-grade railroad crossings (23 CFR 771.117(c)(28)) and does not significantly impact the environment. In accordance with the NYSDOT/FHWA Programmatic Agreement Regarding Categorical Exclusions, the NYSDOT on behalf of FHWA will make the NEPA environmental determination. Refer to the FEAW in Appendix B for the details of this determination.

3.1.1 NEPA Cooperating/Participating Agencies

The following agencies are Cooperating Agencies in accordance with 23 CFR 771.111(d):

- US Fish and Wildlife Service (USFWS)
- US Army Corps of Engineers (USACE)

3.2 State Environmental Quality Review Act (SEQRA)

Erie County DPW, as the lead agency, classified this project on June 9, 2026 as a Type II Action per 6 NYCRR Section 617.5(c)(2) "replacement, rehabilitation or reconstruction of a structure or facility, in kind, on the same site, including upgrading buildings to meet building, energy, or fire codes exceed any of the thresholds in Section 617.4 of this Part." The project does not exceed any of the thresholds in Section 617.4; therefore, no further review under SEQR is required. The short EAF is in Appendix B.

3.3 Additional Environmental Information

3.3.1 Community Planning

The Town of Evans teamed with the Village of Angola to adopt the Evans-Angola Comprehensive Plan, dated July, 18 2018. The plan states that maintenance of the existing roads and improving safety is a concern for the town. A goal of the town is to promote transportation strategies and physical design that consider the complete spectrum of users including motor vehicles, bicyclists, and pedestrians. The proposed project is consistent with this goal and therefore the comprehensive plan.

3.3.2 Detour

The project will require a temporary off-site detour in order to facilitate construction. The area is rural with few residents. The detour will have a limited, temporary impact to local residents and no significant increase in emergency response time is anticipated. Coordination with local residents will be maintained to ensure continued access to homes and agricultural fields, as necessary. Refer to Section 2.7.2 for additional information.

3.3.3 Wetlands

The project site has been reviewed for wetlands in accordance with the criteria defined in the 1987 US Army Corps of Engineers Wetland Delineation Manual and the definition of Waters of the United States in 33 CFR 328 and recent EPA guidance documents. A site investigation was conducted on September 22, 2025 to identify potential wetlands and waterways within the project area. Based on that investigation, one wetland was identified. A summary of the wetlands is provided below and in Exhibit 3-1. Additional information can be found in the Wetland and Waterways Survey Report included in Appendix B.

Wetland 1- This wetland is located on the eastern side of the bridge and within the channel of Big Sister Creek. It is upstream of the center pier of the bridge and creates a small (approximately 2,200 square feet) island. Wetland 1 has palustrine emergent vegetation (PEM). Common occurring species in this wetland is lakebank sedge (*Carex lacustris*), tussock sedge (*Carex stricta*), common boneset (*Eupatorium perfoliatum*), and ricecut grass (*Leersia orzyroides*). Purple loosestrife (*Lythrum salicaria*), an invasive species, occurs within this wetland.

Exhibit 3-1
Wetland Impacts

Wetland		Identified Functional Values	Total Size (acre)	Impacts (acre)			
				Alt. 1		Alt. 2	
ID	Type			Temp.	Perm.	Temp.	Perm.
1	PEM	• Sediment Retention • Nutrient Removal/Storage	0.03	0	0	0	0
Total Impacts				0	0	0	0

Federal Review:
Wetland 1 meets the criteria for federal wetlands under the jurisdiction of the USACE. No impacts are anticipated to this wetland as a result of constructing the project. No further review under Executive Order 11990 is required.

State Review:
New York State protects wetlands under Article 24 of the Environmental Conservation Law, also known as the Freshwater Wetlands Act. On April 8, 2026, the Albany County Supreme Court issued a decision which annulled 6 NYCRR Part 664 which had gone into effect on January 1, 2025. These sections of Part 664 defined state regulated wetlands as those wetlands that have an area of at least 12.4 acres in size or fulfilled one of 11 different “unusual importance” criteria. After the annulment, NYSDEC provided guidance that wetlands would be regulated under Article 24 of the Environmental Conservation Law if they are at least 12.4 acres in size or were previously mapped before January 1, 2025. This jurisdiction includes a 100-ft buffer that extends beyond the regulated wetland boundary which is termed the ‘regulated adjacent area’. In certain circumstances, NYSDEC may extend that 100-ft buffer pursuant to Section 664.7.

Prior to the annulment, NYSDEC Central Office made a jurisdictional wetland determination for this project and on November 11, 2025, a Positive Non-Parcel Jurisdictional Determination was received. The remote jurisdictional determination indicated that the project area contained both state jurisdictional wetlands and regulated adjacent area due to the presence of a FEMA Regulatory Floodway (one of the 11 unusual importance criteria), see Appendix B for details. On May 12, 2026, NYSDEC Central Office provide guidance for requesting a reassessment of jurisdictional determinations for projects that were

subject to regulation through “unusual importance” criteria. A request for reassessment was submitted on May 13, 2026 and is currently pending review.

To determine if the project area has the potential to meet current regulatory criteria, a desktop study was conducted following NYSDEC’s *Standard Operating Procedures (SOP) for Remote Jurisdictional Determinations and Classification of Freshwater Wetlands Pursuant ECL 24-0703 and 24-0903* (Last Revised: 11 May 2026). The desktop study revealed no wetlands within the ECL that meet the state jurisdictional criteria. Therefore, any wetlands found in the project area are unlikely to be state jurisdictional.

3.3.4 Surface Waterbodies

One surface waterbody was identified at the project site, Big Sister Creek. Big Sister Creek is a perennial stream. A review of 6 NYCRR 800- 941 has confirmed that this segment of Big Sister Creek has a class and standard of C and is a 303(d) segment. The best usage for Class/Standard C waters is fishing and secondary contact recreation. The water quality is impaired for fishing due to pH issues. Water quality has been unassessed for secondary contact recreation. Because Big Sister Creek is a Class C stream, it is not afforded protection under Article 15 Protection of Waters Program. Therefore, in-stream work restriction dates are not imposed.

Big Sister Creek is a direct tributary to Lake Erie, a traditional navigable waterway, and as such, meets the definition of Waters of the U.S. and is subject to regulation under the Clean Water Act. The project activities will require temporary fills in Waters of the U.S. for cofferdams and dewatering of the work site. It is anticipated that this work can be authorized under the U.S. Army Corps of Engineers (USACE) Section 404 Nationwide Permit #3 – Maintenance (Pre-Construction Notification), and a Blanket NYSDEC Section 401 Water Quality Certification. No stream loss is proposed as part of the work. The permits will be obtained once the location and the extent of the impacts are ascertained. Work will not commence until the permits are acquired and will adhere to any conditions set forth by the permit requirements.

3.3.5 Stormwater Management

The project will disturb less than one acre of soil and will not require a SPDES Permit. While this project is not required to assess the requirements for stormwater management practices, they should be considered where reasonable. Erosion and sediment control measures may be incorporated into the project, which may include but are not limited to straw mulch, silt fence, biofiber rolls, temporary seeding, sediment check dams, inlet protection and temporary diversion structures.

3.3.6 Floodplains

Compliance with Executive Order 11988 and 23 CFR 650 Subpart A are required since the project is located within the 1% annual chance floodplain (100-yr floodplain) of Big Sister Creek, as indicated on FEMA Flood Insurance Rate Map (FIRM) No. 36029C0626H for the Town of Evans, effective June 7, 2019. Therefore, an encroachment exists and a floodplain assessment or analysis has been conducted.

This type of project (rehabilitation of an existing bridge that already occurs within the floodplain) is a functionally dependent use of the floodplain as it must occur in close proximity to water. Big Sister Creek has a regulatory floodway. The hydraulic analysis, described in Section 2.4.2, indicates that the project does not increase the Base Flood Elevation by 1-ft or more.

In accordance with the provisions of 23 CFR 650.11(d), this action has considered and evaluated the practicality of alternatives to any floodplain encroachments. As a result of this evaluation, it is concluded that a significant encroachment does not exist because, (1) there is no significant potential for interruption or termination of a transportation facility which is needed for emergency vehicles, (2) there is not a significant risk, and (3) there are no significant impacts on natural beneficial floodplain values.

Erie County is the project sponsor; therefore, the project will require a local Floodplain Development Permit from the Town of Evans.

3.3.7 Threatened and Endangered Species

Federal Review

The project was reviewed using the USFWS's Information for Planning and Consultation (IPaC) online system (IPaC Project Code 2026-0005224). An official species determination list was most recently generated on May 29, 2026. The species list identified the potential federally listed threatened or endangered species to occur within the project area.

- Northern long-eared bat (*Myotis septentrionalis*) (NLEB) – is a federally listed endangered species. A Bridge/Structure Bat Assessment Form (BSAF) was completed on September 22, 2025. No evidence of bats was noted at the time of the assessment. The project will require the removal of ten trees with a diameter (at breast height) >3-in which will be conducted during the hibernation period. The project area is not located within 0.5 miles of a known hibernaculum. The project was reviewed using the FHWA determination keys referencing the *December 13, 2024, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects within the Range of the Indiana Bat, Northern Long-eared Bat and Tricolored Bat*. The review resulted in a determination of "may affect, not likely to adversely affect" (NLAA) for the NLEB. The concurrence verification letter from USFWS is dated June 5, 2026. No comments were received during the 14-day review period and concurrence with the NLAA determination was obtained on June 18, 2026.

- Monarch butterfly (*Danaus plexippus*) – On December 12, 2024, the U.S. Fish and Wildlife Service (USFWS) published a proposal in the Federal Register (FR 2024-28855) to list the monarch butterfly as threatened with protective regulations under section 4(d) of the Endangered Species Act of 1973 as amended (16 U.S.C. 1531 et seq.) (ESA). It is not anticipated that the project will create adverse effects to pollinator habitat. On December 31, 2024, the Federal Highway Administration (FHWA) issued a No Jeopardy determination for the Monarch butterfly for Categorical Exclusion projects. Further conference with FHWA and USFWS is not required.

State Review

The NLEB is automatically a state listed endangered species due to its federal listing. A review of the NYSDEC Environmental Resource Mapper (ERM) on January 21, 2026, indicated that the project is not located in an area known to inhabit any state listed or protected species, including the NLEB. A Bridge/Structure Bat Assessment Form (BSAF) was completed on September 22, 2025. No evidence of bats was noted at the time of the assessment. The project will require the removal of ten trees with a diameter (at breast height) >3-in which will be conducted during the hibernation period. The project area is not located within 0.5 miles of a known hibernaculum. As such, no further review with NYSDEC Natural Heritage Program is required. Erie County, in consultation with the NYSDOT, has made a "Take not likely" determination for the NLEB.

The ESA Section 7 Package is provided in Appendix B..

3.3.8 Invasive Species

During the site investigation, Japanese knotweed (*Reynoutria japonica*) and purple loosestrife (*Lythrum salicaria*), NYS listed invasive species, were identified at the project site. These species are found in light to moderate density scattered throughout the project area. The contractor will be instructed to utilize best management practices to minimize the spread of the invasive species. Due to the extent of the species located outside of the survey area, eradication measures are not recommended.

3.3.9 Historic and Cultural Resources (Section 106)

This federal-aid project is an undertaking subject to review under Section 106 of the National Historic Preservation Act and its implementing regulation, 36 CFR Part 800. The NYSDOT Regional Cultural Resource Coordinator completed a review of the project information submitted by the sponsor to assess Section 106 obligations for the project.

Based on the project activities for the proposed scope of work and consultation with SHPO the NYSDOT recommended, and the FHWA determined that the project will result in "No Historic Properties Affected" in accordance with 36 CFR 800.4 as described in the determination letter from FHWA dated XXX, found in Appendix B.

3.3.10 Farmlands

Federal Review
Prime or unique farmland occurs within the study area, however the proposed project activities will not convert any prime or unique farmland, or farmland of state or local importance, as defined by the USDA Natural Resources Conservation Service, to a nonagricultural use.
State Review
Based on a review of the NYS Agricultural District Maps for Erie County, the proposed project is located through portions of NYS Agricultural Districts #8 for Erie County. However, since the proposed project will not acquire more than 1.0 acre (0.4 hectares) from an actively operated farm within the Agricultural District, or more than 10 acres (4 hectares) within the Agricultural District, the notification requirements of the NYS Agriculture and Markets Law do not apply.

3.3.11 Air Quality

The project is in Erie County which is designated as an orphan nonattainment area for ozone and is in attainment for CO and PM2.5. The project is exempt pursuant 40 CFR Part 93.126 and is included in the currently conforming Transportation Improvement Program (TIP) and 2050 Metropolitan Transportation Plan (MTP) adopted by the Greater Buffalo Niagara Regional Transportation Council (GBNRTC) on May 5, 2023, and approved by the FHWA/FTA on June 15, 2023. The project was included in the Statewide Transportation Improvement Program (STIP) and was classified as an exempt project (type A19 – Widening narrow pavements or reconstructing bridges (no additional travel lanes)). Therefore, project level conformity requirements do not apply.

3.3.12 Asbestos Containing Materials and Lead Paint

Site walkovers were conducted on September 9, 2025 and December 26, 2025. No suspect asbestos-containing materials or PCB-containing materials were identified during the investigation. Lead-based paint is assumed to be present as no samples were obtained during the walkover. A review of available record information provided by impacted utilities did not identify any known asbestos containing materials. The full report is provided in Appendix B. However, BIN 3327390 was constructed in 1928 with a major rehabilitation in 1980, both of which occurred prior to 1989 when lead-based paint was discontinued. The bridge was repainted in 2016 but has not been cleaned to the SSPC SP-10 Total Removal Standard. Therefore, remnant lead paint must be presumed to remain on the bridge, and appropriate lead paint safety and disposal instructions and scope items should be included in the contract documents.

3.3.13 Hazardous Waste / Contaminated Materials

A Hazardous Waste/Contaminated Materials Site Screening has been conducted in accordance with NYSDOT TEM Chapter 4.4.20, in order to document the likely presence or absence of hazardous/contaminated environmental conditions. A hazardous/contaminated environmental condition is the presence or likely presence of any hazardous substances or petroleum products (including products currently in compliance with applicable regulations) on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or

petroleum products into structures on the property or into the ground, ground water, or surface water of the property.

The Hazardous Waste/Contaminated Materials Site Screening included a review of NYSDEC regulatory data files and a site ‘walkover’ on September 9, 2025 and December 26, 2025.

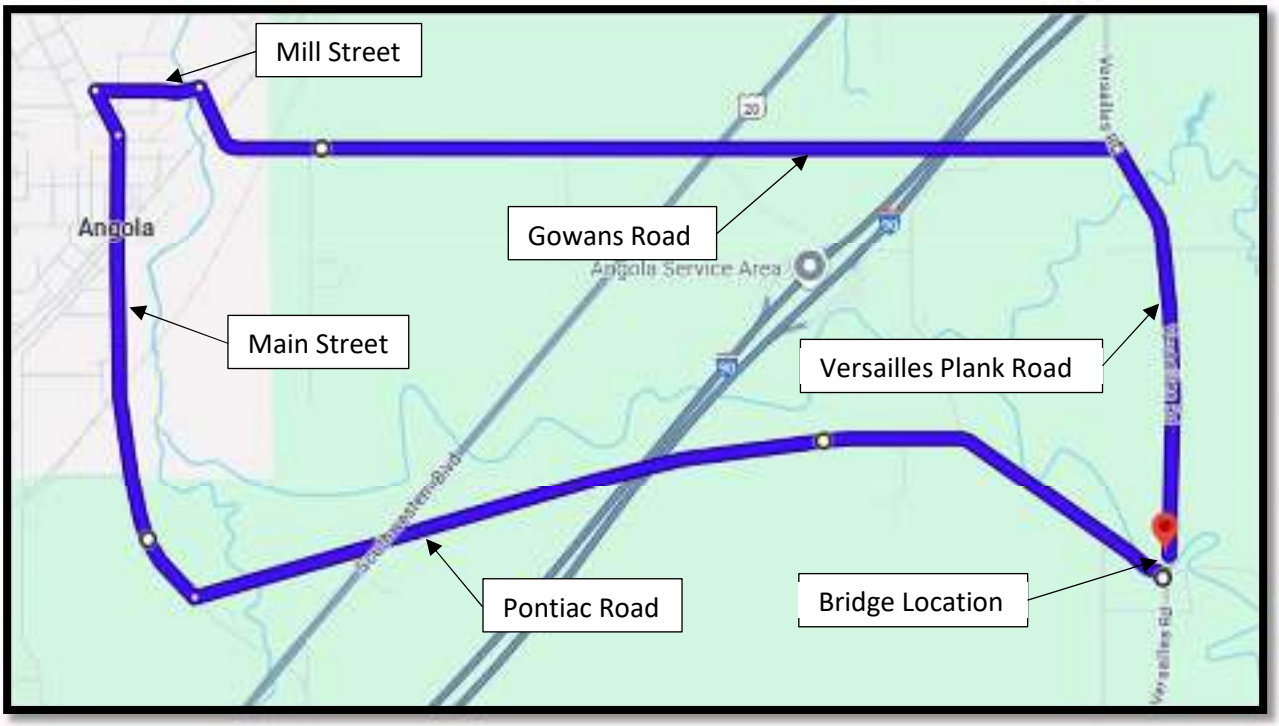
No hazardous waste/contaminated materials were identified within or adjacent to the project area during the course of the Hazardous Waste/Contaminated Materials Site Screening. The potential risk for involvement with documented or undocumented inactive hazardous waste/contaminated materials is low. The County does not believe that additional studies or investigations are warranted.

APPENDICES

APPENDIX A

Maps, Plans, Profiles & Typical Sections

Project Location Map
Versailles Plank Road over Big Sister Creek (BIN 3327390)
Town of Evans, Erie County, NY



OFF-SITE DETOUR MAP

Option 1: 8.7 miles (15 Minutes)

Gowans Road, Mill Street, North/South Main Street, and Pontiac Road

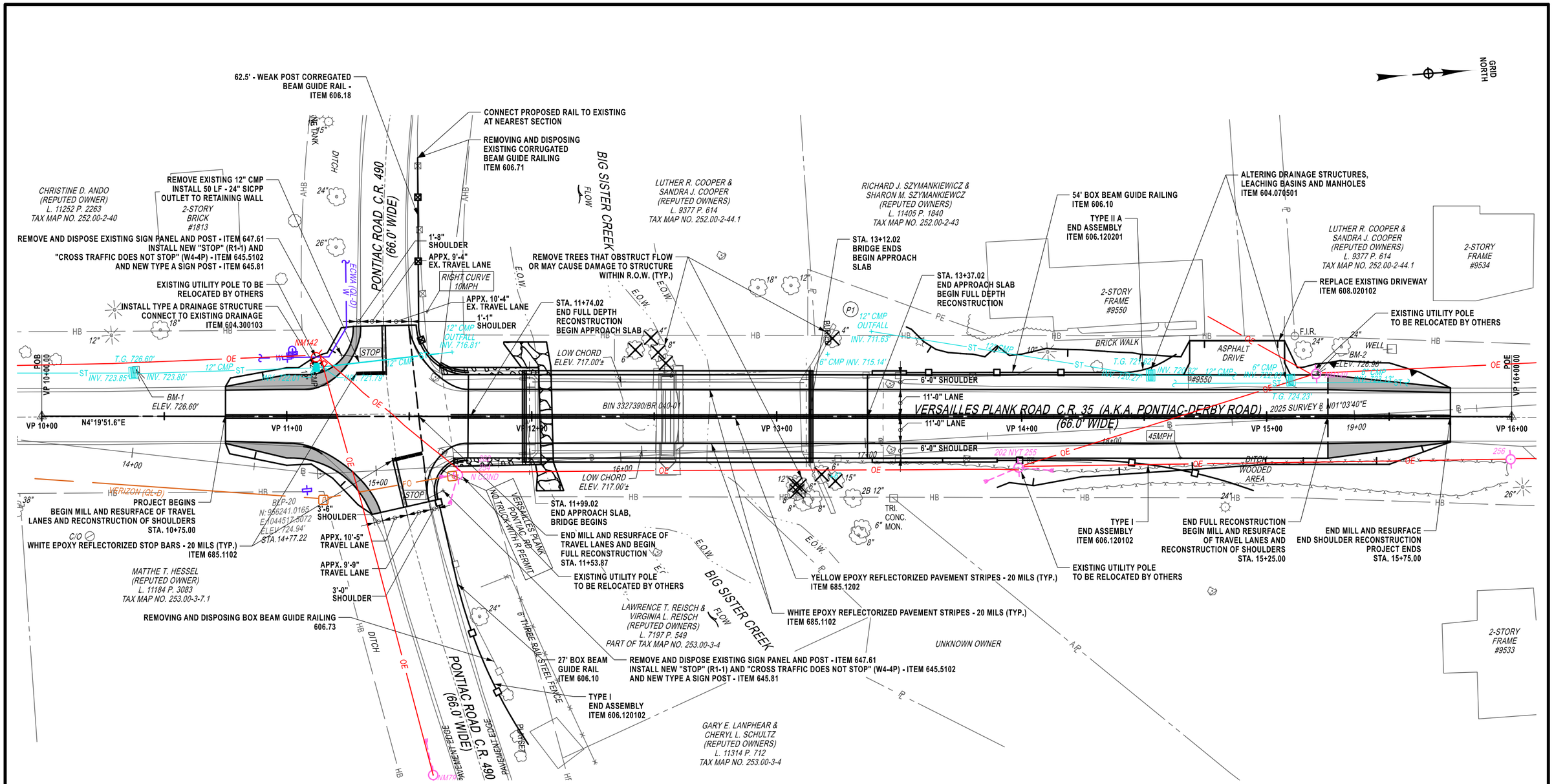
N

OFF-SITE DETOUR MAP

Option 2: 12.0 miles (18 Minutes)

Eden-Evans Center Road, North/South Main Street, Cain Road

N



ROADWAY PLAN

SCALE: 1" = 40'-0"

20 0 20 40 60 80'
1" = 40'

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

SUPERSTRUCTURE REPLACEMENT OF VERSAILLES PLANK ROAD BRIDGE
VERSAILLES PLANK ROAD OVER BIG SISTER CREEK
TOWN OF EVANS
COUNTY: ERIE REGION: 05

PIN 5765.33 | BRIDGES 3327390 | CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

ROADWAY PLAN

CONTRACT NUMBER --

DRAWING NO. PL-01
SHEET NO. OF

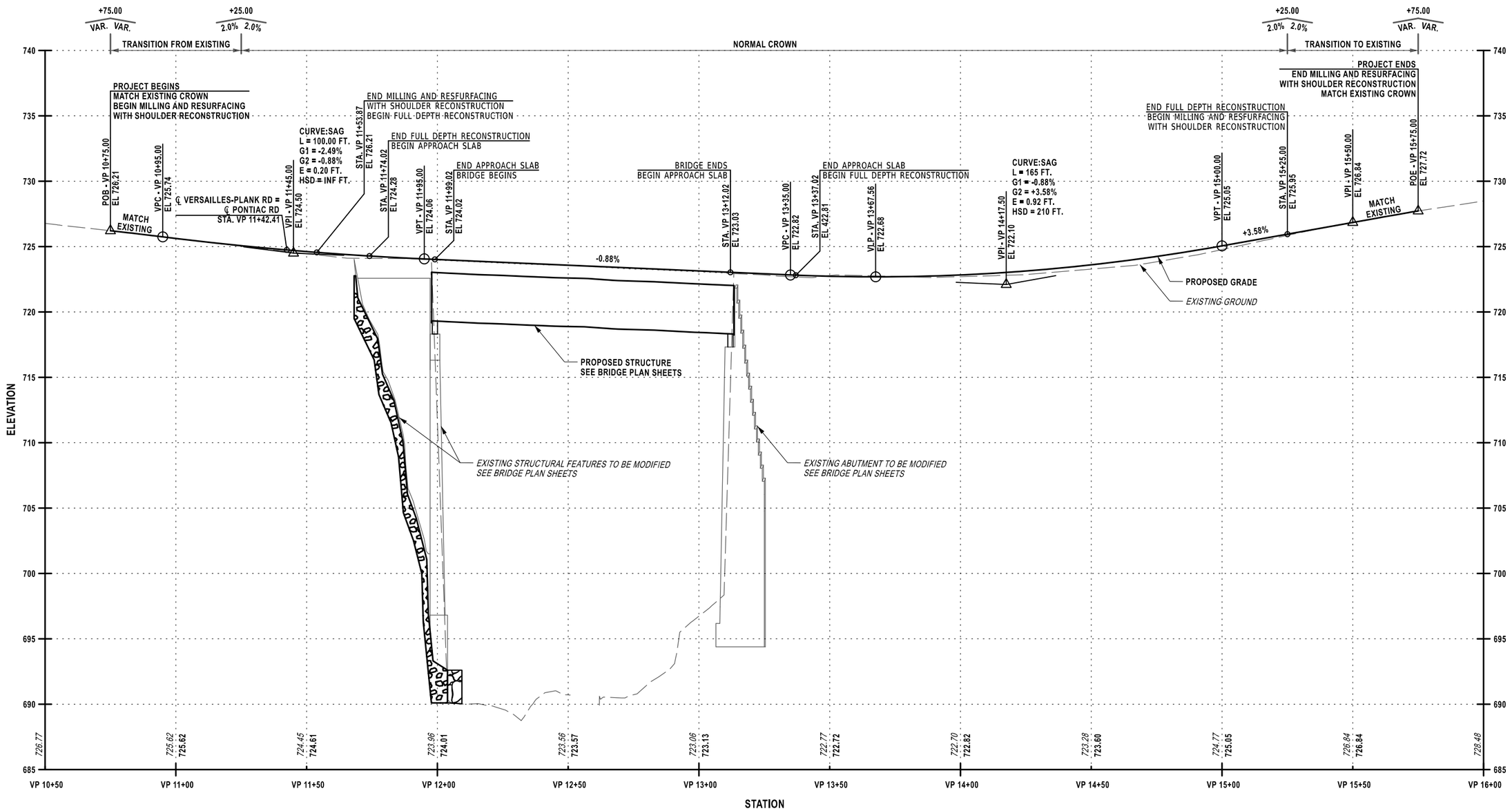
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

POPLI DESIGN GROUP

ERIE COUNTY DPW - HIGHWAYS
DOCUMENT NAME: 576533_cph_gnp.dgn

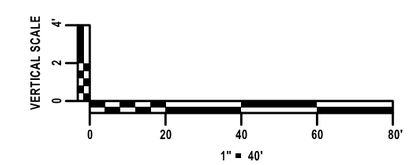
PROJECT MANAGER D. JENKINSON
CHECK E. BAXTER
DRAFTING A. JOANETTE
CHECK E. THOMPSON
DESIGN E. BAXTER
JOB MANAGER J. HOHL-SHAMBO
DESIGN SUPERVISOR J. HOHL-SHAMBO

FILE NAME = J:\BD 25039.00 Versailles Plank Road Bridge Rehabilitation\CADD\576533_cph_gnp.dgn
DATE/TIME = 20-JUL-2026 11:56
USER = JHohl-Shambo



ROADWAY PROFILE

H 1" = 40'-0"
V 1" = 8'-0"



AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

SUPERSTRUCTURE REPLACEMENT OF VERSAILLES PLANK ROAD BRIDGE

VERSAILLES PLANK ROAD OVER BIG SISTER CREEK
TOWN OF EVANS
COUNTY: ERIE REGION: 05

PIN 5765.33

BRIDGES 3327390

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

ROADWAY PROFILE

CONTRACT NUMBER --

DRAWING NO. PRO-01
SHEET NO. OF

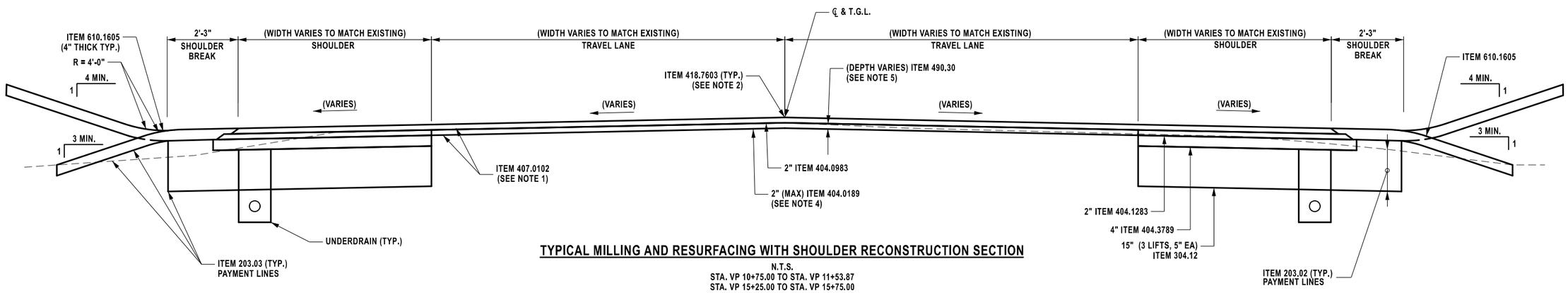
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

PDG POPLI DESIGN GROUP

ERIE COUNTY DPW - HIGHWAYS
DOCUMENT NAME: DGN$FILENAMES

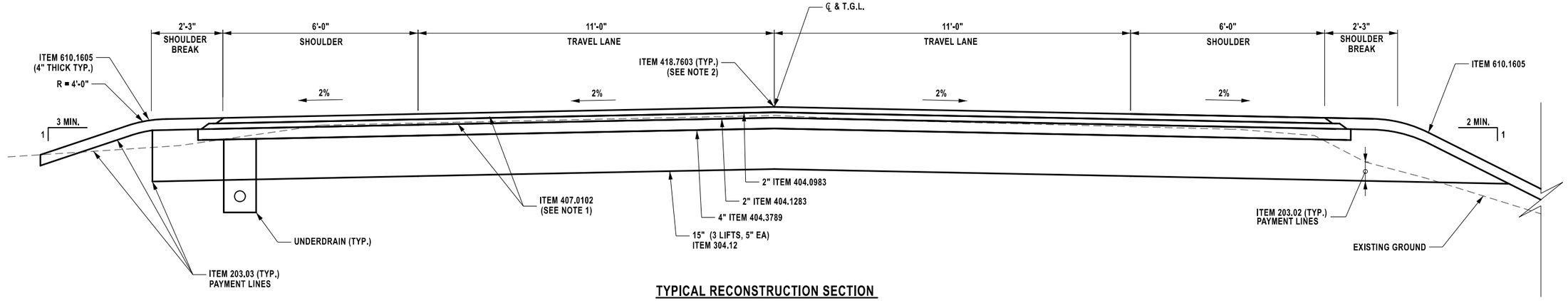
PROJECT MANAGER D. JENKINSON
CHECK J. HOHL-SHAMBO
DRAFTING E. BAXTER
CHECK J. HOHL-SHAMBO
DESIGN E. BAXTER
JOB MANAGER J. HOHL-SHAMBO
DESIGN SUPERVISOR J. HOHL-SHAMBO

FILE NAME = DGN$FILENAME
DATE/TIME = 10-JUL-2026 14:41
USER = jhohl-shambo



TYPICAL MILLING AND RESURFACING WITH SHOULDER RECONSTRUCTION SECTION

N.T.S.
STA. VP 10+75.00 TO STA. VP 11+53.87
STA. VP 15+25.00 TO STA. VP 15+75.00



TYPICAL RECONSTRUCTION SECTION

N.T.S.
STA. VP 11+53.87 TO STA. VP 11+74.02
STA. VP 13+37.02 TO STA. VP 15+25.00
SEE NOTE 5

NOTES:

1. DILUTED TACK COAT SHALL BE APPLIED BETWEEN ALL PAVEMENT COURSES AND ON THE MILLED SURFACE.
2. PAVEMENT JOINT ADHESIVE SHALL BE APPLIED AT ALL PAVEMENT JOINTS IN THE TOP COURSE.
3. SAFETY EDGE TAPER IS TO BE 35 DEGREES FROM FINISHED GRADE.
4. MILL TO PROFILE TO ALLOW FULL DEPTH TOP COURSE PLACEMENT. SEE DETAIL ON DWG. NO MSD-01.

ITEM	DESCRIPTION	UNIT	ITEM	DESCRIPTION	UNIT
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL	CY	404.3789	37.5 F9 BASE COURSE ASPHALT, 80 SERIES COMPACTION	TON
203.03	EMBANKMENT IN PLACE	CY	407.0102	DILUTED TACK COAT	GAL
304.12	SUBBASE COURSE, TYPE 2	CY	418.7603	ASPHALT PAVEMENT JOINT ADHESIVE	LF
404.0189	TRUING & LEVELING F9, ASPHALT, 80 SERIES COMPACTION	TON	490.30	MISCELLANEOUS COLD MILLING OF BITUMINOUS CONCRETE	SY
404.0983	9.5 F3 TOP COURSE ASPHALT, 80 SERIES COMPACTION	TON	610.1605	TURF ESTABLISHMENT - PREFORMANCE	SY
404.1283	12.5 F3 BINDER COURSE ASPHALT, 80 SERIES COMPACTION	TON			

AFFIX SEAL:
ON:

ALTERED BY:
ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

SUPERSTRUCTURE REPLACEMENT OF VERSAILLES PLANK ROAD BRIDGE

VERSAILLES PLANK ROAD OVER BIG SISTER CREEK
TOWN OF EVANS
COUNTY: ERIE REGION: 05

PIN 5765.33

BRIDGES
3327390

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

HIGHWAY TYPICAL SECTIONS

CONTRACT NUMBER
--

DRAWING NO. TYP-01
SHEET NO. OF

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

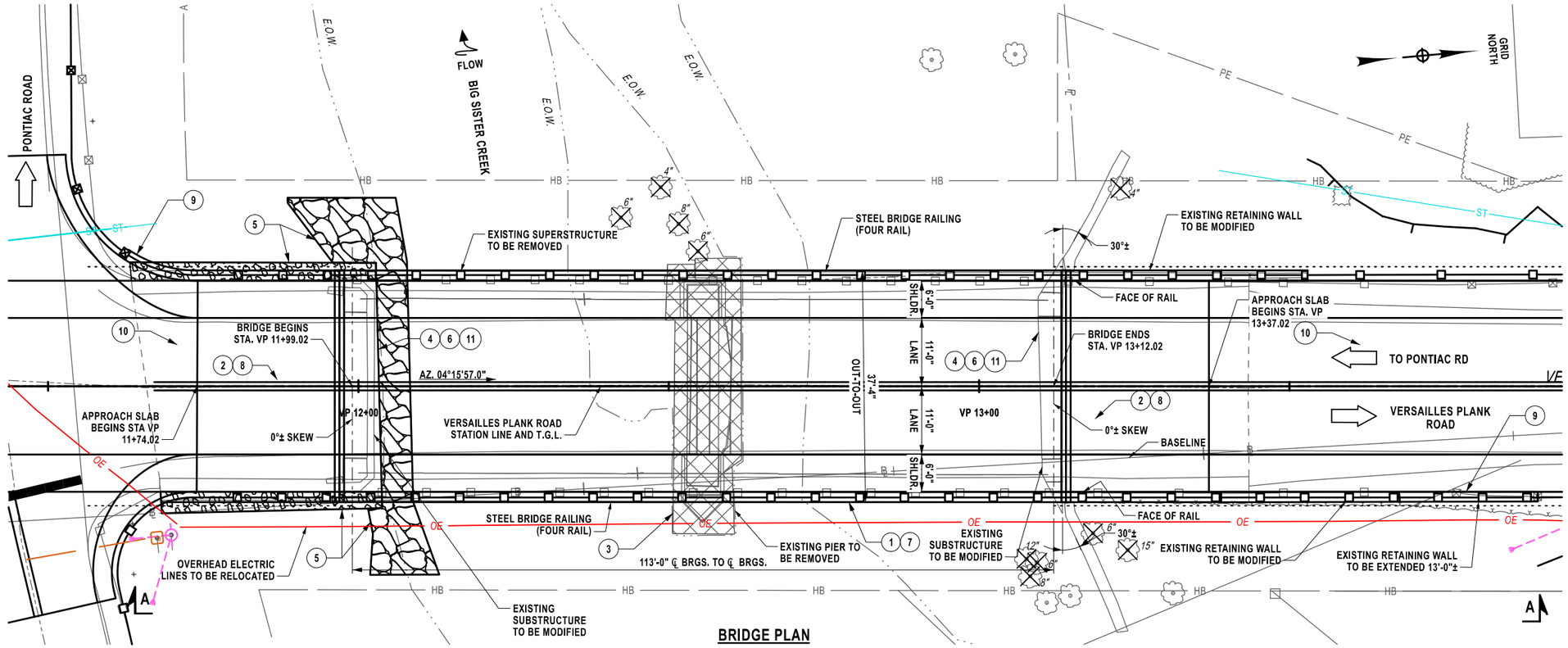
POPLI DESIGN GROUP

ERIE COUNTY DPW - HIGHWAYS
DOCUMENT NAME: DGN$FILENAMES

PROJECT MANAGER D. JENKINSON
CHECK E. BAXTER
DRAFTING A. JOANETTE
CHECK E. THOMPSON
DESIGN E. BAXTER
JOB MANAGER J. HOHL-SHAMBO
DESIGN SUPERVISOR J. HOHL-SHAMBO

FILE NAME = DGN$FILENAME
DATE/TIME = 10-JUL-2026 14:41
USER = jhohl-shambo

HYDRAULIC DATA			
DRAINAGE AREA = 26.7 MI²		BASIC FLOOD	DESIGN FLOOD
RECURRENCY INTERVAL (YRS)		100	50
PEAK DISCHARGE (FT³/S)		4,719	4,059
HIGH WATER ELEVATION @ PT. OF MAX. BACKWATER (FT)	EXISTING	698.03	697.36
	PROPOSED	697.91	697.29
AVG. VELOCITY THRU STRUCTURE @ DESIGN FLOOD = 6.79 FT/S			

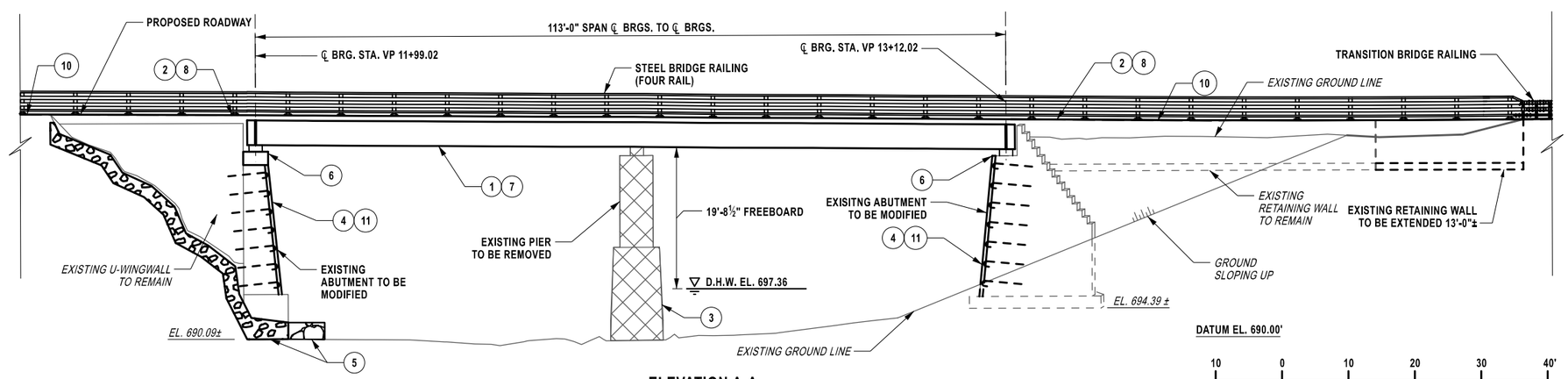


BRIDGE PLAN

SCALE: 1" = 20'-0"

BRIDGE REHABILITATION SCOPE OF WORK:

1. REMOVE EXISTING SUPERSTRUCTURE. INCLUDES CONCRETE DECK, STEEL MEMBERS, BEARINGS, BRIDGE RAILING.
2. REMOVE APPROACH SLABS, INCLUDES CONCRETE APPROACH SLABS AND RAILING.
3. REMOVE PIER INCLUDING ALL ELEMENTS FROM STREAM BED TO BEARINGS.
4. REFACE FRONT FACE OF ABUTMENT. WHILE REFACING, DRILL AND GROUT ANCHORS THROUGH EXISTING ABUTMENT INTO BEDROCK/STRUCTURE BEHIND. REPAIR HOLLOW/SPALLED CONCRETE ON WINGWALLS.
5. PROVIDE SCOUR PROTECTION TO SOUTH ABUTMENT.
6. MODIFY EXISTING SUBSTRUCTURES TO ACCEPT THE PROPOSED SUPERSTRUCTURE AND PROVIDE JOINTLESS DETAIL AT THE ABUTMENTS.
7. INSTALL PROPOSED SUPERSTRUCTURE (STEEL MULTI GIRDERS WITH COMPOSITE CONCRETE DECK) AND STEEL BRIDGE RAIL.
8. INSTALL PROPOSED APPROACH SLABS.
9. EXTEND EXISTING RETAINING WALL TO ACCOMMODATE RAILING AND TO ENSURE EMBANKMENT SLOPES REMAIN WITHIN THE EXISTING ROW.
10. INSTALL PROPOSED HIGHWAY SECTIONS ON IMMEDIATE APPROACHES.
11. APPLY PROTECTIVE SEALER TO ALL EXPOSED SUBSTRUCTURE CONCRETE.



ELEVATION A-A

SCALE: 1" = 20'-0"

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

SUPERSTRUCTURE REPLACEMENT OF VERSAILLES PLANK ROAD BRIDGE

VERSAILLES PLANK ROAD OVER BIG SISTER CREEK
TOWN OF EVANS
COUNTY: ERIE REGION: 05

PIN 5765.33 | BRIDGES 3327390 | CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

BRIDGE PLAN AND ELEVATION

CONTRACT NUMBER --

DRAWING NO. XXXX-XX
SHEET NO. XX OF XX

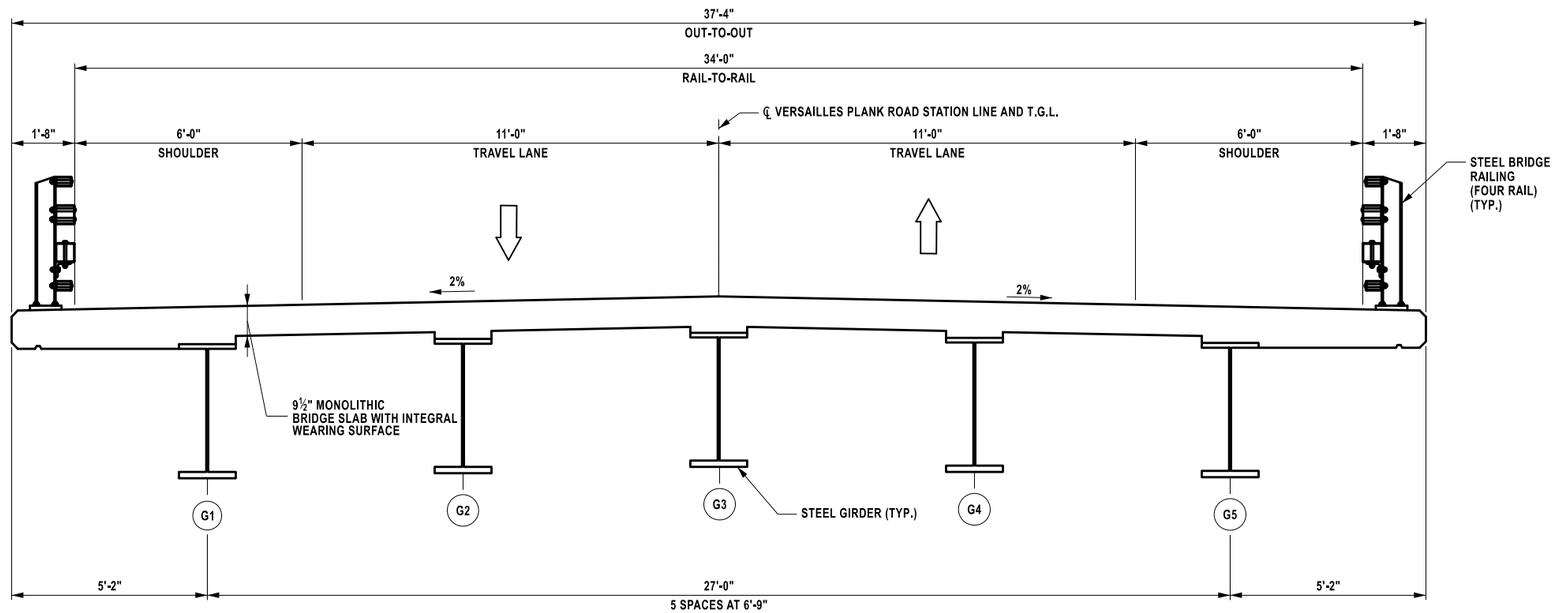
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

PDG POPLI DESIGN GROUP

ERIE COUNTY DPW - HIGHWAYS
DOCUMENT NAME: 576533_cpb_gen.dgn

PROJECT MANAGER D. JENKINSON
CHECK R. HILLY
DRAFTING V. REYES
CHECK R. HILLY
DESIGN V. REYES
JOB MANAGER D. JENKINSON
DESIGN SUPERVISOR D. JENKINSON

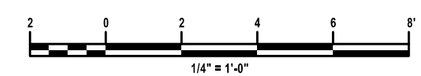
FILE NAME = J:\BD 25039.00 Versailles Plank Road Bridge Rehabilitation\CADD\576533_cpb_gen.dgn
DATE/TIME = 20-JUL-2026 12:13
USER = rhilly



BRIDGE TYPICAL SECTION

LOOKING UP UPSTATION

SCALE: 1/4" = 1'-0"



PROJECT MANAGER D. JENKINSON
CHECK R. HILLY
DRAFTING V. REYES
CHECK R. HILLY
DESIGN V. REYES
JOB MANAGER D. JENKINSON
DESIGN SUPERVISOR D. JENKINSON

FILE NAME = J:\BD 25039.00 Versailles Plank Road Bridge Rehabilitation\CADD\576533_cpb_sec_typ.dgn
DATE/TIME = 20-JUL-2026 12:13
USER = rhilly

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

SUPERSTRUCTURE REPLACEMENT OF VERSAILLES PLANK ROAD BRIDGE

VERSAILLES PLANK ROAD OVER BIG SISTER CREEK

TOWN OF EVANS

COUNTY: ERIE REGION: 05

PIN 5765.33

BRIDGES 3327390

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

BRIDGE TYPICAL SECTION

CONTRACT NUMBER --

DRAWING NO. XXXX-XX

SHEET NO. XX OF XX

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

PDG POPLI DESIGN GROUP

ERIE COUNTY DPW - HIGHWAYS

DOCUMENT NAME: 576533_cpb_sec_typ.dgn

APPENDIX B

Environmental Information

Federal Environmental Approval Worksheet

PIN: 5765.33	Completed by: Angela Gardner, JM Davidson Engineering, DPC	Date Completed: 6/18/26	FUNDING TYPE: Federal
TITLE/PUBLIC DESCRIPTION: Versailles Plank Rd over Big Sister Creek Bridge Rehabilitation Project			NEPA CLASS: Class II: CE SEQR TYPE: Type II
LOCALITY (Village, Town, City): Town of Evans	COUNTY: Erie	Action Type: Federal Aid Highway Project	Is this a Reevaluation? **No**

Purpose of this Worksheet:

- Implement the ***P**rogrammatic **A**greement Between the Federal Highway Administration, New York Division (FHWA), and the New York State Department of Transportation (NYSDOT) **R**egarding the Processing of Actions Classified as **C**ategorical **E**xclusions (CEs) for Federal-Aid Highway Projects* (PARCE), executed September 2022.
- Communicate the project National Environmental Policy Act (NEPA) classification and identify whether the FHWA or the NYSDOT (titles identified per Project Development Manual (PDM) Chapter 4, Exhibit 4-2) is making the CE determination.
- Identify any FHWA independent determinations, approvals and/or concurrences required before the CE determination can be made.
- To be included within the Design Approval Document (DAD[1]) in accordance with the documentation requirements in the PARCE.

Categorical Exclusion (CE) - a category of actions which do not individually or cumulatively have a significant effect on the human environment and which have been found to have no such effect in procedures adopted by a Federal agency. Actions that do not individually or cumulatively have a significant environmental effect are excluded from the requirement to prepare an Environmental Assessment (EA) or Environmental Impact Statement (EIS) (23 CFR 771.115(b)).

Instructions:

Initial review of the Federal Environmental Approval Worksheet (FEAW) should occur in scoping or early in Design Phase I to identify potential risks. Complete new review of the FEAW periodically, particularly if project parameters or site condition changes result in potential resource impacts. Completion of the FEAW with signature in Step 4 is required prior to Design Approval. See PDM Chapter 4 for additional details.

Step 1A: Unusual Circumstances Threshold Determination –

Do any, or the potential for any, unusual circumstances exist**:**

- Significant environmental impacts (23 CFR 771.117(b)) **YES**☐ **NO**☒
- Substantial controversy on environmental grounds (23 CFR 771.117(b)) **YES**☐ **NO**☒
- Significant impact on properties protected by Section 4(f) of the DOT Act or Section 106 of the National Historic Preservation Act (23 CFR 771.117(b)) **YES**☐ **NO**☒
- Inconsistencies with any Federal, State, or local law, requirement or administrative determination relating to the environmental aspects of the project (23 CFR 771.117(b)) **YES**☐ **NO**☒
- Residential or non-residential displacements (FHWA-NY Division identified circumstance[2]) **YES**☐ **NO**☒
- Conversion of a road segment from non-tolling to tolling, or the construction of a new highway or bridge with tolling proposed (FHWA-NY Division identified circumstance) **YES**☐ **NO**☒

If yes to any of the above, contact the Main Office Project Liaison (MOPL) (see PDM Exhibit 4-1). Any project which would normally be classified as a CE but could involve unusual circumstances (or even uncertainty) will require consultation with the Office of Environment (OOE) and subsequently with the FHWA to determine if CE classification is still warranted. If, after consultation with the FHWA, it is determined that the project cannot be progressed as a CE, **skip to step 4** and see PDM Chapter 4 for NEPA Class I (EIS) or Class III (EA) processing. If, after consultation with the FHWA, it is determined that the project can be progressed as a CE, **proceed to step 1B.**

If no to all the above, then this project qualifies as a CE; **proceed to step 1B**.

Step 1B: Identification of CE action

Is the project an action listed in 23 CFR 771.117 (c) - (d) (or as identified in FHWA's additional flexibilities memo)?
YES☒ **NO**☐

If Yes, proceed to step 2.

If No, contact the MOPL (see PDM Exhibit 4-1). If, after consultation with the OOE and the FHWA, it is determined that the project cannot be progressed as a CE, **skip to step 4** and see PDM Chapter 4 for NEPA Class I (EIS) or Class III (EA) processing. If, after consultation with the FHWA, it is determined that the project can continue as a CE, **proceed to step 2.**

[1] For FHWA actions not associated with a project (no DAD), include the FEAW in the appropriate documentation for that action.
[2] See additional discussion on FHWA-NY unusual circumstances in the FEAW Instructions document.

Federal Environmental Approval Worksheet

Project ID Number: 5765.33

Step 2: FHWA environmental actions required prior to CE determination[3]
The Step 2 table identifies certain issues that require: the FHWA to make the CE determination (Column A and 2.4); independent FHWA determinations (2.1); FHWA approvals, compliance, or concurrence (2.2); or notification to the FHWA (2.3). Review ***the FEAW Thresholds document*** to determine how to fill out each column of Step 2.

2.1	**Required FHWA Independent environmental determinations**	**PARCE threshold exceeded**[4]	**FHWA independent determination/ concurrence required**	**Date Federal determination/ concurrence issued**	**Resource not present, or present but threshold not exceeded**
		A	**B**	**B1**	**C**
Executive Order (EO) 11990 Protection of Wetlands Individual Finding			☐	Date Issued	☒
ESA Section 7 Threatened and Endangered Species		☐	☒	12/31/2024	☐
Section 106 of National Historic Preservation Act		☐	☒	Date Issued	☐
Section 4(f) (Park, Wildlife Refuge, Historic Sites, and National Wild and Scenic Rivers)		☐	☐	Date Issued	☒
2.2	**Other FHWA environmental approvals, compliance and/or concurrence required**	**PARCE threshold exceeded**[4]	**Threshold exceeded; FHWA approval, compliance or concurrence required**		**Resource not present, or present but threshold not exceeded**
EO 11988 Floodplains		☐	☐		☒
US Army Corps of Engineers Permitting		☐	☐		☒
Section 6(f) Land and Water Conservation Funds		☐	☐		☒
Safe Drinking Water Act Section 1424(e)			☐		☒
Migratory Bird Treaty Act			☐		☒
23 CFR 772 Type I Noise abatement			☐		☒
2.3	**Other Environmental Issues requiring FHWA notification**	**PARCE threshold exceeded**[4]	**FHWA notification threshold exceeded**		**Resource not present, or present but threshold not exceeded**
National Wild and Scenic Rivers		☐	☐		☒
US Coast Guard Bridge Permit		☐	☐		☒
Known hazardous waste site (only EPA National Priority list)			☐		☒
Project on or affecting Native American Lands			☐		☒
2.4	**Other Issues Triggering FHWA Approval of Categorical Exclusion**	**PARCE threshold exceeded**[4]			**Resource not present, or present but threshold not exceeded**
Property Acquisition		☐			☒
Major Traffic Disruptions		☐			☒
Changes in Access Control		☐			☒

[3] **This table does not represent all environmental issues and actions to which a project is subject to**. Classification as a CE does not exempt the project from further environmental review. Refer to the PDM Appendix A and The Transportation Environmental Manual (TEM) to determine review requirements.

[4] When PARCE threshold is exceeded, the NYSDOT recommends that the project qualifies as a CE and requests the FHWA make the CE determination. Information on PARCE specific thresholds is contained within ***the FEAW Thresholds document.***

Federal Environmental Approval Worksheet

Project ID Number: 5765.33

Step 3: Who makes the NEPA CE Determination?

To identify which party, either the FHWA or the NYSDOT, makes the CE determination in accordance with the PARCE, follow the instructions found in the table below, beginning in Step 3A. This step also identifies which correspondence shell to use to distribute the FEAW and other environmental notifications or approvals.

3	**Determine whether the FHWA or the NYSDOT makes the CE determination and whether additional notifications or approvals are required.**
3A	**Is the project an action listed in 23 CFR 771.117 (c) - (d)** (Answered yes in Step 1B)**?** **YES** ☒ If Yes, **proceed to 3B.** **NO** ☐ If No, the FHWA makes the CE determination. • For **Locally Administered Federal Aid Projects only**, the DAD, the NYSDOT recommendation and request (that the FHWA determines the project qualifies as a CE) are sent from the Regional Planning and Program Manager (RPPM) to the FHWA directly using **FAHP Shell 4.** • For all other actions, the DAD[5] and the NYSDOT recommendation and request (that the FHWA determines the project qualifies as a CE) are sent to the MOPL for review using **FAHP Shell 3, ID/IQ Shell 3** or using appropriate **ROW transmittal**. **Proceed to Step 4.**
3B	**Are any of the CE Thresholds from the PARCE exceeded** (Are there any checks in Column A of Step 2)**?** **YES** ☐ If Yes, the FHWA makes the CE determination. • For **Locally Administered Federal Aid Projects only**, the DAD and the NYSDOT recommendation and request (that the FHWA determines the project qualifies as a CE) are sent from the RPPM to the FHWA directly using FAHP **Shell 4.** • For all other actions, the DAD and the NYSDOT recommendation and request (that the FHWA determines the project qualifies as a CE) are sent to the MOPL for review using **FAHP Shell 3, ID/IQ Shell 3** or using appropriate **ROW transmittal**. **Proceed to Step 4.** **NO** ☒ If No, **proceed to 3C.**
3C	**Are there outstanding independent environmental approvals or concurrences?** (Are there checks in column B of Step 2.1 without dates in column B1)**?** **YES** ☐ If Yes, then the FHWA makes the CE determination. • For **Locally Administered Federal Aid Projects only**, the DAD and the NYSDOT recommendation and request (that the FHWA determines the project qualifies as a CE) are sent from the RPPM to the FHWA directly using FAHP **Shell 4.** • For all other actions, the DAD and the NYSDOT recommendation and request (that the FHWA determines the project qualifies as a CE) are sent to the MOPL for review using **FAHP Shell 3, ID/IQ Shell 3** or using appropriate **ROW transmittal**. **Proceed to Step 4.** **NO** ☒ If No, the NYSDOT makes the NEPA CE determination. **Proceed to 3D.**

[5] For non-FAHP actions that do not have a DAD, a detailed description of the action and environmental documentation is sent in lieu of a DAD.

Federal Environmental Approval Worksheet

Project ID Number: 5765.33

3D	**Are there** ☐ any circumstances requiring demonstration of applicable EO compliance (any checks in column B of Table 2.2); or ☐ any issues requiring the FHWA environmental notification (any checks in column B of Table 2.3)? ☐ If **either** box is checked, **once all required approvals and concurrences have been secured,** the NYSDOT makes the CE determination, but the information must be forwarded to FHWA for notification or action prior to Design Approval for FAHP (prior to physical construction for ID/IQ, or prior to RD approval for ROW actions) using **FAHP Shell 1** (can also be used for ROW actions), **For ID/IQ, Shell 1 is sent to notify FHWA (and request concurrence if needed). ID/IQ Shell 2 is also used to request RD signature once FHWA response is received).** **Proceed to step 4.** ☒ If **neither** box is checked, **once all required approvals and concurrences have been secured,** the NYSDOT makes the CE determination without notification to the FHWA. The project will use **FAHP Shell 2, ID/IQ Shell 2** or appropriate **ROW transmittal**. **Proceed to step 4.**

Step 4: Summary and Recommendation

- The project location(s) **is** located within an area subject to transportation air quality conformity.
  - **If the project is within such areas, the NEPA process may not be completed until all transportation conformity requirements are met[6].**
  - Transportation conformity requirements **have been met at time of signature.**
- This project does qualify to be progressed as a Categorical Exclusion.
- The NEPA Determination will be made by NYSDOT
- The Action meets the conditions of the listed CE at 23 CFR 771.117: c(28) "Bridge rehabilitation, reconstruction, or replacement or the construction of grade separation to replace existing at-grade railroad crossings, if the actions meet the constraints in paragraph (e)..." [7]
- All outstanding FHWA environmental approvals will be obtained and are listed here:
- All the conditions of the PARCE are addressed herein (or within the DAD or attachments).

I certify that the information provided above is true and accurate and recommend the project be processed as described above.

Project Manager/Designer (or Responsible Local Official)[8] ✕ _____ Date_____

Print Name and Title: _____

Regional Environmental Unit Supervisor ✕ _____ Date_____

Print Name and Title: _____

Regional Local Project Liaison (Locally Administered Projects Only) ✕ _____ Date_____

Print Name and Title: _____

Changes that may have occurred since the preparation of the FEAW which would create the need to review the FEAW again include but are not limited to triggers for reevaluations described in PDM Appendix 11 or any expansion in location or scope of the action for non-FAHP actions. Based on the review of the previously certified FEAW, if the current scope of the

[6] See additional information on conformity *in FEAW_Instructions.doc*
[7] See additional information on identifying (c)26, (c)27 & (c)28 versus d (13) *in FEAW_Instructions.doc*
[8] Or appropriate Permitting/ROW staff for use and occupancy permit or disposal of surplus property

action would change any of the answers to the FEAW and more specifically if any of the determinations within step 2.1 require a new federal determination or concurrence then a new FEAW should be produced and certified.

Social, Economic and Environmental Review Checklist

PIN: 5765.33	PROJECT TITLE: Versailles Plank Road Bridge over Big Sister Creek Rehabilitation
PROJECT DESCRIPTION / SCOPE / LIMITS: The project will rehabilitate the structural deficiencies of the existing bridge (BIN 3327390). The scope of the work includes replacing the existing fracture critical steel girder-floorbeam-stringer superstructure with a new approximately 113'-0" long single span steel multi-girder superstructure with composite concrete deck. Repairs will be performed at the abutments, wingwalls and retaining walls where necessary and the existing pier will be demolished.	
MUNICIPALITY(IES): Town of Evans	
COUNTY(IES): Erie County	
NEPA CLASSIFICATION: Class II - Cat Ex	
SEQRA TYPE: Statewide SEQRA - 6 NYCRR Part 617 Type II	DATE: 6/18/2026

SOCIAL			
RESOURCE:		APPLICABLE	COMMENT AND/OR DAD SECTION IN WHICH TOPIC IS DISCUSSED.
1	Land use change?	No	
2	Occurs in an area with regional/local comprehensive and transportation plans?	Yes	Evans-Angola Comprehensive Plan (2018) See Section 3.3.1
3	Occurs in an area with planned future development?	No	
4	Effects to neighborhood character?	No	
5	Residential or commercial relocations?	No	
6	Effects to transportation options/patterns? (e.g., transit, walking/pedestrian facilities, bicycling and access to schools, recreational areas, places of worship, health care facilities, effects to emergency services; consider elderly and disabled populations)	Yes	Off-site temporary detour. See Section 2.7.2/3.3.2
7	Will the project divide or isolate portions of a community or impact community resources?	No	
8	Reserved	No	N/A
9	Occurs on Tribal Nation Lands/Territories (not 'areas of interest' related to Section 106)	No	
ECONOMIC			
RESOURCE:		APPLICABLE	COMMENT AND/OR DAD SECTION IN WHICH TOPIC IS DISCUSSED.
10	Effects to local or regional businesses?	No	
11	Is the project in a business district?	No	
11A	Will the project divert traffic away from businesses?	No	
11B	Changes to parking and/or deliveries?	No	
11C	Effects to transportation options to access businesses?	No	
12	Changes in access control?	No	
13	Displacement of occupants or acquisition of dwelling or business?	No	
14	Temporary or permanent right-of-way acquisition?	No	All work will be completed within the existing highway boundary. See Section 2.6.2

ENVIRONMENTAL				
RESOURCE:		RESOURCE PRESENT	RESOURCE AFFECTED	COMMENT AND/OR DAD SECTION IN WHICH TOPIC IS DISCUSSED.
Water & Land				
15	Wetlands – State: Freshwater (Art. 24) *See TEM 4.4.1.11*	No	No	See Section 3.3.3
16	Wetlands – Federal EO 11990 may apply *See TEM 4.4.1.11*	Yes	No	One Federal Wetland 0 ac permanent impact 0 ac temporary impact See Section 3.3.3
17	Surface waterbodies & watercourses – State or Federal *See TEM 4.4.1.11*	Yes	Yes	Big Sister Creek. NYSDEC C NWP 3 (PCN), Sec. 401 WQC (Blanket) req'd. See Section 3.3.4
18	Wild, Scenic and/or Recreational Rivers – State or Federal *See TEM 4.4.3*	No	No	
19	Navigable Waters subject to NYS Protection of Water Program (Article 15), Rivers and Harbors Management Act (Section 10), or US Coast Guard *See TEM 4.4.1.11*	No	No	
20	Coastal Area or Designated Inland Waterway *See TEM 4.4.6*	No	No	
21	Coastal Special Management Area(s) (Approved/Pending Local Waterfront Revitalization Program Areas, Significant Coastal Fish and Wildlife Habitats, Scenic Areas of Statewide Significance, or areas with Harbor Management Plans) *See TEM 4.4.6*	No	No	
22	State Coastal Erosion Hazard Area *See TEM 4.4.6*	No	No	
23	Federal Coastal Barrier Resource System *See TEM 4.4.6*	No	No	
24	Over sole source, principal, or primary aquifers; or adjacent to drinking water supply source *See EPM 4.4*	No	No	
25	SPDES/NPDES permit required *See Stormwater page*	No	No	Soil disturbance is less than 1 acre. Erosion and sediment controls required. See Section 3.3.5
26	Change of stormwater drainage patterns/outfalls within an MS4 area *See Stormwater page*	No	No	
27	Flood zones, floodplains, or floodways – EO 11988 and/or 6 NYCRR 502 *See TEM 4.4.5*	Yes	Yes	FEMA Flood Zone AE w/ Regulatory Floodway. Local floodplain development permit required. See Section 3.3.6
28	Section 408 USACE Civil Works Project or NYS Article 16 Flood Control Lands *See TEM 4.4.1.11*	No	No	
General Ecology & Wildlife Resources				
29	Federal – Threatened & Endangered Species (ESA Section 7) Tree Cutting Proposed: Yes *See TEM 4.4.9.3*	Yes	No	IPAC 5/29/2026 Bridge Bat Assessment Form – 9/22/2025 FHWA Determination – 6/18/2026 NLEB (End.) – MA/NLAA Monarch Butterfly (Proposed Threatened) – No jeopardy – 12/31/2024 See Section 3.3.7
30	State – Threatened & Endangered Species *See TEM 4.4.9.3*	Yes	No	NLEB (End.) – Not within 5 mi. of known occurrence. Take not Likely. See Section 3.3.7
31	NYSDEC mussel waterbody: Unlisted *See TEM 4.4.9.3*	No	No	
32	Identified invasive species (EO 13112) *See EPM 4.8*	Yes	Yes	Japanese knotweed and purple loosestrife present. Extends off of highway boundary. Treatment not

ENVIRONMENTAL				
RESOURCE:		RESOURCE PRESENT	RESOURCE AFFECTED	COMMENT AND/OR DAD SECTION IN WHICH TOPIC IS DISCUSSED.
				feasible. Contractor BMPs for cleaning and disposal of contaminated material req'd. See Section 3.3.8
33	Known breeding habitat or nests present (Migratory Bird Treaty Act)	No	No	

Historic Resources & Parkland *See TEM 4.4.12 and 4.4.13*				
34	Historic and/or cultural resources: Section 106 *See TEM 4.4.12 Appendix G*	Yes	TBD	FHWA Section 106 determination XXX See Section 3.3.9
35	Parks and/or recreational resources	No	No	
35A	Resources w/ LWCF grants (Section 6(f))	No	No	
35B	Section 1010 – City Urban Park and Recreation Recovery Act	No	No	
36	Any Section 4(f) properties (parks, recreation areas, wildlife and waterfowl refuges, historic sites) *See Section 4(f) Policy Paper*	No	No	
Farmlands *See TEM 4.4.15*				
37	Agricultural districts – State	Yes	No	Erie County Ag District 8 No ROW takings of active farmland See Section 3.3.10
38	FPPA soils – Federal	Yes	No	Prime Farmland (Churchville, if drained) No ROW takings of active farmland See Section 3.3.10
Air Quality (if analysis required check yes) *See EPM 1.1*				
39	Mobile Source Air Toxics (MSAT)	No	No	
40	Mesoscale: Non-Attainment (O3)	Yes	No	Ozone orphan non-attainment Exempt A19 See Section 3.3.11
41	Microscale/Hot Spot	No	No	
42	Reserved	No	No	
Asbestos and Hazardous / Contaminated Materials *See TEM 4.4.19 and 4.4.20*				
43	Asbestos-containing materials (ACMs)	No	No	See Section 3.3.12
44	Lead-based bridge paint/coatings	Yes - Present	Yes	Bridge was built in 1928 and last painted in 2016. Per NYSDOT requirements, project must assume lead-based paint and appropriate specs and pay items must be included in project documents. See Section 3.3.12
45	Remediation sites, including National Priority List, Brownfield sites, etc.	No	No	See Section 3.3.13
46	Materials requiring special handling or disposal (e.g., petroleum-based contamination, PCB-contaminated gas mains, treated wood products, polymer concrete slurries, medical/bio wastes, etc.)	No	No	See Section 3.3.13
Other				
47	Noise type per 23 CFR 772/NYSDOT Noise Policy: III *See TEM 4.4.18*	No	No	
48	Critical Environmental Areas *See mapper*	No	No	
49	Visual Resources *See PDM Chapter 3.2.2.2*	No	No	
50	Scenic Byways *See Scenic Byway page*	No	No	
51	Wildlife and Waterfowl Refuges	No	No	
Regional Specific Resources				

52	Adirondack or Catskill Parks or NYS Forest Preserve (only Regions 1, 2, 7 8 & 9)	No	No	Not applicable for the Region.
53	NYC Watershed (only Regions 1, 8 & 9)	No	No	Not applicable for the Region.
54	NYC-owned land (only Regions 1, 8 & 9)	No	No	Not applicable for the Region.
55	Regional Plans or Programs	Yes	No	Evans-Angola Comprehensive Plan (2018). See Section 3.3.1

PREPARED BY: Angela Gardner, Sr Biologist, JM Davidson Engineering, DPC

CERTIFICATION:
I certify that the information provided above is true and accurate based on my review.

Regional Environmental Unit Supervisor
or Main Office Environmental Lead ×_____ Date: _____

Print Name and Title: _____

Short Environmental Assessment Form
Part 1 - Project Information

Instructions for Completing

Part 1 – Project Information. The applicant or project sponsor is responsible for the completion of Part 1. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification. Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information.

Complete all items in Part 1. You may also provide any additional information which you believe will be needed by or useful to the lead agency; attach additional pages as necessary to supplement any item.

Part 1 – Project and Sponsor Information

Name of Action or Project:

Versailles Plank Road over Big Sister Creek Bridge Rehabilitation Project

Project Location (describe, and attach a location map):

Town of Evans, Erie County, NY

Brief Description of Proposed Action:

This project includes replacing the existing fracture critical steel girder-floorbeam-stringer superstructure with a new approximately 113'-0" long single span steel multi-girder superstructure with composite concrete deck. The bridge will rail-to-rail width will remain as existing and will provide two paved 11'-0" lanes bounded on the outside with 6'-0" wide shoulders. Repairs will be performed at the abutments, wingwalls and retaining walls where necessary. The pier will be demolished making the new structure length approximately 113'-0". New bridge pedestals will be built constructed to accommodate the new superstructure and new elastomeric or MR bearings will be provided. The existing retaining wall in the north-east quadrant will be extended to ensure that the toe of embankment slope remains within the existing ROW. The roadway improvements consist of full depth reconstruction of the roadway on the immediate approaches to the bridge and mill and overlay to tie into the existing roadway.

The existing steel bridge rail and box beam guiderail will be replaced with concrete barrier given how close this bridge is to the Versailles Plank Rd and Pontiac Rd intersection.

Name of Applicant or Sponsor:	Telephone: (716) 858-6605
Jonathan DePlanche', P.E. - Erie County Department of Public Works	E-Mail: jonathan.deplanche@erie.gov

Address:

95 Franklin Street, Suite 1400

City/PO:	State:	Zip Code:
Buffalo	NY	14202

	NO	YES
1. Does the proposed action only involve the legislative adoption of a plan, local law, ordinance, administrative rule, or regulation? If Yes, attach a narrative description of the intent of the proposed action and the environmental resources that may be affected in the municipality and proceed to Part 2. If no, continue to question 2.	☑	☐
2. Does the proposed action require a permit, approval or funding from any other government Agency? If Yes, list agency(s) name and permit or approval: FHWA- Funding, USACE CWA NWP, DEC Article 24	☐	☑

3. a. Total acreage of the site of the proposed action? 1.09 acres
   b. Total acreage to be physically disturbed? 1.09 acres
   c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? > 10 acres

4. Check all land uses that occur on, are adjoining or near the proposed action:

5. ☐ Urban ☑ Rural (non-agriculture) ☐ Industrial ☐ Commercial ☐ Residential (suburban)
   ☑ Forest ☐ Agriculture ☑ Aquatic ☐ Other(Specify):
   ☐ Parkland

	NO	YES	N/A
5. Is the proposed action,			
a. A permitted use under the zoning regulations?	☐	✔	☐
b. Consistent with the adopted comprehensive plan?	☐	✔	☐

	NO	YES
6. Is the proposed action consistent with the predominant character of the existing built or natural landscape?	☐	✔
7. Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area? If Yes, identify:	✔	☐
8. a. Will the proposed action result in a substantial increase in traffic above present levels?	✔	☐
b. Are public transportation services available at or near the site of the proposed action?	✔	☐
c. Are any pedestrian accommodations or bicycle routes available on or near the site of the proposed action?	✔	☐
9. Does the proposed action meet or exceed the state energy code requirements? If the proposed action will exceed requirements, describe design features and technologies: The project is not required to meet state energy code requirements.	☐	✔
10. Will the proposed action connect to an existing public/private water supply? If No, describe method for providing potable water: The project will not need to connect to any existing water supply.	✔	☐
11. Will the proposed action connect to existing wastewater utilities? If No, describe method for providing wastewater treatment: The project does not require connection to existing wastewater utilities.	✔	☐
12. a. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places?	✔	☐
b. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory?	✔	☐
13. a. Does any portion of the site of the proposed action, or lands adjoining the proposed action, contain wetlands or other waterbodies regulated by a federal, state or local agency?	☐	✔
b. Would the proposed action physically alter, or encroach into, any existing wetland or waterbody?	☐	✔
If Yes, identify the wetland or waterbody and extent of alterations in square feet or acres: The waterbody at the project location is Big Sister Creek. The impacts are anticipated to be less than 0.01 acres.		

14. Identify the typical habitat types that occur on, or are likely to be found on the project site. Check all that apply:

☐ Shoreline ☑ Forest ☐ Agricultural/grasslands ☐ Early mid-successional

☑ Wetland ☐ Urban ☐ Suburban

	NO	YES
15. Does the site of the proposed action contain any species of animal, or associated habitats, listed by the State or Federal government as threatened or endangered?	☑	☐
16. Is the project site located in the 100-year flood plan?	☐	☑
17. Will the proposed action create storm water discharge, either from point or non-point sources? If Yes,	☑	☐
a. Will storm water discharges flow to adjacent properties?	☐	☐
b. Will storm water discharges be directed to established conveyance systems (runoff and storm drains)?	☐	☐
If Yes, briefly describe: _____		
18. Does the proposed action include construction or other activities that would result in the impoundment of water or other liquids (e.g., retention pond, waste lagoon, dam)? If Yes, explain the purpose and size of the impoundment: _____	☑	☐
19. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility? If Yes, describe: _____	☑	☐
20. Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste? If Yes, describe: _____	☑	☐

I CERTIFY THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE

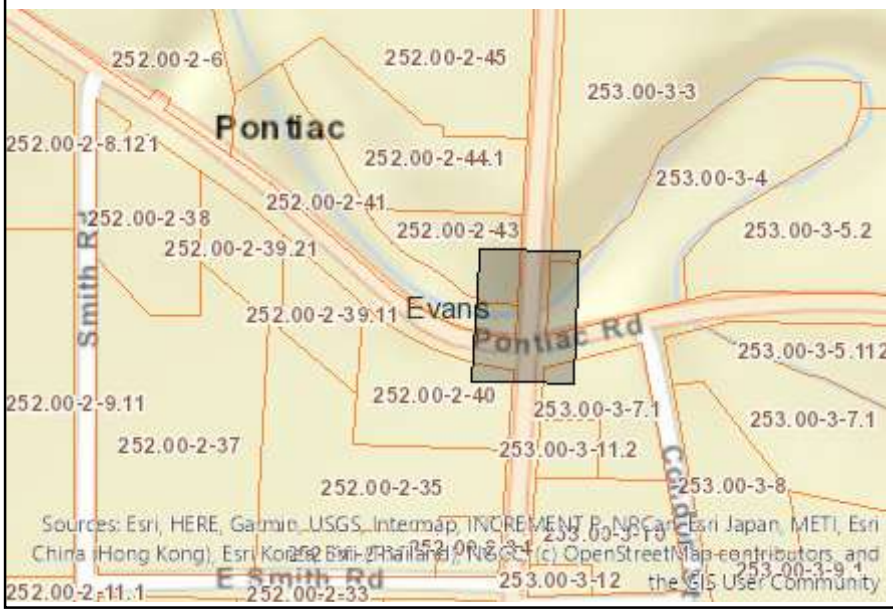
Applicant/sponsor/name: Jonathan DePlanche Date: 6/9/26

Signature: _____ Title: Senior Civil Engineer

PRINT FORM

EAF Mapper Summary Report

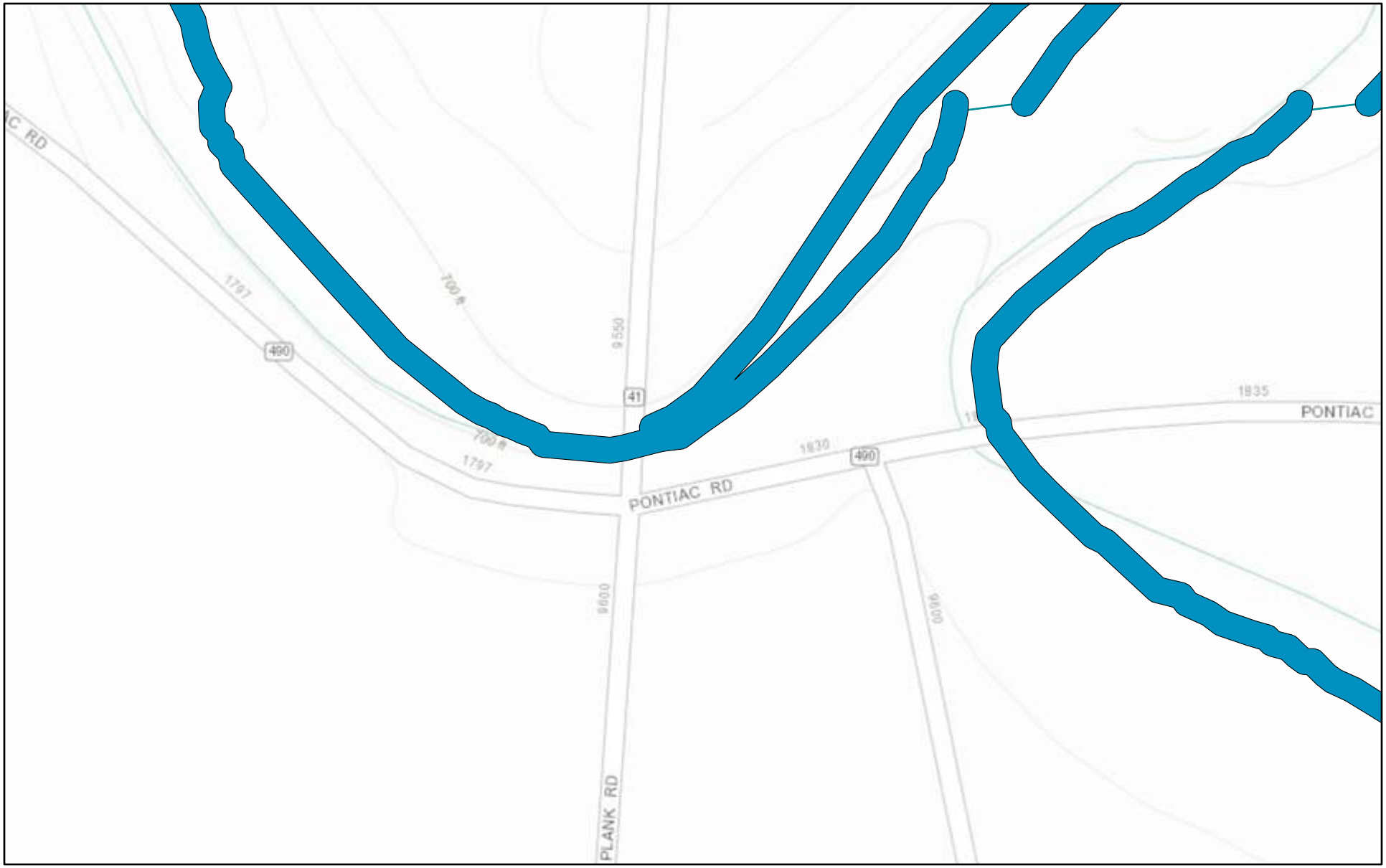
Friday, October 17, 2025 3:10 PM



Disclaimer: The EAF Mapper is a screening tool intended to assist project sponsors and reviewing agencies in preparing an environmental assessment form (EAF). Not all questions asked in the EAF are answered by the EAF Mapper. Additional information on any EAF question can be obtained by consulting the EAF Workbooks. Although the EAF Mapper provides the most up-to-date digital data available to DEC, you may also need to contact local or other data sources to confirm data provided by the Mapper or to obtain data not provided by the Mapper.

Part 1 / Question 7 [Critical Environmental Area]	No
Part 1 / Question 12a [National or State Register of Historic Places or State Eligible Sites]	No
Part 1 / Question 12b [Archeological Sites]	No
Part 1 / Question 13a [Wetlands or Other Regulated Waterbodies]	Yes - Digital mapping information on local, New York State, and federal wetlands and waterbodies is known to be incomplete. Refer to the EAF Workbook.
Part 1 / Question 15 [Threatened or Endangered Animal]	No
Part 1 / Question 16 [100 Year Flood Plain]	Yes
Part 1 / Question 20 [Remediation Site]	No

Environmental Resource Mapper



January 21, 2026

1:2,257

0 0.01 0.03 0.05 mi

0 0.02 0.04 0.09 km

Province of Ontario, Esri Canada, Esri, HERE, Garmin, INCREMENT P, USGS, EPA, USDA, AAFC, NRCan

NYS Department of Environmental Conservation

Not a legal document

National Flood Hazard Layer FIRMette

FEMA

78°58'27"W 42°37'41"N

78°57'50"W 42°37'14"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD

- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS

- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES

- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES

- B 20.2 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- 8 Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS

- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 1/21/2026 at 8:01 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

PIN: 5765.33 **PROJECT NAME:** Versailles Plank Rd over Big Sister Creek Bridge Rehab **Date:** 5/27/26

Section 7 ESA Process for USFWS Species: ESA Transmittal Sheet

Step 4: Documentation. Please complete the appropriate boxes below and complete the documentation as described.

	Out of Range	Activity-Based No Effect	No Effect and No Effect No Suitable Habitat	Bat PBO/PCO IPaC Submittal- MANLAA	Bat PBO/PCO- MALAA	Individual Submission to USFWS (MANLAA, MALAA)	Proposed Species/Proposed Critical Habitat ONLY: No Jeopardy/No Adverse Modification
Northern Long-eared Bat	☐		☐	☑	☐	☐	N/A
Indiana Bat	☑		☐	☐	☐	☐	N/A
Tricolored Bat	☑		☐	☐	☐	☐	☐
Bog Turtle	☑		☐	N/A	N/A	☐	N/A
Mussels	☑		☐	N/A	N/A	☐	☐
Monarch	☐		☐	☐		☐	☑
Karner Blue Butterfly	☑		☐	N/A	N/A	☐	N/A
Other (List Species):				N/A	N/A		
Critical Habitat (List Species):				N/A	N/A		
Documentation Required	The IPaC Official Species List is included in the DAD.	Record the corresponding number of the activity in the box above. Include this sheet and the IPaC List in the DAD.	NYSDOT submits No Effect determination, with supporting documentation, to FHWA EPS with AE cc'd. Request includes a countersignature line for FHWA. FHWA will concur or not concur.	NYSDOT submits through IPaC w/ FHWA EPS included. Concurrence is obtained if 14 days pass without correspondence from USFWS.	NYSDOT submits determination package to FHWA EPS (cc FHWA AE) for review and initiation of USFWS consultation. Written USFWS concurrence required.	Record the corresponding effect determination in the boxes above. NYSDOT submits either BE or BA to FHWA EPS (cc FHWA AE) for review and initiation of USFWS consultation.	NYSDOT submits determination, with supporting documentation, to FHWA EPS with AE cc'd. Submission includes countersignature line for FHWA. FHWA will concur or not concur.
Submission to FHWA Required?	No	No	Yes	cc: only	Yes	Yes	No (monarch only) Yes (all other species)
Submission to USFWS by DOT via IPAC Required?	No	No	No	Yes	Yes	No	No
Submission to USFWS by FHWA Required?	No	No	No	No	Yes	Yes	No

Instructions: This summary sheet is to be included all submissions to FHWA. A submittal package includes all documentation for all species requiring concurrence with a cover letter requesting concurrence, so that FHWA can make one ESA determination. SEE EACH SPECIES-SPECIFIC PACKAGE FOR SPECIFIC DOCUMENTATION REQUIREMENTS FOR SUBMITTALS. Also, FHWA requires documentation of compliance with ESA in the DAD. *FHWA: When initiating consultation with USFWS, send to fw5es_nyfo@fws.gov, copying the Deputy Field Supervisor.*

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
Phone: (607) 753-9334 Fax: (607) 753-9699
Email Address: fw5es_nyfo@fws.gov

In Reply Refer To: 06/05/2026 19:02:22 UTC
Project code: 2026-0005224
Project Name: PIN 5765.33 Versailles Plank Road Over Big Sister Creek (BIN 3327390) Bridge Replacement Project

Subject: Not Likely to Adversely Affect Concurrence verification letter for the 'PIN 5765.33 Versailles Plank Road Over Big Sister Creek (BIN 3327390) Bridge Replacement Project' project under the December 13, 2024, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects within the Range of the Indiana Bat, Northern Long-eared Bat, and Tricolored Bat.

To whom it may concern:

This letter records the determination of effects to federally listed (or proposed) bat species anticipated to result from the PIN 5765.33 Versailles Plank Road Over Big Sister Creek (BIN 3327390) Bridge Replacement Project (the Project). This determination is based upon information you entered into the assisted determination key (Dkey) associated with the above referenced Programmatic Biological Opinion/Conference Opinion (PBO/PCO) in the U.S. Fish and Wildlife Service's (Service) Information for Planning and Consultation (IPaC) system on the date listed above to verify that the Project may rely on the concurrence provided in the PBO/PCO to satisfy requirements under section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (16 USC 1536), as amended.

Ensuring Accurate Determinations When Using IPaC:

The Service developed the IPaC system and this Dkey in accordance with the ESA and based on the PBO/PCO. All information submitted by the project proponent into IPaC must accurately represent the full scope and details of the Project.

Failure to accurately represent or implement the Project as detailed in the Dkey invalidates this letter. Answers to certain questions in the Dkey commit the project proponent to implementation of conservation measures that must be followed for the ESA determinations to remain valid. Carefully review this letter, your ESA requirements are <u>NOT</u> yet complete.

Determinations:

Based on the information you provided (Project Description shown below), you have determined that the Project is within the scope and adheres to the criteria of the PBO/PCO, including the adoption of applicable avoidance and minimization measures. Based on your IPaC submission and the PBO/PCO, the Project is consistent with the following effect determinations:

Species	Listing Status	Determination
Northern Long-eared Bat (*Myotis septentrionalis*)	Endangered	NLAA

The tricolored bat is proposed for listing as endangered under the ESA, but not yet listed. For actions that may affect a proposed species, agencies cannot consult, but they can confer under the authority of section 7(a)(4) of the ESA. Such conferences can follow the procedures for a consultation and be adopted as such if the proposed species is listed. Should the tricolored bat be listed, agencies must review projects that are not yet complete, or projects with ongoing effects within the tricolored bat range that previously received a no effect or not likely to adversely affect (NLAA) determination from the key to confirm that the determination is still accurate.

The Service has 14 calendar days to notify the lead Federal action agency or designated non-federal representative if we determine that the Project does not meet the criteria for a NLAA determination under the PBO/PCO. **If the Service does <u>not</u> notify the lead Federal action agency or designated non-federal representative within that timeframe, you may proceed with the Project under the terms of the NLAA concurrence provided in the PBO/PCO**. This verification period allows Service Field Offices to apply local knowledge to implementation of the PBO, as we may identify a small subset of actions having impacts that were unanticipated. In such instances, Service Field Offices may request additional information that is necessary to verify inclusion of the proposed action under the PBO/PCO.

If the Project is modified, or new information reveals that it may affect the Indiana bat, northern long-eared bat, or tricolored bat in a manner or to an extent not considered in the PBO/PCO, further review to conclude the requirements of ESA section 7(a)(2) may be required.

For Proposed Actions that include bridge/culvert or structure removal, replacement, and/or maintenance activities:

If your initial bridge, culvert, or structure assessment failed to detect Indiana bat, northern long-eared bat, or tricolored bat use or occupancy, yet bats are later detected prior to, or during construction, promptly notify the local Service Field Office within 2 working days of the discovery. In addition, please document whether incidental take occurred, and if so, the type (i.e. kill or harm) and amount (i.e. number of individuals) and submit documentation to the local Service Field Office within 5 working days from the completion of the bridge, culvert, or structure construction (use Appendix E - Post Assessment Discovery of Bats at Bridge/Culvert or Structure Form in the User's Guide). In these instances, potential incidental take of Indiana bats, northern long-eared bats, or tricolored bats may be exempted provided that the take is reported to

the Service. In these instances, potential incidental take of Indiana bats, northern long-eared bats, or tricolored bats may be exempted provided that the take is reported to the Service.

If the Project may affect any other federally listed or proposed species and/or designated critical habitat, additional consultation between the lead Federal action agency and this Service Field Office is required for those species/designated critical habitat. If the Project has the potential to take bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act may also be required. In either of these circumstances, please advise the lead Federal action agency to contact this Service Field Office

The following species may occur in your project area and **are not** covered by this determination:

- Monarch Butterfly *Danaus plexippus* Proposed Threatened

PROJECT DESCRIPTION

The following project name and description was collected in IPaC as part of the endangered species review process.

NAME

PIN 5765.33 Versailles Plank Road Over Big Sister Creek (BIN 3327390) Bridge Replacement Project

DESCRIPTION

The project involves an engineering analysis to determine the most cost effective rehabilitation or replacement method of the existing bridge to provide a structure across Big Sister Creek with a service life of 75 years and that meets today's safety and environmental best practices.

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@42.624356649999996,-78.96894542507457,14z

DETERMINATION KEY RESULT

Based on your answers provided, this project(s) may affect, but is not likely to adversely affect the Indiana bat, northern long-eared bat or tricolored bat, therefore, consultation with the U.S. Fish and Wildlife Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended 16 U.S.C. 1531 et seq.) is required. However, also based on your answers provided, this project may rely on the concurrence provided in the Programmatic Biological Opinion/Conference Opinion for Transportation Projects in the Range of the Indiana bat, northern long-eared bat, and tricolored bat, dated December 13, 2024.

QUALIFICATION INTERVIEW

1. Which Federal Agency is the lead federal agency the action?

   A) Federal Highway Administration (FHWA)

2. Does the Action Area intersect the species list area of the Northern long-eared bat?

   Automatically answered
   Yes

3. Is the project within a 0.5 mile radius of an entrance/opening to any known NLEB or TCB hibernacula?

   No

4. Does your project's activities include raising the road profile above the tree canopy in documented habitat for the Indiana bat, NLEB, or TCB?

   Note: For the definition of documented habitat, refer to Appendix A: https://www.fws.gov/media/users-guide-range-wide-programmatic-consultation-indiana-bat-and-northern-long-eared-bat

   No

5. Is your project located within a karst area?

   No

6. Will the project include bridge, culvert, or structure removal, replacement, and/or alteration activities?

   Note: For definitions of bridge, culvert, and structure, refer to Appendix A: https://www.fws.gov/media/users-guide-range-wide-programmatic-consultation-indiana-bat-and-northern-long-eared-bat.

   Yes

7. Do your project’s activities involve tree removal/trimming, temporary lighting, new/additional permanent lighting, ground disturbance, percussives that involves noise/vibration above existing background levels, vibrations, or slash pile burning?

   Yes

8. Is there suitable summer habitat for the Indiana bat, NLEB, or TCB within the project action area?

   Note: See the Service's summer survey guidance for current definitions of suitable habitat [https://www.fws.gov/midwest/endangered/mammals/inba/inbasummersurveyguidance.html].

   Yes

9. Have P/A surveys for the Indiana bat, NLEB, or TCB been conducted within the suitable summer habitat located within your project action area? This refers to mist-netting or acoustic surveys, not bridge assessments.

   Note: See the Service's survey guidance https://www.fws.gov/midwest/endangered/mammals/inba/inbasummersurveyguidance.html

   No

10. Will the project involve the removal or trimming of trees within suitable habitat for the Indiana bat, NLEB, or TCB?

    Yes

11. Will any tree removal or trimming occur during the bat pup season?

    Note: For more information about bat pup seasons please visit https://www.fws.gov/sites/default/files/documents/2024-10/2024_usfws_rangewide_ibat-nleb_survey_guidelines.pdf

    No

12. Will the removal or trimming of trees occur **within documented habitat** for the Indiana bat, NLEB, or TCB?

    Note: For the definition of documented habitat, refer to Appendix A: https://www.fws.gov/media/users-guide-range-wide-programmatic-consultation-indiana-bat-and-northern-long-eared-bat

    No

13. Will all tree removal or trimming occur within 100 feet of the road or rail surface?

    Yes

14. Does your project include activities involving the temporary or permanent exclusion of Indiana bats, NLEBs, or TCBs from a bridge/culvert or structure that is occupied by a large number of covered bats (>5)?

    Note: exclusion is conducted to deny bats' entry or reentry into a bridge/culvert or structure. To be effective and to avoid harming bats, it should be done according to established standards. Coordinate with the local Service Field Office for additional assistance.

    No

15. Does your project involve the use of temporary lighting within Indiana bat, NLEB, or TCB suitable habitat?

    Note: For the definition of lighting, refer to Appendix A: https://www.fws.gov/media/users-guide-range-wide-programmatic-consultation-indiana-bat-and-northern-long-eared-bat

    No

16. Will the project substantially increase baseline light conditions via the use of permanent lighting (replacement or new/additional) in suitable habitat.

    No

17. Will your project include percussive activities?

    Note: Refer to Stressor #2 Noise/Vibration on page 109 of the PBO/PCO.

    Yes

18. Are the percussive activities only related to tree removal/trimming or bridge/culvert structural work?

    Yes

19. Will the project include **bridge** removal, replacement, and/or alteration activities?

    Yes

20. Is there any suitable habitat for the Indiana bat or NLEB within 1,000 feet of the **bridge** (includes any trees suitable for maternity, roosting, foraging, or travelling habitat)?

    Yes

21. Has a Bridge Bat Assessment been conducted **within the last 24 months** to determine if the bridge is being used by the Indiana bat, NLEB, or TCB? If yes, upload assessment.

    Note: Refer to the Service's current survey guidance for acceptable assessment practices and validity timeframe of bridge/culvert and structure bat assessments: https://www.fws.gov/library/collections/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    Yes

    SUBMITTED DOCUMENTS

    - *Bridge Culvert Bat Assessment Form June 2025 REV01_print.pdf https://ipac.ecosphere.fws.gov/project/BL2KXFALSNDDNOYL5OZW7AGSCQ/projectDocuments/182082084*

22. Please select one of the following results of the Bridge Bat Assessment:

    c) *Indicates the* ***absence*** *of Indiana bats, NLEBs, or TCBs roosting in/under the bridge (no bats, guano, etc.)?*

23. Does the project include **culvert** removal, replacement, and/or alteration activities?

    No

24. Does the project include **structure** removal, replacement, and/or alteration activities?

    No

25. Will the project involve the removal or trimming of more than 20 acres of Indiana bat, NLEB, or TCB suitable habitat per 5-mile section of road/rail?

    No

26. Will the removal or trimming of trees occur within 0.5 miles of a known Indiana bat, NLEB, or TCB hibernaculum?

    No

27. Will the removal or trimming of these trees occur during the active season?

    Note: For the definition of active season, refer to Appendix A: https://www.fws.gov/media/users-guide-range-wide-programmatic-consultation-indiana-bat-and-northern-long-eared-bat

    No

28. Will the removal or trimming of trees occur **beyond 100 feet** of the existing road/rail surfaces?

    No

29. Does the Action Area intersect the species list area of the tricolored Bat (TCB)?

    Automatically answered
    No

30. Does the Action Area intersect the species list area of the northern long-eared bat (NLEB)?

    Automatically answered
    Yes

PROJECT QUESTIONNAIRE

1. Have you made a No Effect determinations for all other species included on the FWS IPaC generated species list?

   Yes

2. Have you made a May Affect determination for any other species on the FWS IPaC generated list?

   No

3. How many acres of trees are proposed for removal/trimming **outside of documented habitat** for the Indiana bat, NLEB, or TCB within 100 feet of the existing road/rail surfaces during the inactive season (NLAA)?

   Note: If described as number of trees, multiply by 0.09 to convert to acreage and enter that number. If all the tree removal will occur in the year-round active area, answer "0."

   0.9

4. How many acres of trees are proposed for removal/trimming **outside of documented habitat** for the Indiana bat, NLEB, or TCB within 100 feet of the existing road/rail surfaces during the active season **(outside the pup season and not between Dec 15th-Feb 15th in Zone 1 of the NLEB and TCB YR active areas)** (LAA)?

   Note: If described as number of trees, multiply by 0.09 to convert to acreage and enter that number.

   0

5. How many acres of trees are proposed for removal/trimming **outside of documented habitat** for the Indiana bat, NLEB, or TCB within 100 feet of the existing road/rail surfaces during the pup season **(trees must be <9 in DBH, and not between Dec 15th-Feb 15th in Zone 1 of the NLEB and TCB YR active areas)** (LAA)?

Note: If described as number of trees, multiply by 0.09 to convert to acreage and enter that number.

0

6. How many acres of trees are proposed for removal/trimming **either outside or within documented habitat** for the Indiana bat, NLEB, or TCB between 100-300 feet of the existing road/rail surface during the inactive season (LAA)? Note: If described as number of trees, multiply by 0.09 to convert to acreage and enter that number. If all the tree removal will occur in the year-round active area, answer "0."

   0

7. How many acres of trees are proposed for removal/trimming **either outside or within documented habitat** for the Indiana bat, NLEB, or TCB between 100-300 feet of the existing road/rail surfaces during the active season **(outside the pup season, and not between Dec 15-Feb 15 in Zone 1 of the NLEB and TCB YR active areas)** (LAA)?

   Note: If described as number of trees, multiply by 0.09 to convert to acreage and enter that number.

   0

8. How many acres of trees are proposed for removal/trimming **either outside or within documented habitat** for the Indiana bat, NLEB, or TCB beyond 300 feet of the existing road/rail surfaces during the inactive season (LAA)?

   Note: If described as number of trees, multiply by 0.09 to convert to acreage and enter that number. If all the tree removal will occur in the year-round active area, answer "0."

   0

9. How many acres of trees are proposed for removal/trimming **either outside or within documented habitat** for the Indiana bat, NLEB, or TCB beyond 300 feet of the existing road/rail surfaces during the active season **(outside the pup season, and not between Dec 15th-Feb 15th in Zone 1 of the NLEB and TCB YR active areas)** (LAA)?

   Note: If described as number of trees, multiply by 0.09 to convert to acreage and enter that number.

   0

10. Please enter the date of the bridge assessment.

    9/22/2025

AVOIDANCE AND MINIMIZATION MEASURES (AMMS)

This determination key result includes the commitment to implement the following Avoidance and Minimization Measures (AMMs):

GAMM1

Ensure all operators, employees, and contractors working in areas of Indiana bat, NLEB, or TCB suitable habitat are aware of all Transportation Agency environmental commitments, including all applicable AMMs.

TRTAMM1
Modify all phases/aspects of the project (e.g., temporary work areas, alignments) to the extent practicable to avoid tree removal/trimming in excess of what is required to implement the project safely.

TRTAMM2
Ensure tree removal/trimming is limited to that specified in project plans and ensure that contractors understand clearing limits and how they are marked in the field (e.g., install bright colored flagging/fencing prior to any tree removal/trimming to ensure contractors stay within clearing limits

TRTAMM3
Ensure tree removal/trimming is limited to the inactive season, occurs within 100 ft of the road/rail surface, and is outside of documented habitat for the Indiana bat, NLEB, and TCB

DETERMINATION KEY DESCRIPTION: FHWA, FRA, FTA PROGRAMMATIC CONSULTATION FOR TRANSPORTATION PROJECTS AFFECTING IBAT, NLEB, OR TCB

This key was last updated in IPaC on May 14, 2026. Keys are subject to periodic revision.

This decision key is intended for projects/activities funded or authorized by the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), and/or Federal Transit Administration (FTA), which may require consultation with the U.S. Fish and Wildlife Service (Service) under Section 7 of the Endangered Species Act (ESA) and may affect the federally listed endangered Indiana bat (*Myotis sodalis*), northern long-eared bat (*Myotis septentrionalis*), and/or federally proposed endangered tricolored bat (*Perimyotis subflavus*).

This decision key should only be used to verify project applicability with the Service's Programmatic Biological Opinion/Conference Opinion for Transportation Projects in the Range of the Indiana bat, northern long-eared bat, and tricolored bat, dated December 13, 2024. The programmatic consultation limited transportation activities that may affect the covered bat species and addresses situations that are both likely and not likely to adversely affect the covered bat species. This decision key will assist in identifying the effect of a specific project/activity and the applicability of the programmatic consultation. The programmatic consultation is not intended to cover all types of transportation actions. Activities outside the scope of the programmatic consultation, or that may affect ESA-listed species other than the Indiana bat, northern long-eared bat, or tricolored bat, or their designated critical habitat, may require additional ESA Section 7 consultation.

IPAC USER CONTACT INFORMATION

Agency: New York State Department of Transportation
Name: Jennifer Reusch
Address: 100 Seneca Street
City: Buffalo
State: NY
Zip: 14203
Email jennifer.reusch@dot.ny.gov
Phone: 7168557035

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Federal Highway Administration
Name: Megan Pulver
Email: Megan.Pulver@dot.gov

You have indicated that your project falls under or receives funding through the following special project authorities:

- BIPARTISAN INFRASTRUCTURE LAW (BIL) (OTHER)

U.S. Department of Transportation
Federal Highway Administration

New York Division

Leo W. O'Brien Federal Building
11A Clinton Avenue, Suite 952
Albany, NY 12207
518-431-4127
NewYork.FHWA@dot.gov

December 31, 2024

In Reply Refer To:
HEA-NY

Ms. Stephanie L. DeLano
Director, Environmental Science Bureau
NYSDOT
50 Wolf Road, POD 4-1
Binghamton, NY 12232

Subject: Endangered Species Act Determination, Monarch Butterfly Categorical Exclusion Projects

Dear Ms. DeLano:

This letter provides a determination regarding the proposed listing of the monarch butterfly (*Danaus plexippus*) as it pertains to projects that have been or are reasonably expected to be classified as a Categorical Exclusion (CE) under the National Environmental Policy Act (NEPA).

On December 12, the U.S. Fish and Wildlife Service (USFWS) published a proposal in the Federal Register (FR 2024-28855) to list the monarch butterfly as threatened with protective regulations under section 4(d) of the Endangered Species Act of 1973 as amended (16 U.S.C. 1531 *et seq.*) (ESA). Following a 90-day comment period, USFWS will determine whether to list the monarch butterfly.

Prior to December 12, the monarch was a candidate species and therefore had no associated Section 7 requirements. In contrast, Federal agency obligations regarding proposed species are established under Section 7(a)(4) of the ESA and 50 CFR § 402.10. Federal agencies are required to confer with USFWS or the National Marine Fisheries Service, as appropriate, on any action that is likely to jeopardize the continued existence of any proposed species.

Categorical exclusions, by definition, are actions that do not involve significant environmental impacts (23 CFR § 771.117). Considering the inherent environmental impact of an action classified as a CE, as well as the primary current threats to the monarch butterfly identified by the proposed rule, **the Federal Highway Administration (FHWA) finds that projects classified as a CE will not jeopardize the continued existence of the monarch butterfly and therefore do not require conference with USFWS.** This includes both NYSDOT and locally sponsored projects and applies to CEs regardless of whether the New York State Department of Transportation (NYSDOT) or FHWA makes the NEPA determination.

Categorical exclusion projects may rely upon this determination to address the change in monarch status. Submission of project-specific requests to FHWA only for a determination regarding the monarch butterfly is not required. Additionally, updating Information for Planning and Consultation (IPaC) official species lists solely due to the proposal to list the monarch is not necessary. All of New York State is within the range of the species and it is assumed that monarch, as a proposed threatened species, is now present on all species lists.

This determination is only relevant while the species is in proposed status. Should USFWS decide to list monarch, all of the prohibitions of the ESA and Section 7 consultation requirements apply on the effective date of the listing. Any projects with remaining construction activities on the effective date that "may affect" the monarch would need to complete consultation before proceeding. Consultation could be accomplished through project-specific consultation or programmatic consultation, if the project meets the criteria of a covered activity under the Nationwide Candidate Conservation Agreement with Assurances (CCAA) for Monarch Butterfly on Energy and Transportation Lands. While NYSDOT has not yet fully completed CCAA enrollment, the process is anticipated to be finalized prior to a potential effective listing date.

This guidance is subject to change and may be revised as the listing process progresses and/or USFWS develops guidance for monarch butterfly conference or consultation. If you have any questions or need additional information, please feel free to contact me at (518) 431-8866.

Sincerely,

MEGAN BROOKE PULVER

Digitally signed by MEGAN BROOKE PULVER
Date: 2024.12.31 11:08:07 -05'00'

Megan B. Pulver
Environmental Protection Specialist

cc: T. Crothers, FHWA
R. Davies, FHWA
C. Gatchell, FHWA
M. Grainer, FHWA
P. Grainer, FHWA
J. Gross, FHWA
C. Heller, FHWA
J. Trivers, FHWA
R. Desy, NYSDOT, DQAB
C. Ippoliti, NYSDOT, ESB

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
Phone: (607) 753-9334 Fax: (607) 753-9699
Email Address: fw5es_nyfo@fws.gov

In Reply Refer To: 05/29/2026 18:51:33 UTC
Project Code: 2026-0005224
Project Name: PIN 5765.33 Versailles Plank Road Over Big Sister Creek (BIN 3327390) Bridge Replacement Project

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. **Please include the Consultation Code in the**

header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
(607) 753-9334

PROJECT SUMMARY

Project Code: 2026-0005224

Project Name: PIN 5765.33 Versailles Plank Road Over Big Sister Creek (BIN 3327390) Bridge Replacement Project

Project Type: Bridge - Maintenance

Project Description: The project involves an engineering analysis to determine the most cost effective rehabilitation or replacement method of the existing bridge to provide a structure across Big Sister Creek with a service life of 75 years and that meets today's safety and environmental best practices.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@42.624356649999996,-78.96894542507457,14z

Counties: Erie County, New York

ENDANGERED SPECIES ACT SPECIES

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Jacob Zehnder
Address: 460 Willowbrook Office Park
City: Fairport
State: NY
Zip: 14450
Email jzehnder@jmdavidsoneng.com
Phone: 2396348998

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Federal Highway Administration

You have indicated that your project falls under or receives funding through the following special project authorities:

- BIPARTISAN INFRASTRUCTURE LAW (BIL) (OTHER)

Bridge and Culvert Bat Assessment Form

Date & Time of Assessment: 9/22/2025 0900	DOT Project Number: 5765.33	Route/Facility Carried: Versaille Plank Rd	County: Erie
Federal Structure ID: BIN 3327390/BR 40-01	Structure Coordinates (latitude and longitude): 42.37' 27.58" N 78.58' 08.36"W	Structure Height (approximate): 33'	Structure Length: 150'

Structure Type (check one)

Bridge Construction Style

- ○ Cast-in-place
- ○ Pre-stressed Girder
- ○ Flat Slab/Box
- ◉ Steel I-beam
- ○ Truss (Side View)
- ○ Covered
- ○ Parallel Box Beam
- ○ Other:

Culvert Type

- ◉ Box
- ◉ Pipe/Round
- ◉ Other:

Other Structure

- ○

Structure Material (check all that apply)

Deck Material

- ☐ Metal
- ☒ Concrete
- ☐ Timber
- ☐ Open grid
- ☐ Other:

Beam Material

- ☐ None
- ☐ Concrete
- ☒ Steel
- ☐ Timber
- ☐ Other:

End/Back Wall Material

- ☒ Concrete
- ☐ Timber
- ☐ Stone/Masonry
- ☐ Other:

Creosote Evidence

- ◉ Yes
- ◉ No
- ◉ Unknown

Culvert Material

- ☐ Metal
- ☐ Concrete
- ☐ Plastic
- ☐ Stone/Masonry
- ☐ Other:

Notes:

Crossings Traversed (check all that apply)

- ☒ Bare ground
- ☐ Rip-rap
- ☒ Flowing water
- ☐ Standing water
- ☐ Seasonal water
- ☐ Open vegetation
- ☐ Closed vegetation
- ☐ Railroad
- ☐ Road/trail - Type:
- ☐ Other:

Surrounding Habitat (check all that apply)

- ☒ Agricultural
- ☐ Commercial
- ☐ Residential-urban
- ☒ Residential-rural
- ☒ Woodland/forested
- ☐ Grassland
- ☐ Ranching
- ☒ Riparian/wetland
- ☐ Mixed use
- ☐ Other:

Areas Assessed (check all that apply) If a culvert cannot be inspected check here & include additional information on page 2 ☐

Check all areas that apply. If an area is not present in the structure, check the "not present" box.
Document all bat indicators observed during the assessment. Include the species present, if known, and provide photo documentation as indicated.

Area (check if assessed)	Assessment Notes	Evidence of Bats (include photos if present)
☐ All crevices and cracks: **Bridges/culverts:** rough surfaces or imperfections in concrete **Other structures:** soffits, rafters, attic areas	☐ Not present No evidence of bats	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☒ Concrete surfaces (open roosting on concrete)	☐ Not present No evidence of bats	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☐ Spaces between concrete end walls and the bridge deck	☐ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☐ Crack between concrete railings on top of the bridge deck (Gap, Railing)	☒ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☐ Vertical surfaces on concrete I-beams	☒ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☒ Spaces between walls, ceiling joists	☐ Not present Difficult to visually assess, bridge was recently painted brown, no evidence of bats observed	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☒ Weep holes, scupper drains, and inlets/pipes	☐ Not present No evidence of bats	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☒ All guiderails	☐ Not present No evidence of bats	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☒ All expansion joints	☐ Not present Difficult to visually assess due to structure height, no evidence of bats observed	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species

Name: Angela Gardner

Signature: [illegible] by Angela Gardner [illegible] igardner@jmdavidsoneng.com, O="JM [illegible] engineering, DPC", OU=Water Resources [illegible] Angela Gardner [illegible] 4 10:43:55-04'00'

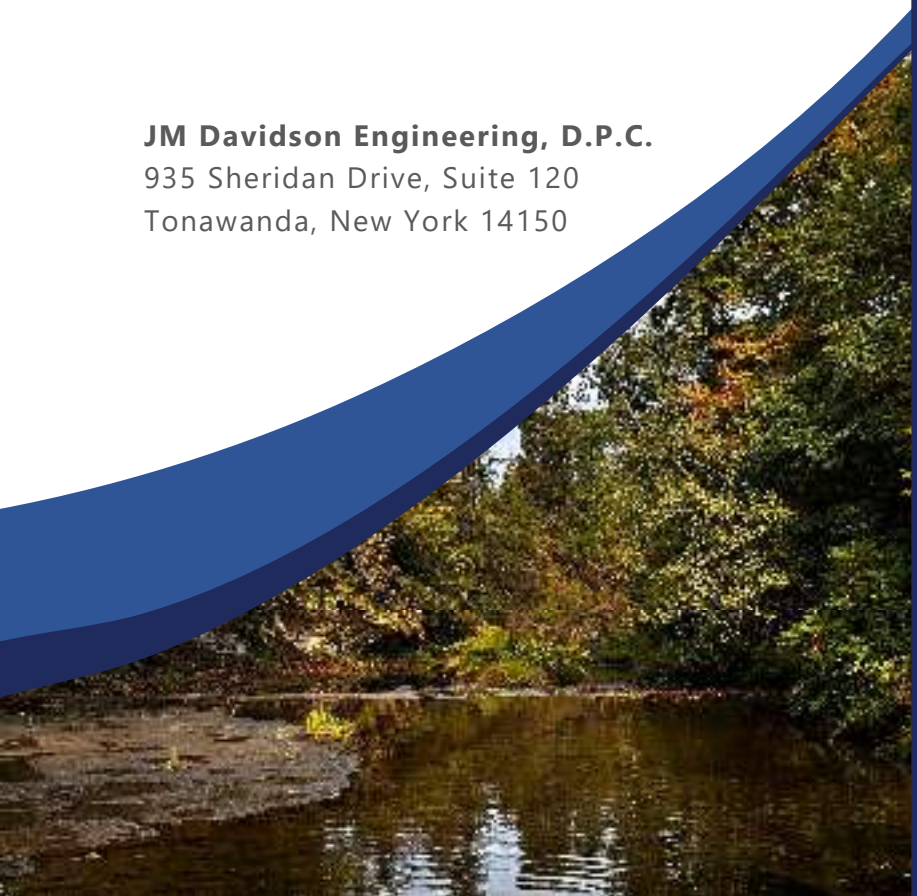
Erie County
Department of
Public Works

Versailles Plank Road over Big Sister Creek Bridge Rehabilitation Project

PIN 5765.33 | BIN 3327390

Wetland and Waterways Survey Report

January 2026



JM Davidson Engineering, D.P.C.
935 Sheridan Drive, Suite 120
Tonawanda, New York 14150

JM Davidson
Engineering, D.P.C.

Table of Contents

Table of Contents ..... **i**

1 **Introduction** **2**

1.1 Project Location & Setting 2

1.2 Desktop Review & Site Description 2

1.2.1 NYSDEC Wetlands of Unusual Importance Remote Jurisdictional Determination Analysis 3

2 **Wetland & Waters Survey Method** **5**

2.1.1 Federal Methodology 5

2.1.2 Field Procedures 6

3 **Survey Results** **7**

3.1 Surface Waterbodies 7

3.1.1 Big Sister Creek 8

3.2 Wetlands 12

3.2.1 Wetland 1 12

4 **References** **15**

Appendices

Appendix A: Figures
Appendix B: Datasheets
Appendix C: NYSDEC Correspondence

1 Introduction

JM Davidson Engineering D.P.C (JMD) has been retained to assess the stream and wetland resources that occur at or adjacent to the estimated work limits to replace the bridge carrying Versailles Plank Road across Big Sister Creek in the Town of Evans, Erie County, NY. These resources will be considered in planning the work to avoid and minimize impacts where practicable. This report summarizes the methods and results of the stream and wetland assessment. It is intended that this report will support any necessary permitting through Section 404/401 of the Clean Water Act or Article 24/Article 15 of New York State Environmental Conservation Law to perform the proposed work.

1.1 Project Location & Setting

The project is located in the southwestern part of Erie County, in the southeastern corner of the Town of Evans. Versailles Plank Road is a heavily traveled, long county road that is generally in a north-south orientation from the intersection with Route 438 in the Town of Collins south of the project to Eden Evans Center Road north of the project, in the Town of Evans. The bridge that is subject to this project is located immediately north of the intersection with Pontiac Road (See **Appendix A, Figure 1**).

The bridge is within a rural area with scattered single-family homes, large agricultural fields mainly consisting of row and forage crops, and large blocks of deciduous and mixed forested areas. The project site is midpoint between the Village of Angola and the Village of North Collins. Big Sister Creek is a large perennial stream confined to a deep, winding ravine cut through shale bedrock.

The project is located in what is delineated by the United States Geological Survey (USGS) Watershed Boundary Dataset as the Big Sister Creek Watershed (HUC: 041201030603/State Waterbody ID: NY0104-0047). Big Sister Creek directly flows in Lake Erie, a traditional navigable waterway. Big Sister Creek is a relatively permanent waterway that is part of the stream network of a traditional navigable waterway, and as a result, meets the definition of "Waters of U.S." (WOTUS).

New York state is ecologically diverse with many different ecological regions. Ecological regions denote areas with similar ecology and geologically defined on similar characteristics of topography, geology, soils, water features, and assemblages of vegetation and wildlife. This project is located within the Eastern Great Lakes Lowlands Ecological Region and the Erie/Ontario Lake Plain Ecological Subregion. This region in NY is narrow and located along the lakeshores of Lake Erie and Lake Ontario. The flat lake plains are bounded on the inland side by Pleistocene beach ridges that are the former shorelines of glacial lakes. Its climate is heavily influenced by the close proximity of Lake Erie and Lake Ontario. The lake increases cloudiness in the winter, and the growing season is longer with the lake keeping this area frost free longer. Soil tends to be finely textured. Land use in this ecoregion is predominantly agriculture with small blocks of forests scattered throughout the landscape. There are several cities such as Buffalo and Rochester within this small ecoregion. Stream networks are low gradient and have often been manipulated to accommodate cultivation or development of the land or to drain an area faster. Wetlands can be large in size and abundant in this ecoregion (Bryce et al 2010).

1.2 Desktop Review & Site Description

Prior to visiting the project location, a desktop review was conducted to identify existing information about the site conditions and natural resources. Information from various reliable sources such as government agency websites was collected to identify areas likely to contain wetlands and water resources within and adjacent to the project site.

The sources that were consulted were U.S. Geographical Survey (USGS) topographic maps, aerial photography, New York State Department of Environmental Conservation's (NYSDEC) Environmental Resource Mapper (ERM) (See **Appendix A, Figure 2**), the US Fish & Wildlife Service's (USFWS) National Wetland Inventory (NWI) mapping (See **Appendix A, Figure 3**), and the US Department of Agriculture's (USDA) Soil Survey Geographic (SSURGO) Database and Hydric Soil Ratings (See **Appendix A, Figure 4**), and the U.S. Army Corps of Engineers' Antecedent Precipitation Tool (APT). USGS topographic features, NYSDEC wetland and stream mapping, NWI wetland habitat polygons, soil series descriptions, topography, and saturated areas apparent on the aerial photography were also reviewed. This information provided an expectation of the conditions at the site and was used to support the onsite findings including the *Routine Wetland Determination Data Forms* and APT report presented in **Appendix B**. Key notes from the desktop review are summarized in **Table 1**.

Table 1: Desktop Review Results

Desktop Review Results Summary	
NYSDEC ERM (Figure 2)	• Big Sister Creek – NYSDEC Class C Stream • There are no Previously Mapped Freshwater Wetlands or Informational Freshwater Wetlands within the Survey Area or within the surrounding area. • No rare, threatened, or endangered species are in proximity of the Survey Area.
USFWS NWI Mapping (Figure 3)	• *Classification of Deepwater Habitats of the US* (Cowardin et al 1979) classification of R2UBH within the Survey Area. • R2UBH denotes riverine habitat with lower perennial flow, a permanently flooded water regime, and an unconsolidated bottom that is anticipated to be located within the channel.
USDA Web Soil Survey (Figure 4)	• The majority of the Survey Area is mapped as Churchville silt loam and Rock outcrop. • Churchville silt loam (0-3% slopes) is a somewhat poorly drained soil and Hydrologic Soil Group C/D. • Rock outcrops are visible exposure to bedrock. • Hydric soil is not anticipated at the project site.
Aerial Imagery/Topography	• Typical flat and mildly rolling topography of the Lake Erie lake plain. • Big Sister Creek located in a defined deep gorge approximately 33-ft below the surrounding grade. • The riparian area of the gorge has dense deciduous tree cover.
Antecedent Precipitation Tool v3.0	• A comparison of recent rainfall conditions for the Survey Area to the range of normal rainfall conditions that occurred there during the preceding 30 years (Gutenson et al. 2023). • Delineation was conducted under "Normal Conditions – 10" during Wet Season with a "Moderate" Drought Index. • USGS Streamgage data indicates that 70% of nearby streams are experiencing "Normal" flow conditions for the date of the survey.

1.2.1 NYSDEC Wetlands of Unusual Importance Remote Jurisdictional Determination Analysis

New York State protects wetlands under Article 24 of the Environmental Conservation Law, also known as the Freshwater Wetlands Act. Under Article 24, beginning January 1, 2025, state regulated wetlands are defined as

wetlands that have an area of at least 12.4 acres in size or are of "unusual importance". Wetlands of "unusual importance" are defined by meeting one or more of the eleven criteria listed below:

a) it is located in a watershed that has experienced significant flooding in the past, or is expected to experience significant flooding in the future from severe storm events related to climate change;
b) it is located within or adjacent to an urban area, as defined by the United States Census Bureau;
c) it contains a plant species occurring in fewer than thirty-five sites statewide or having fewer than five thousand individuals statewide;
d) it contains habitat for an essential behavior of an endangered or threatened species or a species of special concern as defined under section 11-0535 of this chapter or listed as a species of greatest conservation need in New York's wildlife action plan;
e) it is classified by the department as a Class I wetland;
f) it was previously classified and mapped by the department as a wetland of unusual local importance;
g) it is a vernal pool that is known to be productive for amphibian breeding;
h) it is located in an area designated as a floodway on the most current Digital Flood Insurance Rate Map (DFIRM) produced by the Federal Emergency Management Agency;
i) it was previously mapped by the department as a wetland on or before December 31, 2024;
j) it has wetland functions and values that are of local or regional significance; or
k) it is determined by the commissioner to be of significant importance to protecting the state's water quality.

To determine if the project area has the potential to meet one of these 11 criteria, a desktop study was conducted following NYSDEC's *Standard Operating Procedures (SOP) for Remote Jurisdictional Determinations and Classification of Freshwater Wetlands Pursuant to 6 NYCRR Part 664, Freshwater Wetland Jurisdiction and Classification* (Last Revised: 14 January 2025). The desktop study revealed that the project is located in a FEMA Regulated Floodway. Therefore, any wetlands found in the project area are likely to be state jurisdictional. The results of the desktop study are presented in **Figure 5** in **Appendix A**.

A formal project jurisdictional determination (JD) was requested from NYSDEC Central Office through the online portal[1] on August 27, 2025. According to 6 NYCRR Part 664.8, JD requests shall be responded to within 90 days. If NYSDEC fails to provide a definitive answer within 90 days, the requestor can submit a Notice of Failure (NOF) to NYSDEC and NYSDEC has 10 days to respond to the NOF. If the department fails to provide a definitive answer within 10 business days of the receipt of the NOF, freshwater wetland jurisdiction for the subject parcel or project shall be deemed waived. Such waiver shall serve as a complete defense to the enforcement of the Freshwater Wetlands Act for a period of five years from the date of the waiver. Despite the area qualifying any onsite wetlands as unusually important and jurisdictional under Article 24, if NYSDEC does not respond to the JD request, Article 24 jurisdiction can be waived for 5 years. NYSDEC responded to the JD request on November 25, 2025, with a Positive Jurisdictional Determination.

[1] https://dec.ny.gov/nature/waterbodies/wetlands/freshwater-wetlands-program/freshwater-wetland-jurisdictional-determination

2 Wetland & Waters Survey Method

The need for wetland and waters surveys is driven mainly by the Clean Water Act (CWA). The intent of the CWA is to maintain the chemical, physical, and biological integrity of the Nation's waters. It created a regulatory program to control discharges, and dredge and fill activities within "Waters of the United States". The definition of "Waters of the United States" has been interpreted differently throughout the country and has been an issue debated in court several times. The most recent rule defining "Waters of the United States" was issued on August 29, 2023. Under this definition, the EPA issues a final rule to amend the final "Revised Definition of 'Waters of the United States'" rule published in the *Federal Register* on January 18, 2023. This rule makes the definition of Waters of the United States conform to the Supreme Court decision on *Sackett v. EPA* (2023). Ultimately, these rules and definitions clarify what is regulated under the CWA. In general, the CWA regulates the Nation's navigable waters and the core tributary systems that provide perennial or intermittent flow into them including those wetlands that are directly adjacent to these waters.

Wetlands contribute to the chemical, physical, and biological conditions of waterways. As a result, they are afforded protection as part of the regulatory program to protect Waters of the United States. The federal regulations implementing the Clean Water Act (40 CFR 232.2) define wetlands as the following: "Wetlands means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." The USACE and the EPA have joint responsibility in implementing the permitting program under the CWA and therefore issue guidance in the survey methodology used by field practitioners to identify the boundaries and characteristics of wetlands and waters. The following sections describe the survey methodology undertaken to identify and characterize the wetlands and waterways found inside the project area, which adheres to USACE and EPA guidance.

2.1.1 Federal Methodology

The delineation of wetlands in the field was based upon the methods outlined in the *USACE 1987 Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the USACE Wetland Delineation Manual: Northcentral and Northeast Region* (USACE 2012). The Routine On-Site Inspection Methodology as set forth in the manuals was employed. Each wetland was assessed to determine the cover type according to the FGDC Wetland Classification Standard (2013), which is based on the "*Classification of Wetlands and Deepwater Habitats of the United States*" (Cowardin et al. 1979). In addition, wetland functions and values were assessed using the USACE New England District's "*The Highway Methodology Workbook Supplement Wetland Functions and Values a Descriptive Approach*" (1999).

The 1987 USACE manual, Regional Supplement, and guidance memorandums emphasize a three-parameter approach to wetland boundary determination in the field. This approach involves the following: (1) evidence of wetland hydrology; (2) presence of hydric soils (USDA NRCS 2024); and (3) predominance of hydrophytic vegetation as defined by the National Wetland Plant List (USACE 2024). These indicators are normally present in wetlands and serve to distinguish between the transitional area and upland. The transitional area is what is demarcated in the field.

Surface waterbodies are defined as those aquatic habitats that lack a predominance of rooted vegetation, have an ordinary high water mark (OHWM) and can be lotic or lentic. Lotic systems are defined by moving water with a definitive direction creating a scoured channel, have defined bed and banks, and distinct habitats of riffles, runs, and pools. These indicators determine the difference between man-made ditches. Ditches are cut into the upland

to receive drainage or to convey water away from an area but lack a predictable, persistent hydrologic source to have an OHWM and lack ecological functions and values. They also require regular maintenance to function as intended. The OHWM was identified using The USACE's "*National Ordinary High Water Mark Field Delineation Manual for Rivers and Streams: Final Version* (David, G, et al. 2025)." The organisms that inhabit lotic systems are adapted to the moving water. These systems are commonly referred to as rivers, streams, creeks, brooks, runs, springs, and channels. Lentic systems are surface water bodies of standing or still water. Water movement is minimal or imperceptible. They have layered zones based on light penetration and water temperatures. These systems are commonly referred to as lakes, ponds, vernal pools, reservoirs, and can also be open water or deep water habitat inside wetlands.

2.1.2 Field Procedures

A site visit was performed on September 22, 2025. The transitional boundary between wetland and upland was marked with pink flagging tape or a pin flag and an alpha-numeric code identifying each wetland found onsite and the flag number. Observations are made at sample data points within each potential wetland area, and a data sheet for the point was completed summarizing the observations of hydrologic, vegetative, and soil indicators, or lack of them. Additional data points are recorded when needed to confirm upland boundaries and document all conditions found at the site. Photographs of each wetland, wetland habitat and waterway are taken. Data sheets are presented in **Appendix B**.

JMD surveys the wetland boundaries and data point locations with a global positioning system (GPS) with a minimum accuracy of +/-1 meter. The location of the flags and the wetland boundaries are depicted on the field delineation map in **Appendix A**.

Under the Clean Water Act and the subsequent definition of WOTUS, surface water bodies are regulated below the OHWM. When surface waterbodies are encountered onsite, the OHWM is located by field indicators and mapped. For streams that are small with less than 3-ft between the OHWM, the centerline is mapped due to the limitations of the accuracy of the GPS receiver in locating points less than 3-ft apart. The mapped OHWM for surface waterbodies found onsite are depicted on the field delineation map in **Appendix A**.

3 Survey Results

A survey area comprising approximately 75,051 square feet or 1.72 acres (185 feet north and south from the center of the bridge) centered around the existing bridge was assessed in the field (See **Appendix A, Figure 6**). The area extends beyond the road right-of-way (ROW) for any extra space needed by construction to replace the existing bridge and to identify any sensitive resources that are located adjacent to the bridge. One (1) wetland and one (1) surface waterbody were identified and delineated. Section 3.1 describes the surface waterbody found while Section 3.2 describes the wetland delineated at the site. **Table 2** summarizes the features of these natural resources.

Table 2: Delineation Results

Aquatic Resource Summary				
Field I.D.	**Covertype/Stream Type**	**Area Within Survey Area (square feet/acres)**	**NYSDEC Jurisdiction**	**USACE Jurisdiction**
Big Sister Creek	Perennial	17,064 ft^2/0.39 acres	No, Class C Stream and non-navigable by state standards	Yes, clear connection to traditional navigable waterway
Wetland 1	PEM	2,202 ft^2/0.05 acres	Yes	Yes, continuous surface connection to Big Sister Creek

3.1 Surface Waterbodies

One surface waterbody exists in the survey area for this project, the Big Sister Creek. **Table 3** summarizes the characteristics of the surface waterbody found in the survey area. Section 3.1.1 describes the Big Sister Creek in more detail.

Table 3: Surface Waterbody Characteristics Summary

Stream Characteristic Summary	
Name/Field Id	Big Sister Creek
Flow Direction	West
Flow Classification	Perennial
Planform/Profile Description	Survey Area has the beginning of a large bend
Anticipated Rosgen Type	C1 with some F characteristics (lack of floodplain)
Substrate	Bedrock
Ordinary High Water Width	80-ft
Ordinary High Water Depth	2.5-ft
Method of Ordinary Highwater Assessment	Change from exposed shale bedrock to herbaceous vegetation and water staining on pier and south abutment

Stream Characteristic Summary	
Left Descending Bank Height	33-ft
Right Descending Bank Height	5-ft
Bank Type/Shape	Vertical, stream is confined to a gorge
Estimated Width at Top of Bank	180-ft

3.1.1 Big Sister Creek

Big Sister Creek at the Versailles Plank Road crossing is a large perennial stream confined to a deep winding gorge (See **Appendix A, Figure 6**). The top of the gorge is approximately 33-ft above the bottom elevation of the channel. The substrate is exclusively bedrock. The gorge walls are shale bedrock with many mature and small trees growing off the sides. Upstream of the bridge, the north and south banks are composed of the vertical shale faces. Downstream of the bridge, the south bank is vertical, but the north bank is approximately 5-ft high that lays back on a small bench. From the bench, there is a steep but smooth slope leading up to the top of the gorge. This area is maintained as lawn for the adjacent home, north of the bridge. There is a large sweeping bend in the gorge east or upstream of the survey area. Big Sister Creek enters the survey area with flow aimed to the southwest. The southern side of the gorge bends to the west at the bridge and continues to curve north so flow is aimed to the northwest outside of the survey area on the western or downstream side. Within the survey area, flow is generally west-southwest.

Instream habitat is not well defined due to the bedrock substrate There are scour pools around the upstream side of the center pier and downstream in another scour pool with a small waterfall. The thalweg is mainly on the southern side of the gorge. Small fish were observed in the stream in the scour pools.

The OHWM is evident on the wall of the gorge from a slightly eroded line that exposes tree roots and changes from mainly a vertical, raw bank with a mat of creeping bentgrass (*Agrostis stolonifera*) along the toe of the gorge wall to scattered herbaceous vegetation such as coltsfoot (*Tussilago farfara*). The water depth at the time of the field visit was 0.6 ft.

Photo 1: Looking west/downstream at Big Sister Creek from the Versailles Plank Rd Bridge.

Photo 2: Looking east at the downstream face of the bridge from the western extent of the survey area.

Photo 3: Looking southwest at the upstream face of the bridge from the eastern extent of the survey area.

Photo 4: Looking east from the bridge at the eastern/upstream extent of Big Sister Creek.

Photo 5: View of the southern wall with the OHWM depicted on the image.

3.2 Wetlands

One wetland exists in the survey area for this project, demarcated as, "Wetland 1". **Table 4** summarizes the characteristics and wetland indicators observed in this wetland. **Figure 6** in **Appendix A** depicts the flag and datapoint locations. Appendix B contains the datasheets recorded in the field. Section 3.2.1 describes the wetland in more detail.

Table 4: Field Delineated Wetland Summary

Field Delineated Wetland Characteristics Summary	
Field ID	Wetland 1
Area in Survey Area	2,202 ft^2/0.05 acres
Estimated Contiguous Size of Wetland	2,202 ft^2/0.05 acres
Covertype(s)	PEM
Hydrology Indicators	Sediment Deposits (B2), Oxidized Rhizospheres on Living Roots (C3), FAC-Neutral Test (D5)
Dominant Hydrophytic Vegetation	*Carex lacustris* (OBL), *Eupatorium perfoliatum* (FACW), *Leersia oryzoides* (OBL)
Hydric Soil Indicators	Depleted Matrix (F3)

3.2.1 Wetland 1

Wetland 1 is located on the eastern side of the bridge within the OHWM of Big Sister Creek (See **Appendix A, Figure 6**). It is a small wetland encompassing just over 2,000 square feet, narrow in width, and elongated with the direction of flow in the stream. It is mainly composed of silt and clay sediments that have created an island approximately 8-12" high. Dense herbaceous vegetation has colonized and stabilized the accumulated sediments. The hydrology of the wetland is attributed to the persistent water in the channel of Big Sister Creek at a minimum of 8-12" below the soil surface. The wetland would also become inundated during high flow events.

The wetland has emergent (PEM) cover There are a few scattered willow (*Salix bebbiana*) shrubs that have also taken hold within the wetland but constitute less than 10% of the aerial coverage within the wetland. The species with the most aerial coverage included lakebank sedge (*Carex lacustris*), tussock sedge (*Carex stricta*), spotted trumpetweed (*Eutrochium maculatum*), iris (*Iris versicolor*), common boneset (*Eupatorium perfoliatum*), and ricecut grass (*Leersia oryzoides*).

The soil within the wetland has a silty clay loam texture. The living roots within the soil profile showed oxidized rhizospheres and large round iron concentrations within a clearly depleted matrix. This is expected with the hydrologic regime that the wetland experiences.

Photo 6: View of Wetland 1 from the bridge. This is Wetland 1 in its entirety.

Photo 7: Up close view of the dense vegetation in Wetland 1.

Photo 8: View of the northeastern extent of Wetland 1 within the channel of Big Sister Creek.

Photo 9: This is the soil excavated out of the soil pit to record the data point. The soil clearly meets indicator F3 Depleted Matrix.

4 References

Brown, S., S. Crocoll, D. Goetke, N. Heaslip, T., Kerpez, K.Kogut, S. Sanford, D. Spada. 1995. New York State Freshwater Wetland Delineation Manual. New York State Department of Environmental Conservation. Available online at https://extapps.dec.ny.gov/docs/wildlife_pdf/wdelman.pdf

Bryce, S.A., G.E. Griffith, J.M. Omernik, G. Edinger, S. Indrick, O. Vargas, and D. Carlson. 2010. Ecoregions of New York (2 sided color poster with map, descriptive text, summary tables, and photographs). U.S. Geological Survey, Reston, VA. Scale 1:1,250,000.

Cowardin, L.M., V. Carter V., F.C. Golet, E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Fish and Wildlife Service Report No. FWS/OBS/-79/31.Washington, D.C.

David, G.C., K.M. Fritz, T. Nadeau, B.J. Topping, A.O. Allen, P.H. Trier, S.L. Kichefski, L.A. James, E.Wohl, D. Hammill. 2025. National Ordinary High Water Mark Field Delineation Manual for Rivers and Streams: Final Version. ERDC/CRREL TR-25-1 Army Corps of Engineers.

Edinger, G. J., D. J. Evans, S. Gebauer, T. G. Howard, D. M. Hunt, and A. M. Olivero (editors). 2014. Ecological Communities of New York State. Second Edition. A revised and expanded edition of Carol Reschke's Ecological Communities of New York State. New York Natural Heritage Program, New York State Department of Environmental Conservation, Albany, NY.

Environmental Laboratory. 1987. "Corps of Engineers Wetlands Delineation Manual," Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.

Federal Geographic Data Committee. 2013. Classification of wetlands and deepwater habitats of the United States. FGDC-STD-004-2013. Second Edition. Wetlands Subcommittee, Federal Geographic Data Committee and U.S. Fish and Wildlife Service, Washington, DC.

NRCS. No Date. Websoil Survey (SSURGO Soils Data). Available at https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm

U.S. Army Corps of Engineers. 2011. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, C. V. Noble, and J. F. Berkowitz. ERDC/EL TR-12-1. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

U.S. Army Corps of Engineers. 2024. National Wetland Plant List. Available online at https://nwpl.sec.usace.army.mil/

U.S. Army Corps of Engineers New England District. 1999. The Highway Methodology Workbook Supplement. Available online at https://www.nae.usace.army.mil/Portals/74/docs/regulatory/Forms/HighwaySupplement6Apr2015.pdf

U.S. Department of Agriculture Natural Resources Conservation Service (USDA NRCS). 2024. *Field Indicators of Hydric Soils in the United States. Version 9.0.*

U.S. Fish and Wildlife Service. 2019. National Wetlands Inventory Mapper. https://www.fws.gov/wetlands/data/Mapper.html Last updated May 6, 2019.

Appendix A: Figures

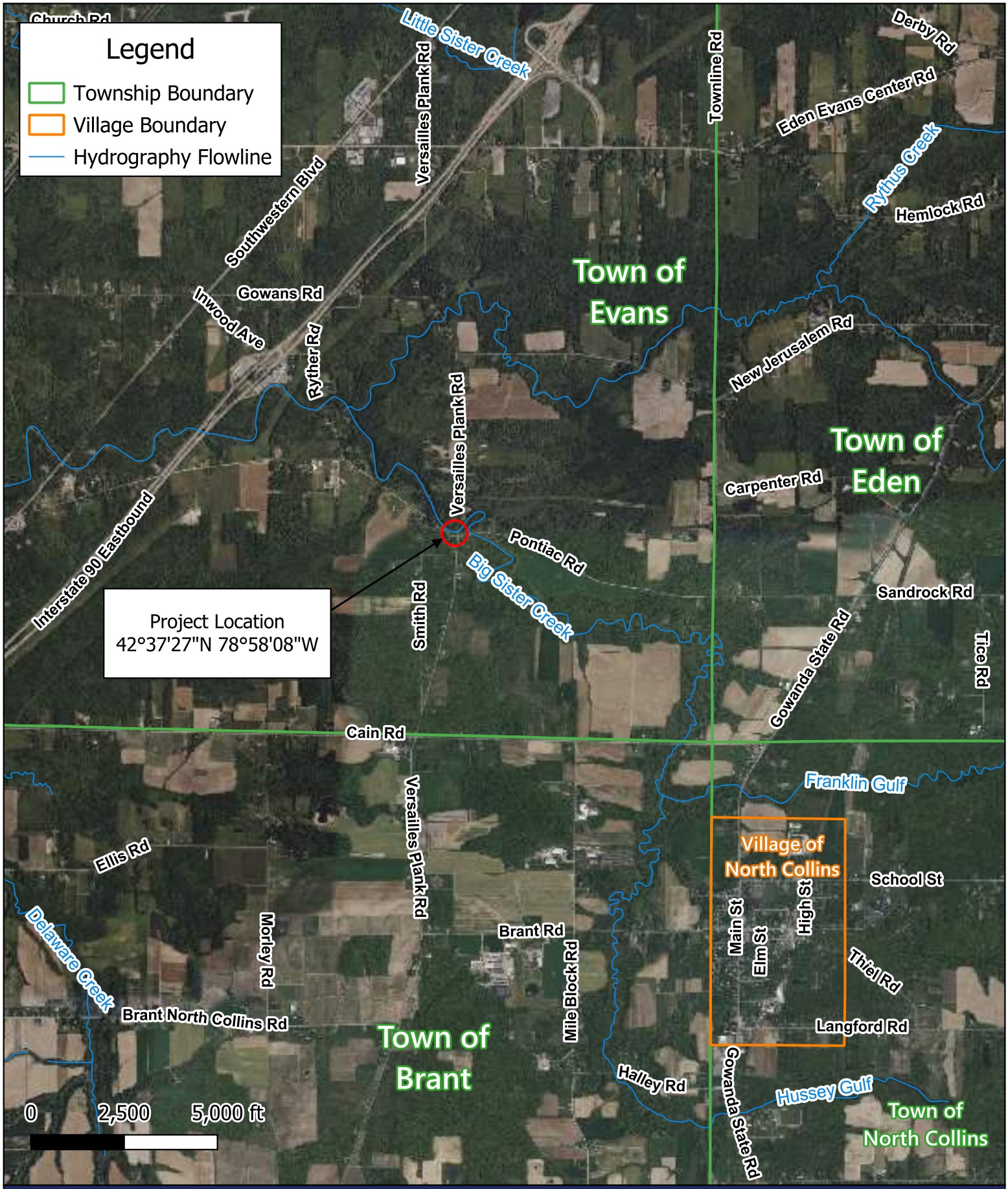


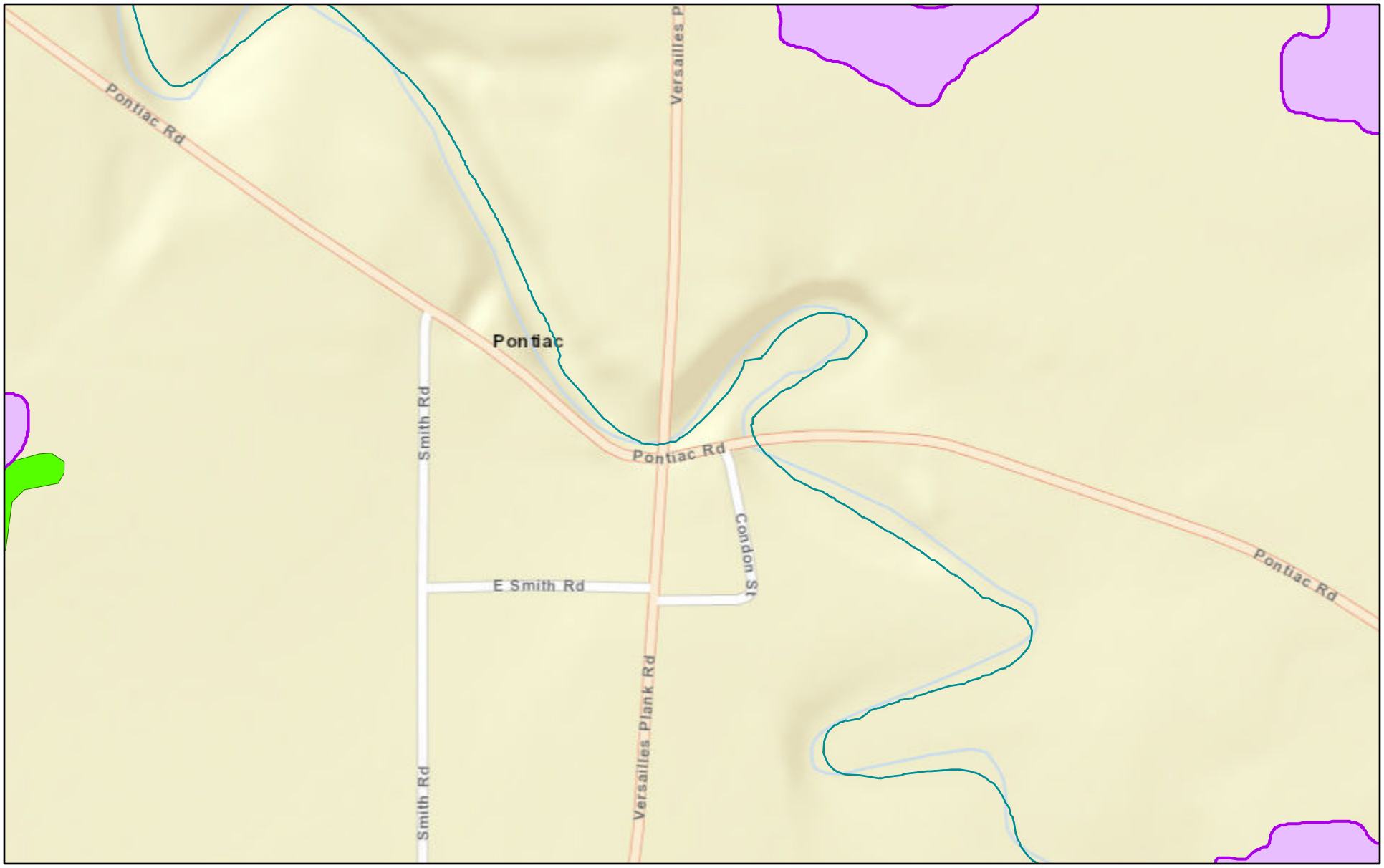
FIGURE 1

ERIE COUNTY DEPARTMENT OF PUBLIC WORKS - HIGHWAYS
VERSAILLES PLANK ROAD OVER BIG SISTER CREEK | BIN 3327390

PROJECT LOCATION MAP

JMDavidson Engineering D.P.C.

Figure 2 - Environmental Resource Mapper



September 22, 2025

1:9,028

0 0.05 0.1 0.2 mi

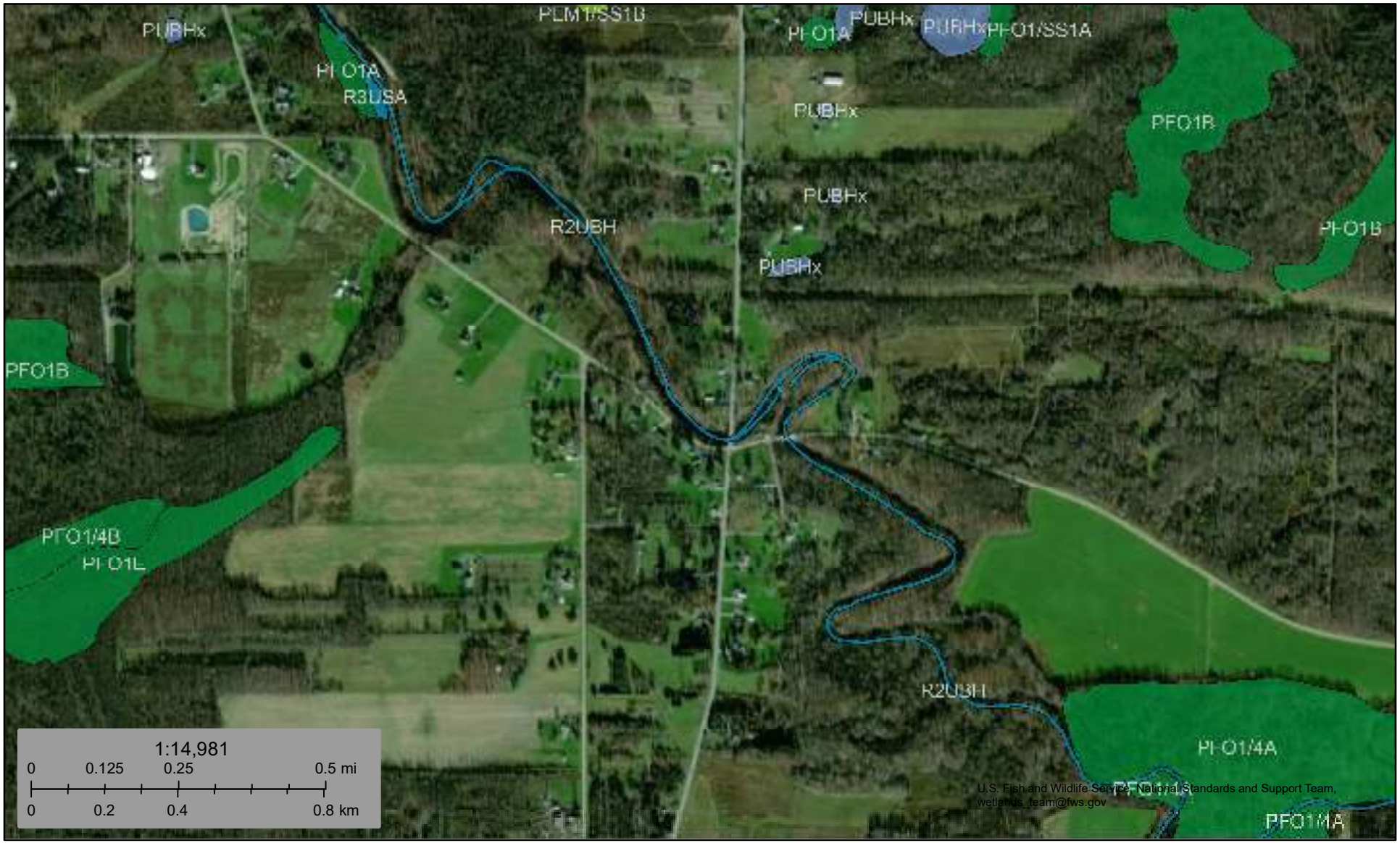
0 0.07 0.15 0.3 km

Esri, HERE, Garmin, INCREMENT P, Intermap, NGA, USGS, NRCan

NYS Department of Environmental Conservation
Not a legal document

U.S. Fish and Wildlife Service
National Wetlands Inventory

Figure 3 - National Wetland Inventory Map



September 22, 2025

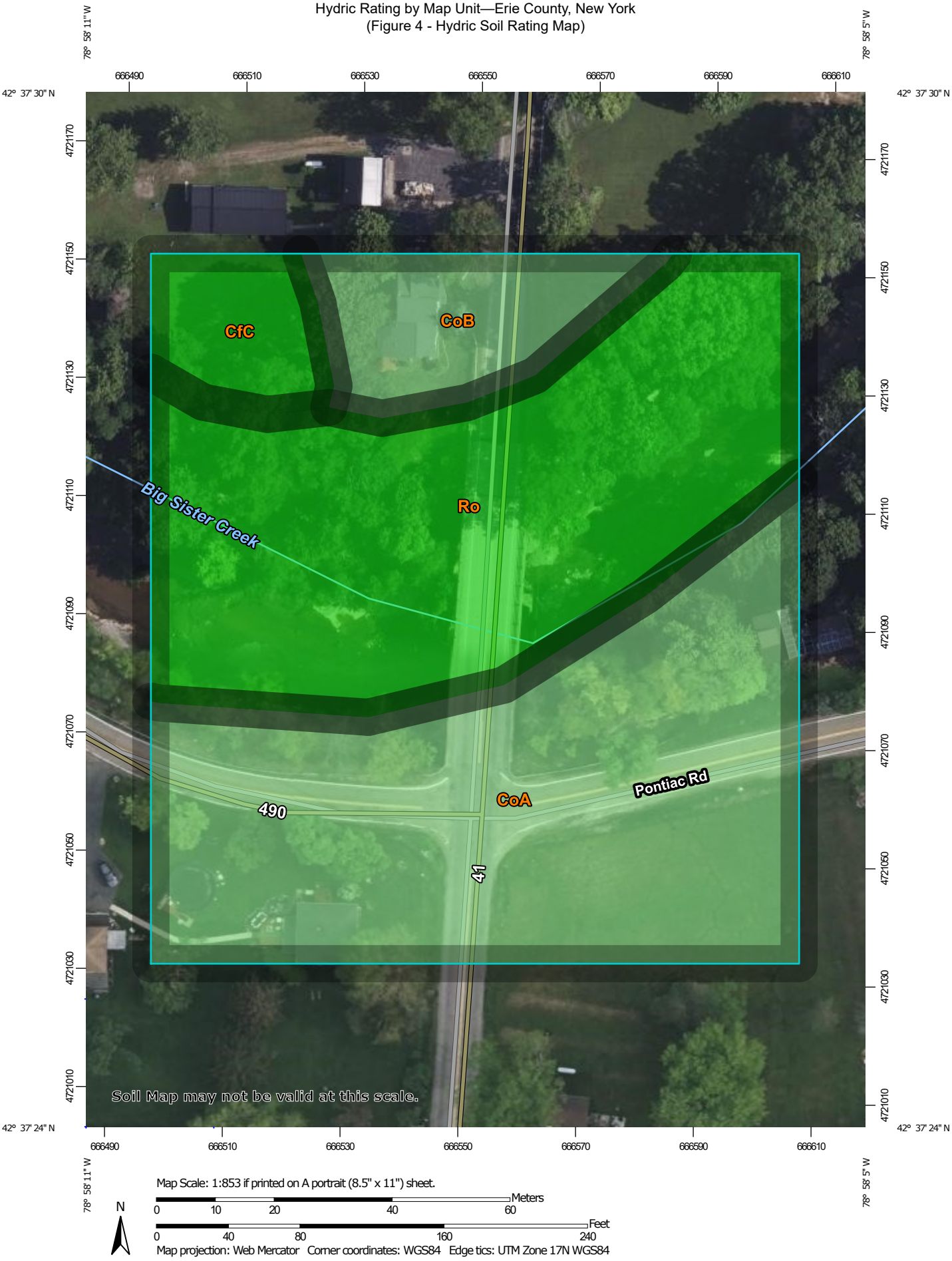
Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

Hydric Rating by Map Unit—Erie County, New York
(Figure 4 - Hydric Soil Rating Map)



MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

Hydric (100%)

Hydric (66 to 99%)

Hydric (33 to 65%)

Hydric (1 to 32%)

Not Hydric (0%)

Not rated or not available

Soil Rating Lines

Hydric (100%)

Hydric (66 to 99%)

Hydric (33 to 65%)

Hydric (1 to 32%)

Not Hydric (0%)

Not rated or not available

Soil Rating Points

Hydric (100%)

Hydric (66 to 99%)

Hydric (33 to 65%)

Hydric (1 to 32%)

Not Hydric (0%)

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Erie County, New York
Survey Area Data: Version 24, Aug 25, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 17, 2020—May 27, 2023

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
CfC	Cayuga silt loam, 8 to 15 percent slopes	0	0.2	5.5%
CoA	Churchville silt loam, 0 to 3 percent slopes	5	1.4	43.9%
CoB	Churchville silt loam, 3 to 8 percent slopes	5	0.3	8.9%
Ro	Rock outcrop	0	1.4	41.7%
Totals for Area of Interest			**3.3**	**100.0%**

Description

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

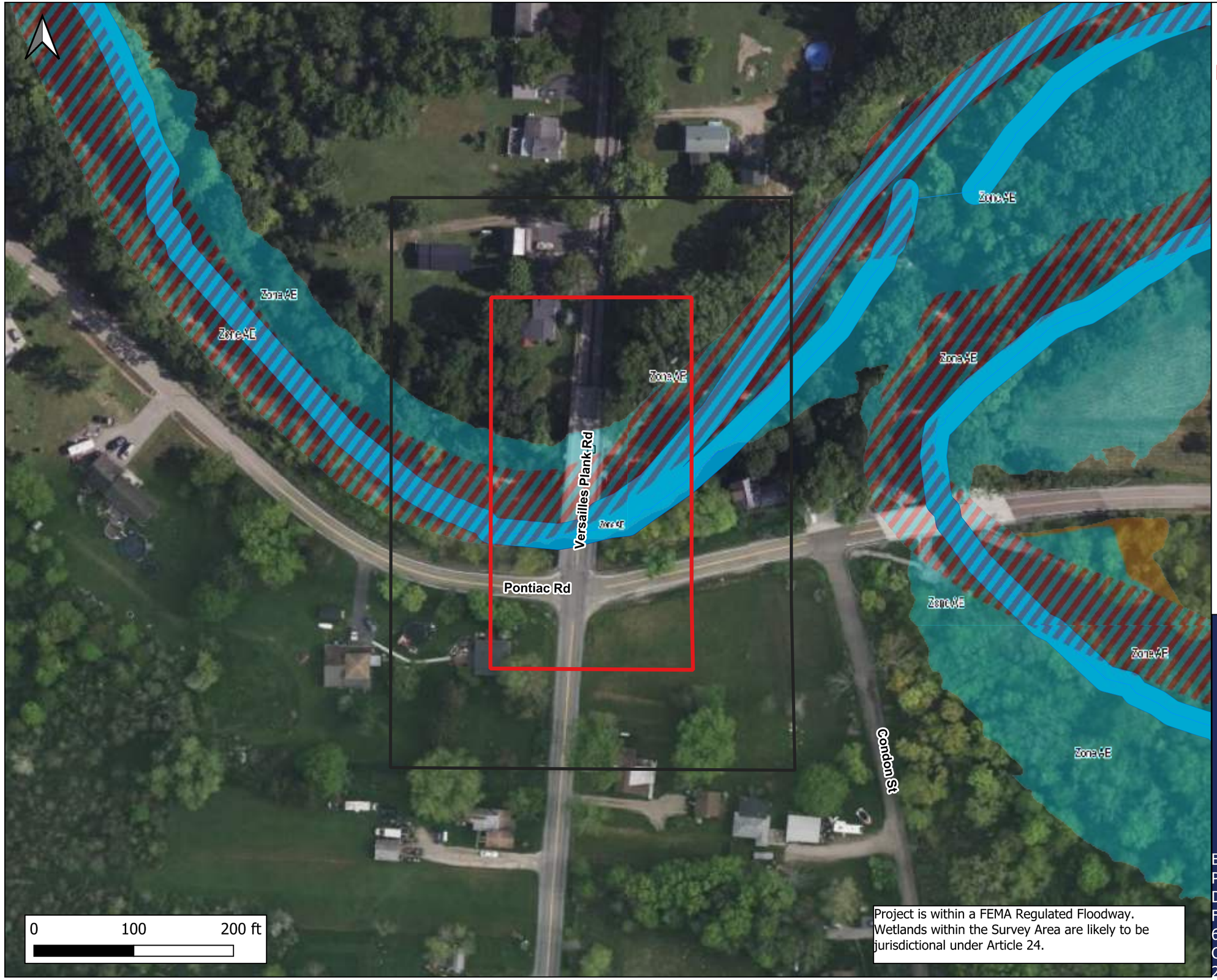
Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Rating Options

Aggregation Method: Percent Present

Component Percent Cutoff: None Specified

Tie-break Rule: Lower



Project is within a FEMA Regulated Floodway. Wetlands within the Survey Area are likely to be jurisdictional under Article 24.

Legend

- 100 ft Buffer
- Survey Area

FEMA Flood Hazard Zones

- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Special Floodway
- Area of Undetermined Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Future Conditions 1% Annual Chance Flood Hazard
- Area with Reduced Risk Due to Levee
- Area with Risk Due to Levee

- Previously Mapped State Regulated Wetlands
- Census Bureau 2020 Urban Areas
- EPA Sole Source Aquifer

National Wetland Inventory

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine
- NYS Natural Heritage Significant Eco Communities
- NYSDEC Critical Environmental Area
- NYSDEC Informational Freshwater Wetland Mappir
- Previously Mapped State Regulated Wetlands
- Rare Plants or Rare Animals
- Significant Coastal Fish & Wildlife Habitats
- Significant Flooding HUC12 Watersheds
- Waterbody Classifications for Rivers/Streams

JM Davidson Engineering, D.P.C.

VERSAILLE PLANK RD OVER BIG SISTER CREEK BRIDGE PROJECT | BIN 3327390

Figure 5- NYSDEC Article 24 Remote Data Juurisdictional Analysis

Based on "NYSDEC's Standard Operating Procedures (SOP) for Remote Jurisdictional Determinations and Classification of Freshwater Wetlands Pursuant to 6NYCRR Part 664, Freshwater Wetland Jurisdiction and Classification" (Last Revised: 14 January 2025).

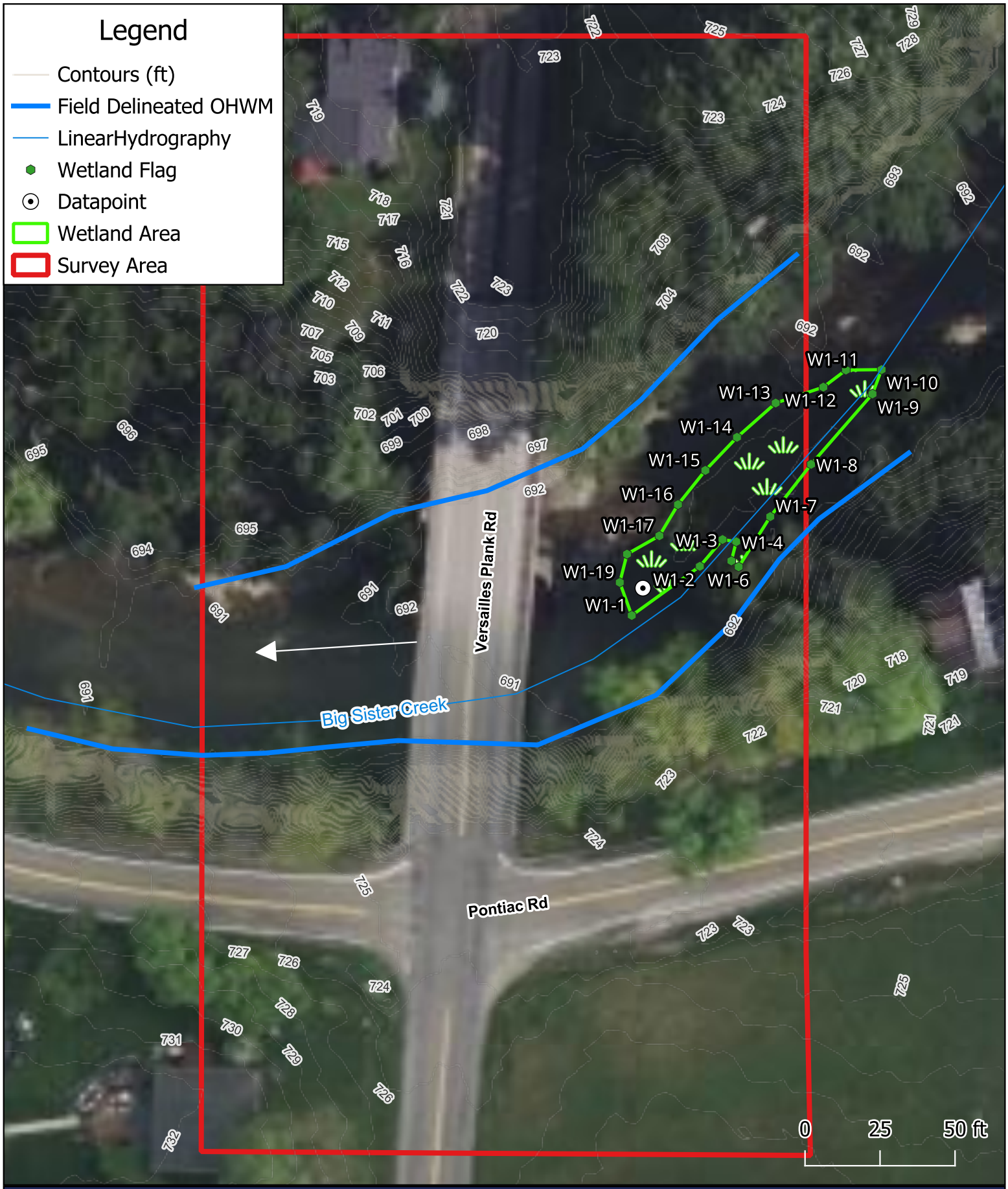


FIGURE 6

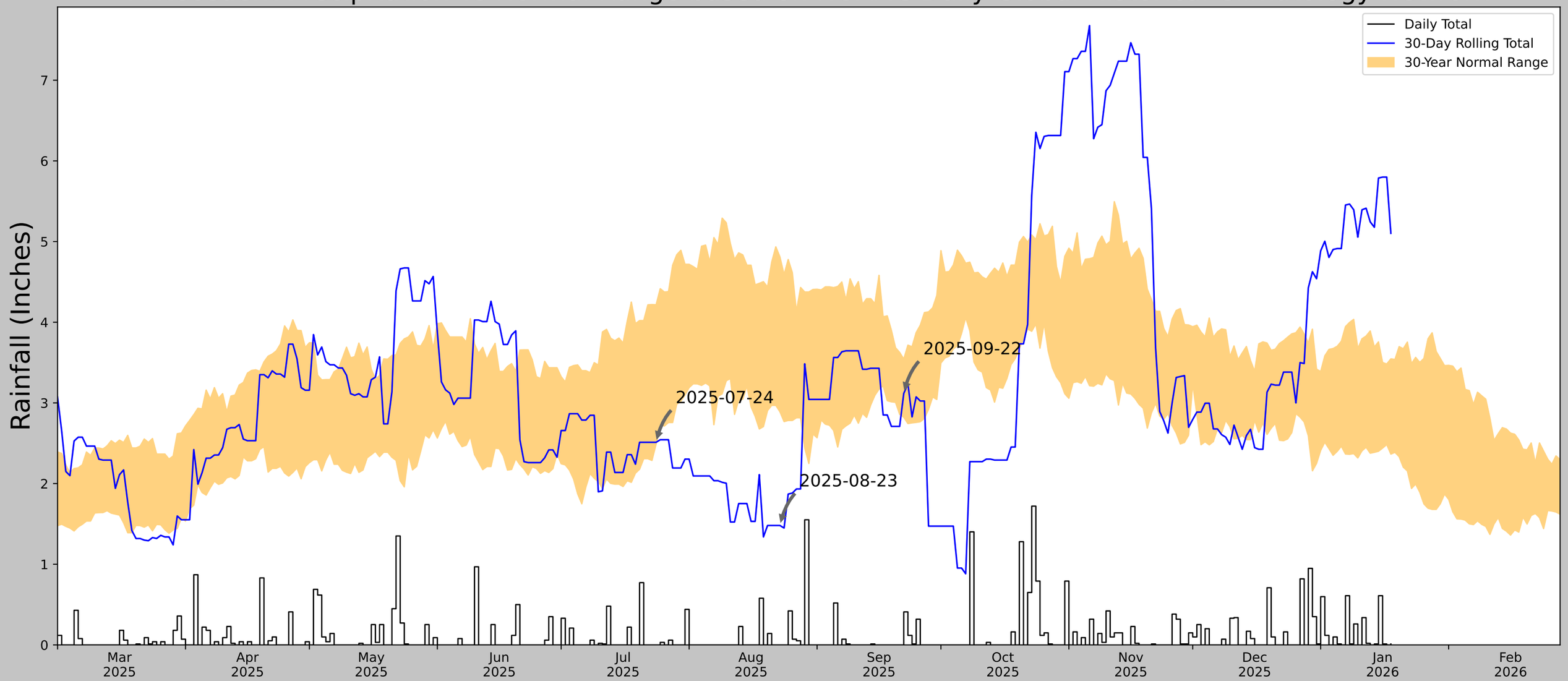
ERIE COUNTY DEPARTMENT OF PUBLIC WORKS
VERSAILLE PLANK RD OVER BIG SISTER CREEK | BIN 3327390

FIELD DELINEATED OHWM & WETLAND

JM Davidson

Appendix B: Datasheets

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	42.62419, -78.96901
Observation Date	2025-09-22
Elevation (ft)	691.025
Drought Index (PDSI)	Moderate drought
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30th %ile (in)	70th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2025-09-22	2.821654	3.543307	3.11811	Normal	2	3	6
2025-08-23	2.88937	4.810236	1.480315	Dry	1	2	2
2025-07-24	2.488189	4.216929	2.511811	Normal	2	1	2
Result							Normal Conditions - 10

Figures and tables made by the
Antecedent Precipitation Tool
Version 3.0

US Army Corps of Engineers.

ERDC

Developed by:
U.S. Army Corps of Engineers and
U.S. Army Engineer Research and
Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
SILVER CREEK	42.5386, -79.1667	649.934	11.667	41.091	5.73	7249	90
SILVER CREEK 1.0 SSE	42.5309, -79.1599	720.144	0.635	70.21	0.33	49	0
DUNKIRK CHAUTAUQUA CO AP	42.4933, -79.2761	668.963	6.39	19.029	2.997	3676	0
DUNKIRK	42.4717, -79.3336	630.906	9.677	19.028	4.539	4	0
FREDONIA	42.4497, -79.312	759.843	9.619	109.909	5.386	368	0
FREDONIA 0.8 WNW	42.4441, -79.3461	680.118	11.233	30.184	5.394	2	0
PERRYSBURG	42.4647, -79.0031	1209.974	9.774	560.04	9.872	5	0

U.S. Army Corps of Engineers (USACE)

INTERIM DRAFT RAPID ORDINARY HIGH WATER MARK (OHWM) FIELD IDENTIFICATION DATA SHEET

The proponent agency is Headquarters USACE CECW-CO-R.

Form Approved -
OMB No. 0710-0025
Expires: 01-31-2025

AGENCY DISCLOSURE NOTICE

The public reporting burden for this collection of information, 0710-OHWM, is estimated to average 30 **minutes** per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

Project ID #: Versailles Plank Rd Over Big Sister Creek | Site Name: Versailles Plank | Date and Time: 2025-09-22

Location (lat/long): 42.62421591, -78.96882223 | Investigator(s): AMG

Step 1 Site overview from remote and online resources
Check boxes for online resources used to evaluate site:

- [x] gage data
- [x] LiDAR
- [ ] geologic maps
- [ ] climatic data
- [ ] satellite imagery
- [ ] land use maps
- [x] aerial photos
- [ ] topographic maps
- [ ] Other: _____

Describe land use and flow conditions from online resources. Were there any recent extreme events (floods or drought)?

Channel confined to deep gorge. USGS stream gage located ~6 river miles downstream, rural residential & agricultural land uses, moderate drought conditions at time of survey

Step 2 Site conditions during field assessment. First look for changes in channel shape, depositional and erosional features, and changes in vegetation and sediment type, size, density, and distribution. Make note of natural or man-made disturbances that would affect flow and channel form, such as bridges, riprap, landslides, rockfalls etc.

Bedrock canyon, benching on shale bedrock and top of wetland bar

Step 3 Check the boxes next to the indicators used to identify the location of the OHWM.
OHWM is at a transition point, therefore some indicators that are used to determine location may be just below and above the OHWM. From the drop-down menu next to each indicator, select the appropriate location of the indicator by selecting either just below `b', at `x', or just above `a' the OHWM.
Go to page 2 to describe overall rationale for location of OHWM, write any additional observations, and to attach a photo log.

Geomorphic indicators

- [x] **Break in slope:** x
  - [x] *on the bank:* x
  - [ ] *undercut bank:*
  - [ ] *valley bottom:*
  - [ ] Other: _____
- [x] **Shelving:** b
  - [x] *shelf at top of bank:* northwest quad
  - [ ] *natural levee:*
  - [ ] *man-made berms or levees:*
  - [ ] *other berms:* _____
- [x] **Channel bar:** x
  - [ ] *shelving (berms) on bar:*
  - [ ] *unvegetated:*
  - [ ] *vegetation transition (go to veg. indicators)*
  - [ ] *sediment transition (go to sed. indicators)*
  - [x] *upper limit of deposition on bar:* x
- [x] **Instream bedforms and other bedload transport evidence:** x
  - [ ] *deposition bedload indicators (e.g., imbricated clasts, gravel sheets, etc.)*
  - [ ] *bedforms (e.g., pools, riffles, steps, etc.):*
- [x] *erosional bedload indicators (e.g., obstacle marks, scour, smoothing, etc.)* x
- [ ] **Secondary channels:**

Sediment indicators

- [ ] **Soil development:**
- [ ] **Changes in character of soil:**
- [ ] **Mudcracks:**
- [ ] **Changes in particle-sized distribution:**
  - [ ] *transition from* _____ to _____
  - [ ] *upper limit of sand-sized particles*
  - [ ] *silt deposits:*

Vegetation Indicators

- [x] **Change in vegetation type and/or density:** x

Check the appropriate boxes and select the general vegetation change *(e.g., graminoids to woody shrubs).* ***Describe the vegetation transition looking from the middle of the channel, up the banks, and into the floodplain.***

- [ ] *vegetation absent to:*
- [ ] *moss to:*
- [ ] *forbs to:*
- [x] *graminoids to:* forbs
- [ ] *woody shrubs to:*
- [ ] *deciduous trees to:*
- [ ] *coniferous trees to:*
- [ ] **Vegetation matted down and/or bent:**
- [ ] **Exposed roots below intact soil layer:**

Ancillary indicators

- [ ] **Wracking/presence of organic litter:**
- [ ] **Presence of large wood:**
- [ ] **Leaf litter disturbed or washed away:**
- [ ] **Water staining:**
- [ ] **Weathered clasts or bedrock:**

Other observed indicators? Describe:

Project ID #: Versailles Plank Rd Over Big

Step 4 Is additional information needed to support this determination? ☐ Yes ☑ No If yes, describe and attach information to datasheet:

Step 5 Describe rationale for location of OHWM

Shale bench along the gorge walls and creeping bentgrass to colts foot

Additional observations or notes

Attach a photo log of the site. Use the table below, or attach separately.

Photo log attached? ☑ Yes ☐ No If no, explain why not:

List photographs and include descriptions in the table below.

Number photographs in the order that they are taken. Attach photographs and include annotations of features.

Photo Number	Photograph description
	See Section 3.1 of Wetlands & Waterbodies Report

OHWM Field Identification Datasheet Instructions and Field Procedure

Step 1 Site overview from remote and online resources **Complete Step 1 prior to site visit.**

Online Resources: Identify what information is available for the site. Check boxes on datasheet next to the resources used to assess this site.

a. gage data
b. aerial photos
c. satellite imagery
d. LiDAR
e. topographic maps
f. geologic maps
g. land use maps
h. climatic data (precipitation and temperature)

Landscape context: Use the online resources to put the site in the context of the surrounding landscape.

a. **Note on the datasheet under Step 1:**
   i. Overall land use and change if known
   ii. Recent extreme events if known (e.g., flood, drought, landslides, debris flows, wildfires)
b. Consider the following to inform weighting of evidence observed during field visit.
   i. What physical characteristics are likely to be observed in specific environments?
   ii. Was there a recent flood or drought? Are you expecting to see recently formed or obscured indicators?
   iii. How will land use affect specific stream characteristics? How natural is the hydrologic regime? How stable has the landscape been over the last year, decade, century?

Step 2 Site conditions during the field assessment (assemble evidence)

a. Identify the assessment area.
b. Walk up and down the assessment area noting all the potential OHWM indicators.
c. Note broad trends in channel shape, vegetation, and sediment characteristics.
   i. Is this a single thread or multi-thread system? Is this a stream-wetland complex?
   ii. Are there any secondary and/or floodplain channels?
   iii. Are there obvious man-made alterations to the system?
   iv. Are there man-made (e.g., bridges, dams, culverts) or natural structures (e.g., bedrock outcrops, Large Wood jams) that will influence or control flow?
d. Look for signs of recurring fluvial action.
   i. Where does the flow converge on the landscape?
   ii. Are there signs of fluvial action (sediment sorting, bedforms, etc.) at the convergence zone?
e. Look for indicators on both banks. If the opposite bank is not accessible, then look across the channel at the bank.
f. **In Step 2 of the datasheet** describe any adjacent land use or flow conditions that may influence interpretation of each line of evidence.
   i. What land use and flow conditions may be affecting your ability to observe indicators at the site?
   ii. What recent extreme events may have caused changes to the site and affected your ability to observe indicators?

Step 3a List evidence

Assemble evidence by checking the boxes next to each line of evidence:

a. If needed, use a separate scratch datasheet to check boxes next to possible indicators, or check boxes of possible indicators in pencil and use pen for final decision.
b. If using fillable form, then follow the instructions for filling in the fillable form.

Context is important when assembling evidence. For instance, pool development may be an indicator of interest on the bed of a dry stream, but may not be a useful indicator to take note of in a flowing stream. On the other hand, if the pool is found in a secondary channel adjacent to the main channel, it could provide a line of evidence for a minimum elevation of high flows. Therefore, consider the site context when deciding which indicators provide evidence for identifying the OHWM. Explain reasoning in Step 5.

Questions to consider while making observations and listing evidence at a site:

Geomorphic indicators	**Sediment and soil indicators**	**Vegetation Indicators**	**Ancillary indicators**
Where are the breaks in slope?	Where does evidence of soil formation appear?	Where are the significant transitions in vegetation species, density, and age?	Is there organic litter present?
Are there identifiable banks?	Are there mudcracks present?	Is there vegetation growing on the channel bed?	Is there any leaf litter disturbed or washed away?
Is there an easily identifiable top of bank?	Is there evidence of sediment sorting by grain size?	If no, how long does it take for the non-tolerant vegetation to establish relative to how often flows occur in the channel?	Is there large wood deposition?
Are the banks actively eroding?		Where are the significant transitions in vegetation?	Is there evidence of water staining?
Are the banks undercut?		Is the vegetation tolerant of flowing water?	
Are the banks armored?		Has any vegetation been flattened by flowing water?	
Is the channel confined by the surrounding hillslopes?			
Are there natural or man-made berms and levees?			
Are there fluvial terraces?			
Are there channel bars?			

Are the following features of fluvial transport present?

Evidence of erosion: obstacle marks, scour, armoring
Bedforms; riffles, pools, steps, knickpoints/headcuts
Evidence of deposition: imbricated clasts, gravel sheets, etc.

In some cases, it may be helpful to explain why an indicator was NOT at the OHWM elevation, but found above or below. It can also be useful to note if specific indicators (e.g., vegetation) are NOT present. For instance, note if the site has no clear vegetation zonation.

Step 3b Weight each line of evidence and weigh body of evidence

Weight each indicator by considering its importance based upon:

a. Relevance:

i. Is this indicator left by low, high, or extreme flows?

Tips on how to assess the indicator relative to type of flow:

Consider the elevation of the indicator relative to the channel bed. What is the current flow level based on season or nearby gages? Consider the elevation of the indicator relative to the current flow. If the stream is currently at baseflow and indicator is adjacent to that, then it is likely a low flow indicator. The difference between high and extreme flow indicators can sometimes be difficult to determine.

***Landscape context from Step 1 can help determine the relevance, strength, and reliability of the indicators observed in the field.**

***Information in Chapter 2 of the OHWM field manual provides information on specific indicators which can assist in putting these in context and determining relevance, strength, and reliability.**

ii. Did recent extreme events and/or land use affect this indicator?

1. Recent floods may have left many extreme flow indicators, or temporarily altered channel form. Other resources will likely be needed to support any OHWM identification at this site. Field evidence of the OHWM may have to wait for the site to recover from the recent flood.
2. Droughts may cause field evidence of OHWM to be obscured, because there has been an extended time since the last high flow event. There can be overgrowth of vegetation or deposition of material from surrounding landscape that can obscure indicators.
3. Both man-made (e.g., dams, construction, mining activities, urbanization, agriculture, grazing) and natural (e.g., fires, floods, debris flows, beaver dams) disturbances can all alter how indicators are expected to appear at a site. Chapter 6 and Chapter 7 of the OHWM field manual provides specific case-studies that can help in interpreting evidence at these sites.

b. Strength:

i. Is this indicator persistent across the landscape?

1. Look up and downstream and across the channel to see if you see the same indicator at multiple locations.
2. Does the indicator occur at the same elevation as other indicators?

c. Reliability:

i. Is this indicator persistent on the landscape over time? Will this indicator still persist across seasons?

1. This can be difficult to determine for some indicators and may be specific to climatic region (in terms of persistence of vegetation) and history of land use or other natural disturbances.
2. Chapter 2, Chapter 6, and Chapter 7 of the OHWM field manual describes each indicator in detail and provides examples of areas where indicators are difficult to interpret.

d. Weigh body of evidence:

i. Combine weights: integrate the weighted line of evidence (relevance, strength, reliability) of each indicator.

ii. For each of the observed indicators, which are more heavily weighted? Where do high value indicators co-occur along the stream reach? Do they co-occur at a similar elevation along the banks relative to water surface (or channel bed if there is no water).

iii. On datasheet, select the indicators used to identify the OHWM. Information in Chapter 2 of the OHWM field manual provides descriptions of specific indicators which can assist in putting these in context and determining relevance, strength, and reliability.

e. Take photographs of indicators and attach a log using either page 2 of datasheet or another method of logging photos.

i. Annotate photos with descriptions of indicators.

Step 4 Is additional information needed? Are other resources needed to support the lines of evidence observed in the field?

a. If additional resources are needed, then repeat steps 3a and 3b for the resources selected in Step 1 of assembling, weighting, and weighing evidence collected from online resources. Chapter 5 of the OHWM field manual provides information on using online resources.

b. Any data collected from online tools have strengths and weaknesses. Make sure these are clear when determining relevance, strength, and reliability of the remotely collected data. Clearly describe why other resources were needed to support the lines of evidence observed in the field, as well as the relevance, strength, and reliability of the supporting data and/or resources.

c. Attach any remote data and data analysis to the datasheet.

Step 5 Describe rationale for location of OHWM:

a. Why do the combination of indicators represent the OHWM?

b. If there are multiple possibilities for the OHWM, explain why there are two (or more) possibilities. Include any relevant discussion on why specific indicators were not included in the final decision.

c. If needed, add additional site notes on page 2 of the datasheet under Step 5.

U.S. Army Corps of Engineers **WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region** See ERDC/EL TR-12-1; the proponent agency is CECW-COR	*OMB Control #: 0710-0024, Exp: 09/30/2027* *Requirement Control Symbol EXEMPT:* *(Authority: AR 335-15, paragraph 5-2a)*

Project/Site: Versailles Plank Rd Bridge City/County: Erie County Sampling Date: 2025-09-22

Applicant/Owner: ECDPW State: New York Sampling Point: Wetland 1

Investigator(s): AMG Section, Township, Range: _____

Landform (hillside, terrace, etc.): Bar and Channel Topography Local relief (concave, convex, none): Linear Slope %: _____

Subregion (LRR or MLRA): L 101 Lat: 42.62421554 Long: -78.96882229 Datum: WGS 84

Soil Map Unit Name: Ro - Rock outcrop NWI classification: R2UBH

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ___ No ✔ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No ___	**Is the Sampled Area within a Wetland?** **Yes** ✔ **No** ___
Hydric Soil Present?	Yes ✔	No ___	If yes, optional Wetland Site ID: Wetland 1
Wetland Hydrology Present?	Yes ✔	No ___	

Remarks: (Explain alternative procedures here or in a separate report.)

Moderate drought conditions
Wetland formed on sediment bar upstream of bridge pier

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ✔ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ✔ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No ✔	Depth (inches): ___
Water Table Present?	Yes ___	No ✔	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No ✔	Depth (inches): ___

Wetland Hydrology Present? **Yes** ✔ **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Wetland is within the ordinary high water marks of Big Sister Creek and located on sediment bar within the channel.

Remarks:

Wetland approximately 12 " higher than channel

VEGETATION – Use scientific names of plants.

Sampling Point: Wetland 1

Tree Stratum (Plot size: 5 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	
Sapling/Shrub Stratum (Plot size: 3 ft r)			
1. Salix bebbiana	10	✔	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	10	=Total Cover	
Herb Stratum (Plot size: 3 ft r)			
1. Carex lacustris	25	✔	OBL
2. Eupatorium perfoliatum	25	✔	FACW
3. Leersia oryzoides	25	✔	OBL
4. Eutrochium maculatum	15		OBL
5. Lythrum salicaria	5		OBL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	95	=Total Cover	
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	70	x 1 =	70
FACW species	35	x 2 =	70
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	105 (A)		140 (B)

Prevalence Index = B/A = 1.33

Hydrophytic Vegetation Indicators:

✔ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ✔ **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point Wetland 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0 - 8	5Y 5/1	90	5YR 5/8	10	C	PL/M	Silty Clay Loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Mesic Spodic (A17) **(MLRA 144A, 145, 149B)**
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ✔ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)
- ___ Red Parent Material (F21) **(MLRA 145)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**) Thin
- ___ Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Red Parent Material (F21) **(outside MLRA 145)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Bedrock

Depth (inches): 8

Hydric Soil Present? **Yes** ✔ **No** ___

Remarks:

Appendix C: NYSDEC Correspondence

Department of Environmental Conservation

KATHY HOCHUL
Governor

AMANDA LEFTON
Commissioner

LETTER OF POSITIVE JURISDICTION – FRESHWATER WETLANDS

11/25/2025
Anna Hongosh
935 Sheridan Dr, Suite 120, Tonawanda, NY, 14150, USA
Sent via email to: ahongosh@jmdavidsoneng.com

Re: DEC Freshwater Wetlands, Non-Parcel, Area of Interest Jurisdictional Determination, Erie County

Dear Anna Hongosh,

Based on the non-parcel, Area of Interest identified in your request and presented in the map below, the New York State Department of Environmental Conservation (DEC) has determined the area contains freshwater wetlands and/or freshwater wetland adjacent areas (AA) regulated by DEC pursuant to Article 24 of the Environmental Conservation Law (ECL). Specifically, the Area of Interest contains freshwater wetlands and/or regulated adjacent area(s) that meet an Unusual Importantace (UI) criterion. Specifically, the wetland is located in an area designated as a floodway on the Digital Flood Insurance Map (DFIRM) 'National Flood Hazard Layer', produced by the Federal Emergency Management Agency.

The table below identifies the highest class jurisdictional wetland and/or regulated adjacent area within the Area of Interest identified in the map below. In addition to the wetland and/or adjacent area referenced in the table, other jurisdictional wetlands or AAs may be present within the Non-Parcel area.

Area of Interest:	Highest Wetland Class:
See map below	Class I: it is within a floodway on the Digital Flood Insurance Rate Map (DFIRM) or 'National Flood Hazard Layer' produced by FEMA (§ 664.5 (a)(8)).

This determination shall remain valid for five years from the date of this letter (through 11/23/2030).

An Article 24 permit from DEC is required for any regulated activity undertaken within regulated wetlands or their regulated adjacent areas. Prior to engaging in any regulated activity, a freshwater wetland delineation is necessary to determine the precise boundary of jurisdictional wetlands and adjacent areas so they are avoided or necessary DEC permitting is obtained.

If you have a project planned within the referenced Non-Parcel area that may impact jurisdictional wetlands or adjacent areas, please use this Map of All DEC Offices to identify the appropriate DEC Regional Office, and this Contact the Regional DEC Office link to request and schedule a freshwater wetlands delineation. In addition, the following link provides more information about DEC jurisdictional determinations:
https://dec.ny.gov/nature/waterbodies/wetlands/freshwater-wetlands-program/freshwater-wetland-jurisdictional-determination
Pursuant to ECL section 24-0301(4), there is a rebuttable presumption that areas meeting the definition of Freshwater Wetland are regulated and subject to permit requirements. If you believe this jurisdictional determination has been made in error, you may request an initial consultation with DEC by scheduling a meeting on the parcel or property with the appropriate regional office to review the jurisdictional determination, pursuant to 6 NYCRR 664.9.

Please note that this determination pertains only to state-regulated, freshwater wetlands and regulated adjacent areas. DEC also regulates protected streams, tidal wetlands, coastal erosion hazard areas, and other important environmental resources. Work affecting those areas may also require DEC permits. More information on other DEC permit programs is available online at https://dec.ny.gov/regulatory/permits-licenses/environmental-permits.

In addition, please note that this letter does not relieve you of the responsibility of obtaining any other necessary permits or approvals from other local, state, or federal agencies.

Area of Interest submitted with the request for this determination

23 Mechanic Street
Springville, NY 14141

295 Main Street
West Seneca, NY 14224

encorus.com
716.592.3980

December 31, 2025
Revised: January 30, 2026

Krista Greer
JM Davidson Engineering, D.P.C.
935 Sheridan Drive, Suite 120
Tonawanda, New York 14150

Re: Pre-Renovation Asbestos-Containing Materials, Lead-Based Paint, and Exterior PCB-Containing Materials Inspection Report
Versailles Plank Road over Big Sister Creek Bridge Rehabilitation
BIN 3327390
PIN 5765.33
Town of Evans, New York
EG# 25108 / Q25-194

Dear Krista Greer:

Enclosed please find a copy of the Asbestos-Containing Materials, Lead-Based Paint and Exterior PCB-Containing Materials Inspection Report for the Versailles Plank Road over Big Sister Creek Bridge Replacement project located in the town of Evans in New York state. Should you have any questions please do not hesitate to contact our office at 716.592.3980. Thank you for the opportunity to be of service to JM Davidson Engineering D.P.C.

Sincerely,

Brian Jones
RBM Senior Project Manager

Enclosures

Pre-Renovation Asbestos-Containing Materials, Lead-Based Paint and Exterior PCB-Containing Materials Inspection Report

OF THE:

Versailles Plank Road over Big Sister Creek Bridge Rehabilitation
BIN 3327390
PIN 5765.33
Town of Evans, New York
EG# 25108 / Q25-194

PREPARED BY:

ENCORUS® GROUP

PREPARED FOR:

JM Davidson Engineering, D.P.C.
935 Sheridan Drive, Suite 120
Tonawanda, New York 14150

CONDITIONS AS OF:

December 26, 2025

23 Mechanic Street
Springville, NY 14141

295 Main Street
West Seneca, NY 14224

encorus.com
716.592.3980

Table of Contents

1 Introduction

2 Asbestos-Containing Materials Inspection

2.1 Methodology
2.2 Executive Summary
2.3 ACM Findings

3 Lead-Based Paint Inspection

3.1 Methodology
3.2 HUD/ EPA Standards
3.3 Summary Table of Lead-Based Painted/Coated Materials
3.4 OSHA Regulations
3.5 Disclosure Requirements

4 PCB Inspection

Appendices
A. General Conditions of Inspection
B. Certifications and Licenses
C. Project and Location Maps
D. XRF Spectrum Analyzer Report and Instrument Information

ENCORUS GROUP

23 Mechanic Street
Springville, NY 14141

295 Main Street
West Seneca, NY 14224

encorus.com
716.592.3980

1 Introduction

Encorus Group Engineering, P.C. (Encorus Group) was retained by JM Davidson Engineering to perform an inspection of the bridge (BIN 3327390) located on Versailles Plank Road, in the town of Evans in the state of New York, to determine the presence of asbestos-containing materials, lead-based painted/coated materials and exterior PCB-containing caulks, glazing and sealants prior to work associated with the bridge rehabilitation project.

The inspection was conducted on December 26, 2025.

A follow up visit was made with two inspectors due to safety concerns accessing the bridge supports down the banks.

The scope of inspection work provided is as indicated in the proposal for Inspection Services dated August 26, 2025 and includes the following:

- Inspection of the bridge (BIN 3327390) for suspect asbestos, lead, and polychlorinated biphenyls containing materials.

Encorus Group was charged with conducting the following tasks for this project:

1. Conducting an asbestos inspection in accordance with all applicable regulations,
2. Performing an inspection via X-Ray Florescence (XRF) for lead in accordance with all applicable regulations and guidelines (if painted or coated components are present within the project area),
3. Sampling exterior caulks, glazing, and sealants for PCB-containing materials in accordance with all applicable regulations and guidelines (if suspect materials are present within the project area), and
4. Providing a summary report of findings.

This report is generated for the exclusive use of the client and is <u>not designed to serve as a specification for abatement</u>. The owner is strongly encouraged to contract with a consultant having a current Asbestos Project Designer Certificate as issued by New York State Department of Labor for the preparation of contract specifications, work plans, and/or drawings prior to requesting bids for the abatement or removal of the materials identified in this report.

2 Asbestos-Containing Materials Inspection

2.1 Methodology

All asbestos inspection work performed by Encorus Group was conducted in accordance with applicable regulations including New York State Department of Labor standards 12 NYCRR Part 56, National Emission Standards for Hazardous Air Pollutants (NESHAPS), the Asbestos Hazard Emergency Response Act, and Occupational Safety and Health Administration regulations. All Encorus Group's personnel assigned to conduct inspections have completed the Environmental Protection Agency (EPA) required training and New York State Department of Labor Division of Safety and Health certification program.

Based on the functional spaces and homogeneous areas (materials uniform in color or texture) identified by Encorus Group, samples of suspect materials were collected (if found). Techniques used for sample collection are designed to minimize damage to suspected areas, reduce any potential for fiber release, and ensure the safety of the inspector and others.

If taken, samples are analyzed using Polarized Light Microscopy (PLM) in accordance with New York State Department of Health Environmental Approval Program (NYS DOH ELAP) Item #198.1 or #198.6. For materials classified as non-friable organically bound materials (NOBs) that are analyzed as equal to or less than 1% asbestos by PLM, additional analysis will be performed under Transmission Electron Microscopy (TEM) in accordance with NYS DOH ELAP Item #198.4. The results of this analysis confirm whether or not a suspect material actually contains asbestos.

Although this report is a comprehensive analysis of the asbestos inspection work performed, it would be helpful to review all applicable federal, state and local rules, laws and regulations regarding the handling and treatment of asbestos-containing materials (ACM). The following is a list of suggested reading and information sources relating to asbestos:

- New York State Department of Labor Industrial Code Rule 56
- Occupational Safety and Health Administration
- Environmental Protection Agency Rule CFR 763.86 Asbestos Hazard Emergency Response Act
- Environmental Protection Agency Rule 40 CFR, Chapter 61, Subpart M of the National Emission Standards for Hazardous Air Pollutants (NESHAPS)

2.2 Executive Summary

The asbestos inspection included identification, and if necessary, sampling, analysis, and quantification of suspect materials that may be disturbed by the project. By definition an Asbestos-Containing Material (ACM) is any material which contains greater than one percent (>1%) asbestos. Materials which contain asbestos in measurable concentrations less than or equal to one percent (≤1%) are reported as containing "trace" amounts.

2.3 ACM Findings

No suspect Asbestos-Containing Materials were identified during the inspection; therefore, no samples were collected for laboratory analysis.

3 Lead-Based Paint Inspection

3.1 Methodology

Encorus Group used a spectrum analyzer (Refer to Appendix D for additional information) to test painted or coated surfaces included in the scope of work. The analyzer measures the amount of lead in painted surfaces using X-Ray Fluorescence technology (XRF). The analyzer uses a radioactive source which locates lead atoms in painted surfaces and measures the concentration in milligrams per square centimeter. If necessary, paint chip samples were also collected as part of this inspection. Representative surfaces/components were tested in a manner designed to adequately represent the different components, substrates, types of paint, construction and paint history. Various federal, state and local laws, rules, regulations and guidelines may be applicable to this project as it relates to Lead-Based Paint/coatings (LBP) including but not limited to:

1. Lead-Based Paint Renovation, Repair and Painting Regulation Rule (40 CFR Part 745.8 Subpart E (EPA))
2. Lead Safe Housing Rule (HUD 24 CFR Part 35)
3. Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing (US Department of Housing and Urban Development (HUD))
4. Occupational Safety and Health Administration (OSHA 29 CFR 1910 and 1926)
5. New York State Education Department (NYSED)
6. State of New York codes and laws
7. All local codes
8. All federal codes
9. US-DOT 49 CFR

The most recent edition of any relevant regulation, standard, document, or code shall be applicable to the work. Where conflict among the requirements exists, the most stringent requirements are generally applicable.

3.2 HUD/ EPA Standards

Certain HUD and EPA standards apply to “Lead-Based Paint” which is any paint or coating which contains lead at or above 1.0 mg/cm^2 (via XRF), or 0.5 percent by weight (paint chip). Analysis indicated that components, listed in Section 3.3, have a lead content equal to or greater than the HUD/EPA standard for Lead-Based Paint.

3.3 Summary Table of Lead-Based Painted/Coated Materials

Functional Space ID/ Description	Material Description	Condition	Positive or Homogeneous with Shot #
100 – Bridge	Black Metal Structural Steel	Intact	Assumed*

***Material was not accessible at time of inspection; therefore, the component should be assumed to be lead-based paint coated.**

The presence of lead in surfaces that were analyzed as less than 0.5 percent lead by weight or in measurable amounts but less than 1.0 mg/cm^2 is a consideration for the purposes of complying with OSHA regulations. Refer to Section 3.4 for details.

3.4 OSHA Regulations

On May 4, 1993, OSHA promulgated the Lead Exposure in Construction Rule (29 CFR Part 1926.62). This regulation applies to all construction activities involving potential lead exposures. This regulation applies when lead is present in any detectible amount and is not limited to HUD's definition of Lead-Based Paint. Surface abrading and demolition activities may release lead from unpainted materials which contain lead such as glazed ceramic tile and porcelain, or enameled wall panels. Although these items do not meet HUD's definition of Lead-Based Paint and need not be included in disclosure under the Lead Disclosure Rule (Refer to Section 3.5), they have been included for reference in Section 3.3 above.

3.5 Disclosure Requirements

If the subject property of this report is target housing, the owner has certain responsibilities under the Lead Disclosure Rule when the property is being sold or leased, or when a lease is being renewed with revisions. In general, lead disclosure is required in these circumstances, except that disclosure does not have to be made when the target housing is being leased if the inspection has found that it is Lead-Based Paint free.

Per 40 CFR Part 745 "Target Housing" is defined as: any housing constructed prior to 1978, except housing for the elderly or persons with disabilities (unless any child who is less than 6 years of age resides or is expected to reside in such housing); or any 0-bedroom dwelling.

Results of this inspection must be provided to new lessees (tenants) and prospective buyers of this property under Federal law (24 CFR part 35 and 40 CFR part 745) before they become obligated under a lease or sales contract. The complete report must be provided by the owner to prospective buyers and it must be made available to prospective tenants and to renewing tenants if they have not been provided the information previously. The Inspector's plain language summary of the report must be provided to the client (e.g., property owner or manager) when the complete report is provided. The landlord (lessor) or seller is also required to distribute an educational pamphlet approved by the U.S. Environmental Protection Agency and include the Lead Warning Statement in the lease or sale contracts to ensure that parents have the information they need to protect their children from Lead-Based Paint hazards. Complete disclosure requires the landlord/sellers and renters/buyers (and their agents) to sign and date an acknowledgement that the required information and materials were provided and received. Also, prospective buyers must be provided the opportunity to have their own Lead-Based Paint inspection, lead hazard screen or risk assessment performed before the purchase agreement is signed; the standard period is 10 days, but this period may be changed or waived by agreement between the seller and prospective buyer. EPA regulations require the inspector to keep the inspection report for at least 3 years. (See Section IV of Chapter 7 of the HUD Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing for further details; see www.hud.gov/lead.)

4 PCB Inspection

No suspect PCB-containing materials were identified during the inspection. No PCB samples were taken or submitted for laboratory analysis.

ENCORUS GROUP

23 Mechanic Street
Springville, NY 14141

295 Main Street
West Seneca, NY 14224

encorus.com
716.592.3980

Appendix A

General Conditions of Inspection

1. Encorus Group Engineering, P.C. LLC neither accepts nor implies any liability for the implementation of the recommendations found within this report.

2. This inspection was limited to areas accessible to the inspector. Encorus Group Engineering, P.C. neither accepts nor implies any liability for hazardous materials that may be present in other areas of the project area.

3. The results of the laboratory analytical reports that may be contained herein are the product of the knowledge, experience and expertise of the laboratory retained to perform such services. Encorus Group neither accepts nor implies any liability for sample analysis reports compiled by others.

4. This report is based on the condition and contents present at the site on the day of the inspection. Encorus Group Engineering, P.C. is not liable for materials, chemicals or other substances of concern that may have been removed from the site, cleaned or disposed of prior to the inspection date or subsequent to that date.

5. An inspection for Asbestos-Containing Materials, Lead-Based Paint or PCB-Containing Materials relies heavily upon identification of homogeneous areas, with subsequent sampling and laboratory analysis determined by: the quantity of surfaces identified, generally accepted inspection protocols, regulatory requirements, and the inspector's judgment. Specific sample locations are determined with the objective of selecting representative samples. As with any type of sampling, the possibility of obtaining a false positive or false negative does exist, is inherent in the sampling process, and can at times result from the uneven distribution of target analytes within the suspect material. The comprehensive inspection protocol developed and utilized by Encorus Group Engineering, P.C. attempts to minimize the risk of a false positive or false negative result. However, the client is advised that the risk of false positives or false negatives cannot be completely eliminated.

23 Mechanic Street
Springville, NY 14141

295 Main Street
West Seneca, NY 14224

encorus.com
716.592.3980

Appendix B

Certifications and Licenses

WE ARE YOUR DOL

NEW YORK STATE | Department of Labor

DIVISION OF SAFETY & HEALTH LICENSE AND CERTIFICATE UNIT, STATE OFFICE CAMPUS, BLDG. 12, ALBANY, NY 12226

ASBESTOS HANDLING LICENSE

Encorus Group Engineering, P.C.
P.O. Box 344, Springville, NY, 14141

License Number: 421634
License Class: RESTRICTED
Date of Issue: 10/30/2025
Expiration Date: 11/30/2026
Duly Authorized Representative: Thomas Gilmartin

This license has been issued in accordance with applicable provisions of Article 30 of the Labor Law of New York State and of the New York State Codes, Rules and Regulations (12 NYCRR Part 56). It is subject to suspension or revocation for a (1) serious violation of state, federal or local laws with regard to the conduct of an asbestos project, or (2) demonstrated lack of responsibility in the conduct of any job involving asbestos or asbestos material.

This license is valid only for the contractor named above and this license or a photocopy must be prominently displayed at the asbestos project worksite. This license verifies that all persons employed by the licensee on an asbestos project in New York State have been issued an Asbestos Certificate, appropriate for the type of work they perform, by the New York State Department of Labor.

Amy Phillips, Director
For the Commissioner of Labor

STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE

N.Y.S

DAVID RICHARDSON
CLASS(EXPIRES)
C ATEC (09/26) D INSP (09/26)
H PM (09/26)

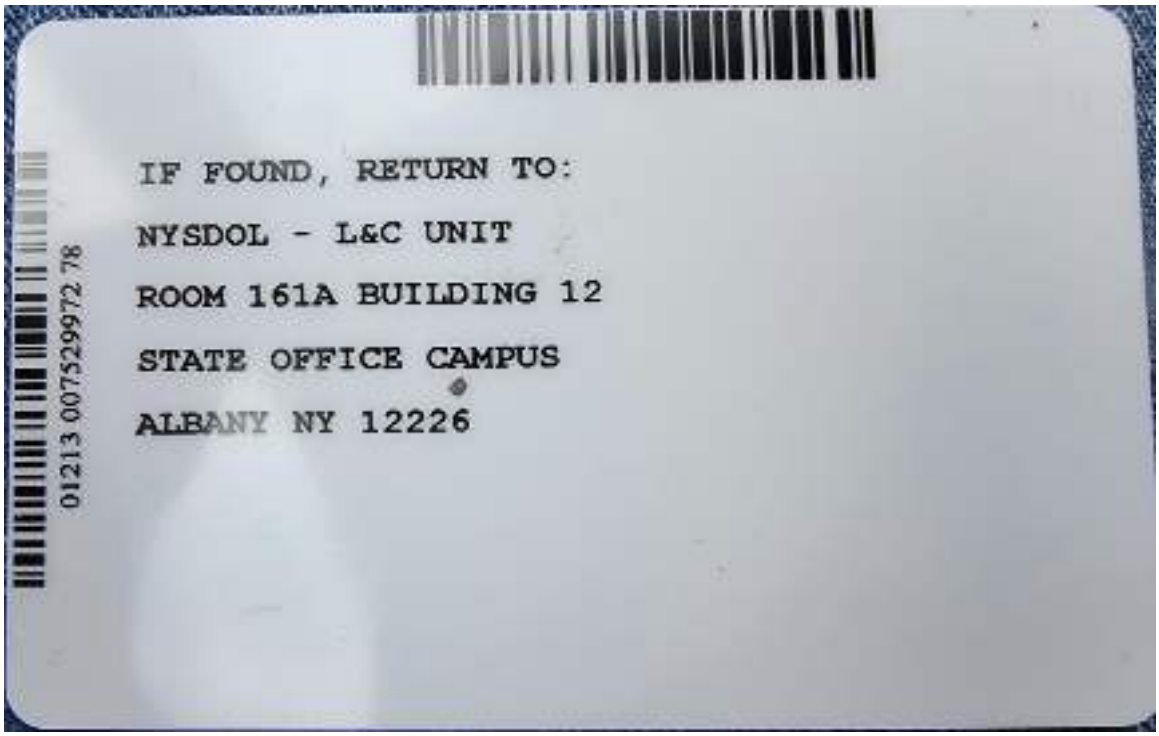
CERT# 25-6A865-SHAB
DMV# 888060765

MUST BE CARRIED ON ASBESTOS PROJECTS

01213 007535637 80

IF FOUND, RETURN TO:
NYSDOL - L&C UNIT
ROOM 161A BUILDING 12
STATE OFFICE CAMPUS
ALBANY NY 12226

STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE
N.Y.S
AARON PLACE
CLASS(EXPIRES)
C ATEC (02/26) D INSP (02/26)
H PM (02/26)
CERT# 25-6ZBX6-SHAB
DMV# 800674205
MUST BE CARRIED ON ASBESTOS PROJECTS


IF FOUND, RETURN TO:
NYSDOL - L&C UNIT
ROOM 161A BUILDING 12
STATE OFFICE CAMPUS
ALBANY NY 12226
01213 007529972 78

23 Mechanic Street
Springville, NY 14141

295 Main Street
West Seneca, NY 14224

encorus.com
716.592.3980

Appendix C

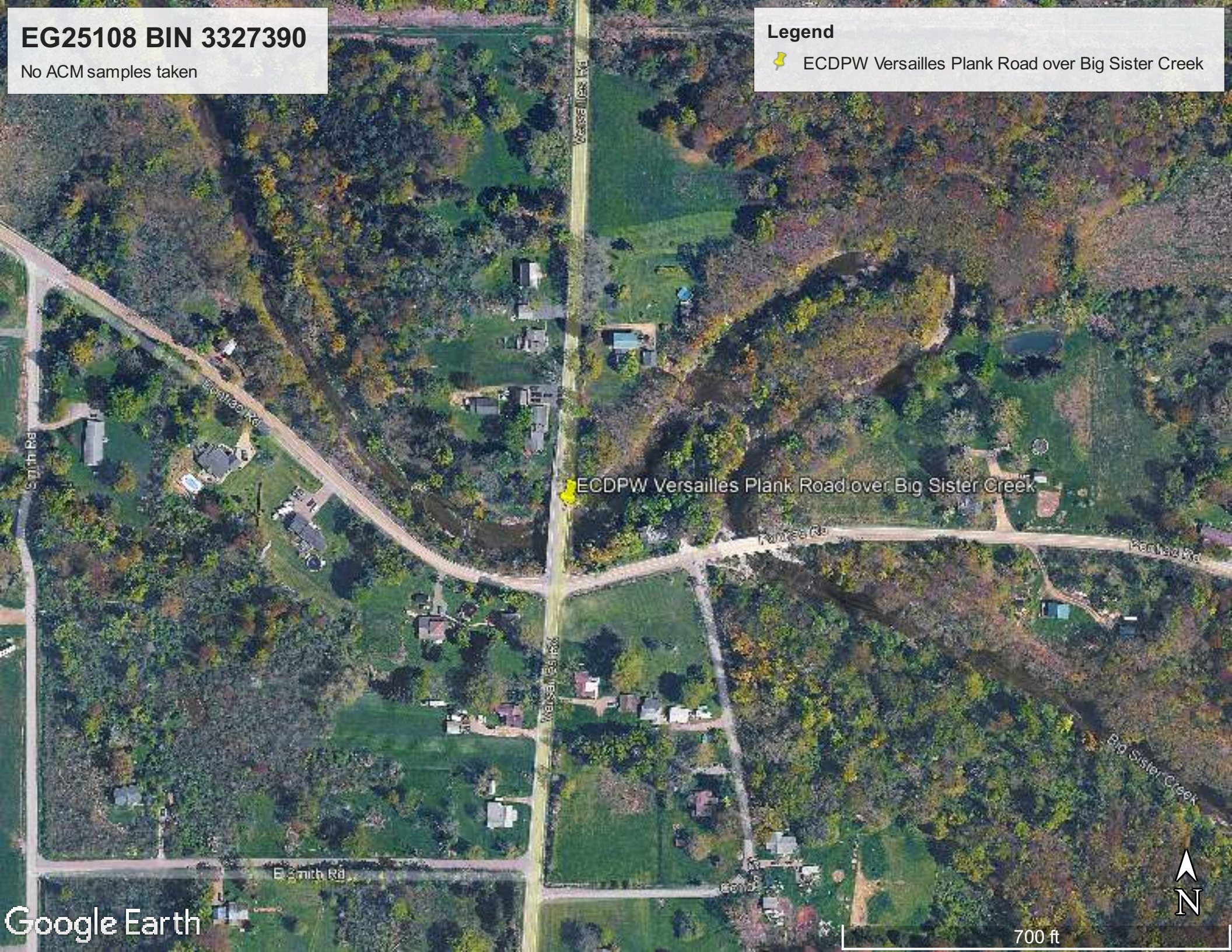
Project and Location Maps

EG25108 BIN 3327390

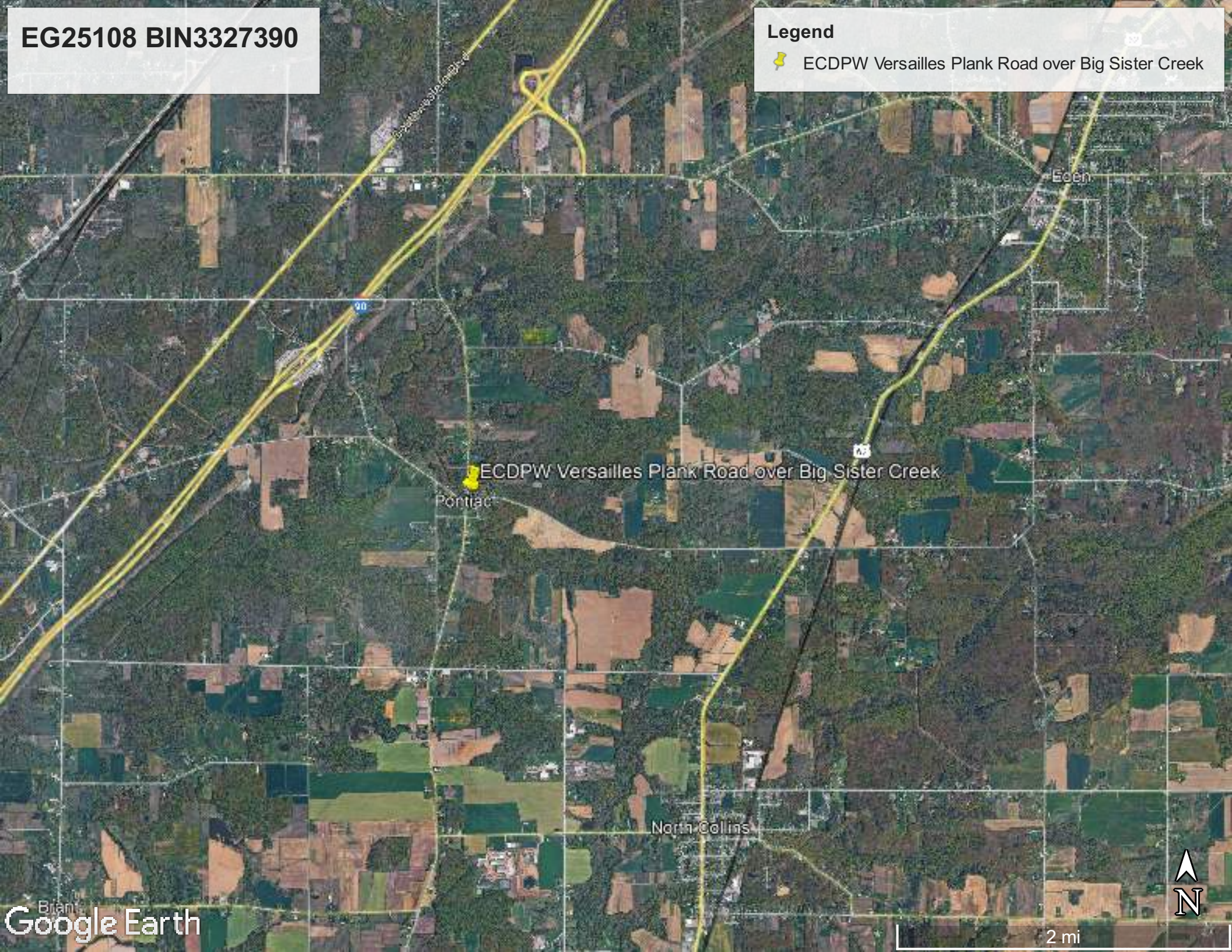
No ACM samples taken

Legend

ECDPW Versailles Plank Road over Big Sister Creek



EG25108 BIN3327390



23 Mechanic Street
Springville, NY 14141

295 Main Street
West Seneca, NY 14224

encorus.com
716.592.3980

Appendix D

XRF Spectrum Analyzer Report and Instrument Information

Company Viken Detection
Model Pb200i
Type XRF Lead Paint Analyzer
Serial Num 1633
App Versic Pb200i-5.3.1

Job Id	Reading #	Concentra	Units	Result	Date	Time	User	EG#	Building Name	Color	Substrate	Component	Choice	Side	Condition	Space ID	Floor	Inspector
	8	0.9	mg/cm2	Negative	9/12/2025	15:17:50	Encorus	25108	Versailles Plank Rs	Green	Wood	CALIBRATION		B	Intact		First Floor	D. Richardson
	9	0.7	mg/cm2	Negative	9/12/2025	15:18:13	Encorus	25108	Versailles Plank Rs	Green	Wood	CALIBRATION		B	Intact		First Floor	D. Richardson
	10	0.9	mg/cm2	Negative	9/12/2025	15:18:25	Encorus	25108	Versailles Plank Rs	Green	Wood	CALIBRATION		B	Intact		First Floor	D. Richardson
	11	0.2	mg/cm2	Negative	9/12/2025	15:35:15	Encorus	25108	Versailles Plank Rs	Grey	Metal	*Miscellaneous*	Guard rail	B	Intact	100	First Floor	D. Richardson

APPENDIX C

Traffic Information

Project: Versailles Plank Road	Sheet:	1	of	1
Client: Erie County	Calc By:	RH	Date:	2/3/26
Subject: Traffic Volume Calc.	Check By:		Date:	

Traffic Volume Calculator

Versailles Plank Road

		AADT
Base Year :	2026	
Base Volume (AADT) :	2862	
Rate Increase per Year :	0.50%	
Estimated Time of Construction (ETC) :	2027	2877

	Year	AADT
ETC+10 :	2037	3024
ETC+20 :	2047	3179

Pontiac Road

		AADT
Base Year :	2026	
Base Volume (AADT) :	348	
Rate Increase per Year :	0.50%	
Estimated Time of Construction (ETC) :	2027	350

	Year	AADT
ETC+10 :	2037	368
ETC+20 :	2047	387

Highway Safety Investigation

Versailles Plank Road Bridge over Big Sister Creek
BIN: 3327390
Town of Evans, Erie County
PIN: 5765.33

NEW YORK STATE | Department of Transportation

U.S. Department of Transportation
Federal Highway Administration

List of Preparers

1/14/2026

Prepared By: Eric J. Thompson, P.E.

Date

Description of Work Performed:

Prepared the Crash Analysis in accordance with established standards, policies, regulations, and procedures, except as otherwise explained in this document.

Note: *It is a violation of law for any person, unless they are acting under the direction of a licensed professional engineer, architect, landscape architect, or land surveyor, to alter an item in any way. If an item bearing the stamp of a licensed professional is altered, the altering engineer, architect, landscape architect, or land surveyor shall stamp the document and include the notation "altered by" followed by their signature, the date of such alteration, and a specific description of the alteration.*

Table of Contents

LIST OF PREPARERS		i
TABLE OF CONTENTS		ii
TABLE OF APPENDICES		ii
EXECUTIVE SUMMARY		
CHAPTER 1 – BACKGROUND & HISTORY		1
1.1	BACKGROUND & HISTORY	1
1.2	LOCATION	1-2
1.3	GENERAL INFORMATION	3
1.4	PREVIOUS WORK & RECORDS	3
CHAPTER 2 – CRASH ANALYSIS		3
2.1	OVERVIEW	3
2.2	CRASH TYPES	3
2.3	CRASH SEVERITY	4
2.4	SAFETY COMPARISON	4-5
2.5	CONTRIBUTING FACTORS	5
2.6	PILS, PIIS, SDLS, SPECIALTY HALS	5
CHAPTER 3 – SITE CONDITIIONS		6
3.1	SIGNAGE	6
3.2	PAVEMENT MARKINGS	6
3.3	SIGHT DISTANCE	6
3.4	CARDS/MIARDS	6
3.5	GEOMETRIC DEFICIENCIES	6
3.6	RIGHT-OF-WAY ENCROACHMENTS	6
3.7	ROADSIDE SAFETY	7
CHAPTER 4 – FINAL RECOMMENDATIONS		7
4.1	CONCLUSIONS	7
4.2	SIGNAGE	7
4.3	CARDS/MIARDS	7
4.4	ROADSIDE SAFETY	8

Table of Appendices

A. TE-213 – Crash History
B. SPF Determination
C. Site Photos

EXECUTIVE SUMMARY

The Popli Design Group (PDG) prepared a crash analysis for the Versailles Plank Road bridge replacement project, under PIN 5765.33. The project is located in the Town of Evans, Erie County.

The study period utilized for this analysis was 03/01/2022 to 02/28/2025 for a half mile radius from the bridge site. The study period utilized the crash data available through the NYSDOT Crash Location and Engineering Analysis Repository (CLEAR).

There were 6 total crashes over this period, with 2 personal injuries and no fatalities. The data showed that 4 crashes, including the 2 injury crashes, occurred at the intersection of Versailles Plank Rd and Pontiac Rd. Failure to Yield the Right-of-Way was a contributing factor in the 2 injury crashes.

Narrow shoulder width and tight turning radii are geometric factors contributing to crashes which should be addressed with this bridge replacement project.

CHAPTER 1 – BACKGROUND & HISTORY

1.1 BACKGROUND

This safety screening/crash analysis was undertaken to determine if there are any safety issues related to the roadway in vicinity of the project bridge replacement.

1.2 LOCATION

Versailles Plank Road runs from south of Cain Road to Eden-Evans Center Road. The bridge is located about a mile north of Cain Road over Big Sister Creek. See location map in Figure 1.

FIGURE 1
Location Map
Versailles Plank Road Over Big Sister Creek (BIN 3327390)

1.3 GENERAL INFORMATION

Versailles Plank Road	
Functional Class	Versailles Plank Rd: 09 – Rural, Local Rd
Speed Limit	Versailles Plank Rd: 45 mph posted[1]
Number of Lanes	Versailles Plank Rd: 2 Lanes
Traffic volumes AADT (2023)	Versailles Plank Rd: 2,850
Access Control	Versailles Plank Rd is Non-Access Controlled

1. (53 mph 85th Percentile, 2022) 85th percentile speeds sourced from NYSDOT Traffic Data Viewer from "Actual" measurements. See Section 2.3.2 of this PIN 5765.33 Project Scoping Report/Final Design Report

1.4 PREVIOUS WORK & RECORDS

No previous studies have been performed.

CHAPTER 2 – CRASH ANALYSIS

2.1 OVERVIEW

The collision history was reviewed for the period from 03/01/2022 to 02/28/2025 for a half-mile radius from the bridge site. The study period utilized the crash data available through the NYSDOT Crash Location and Engineering Analysis Repository (CLEAR).

There were six (6) reported crashes within the half mile radius. Two of the crashes occurred more than a ¼ mile from the bridge site. The remaining 4 occurred at the intersection of Versailles Plank Road and Pontiac Road just south of the bridge.

Two of the crashes were right angle type collisions where the driver failed to yield the right-of-way (didn't stop for the stop sign). The rear-end collision occurred where the driver made the turn from Versailles Plank Road onto Pontiac Road and hit a vehicle stopped in the travel lane. One of the run-off-the-road crashes occurred at the bridge site where a southbound tractor-trailer made a left turn and impacted the guide rail.

2.2 CRASH TYPES

The table below shows the type of crashes that occurred on Versailles Plank Road.

Table 1		
Crash Summary		
Versailles Plank Road		
Type of Collision	Number	Percentage
Animal	1	17%
Run-off-the-road	2	33%
Right Angle	2	33%
Rear End	1	17%
Total	6	100%

For further information, refer to the Crash History (TE213) in Appendix A.

2.3 CRASH SEVERITY

There were no fatal crashes reported along Versailles Plank Road during the study period. Table 2 below shows the crash severity that occurred on Versailles Plank Road.

Table 2								
Crash Severity								
Location Number	Location Description	Crash Type					Total Accidents	Crash Pattern
		Reportable			Total Reportable	Non-Reportable (PDO)		
		Property Damage Only	Injury	Fatality				
1	Versailles Plank Road	4	2	0	2	4	6	Failure to yield the right-of-way

2.4 SAFETY COMPARISON

A Safety Performance Function (SPF) analysis was performed using the spreadsheet developed and available on the NYSDOT website. This methodology is used to estimate, or predict, the average crash frequency for a given study period at a project location as a function of traffic volume and roadway characteristics. Segments having crash rates which exceed the mean rate for the facility type suggest that some factor other than pure chance may be contributing to the crashes.

Table 3 below shows the observed crash values that occurred at the project site and the expected crash numbers for similar facilities. We analyzed the data as both, a one-mile-long segment, and as an intersection. There were 6 crashes within the overall study area, with 4 of those occurring at the intersection of Versailles Plank Rd with Pontiac Rd. There were two injury crashes within the area, both occurring at the intersection.

The data indicates that the number of crashes at the project site in this segment study area (6) is on average (2/yr) with the expected crash rate for comparable facilities (2.1679/yr). However, the intersection analysis shows the actual number of crashes (1.3/yr) was higher than would be expected (0.8662/yr).

The PSI (Potential for Safety Improvement) number is the difference between the expected crash frequency and the predicated crash frequency. A PSI number less than zero indicates a site experiences fewer crashes than expected. A PSI number greater than zero indicates a given site experiences more crashes expected. The segment analysis provided a -0.3382 PSI, while the intersection analysis gave us a 0.3922 PSI. This suggests that intersection improvements should be studied.

The LOSS (Level of Service of Safety) is a measure of the standard deviation of the PSI above 0. A LOSS of 1 means the site is in the 0 to 10th percentile; a 2 means the site is in the 10th to

50th percentile; a 3 means the side is in the 50th to 90th percentile; and a 4 means the site is in the 90th percentile, indicating that 90% of similar sites have fewer numbers of crashes.

Table 3							
Total Crashes							
Site	**Begin MP/ Ref Mrkr**	**End MP/ Ref Mrkr**	**Observed Crashes /yr**	**Predicted Crashes/yr (spf)**	**Expected Crashes /yr**	**PSI**	**LOSS**
Versailles Plank Road Segment	0.5 mile south of bridge	0.5 mile north of bridge	2.0	2.5062	2.1679	-0.3382	2
Versailles Plank Road Intersection	Pontiac Road	Pontiac Road	1.3	0.4740	0.8662	0.3922	3
Injury and Fatal Crashes							
Site	**Begin MP/ Ref Mrkr**	**End MP/ Ref Mrkr**	**Observed Crashes /yr**	**Predicted Crashes/yr (spf)**	**Expected Crashes /yr**	**PSI**	**LOSS**
Versailles Plank Road Segment	0.5 mile south of bridge	0.5 mile north of bridge	0.67	0.3727	0.4449	0.0722	3
Versailles Plank Road Intersection	Pontiac Road	Pontiac Road	0.67	0.1438	0.2840	0.1402	3

2.5 CONTRIBUTING FACTORS

Setting aside the two crashes a ¼ mile from the site, there was a pattern or crashes at the southern end of the bridge at the Pontiac Rd intersection. The pattern was the contributing factor of Failure to Yield the Right-of-Way. This confirms the PSI value indicating a possible need for intersection improvements.

2.6 PILS, PIIS, SDLS, SPECIALTY HALS

This is a bridge replacement project, and was not programed as a result of a HAL or PIL analysis.

CHAPTER 3 – SITE CONDITIONS

A review of the site conditions was completed on 10/29/2025, and the following observations were made:

3.1 SIGNAGE

Versailles Road

- 45 MPH (Northbound)
- No Trucks with R Permits (northbound)
- Object Markers (Barber Poles) on all 4 corners of the bridge

Pontiac Road

- Stop Signs
- Street name signs
- Sharp Rt Curve w/10MPH advisor speed sign (westbound)

Notes:

All signs are on Type A posts and are in fair condition.

3.2 PAVEMENT MARKINGS

Versailles Plank Road has a 4” double yellow centerline and evidence of one time also having white edge lines. The centerline markings are in fair to good condition.

Pontiac Road has a 4” double yellow centerline and 4” white edge lines. All pavement markings are in fair to good condition. There is no evidence of a STOP bar in either direction.

3.3 SIGHT DISTANCE

Precise field measurements were not taken, however, observations in the field did not indicate any particular issues or concerns with horizontal or vertical sight distance.

3.4 CARDS/MIARDS

There are no Centerline Audible Roadway Delineators (CARDS) nor Milled-In Audible Roadway Delineators (MIARDS) on either road.

3.5 GEOMETRIC DEFICIENCIES

The Versailles Plank Road bridge is on a tangent. The cross slope was measured to vary up to 4%.

There are horizontal curves on Pontiac Road east and west of the bridge. Variable superelevation was observed on the existing curves.

The corner radii at Pontiac Road appear small and a contributing factor in one of the run-off-the-road crashes.

3.6 RIGHT-OF-WAY ENCROACHMENTS

There were no observed encroachments within the right-of-way.

3.7 ROADSIDE SAFETY

There were no DFOs observed with the clear zone. The southwest corner of the Pontiac Road intersection has a fairly deep unprotected ditch close to the shoulder of the road.

There are drainage pipes leading into and out of the ditch in the southwest corner of the Pontiac Road intersection.

The existing guide rail is in fair condition. The transitions to the existing 4-rail bridge rail are not to current standards. The transitions at the south end of the bridge show signs of damage.

The intersection with Pontiac Road has street lighting provided on a National Grid wood pole in the southwest corner.

CHAPTER 4 – FINAL RECOMMENDATIONS

4.1 CONCLUSIONS

Crash data for the Versailles Plank Road bridge study area was researched for the period from March 2022 through February 2025. The analysis indicated the need to improve the intersection of Versailles Plank Rd and Pontiac Rd to offset the Failure to Yield the Right-of-Way collision pattern. This can be accomplished with improved signage on Pontiac Road and by improving the turning radii of the intersection.

4.2 SIGNAGE

To mitigate the Failure to Yield the Right-of-Way at the Pontiac Rd intersection, “Cross Traffic Does Not Stop” signs should be installed on Pontiac Road.

As part of the bridge replacement alternative, the Design Team should verify the remaining signage requirements.

4.3 PAVEMENT MARKINGS

The pavement markings should be replaced in-kind. STOP bars should be installed on the Pontiac Rd approaches to confirm the need to stop.

4.4 SIGHT DISTANCE

There were no concerns with sight distance. The barrier system on the bridge should be such as to not infringe on the sight distance.

4.5 CARDS/MIARDS

The project location does not meet the requirements of installation of CARDS or MIARDS.

4.6 GEOMETRICS

The Versailles Plank Road bridge is on a tangent. A consistent cross slope 2% should be utilized.

The horizontal curves on Pontiac Road east and west of the bridge, should be out of the project work limits. However, providing appropriate superelevation should be considered if the work encroaches into the curves.

The corner radii at Pontiac Road should be increased.

4.7 ROADSIDE SAFETY

Closing the drainage system and filling the ditch in the southwest corner of the intersection should be considered.

The analysis showed a need to improve the turn radii at the Pontiac Road intersection. Providing full width shoulders around the intersection should be considered.

As part of the bridge replacement, consideration should be given to replacing the steel bridge rail with a concrete barrier. This will allow for smaller radius transitions to the guide rail system at the southern end of the bridge. All guide rail transitions should be brought up to date.

Versailles Plank Road
Bridge Replacement
PIN 5765.33

HIGHWAY SAFETY INVESTIGATION

APPENDIX A

Crash History (TE-213)

TE 213 (9/79)

DIAGRAM SHEET

STUDY NO. P.I.N. 5765.33 INVENTORY NO.	VERSAILLES-PLANK ROAD BRIDGE OVER BIG SISTERS CREEK AT INTERSECTION WITH PONTIAC ROAD	COUNTY : ERIE MUNICIPALITY : TOWN OF EVANS BY : AJ DATE : 12/22/2025

NO. OF MONTHS 36 Begin Date: 03/01/2022 End Date: 02/28/2025	LIGHT CONDITIONS (LC) 1. Daylight 2. Dawn 3. Dusk 4. Dark Road Lighted 5. Dark Road Unlighted	ROADWAY CHARACTER (RC) 1. Straight & Level 2. Straight & Grade 3. Straight at Hillcrest 4. Curve & Level 5. Curve & Grade 6. Curve at Hillcrest	ROADWAY SURFACE CONDITION (RSC) 1. Dry 2. Wet 3. Muddy 4. Snow/Ice 5. Slush 10. Other	WEATHER (WEA) 1. Clear 2. Cloudy 3. Rain 4. Snow 5. Sleet/Hail/Freezing Rain 6. Fog/Smog/Smoke 10. Other

NO	CASE	DATE	TIME	# OF VEH	SEV	LC	RC	RSC	WEA	CONTRIB FACTORS	REF MKR	ACC TYPE	DESCRIPTION
1	39681931	1/17/2023	7:37 AM	1	PDO	1	1	2	1	Animal Action		Collision with Animal	V1 was traveling E/B on Versailles Plank Rd. The deer ran from the South and collided with the passenger side of the vehicle.
2	39697721	1/28/2023	5:01 PM	1	PDO	3	1	2	2	Driver Inattention/ Distraction		Run off Road	V1 was traveling E/B on Versailles Plank Rd. V1 drifted off into the shoulder of the road. V1 then struck the guide rail, sending it airborne for 10 feet forward. V1 then came down on the guide rail going forward, then flipped onto the roof in the ditch along the EB lane.
3	39888000	6/21/2023	2:10 PM	2	Injury	1	1	1	1	Failure to Yield Right-of-Way		Right Angle	V1 was traveling W/B on Versailles Plank Rd. when V2 was traveling N/B on Pontiac Rd and entered the intersection. This caused V1 to collide with V2. V2 did stop at the stop sign initially, but then proceeded into the intersection, failing to yield the R.O.W to V1.
4	39901762	7/6/2023	11:01 AM	1	PDO	1	1	1	1	Driver Inattention/ Distraction		Run off Road	V1 was traveling S/B on Versailles Plank Rd. V1 attempted to make the left-hand turn onto Pontiac Rd. The trailer got caught on the corner of the guide rail on the SE side of Pontiac/Versailles
5	40191650	2/3/2024	3:15 PM	2	Injury	1	1	1	1	Driver Inattention/ Distraction, Following too Closely		Rear End	V1 turned off Pontiac Rd and was traveling W/B on Versailles Plank Rd. V2 was parked. V1 drove into the back of V2. V1 said they did not know V2 was stationary and hit parked V2 due to road glare and shadows.
6	40410551	7/26/2024	12:27 PM	2	PDO	1	1	1	1	Failure to Yield Right-of-Way		Right Angle	V1 was stopped at the stop sign facing N/B on Pontiac Rd. V1 then drove out in front of V2, going W/B on Versailles Plank Rd.

Versailles Plank Road
Bridge Replacement
PIN 5765.33

HIGHWAY SAFETY INVESTIGATION

APPENDIX B

Safety Performance Function (SPF) Determination

Safety Performance Function (SPF) Parameters for Intersections, Ramps, and Segments (Version 1.1)

The table below is a list of the parameters used by CLEAR Safety to calculate SPFs for each facility type. There is more information in NYSDOT's "HSIP Procedures and Techniques" (also called 'The Red Book').

NOTES: TT (‡) = Major Road is Two-Way, Minor Road is Two-Way • TO (‡) = Major Road is Two-Way, Minor Road is One-Way • OT (‡) = Major Road is One-Way, Minor Road is Two-Way • OO (‡) = Major Road is One-Way, Minor Road is One-Way

Screen Type	Facility Type	Description	Area Type	Directional / Bidirectional	Number of Lanes	Median Type	Access	Major Road Operation	Minor Road Operation	Number of Approaches	Traffic Control	Severity	Major Road AADT (veh/day)	Minor Road AADT (veh/day)	Segment Length (miles)	Observed Crashes (over study period)	Study Period (years)	Predicted Crashes (over study period)	EB weight (w)	Expected Crashes (over study period)	Expected Crashes (crashes/year)	Excess Expected Crashes (crashes/year)	Basic LOSS
Int	87	Rural 4-Leg Two-Way Stop-Controlled TT(‡)	Rural	N/A	N/A	N/A	N/A	2-way	2-way	4	Minor Road Stop	Total Crashes	2850	360	N/A	4	3	1.4219	0.5436	2.5985	0.8662	0.3922	3
Int	87	Rural 4-Leg Two-Way Stop-Controlled TT(‡)	Rural	N/A	N/A	N/A	N/A	2-way	2-way	4	Minor Road Stop	Fatal and Injury Crashes	2850	360	N/A	2	3	0.4313	0.7318	0.8519	0.2840	0.1402	3

Safety Performance Function (SPF) Parameters for Intersections, Ramps, and Segments (Version 1.1)

The table below is a list of the parameters used by CLEAR Safety to calculate SPFs for each facility type. There is more information in NYSDOT's "HSIP Procedures and Techniques" (also called 'The Red Book').

NOTES: TT (‡) = Major Road is Two-Way, Minor Road is Two-Way • TO (‡) = Major Road is Two-Way, Minor Road is One-Way • OT (‡) = Major Road is One-Way, Minor Road is Two-Way • OO (‡) = Major Road is One-Way, Minor Road is One-Way

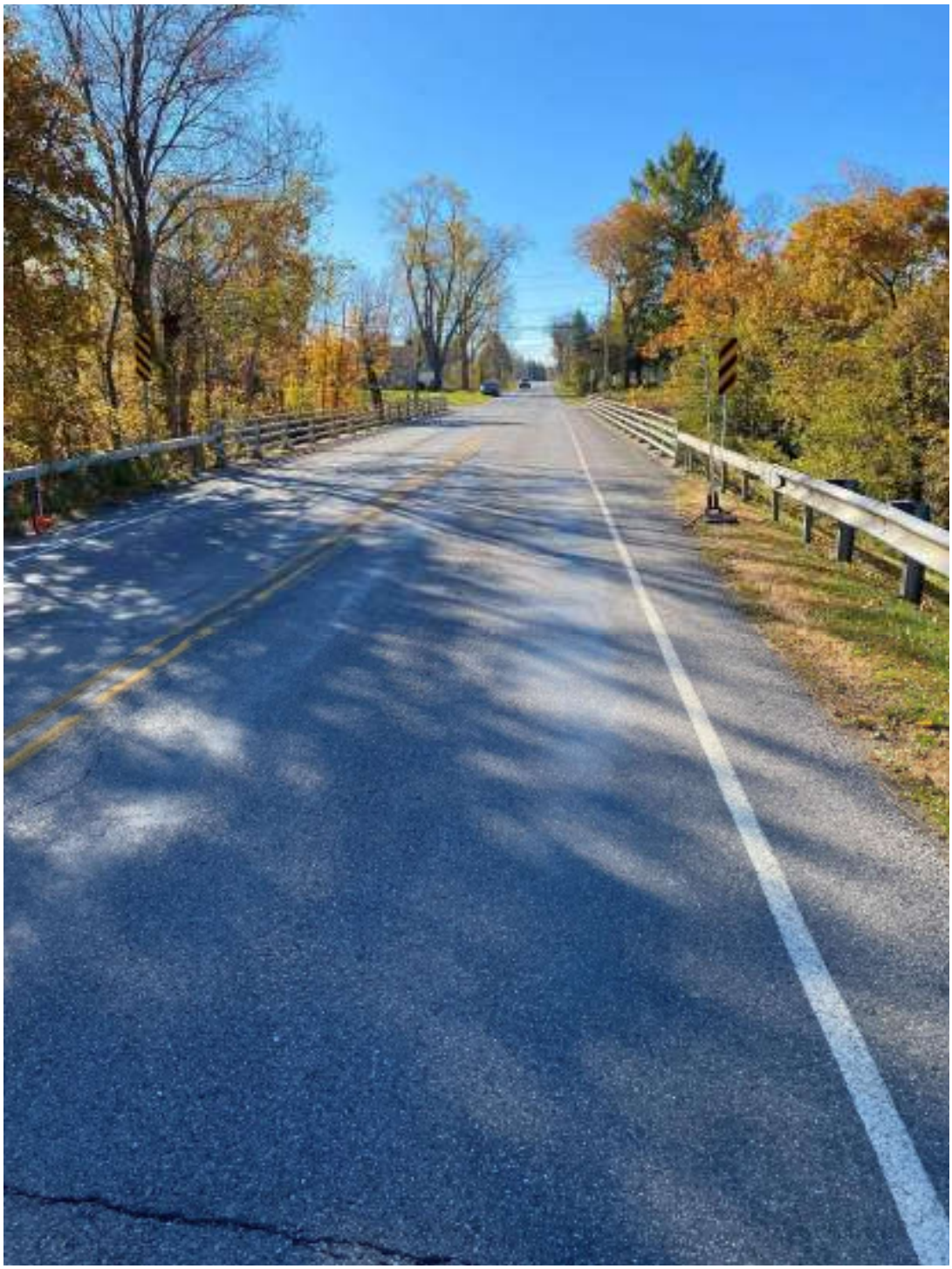
Screen Type	Facility Type	Description	Area Type	Directional / Bidirectional	Number of Lanes	Median Type	Access	Major Road Operation	Minor Road Operation	Number of Approaches	Traffic Control	Severity	Major Road AADT (veh/day)	Minor Road AADT (veh/day)	Segment Length (miles)	Observed Crashes (over study period)	Study Period (years)	Predicted Crashes (over study period)	EB weight (w)	Expected Crashes (over study period)	Expected Crashes (crashes/year)	Excess Expected Crashes (crashes/year)	Basic LOSS
Seg	57	Rural Two-Lane Undivided Free Access Two-Lane Two-Way	Rural	Bidirectional	2	Undivided	Free	2-way	N/A	N/A	N/A	Total Crashes	2850	N/A	1	6	3	7.5185	0.3318	6.5038	2.1679	-0.3382	2
Seg	57	Rural Two-Lane Undivided Free Access Two-Lane Two-Way	Rural	Bidirectional	2	Undivided	Free	2-way	N/A	N/A	N/A	Fatal and Injury Crashes	2850	N/A	1	2	3	1.1180	0.7545	1.3346	0.4449	0.0722	3

Versailles Plank Road
Bridge Replacement
PIN 5765.33

HIGHWAY SAFETY INVESTIGATION

APPENDIX C

Site Photos



Versailles Plank Rd
Bridge over Big Sister Creek

View looking south

Versailles Plank Rd
Bridge over Big Sister Creek

Non-standard bridge rail transition

Versailles Plank Rd
Bridge over Big Sister Creek

Tight turning radius with guide rail damage
Northwest corner of Pontiac Rd intersection

Versailles Plank Rd
Bridge over Big Sister Creek

Tight turning radius with guide rail damage
Northeast corner of Pontiac Rd intersection

Versailles Plank Rd
Bridge over Big Sister Creek

Ditch with drainage pipes
Southwest corner of Pontiac Rd intersection
(looking east)

APPENDIX D

Structures Information

Bridge Rehabilitation Justification Report

Versailles Plank Rd over Big Sister Creek

P.I.N: 5765.33 **B.I.N.:** 3327390

COUNTY: Erie **PS&E:** October 2026

REPORT DATE: November 2025 **LETTING:** November 2026

LAST GENERAL INSPECTION DATE: 09/04/2024 (Biennial Bridge Inspection)
09/10/2025 (In-Depth Inspection)

NEXT SCHEDULED GENERAL INSPECTION DATE: September 2026

YEAR BUILT / CONTRACT NO.:	1928
OPERATIONAL CLASSIFICATION:	Other bridge
SUPERSTRUCTURE TYPE:	Girder-floorbeam-stringer with concrete deck
SUBSTRUCTURE TYPE:	Reinforced concrete abutments and reinforced concrete multi-column piers supported on bedrock.
NO. OF SPANS:	2
SPAN LENGTH(S):	Span 1 – 56’-3” Span 2 – 56’-9”
WIDTH (out to out)**:**	37’-0”
SKEW:	0˚-0’-0”
LRFR INVENTORY RATING (FACTOR OF HL-93), LFR INVENTORY RATING (TONS), TYPE OF RATING (LEVEL 1 OR 2), AND YEAR:	A level 1 load rating was not performed on the existing bridge. The proposed superstructure level 1 load rating will conform to section 2.5 of the NYSDOT Bridge Manual.
CURRENT LOAD POSTING VALUE:	R-Posted bridge

Innovative or Unusual Structure: Yes

The existing superstructure consists of a fracture critical/non-redundant girder-floorbeam-stringer framing system with a concrete deck. This type of superstructure is unusual for the Western NY region.

Refined Analysis Required: No

PURPOSE and OBJECTIVES:

BIN 3327390 carries Versailles Plank Rd over Big Sister Creek in Buffalo, NY.

The work proposed is part of five (5) federally funded (Bridge NY) projects with the purpose to address existing structural deficiencies and non-standard features of the bridge inventory for Erie County in New York.

This Bridge Rehabilitation Justification Report documents the existing condition of the bridge, evaluates rehabilitation and replacement alternatives, and identifies the preferred alternative based on structural performance, constructability, life cycle cost and maintenance considerations, and consistency with NYSDOT Standards.

Signatures:

Recommended by:_____

Signature:_____

Date:_____

Approved by:_____

Signature: _____

Date:_____

Comments by DCES

MOST RECENT BRIDGE INSPECTION RATING SHEET:

BIN: 3327390 Bridge Inspection Report
Inspection Date: September 04, 2024

Element Quantities

Element Assessment Summary Table							
Element	Total Quantity	Unit	CS-1	CS-2	CS-3	CS-4	CS-5
12 - Reinforced Concrete Deck	4182	ft²	3960	210	12		0
107 - Steel Open Girder/Beam	226	ft	218	8			0
113 - Steel Stringer	792	ft	788	2	2		0
152 - Steel Floor Beam	243	ft	171	71	1		0
205 - Reinforced Concrete Column	2	each		2			0
210 - Reinforced Concrete Pier Wall	41	ft		41			0
215 - Reinforced Concrete Abutment	192	ft	88	35	69		0
220 - Reinforced Concrete Pile Cap/Footing	176	ft	98	31	47		0
234 - Reinforced Concrete Pier Cap	32	ft		10	22		0
302 - Compression Joint Seal	111	ft		111			0
310 - Elastomeric Bearing	8	each	4	4			0
321 - Reinforced Concrete Approach Slab	2294	ft²		2254	40		0
330 - Metal Bridge Railing	226	ft	206	20			0
510 - Wearing Surfaces	3842	ft²		3842			0
515 - Steel Protective Coating	10740	ft²	9470	1270			0
800 - Erosion or Scour	336	ft	158	73	105		0
801 - Stream Hydraulics	1	each			1		0
830 - Secondary Members	2	each		2			0
831 - Steel Beam End	8	each		8			0
850 - Backwall	74	ft		69	5		0
851 - Abutment Pedestal	4	each	2	2			0
852 - Pier Pedestal	4	each		4			0
853 - Wingwall	60	ft		60			0

According to the AASHTO Manual for Bridge Element Inspection, a general definition for the different condition state are as follow: CS-1 is “Good” condition; CS-2 is “Fair” condition; CS-3 is “Poor” condition; CS-4 is “Severe” condition; and CS-5 is “Unknown” condition.

Detailed descriptions of the element conditions listed in the table above are provided in the Element Condition Notes extracted from the 2024 Biennial Bridge Inspection Report in Appendix B and in the In-Depth Bridge Inspection Report (provided under separate cover).

BRIDGE ASSESSMENT:

The following information was utilized to assess the current condition of the bridge and determine the structure needs and proposed work:

BIN:	Inspection Report Date:	Site Visit Date:	Comments:
3327390	01/05/2026	09/10/2025	In-Depth Inspection
3327390	09/04/2024	09/04/2024	Biennial Inspection
3327390	09/08/2022	08/18/2022 + 09/08/2022	Biennial Inspection

An In-Depth Field Inspection was conducted in September 2025 by Popli Design Group and focused primarily on the bridge substructure of BIN 3327390. Many superstructure elements were not inspected during the In-Depth Field Inspection, including the structural steel, deck, and approach slabs. The 2024 and 2022 Biennial Bridge Inspection Reports were used to supplement the findings of the In-Depth Field Inspection.

STRUCTURE NEEDS AND PROPOSED WORK:

BIN 3327390 carries Versailles Plank Rd over Big Sister Creek in Town of Evans, Erie County NY. The bridge was originally constructed in 1928 with a major rehabilitation in 1980 including deck replacement with the installation of approach slabs, repairs to the steel superstructure and reinforced concrete substructures, new bearings, and railing replacement.

The bridge is a two-span fracture critical painted steel girder-floorbeam-stringer bridge with a 9.5” composite reinforced concrete deck on reinforced concrete abutments and concrete multi-column pier founded on bedrock. The bridge is comprised of two simply-supported spans with lengths of 56’-3” and 56’-9”. The bridge carries NB and SB traffic with one 12’-0” lane in either direction bounded by approximately 6’-0” wide paved shoulders for a total clear roadway width of 34’-0” and out-to-out width of 37’-0”. The south approach slab is 32’-0” and the north approach slab is 30’-0” made up of reinforced concrete.

Proposed work at the bridge is to address existing structural deficiencies and non-standard features using cost effective techniques to minimize the life cycle cost of maintenance and extend structure service life in a socially, economically, and environmentally sensitive manner.

Deck and Railing:

The bridge deck is in fair condition but is starting to show signs of deterioration exhibiting numerous cracks with efflorescence and areas of spalled concrete with exposed rebar on the underside.

The bridge railing has isolated locations of broken and cracked connections as well as signs of impacts at a few locations. The bridge rail does not meet current NYSDOT standards.

The existing bridge rail will be replaced with four rail bridge rail meeting current NYSDOT

standards. The bridge rail will transition to guiderail at the end of the U-wingwalls / retaining walls that run along the edge of the roadway on approach to the bridge. The retaining walls may need to be extended to accommodate the bridge railing transition posts where the soil slopes are too steep to allow posts to be driven.

Approach slabs:

The approach slabs are starting to show deterioration on the overhangs with some areas being spalled with exposed rebar.

The approach slabs will be replaced with approach slabs meeting current NYSDOT standards and a jointless detail over the abutment backwall will be provided. At the highway end of the approach slabs, sleeper slabs will be installed.

Superstructure:

The existing bridge has a non-redundant/fracture critical girder-floorbeam-stringer framing system that utilizes many fatigue prone details. Members are starting to deteriorate with section loss readings up to 20% based on the 2024 biennial inspection.

A level 1 load rating was not carried out after the in-depth inspection; however, the bridge has been R-Permit Posted since 2020.

Replacing the existing framing system with a steel multi-girder framing system would provide the bridge with a more standard framing system with redundancy. The existing load restriction on the bridge would be removed as well.

Bearings:

The existing bearings are starting to show signs of deterioration. While the bearings were not a part of the scope of the 2025 in-depth inspection, it was observed the Girder G1 end left anchor bolt in span 2 has been sheared off at the top.

Substructures:

The existing bridge substructures consist of reinforced concrete abutments keyed into rock and a reinforced concrete multi-column pier with reinforced concrete cap beam founded on bedrock.

The begin (south) abutment has U-wingwalls that extend south to Pontiac Rd. The wingwalls and abutment exhibit numerous locations of hollow sounding concrete and spalls. Both wingwalls show signs of undermining due to water runoff from the road above eroding the steep shale channel banks overtime. The abutment footing exhibits portions of weathered shale undermining on the right side.

The pier has a reinforced pier cap beam supported by two square reinforced columns with stepped walls and footing. The underside of the cap beam exhibits cracks along the edges and spalls in the center with exposed reinforcement. The pier is currently being partially undermined for a length of approximately 11'-0" and 1'-0" deep at the maximum at the upstream begin face of the footing. The pier is proposed to be removed so additional scour and deterioration is not a concern.

The end (north) abutment has flared wingwalls keyed into rock. The wingwalls and abutment exhibit numerous locations of hollow sounding concrete, spalls and cracks. Scour and erosion are not as prevalent at the end abutment versus the begin.

JOINT ELIMINATION:

The existing bridge joints at the abutments are pier are pourable seal joints which has been paved over per the 2024 Biennial inspection. The joints appear to have been leaking at one point due to the staining at the abutment backwalls but the steel beam ends are in fair shape.

It is recommended that a jointless detail be provided at the abutments and the expansion joint be relocated to the ends of approach slabs. The joint at the pier will be removed since this support is being demolished.

WORK ZONE TRAFFIC CONTROL:

Although the traffic volumes are relatively high, an off-site detour is considered the most feasible WZTC alternative at this site. Staged construction would be very difficult due to the non-redundant nature of the existing bridge superstructure. A temporary bridge structure is not considered feasible as it would add significant cost to the project and require additional ROW.

The shortest off-site detour that uses County roads would utilize Gowans Road, Mill Street, North Main/South Main Street, and Pontiac Road. This would add approximately 8.7 miles (15 minutes) to the journey. This detour route would require that the intersection with Pontiac Road and Versailles Plank Road remain fully open during construction. To achieve this the roadway to the south of the bridge in the intersection will have to be constructed utilizing staged construction.

An alternative off-site detour route would utilize Eden-Evans Center Road, North/South Main Street, and Cain Road. This would add approximately 12.0 miles (20 minutes) to the journey. This route minimizes turning movements in the Village of Angola and directs traffic around the intersection of Versailles Plank and Pontiac Road in the event a lane closure of Pontiac Road is necessary for construction

UTILITIES:

Overhead electric and communication lines are present along the east side of Versailles Plank Road and across the intersection with Pontiac Road. These lines may need to be relocated to avoid crane conflicts during construction.

HAZARDOUS MATERIALS:

A limited hazardous materials survey was conducted for the project. Findings are summarized below:

Asbestos
None of the materials sampled were determined to be asbestos containing materials.

Lead-Based Paints
No lead-based paints components were detected within the scope of work.

PCB
None of the materials sampled were determined to be PCB containing materials.

REHABILITATION ALTERNATIVE(s) CONSIDERED:

Three (3) alternatives were considered for the bridge:

The Null (Do Nothing) Alternative – This alternative allows no work to be performed and will allow the continued deterioration of the structure, resulting in increased maintenance and eventually requiring the bridge to be closed to traffic. This alternative does not meet the project objectives and will not accommodate the required widening of the bridge, so is ruled out.

Rehabilitation – Superstructure Replacement – This alternative includes removing the existing pier and replacing the existing fracture critical steel girder-floorbeam-stringer superstructure with a new approximately 113'-0" long single span steel multi-girder superstructure with composite concrete deck supported on the existing abutments.

The existing abutments will be strengthened by removing a portion of the front face and installing a new facing with a reinforcement mat and anchors into rock. Loads are expected to be increased only at the abutments due to the proposed bridge being one span so surface repairs will be performed at the wingwalls and retaining walls where necessary. New bridge pedestals will be constructed to accommodate the new superstructure and new elastomeric or MR bearings will be provided. The existing retaining wall in the north-east quadrant will be extended to ensure that the toe of embankment slope remains within the existing ROW.

The bridge rail-to-rail width will remain as existing and will provide two paved 11'-0" lanes bounded on the outside with 6'-0" wide shoulders.

The existing bridge rail will be replaced with four rail bridge rail meeting current NYSDOT standards. To accommodate the additional space needed to install the railing, the bridge out-to-out will need to be increased 2" on both sides, increasing the out-to-out from 37'-0" to 37'-4". The bridge rail will transition to guiderail at the end of bridge limits.

It is anticipated that this alternative would provide a useful service life of at least 75 years.

Bridge Replacement – Under this alternative the complete removal of the existing structurally deficient structure and construction of a new bridge on the same horizontal alignment. To eliminate scour concerns, the proposed abutments would be pushed back about 20'-0" and a stub abutment would be provided resulting in a new approximately 153'-0" long single span steel multi girder superstructure with composite concrete deck.

The bridge rail-to-rail width will remain as existing and will provide two paved 11'-0" lanes bounded on the outside with 6'-0" wide shoulders. The existing bridge rail will be replaced with four rail bridge rail meeting current NYSDOT standards. To accommodate the additional space needed to install the railing, the bridge out-to-out will need to be increased 2" on both sides, increasing the out-to-out from 37'-0" to 37'-4". The bridge rail will transition to guiderail at the end of bridge limits.

Additional right of way would be needed to demolish the existing structure and for the excavation of the proposed structure.

It is anticipated that this alternative would provide a useful service life of at least 75 years.

Both alternatives will provide a grouted rip-rap gutter at the southwest and southeast wingwalls to reduce the risk of the wingwall becoming undermined overtime from water runoff.

Alternative	Total Cost	% Replacement Cost	Comments
Null	$0 M	N/A	Does not meet project objectives
Rehabilitation – Superstructure Replacement	$3.31 M	81 %	SEE BRJR Appendix A for cost estimate.
Bridge Replacement	$4.08 M	N/A	SEE BRJR Appendix A for cost estimate.

The cost of the rehabilitation alternative is estimated to be approximately 81% of the cost of full bridge replacement. This percentage falls into the second range of RH/RP between 65% and 85% per the NYSDOT Bridge Manual section 19.2.8. This required a more detailed life cycle analysis to be performed. The life cycle cost will be the determining factor for the alternative as the other factors discussed in Chapter 19 of the NYSDOT Bridge Manual are similar between rehabilitation and replacement.

A third alternative was considered for the life cycle analysis and that is performing rehabilitation in year 0 and replacement in year 40 to offset the increased maintenance cost later in the rehabilitation option's life span.

	Alternative 1	Alternative 2	Alternative 3
Description	**Rehabilitation – Superstructure Replacement**	**Bridge Replacement**	**Y0 Superstructure Replacement Y40 Full Replacement**
Net Present Value	**$6.00 M**	**$5.75 M**	**$6.78 M**

The full life cycle analysis is provided in Appendix B.

RECOMMENDED ALTERNATIVE:

While bridge replacement is the cost effective life cycle option, the preferred alternative is rehabilitation – superstructure replacement. Since this project is Bridge NY funding and all excess is funded by Erie County. The life cycle cost difference between rehabilitation and bridge replacement does not justify, in the county's opinion, the greater upfront cost of replacement.

The work would involve full replacement of the existing bridge superstructure which consists of the concrete deck, steel framing and bridge railing with a proposed steel multi-girder concrete deck with four rail bridge rail meeting current NYSDOT specifications. Strengthening will be performed at the abutments with repairs occurring to wingwalls and retaining walls where necessary. New bridge pedestals will be constructed to accommodate the new superstructure and new elastomeric or MR bearings will be provided. The existing retaining wall in the north-east quadrant will be extended to ensure that the toe of embankment slope remains within the existing ROW. A jointless detail would also be provided at the abutments to preserve the bridge elements below.

STANDARDS and SPECIFICATIONS:

Design Specifications:

- A combination of both the NYSDOT LRFD or NYSDOT Standard Specification with all provisions in effect as of September 2026

  The existing substructures are to remain in place and were built before NYSDOT LRFD was used in common practice; therefore, the NYSDOT Standard Specification shall be used for any repairs made to the substructures.

Proposed Minimum Design Live Load:

- HL-93 (New Superstructure), HS-20 (Existing Substructure)

  The proposed superstructure shall be sufficient to provide an Inventory LRFR factor of 1.2 or higher per NYSDOT Bridge Manual, Section 2.5.

Construction and Material Specifications: Standard Specifications, Construction and Materials, New York State Department of Transportation, Office of Engineering.

Barlist: Yes

This project **will** provide bar lists for substructures and slabs, if necessary, in the final scope of work. The Designer will be responsible for creating all necessary bar lists and including them on the Contract Plans.

VERSAILLES PLANK ROAD OVER BIG SISTER CREEK (BIN 3327390)
TOWN OF EVANS, ERIE COUNTY
BRIDGE REHABILITATION ALTERNATIVE - SUPERSTRUCTURE REPLACEMENT
PRELIMINARY ESTIMATE

ITEM #	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	TOTAL
201.06	CLEARING AND GRUBBING	LS	$20,000.00	1	$20,000.00
202.120001	REMOVING EXISTING SUPERSTRUCTURES	LS	$40,000.00	1	$40,000.00
202.19	REMOVAL OF SUBSTRUCTURES	CY	$175.00	167	$29,225.00
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL	CY	$35.00	798	$27,930.00
203.21	SELECT STRUCTURE FILL	CY	$100.00	48	$4,800.00
206.01	STRUCTURE EXCAVATION	CY	$45.00	76	$3,420.00
206.0201	TRENCH AND CULVERT EXCAVATION	CY	$50.00	50	$2,500.00
207.26	PREFABRICATED COMPOSITE STRUCTURAL DRAIN	SY	$30.00	53	$1,590.00
304.15	SUBBASE COURSE, OPTIONAL TYPE	CY	$100.00	480	$48,000.00
404.0189	TRUING & LEVELING F9, ASPHALT, 80 SERIES COMPACTION	TON	$150.00	26	$3,900.00
404.0983	9.5 F3 TOP COURSE ASPHALT, 80 SERIES COMPACTION	TON	$250.00	130	$32,500.00
404.1283	12.5 F3 TOP COURSE ASPHALT, 80 SERIES COMPACTION	TON	$250.00	98	$24,500.00
404.3789	37.5 F9 BASE COURSE ASPHALT, 80 SERIES COMPACTION	TON	$200.00	201	$40,200.00
407.0102	DILUTED TACK COAT	GAL	$25.00	152	$3,800.00
553.030001	TEMPORARY WATERWAY DIVERSION STRUCTURE	EACH	$20,000.00	1	$20,000.00
555.0021	CONCRETE FOR STRUCTURES, PERFORMANCE	CY	$1,800.00	199	$358,200.00
556.0202	EPOXY-COATED BAR REINFORCEMENT FOR STRUCTURES	LB	$2.00	19,900	$39,800.00
557.1011	STRUCTURAL APPROACH SLAB WITH INTEGRAL WEARING SURFACE ? TYPE 1 FRICTION	SY	$450.00	257	$115,533.33
557.1111	SUPERSTRUCTURE SLAB WITH INTEGRAL WEARING SURFACE ? BOTTOM FORMWORK REQUIRED - TYPE 1 FRICTION	SY	$600.00	469	$281,244.44
558.02	LONGITUDINAL SAWCUT GROOVING OF STRUCTURAL SLAB SURFACE	SY	$5.00	616	$3,078.89
559.01	PROTECTIVE SEALING OF STRUCTURAL CONCRETE ON NEW BRIDGE, DECKS AND BRIDGE DECK OVERLAYS	SF	$1.00	6,737	$6,737.33
564.05	STRUCTURAL STEEL	LS	$700,000.00	1	$700,000.00
565.2024	TYPE E.B. FIXED BEARING (169 - 225 KIPS)	EACH	$2,800.00	5	$14,000.00
565.2034	TYPE E.B EXPANSION BEARING (169 TO 225 KIPS)	EACH	$2,800.00	5	$14,000.00
568.51	STEEL BRIDGE RAILING (FOUR RAIL)	LF	$250.00	409	$102,250.00
568.70	TRANSITION BRIDGE RAILING	LF	$250.00	128	$32,000.00
572.00020101	METALIZING, TYPE 1	LS	$145,000.00	1	$145,000.00
580.01	REMOVAL OF STRUCTURAL CONCRETE	CY	$1,000.00	30	$30,196.89
580.04	REMOVAL OF CONCRETE APPROACH SLAB	SF	$6.00	2,294	$13,764.00
582.0052	REMOVAL AND REPLACEMENT OF STRUCTURAL CONCRETE	SF	$200.00	120	$24,000.00
586.0201	DRILLING AND GROUTING BOLTS OR REINFORCEMENT BARS	EACH	$100.00	252	$25,200.00
595.98200018	SPRAY-APPLIED, WATERPROOFING MEMBRANE	SF	$8.00	4,418	$35,344.00
603.9824	SMOOTH INTERIOR CORRUGATED POLYETHYLENE CULVERT AND STORMDRAIN 24 INCH DIAMETER	LF	$80.00	50	$4,000.00
604.070501	ALTERING DRAINAGE STRUCTURES, LEACHING BASINS AND MANHOLES	EACH	$1,500.00	2	$3,000.00
604.300103	RECTANGULAR DRAINAGE STRUCTURE (TYPE A) FOR #3 WELDED FRAME	LF	$1,200.00	5	$6,000.00
605.0901	UNDERDRAIN FILTER TYPE 1	CY	$100.00	45	$4,500.00
605.1702	OPTIONAL UNDERDRAIN PIPE, 6 INCH DIAMETER	LF	$5.00	672	$3,360.00
606.10	BOX BEAM GUIDE RAILING	LF	$60.00	81	$4,860.00
606.120102	BOX BEAM GUIDE RAILING END ASSEMBLY, TYPE I	EACH	$4,000.00	2	$8,000.00
606.120201	BOX BEAM GUIDE RAILING END ASSEMBLY, TYPE IIA	EACH	$2,500.00	1	$2,500.00
606.18	WEAK-POST, CORRUGATED BEAM GUIDE RAIL	LF	$30.00	70	$2,100.00
606.71	REMOVING AND DISPOSING CORRUGATED BEAM GUIDE RAILING	LF	$6.00	150	$900.00
608.020102	ASPHALT SIDEWALKS, DRIVEWAYS AND BICYCLE PATHS,AND VEGETATION CONTROL STRIPS	TON	$60.00	68	$4,080.00
610.1605	TURF ESTABLISHMENT PERFORMANCE	SY	$18.00	326	$5,868.00
614.060104	TREE REMOVAL OVER 4 INCHES TO 6 INCHES DIAMETER BREAST HEIGHT - STUMPS GRUBBED	EACH	$600.00	6	$3,600.00
614.060204	TREE REMOVAL OVER 6 INCHES TO 12 INCHES DIAMETER BREAST HEIGHT - STUMPS GRUBBED	EACH	$800.00	3	$2,400.00
614.060304	TREE REMOVAL OVER 12 INCHES TO 18 INCHES DIAMETER BREASTHEIGHT - STUMPS GRUBBED	EACH	$2,000.00	1	$2,000.00
619.01	BASIC WORK ZONE TRAFFIC CONTROL	LS	$65,000.00	1	$65,000.00
619.04	TYPE III CONSTRUCTION BARRICADE	EACH	$160.00	20	$3,200.00
620.05	STONE FILLING (HEAVY)	CY	$150.00	172	$25,800.00
620.07	GROUTED RIP-RAP	CY	$800.00	28	$22,400.00
625.01	SURVEY OPERATIONS	LS	$25,000.00	1	$25,000.00
627.50140008	CUTTING PAVEMENT	LF	$15.00	75	$1,125.00
637.04	CONCRETE CYLINDER CURING EQUIPMENT	EACH	$0.00	1	$0.00
637.12	ENGINEER'S FIELD OFFICE - TYPE 2	MNTH	$2,300.00	4	$9,200.00
637.34	OFFICE TECHNOLOGY AND SUPPLIES	DC	$5,000.00	1	$5,000.00
685.1102	WHITE EPOXY REFLECTORIZED PAVEMENT STRIPES - 20 MIL	LF	$4.00	1,133	$4,532.00
685.1202	YELLOW EPOXY REFLECTORIZED PAVEMENT STRIPES - 20 MIL	LF	$4.00	990	$3,960.00

VERSAILLES PLANK ROAD OVER BIG SISTER CREEK (BIN 3327390)
TOWN OF EVANS, ERIE COUNTY
BRIDGE REHABILITATION ALTERNATIVE - SUPERSTRUCTURE REPLACEMENT
PRELIMINARY ESTIMATE

ITEM #	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	TOTAL
655.1003	WELDED FRAME AND RECTANGULAR GRATE 3	EACH	$800.00	1	$800.00

SUBTOTAL:	$2,465,899
Field Change (5%):	$123,295
SUBTOTAL 1:	$2,589,194
Contingency (20%):	$517,839
Mobilization (4%):	$103,568
SUBTOTAL 2:	$3,210,600
Years to Rehabiliatation:	1
(3% / Year) Expected Award Amount:	$3,306,918
ROW Costs:	$0
TOTAL ALTERNATIVE COSTS:	**$3,306,918**

VERSAILLES PLANK ROAD OVER BIG SISTER CREEK (BIN 3327390)
TOWN OF EVANS, ERIE COUNTY
BRIDGE REHABILITATION ALTERNATIVE - BRIDGE REPLACEMENT
PRELIMINARY ESTIMATE

ITEM #	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	TOTAL
201.06	CLEARING AND GRUBBING	LS	$60,000.00	1	$60,000.00
202.120001	REMOVING EXISTING SUPERSTRUCTURES	LS	$40,000.00	1	$40,000.00
202.19	REMOVAL OF SUBSTRUCTURES	CY	$130.00	721	$93,730.00
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL	CY	$35.00	798	$27,930.00
203.21	SELECT STRUCTURE FILL	CY	$100.00	459	$45,900.00
206.01	STRUCTURE EXCAVATION	CY	$25.00	1,529	$38,225.00
206.0201	TRENCH AND CULVERT EXCAVATION	CY	$50.00	50	$2,500.00
207.26	PREFABRICATED COMPOSITE STRUCTURAL DRAIN	SY	$30.00	107	$3,210.00
304.15	SUBBASE COURSE, OPTIONAL TYPE	CY	$100.00	480	$48,000.00
404.0189	TRUING & LEVELING F9, ASPHALT, 80 SERIES COMPACTION	TON	$150.00	26	$3,900.00
404.0983	9.5 F3 TOP COURSE ASPHALT, 80 SERIES COMPACTION	TON	$250.00	130	$32,500.00
404.1283	12.5 F3 TOP COURSE ASPHALT, 80 SERIES COMPACTION	TON	$250.00	98	$24,500.00
404.3789	37.5 F9 BASE COURSE ASPHALT, 80 SERIES COMPACTION	TON	$200.00	201	$40,200.00
407.0102	DILUTED TACK COAT	GAL	$25.00	152	$3,800.00
551.010042	STEEL H-PILES (HP 10X42)	LF	$100.00	171	$17,100.00
551.13	FURNISHING EQUIPMENT FOR DRIVING PILES	LS	$80,000.00	1	$80,000.00
553.030001	TEMPORARY WATERWAY DIVERSION STRUCTURE	EACH	$20,000.00	1	$20,000.00
555.0011	FOOTING CONCRETE, PERFORMANCE	CY	$1,500.00	77	$115,111.11
555.0021	CONCRETE FOR STRUCTURES, PERFORMANCE	CY	$2,000.00	141	$282,469.14
556.0202	EPOXY-COATED BAR REINFORCEMENT FOR STRUCTURES	LB	$2.00	26,157	$52,314.07
557.1011	STRUCTURAL APPROACH SLAB WITH INTEGRAL WEARING SURFACE ? TYPE 1 FRICTION	SY	$450.00	207	$93,333.33
557.1111	SUPERSTRUCTURE SLAB WITH INTEGRAL WEARING SURFACE ? BOTTOM FORMWORK REQUIRED - TYPE 1 FRICTION	SY	$600.00	635	$380,800.00
558.02	LONGITUDINAL SAWCUT GROOVING OF STRUCTURAL SLAB SURFACE	SY	$5.00	6,902	$34,510.00
559.01	PROTECTIVE SEALING OF STRUCTURAL CONCRETE ON NEW BRIDGE, DECKS AND BRIDGE DECK OVERLAYS	SF	$1.00	8,323	$8,323.00
564.05	STRUCTURAL STEEL	LS	$900,000.00	1	$900,000.00
565.2025	TYPE E.B. FIXED BEARING (OVER 225 KIPS)	EACH	$3,000.00	5	$15,000.00
565.2035	TYPE E.B EXPANSION BEARING (OVER 225 KIPS)	EACH	$3,000.00	5	$15,000.00
568.51	STEEL BRIDGE RAILING (FOUR RAIL)	LF	$250.00	406	$101,500.00
568.70	TRANSITION BRIDGE RAILING	LF	$250.00	128	$32,000.00
572.00020101	METALIZING, TYPE 1	LS	$200,000.00	1	$200,000.00
603.9824	SMOOTH INTERIOR CORRUGATED POLYETHYLENE CULVERT AND STORMDRAIN 24 INCH DIAMETER	LF	$80.00	50	$4,000.00
604.070501	ALTERING DRAINAGE STRUCTURES, LEACHING BASINS AND MANHOLES	EACH	$1,500.00	2	$3,000.00
604.300103	RECTANGULAR DRAINAGE STRUCTURE (TYPE A) FOR #3 WELDED FRAME	LF	$1,200.00	5	$6,000.00
605.0901	UNDERDRAIN FILTER TYPE 1	CY	$100.00	45	$4,500.00
605.1702	OPTIONAL UNDERDRAIN PIPE, 6 INCH DIAMETER	LF	$5.00	672	$3,360.00
606.10	BOX BEAM GUIDE RAILING	LF	$60.00	81	$4,860.00
606.120102	BOX BEAM GUIDE RAILING END ASSEMBLY, TYPE I	EACH	$4,000.00	2	$8,000.00
606.120201	BOX BEAM GUIDE RAILING END ASSEMBLY, TYPE IIA	EACH	$2,500.00	1	$2,500.00
606.18	WEAK-POST, CORRUGATED BEAM GUIDE RAIL	LF	$30.00	70	$2,100.00
606.71	REMOVING AND DISPOSING CORRUGATED BEAM GUIDE RAILING	LF	$6.00	150	$900.00
608.020102	ASPHALT SIDEWALKS, DRIVEWAYS AND BICYCLE PATHS,AND VEGETATION CONTROL STRIPS	TON	$60.00	68	$4,080.00
610.1605	TURF ESTABLISHMENT PERFORMANCE	SY	$18.00	326	$5,868.00
614.060104	TREE REMOVAL OVER 4 INCHES TO 6 INCHES DIAMETER BREAST HEIGHT - STUMPS GRUBBED	EACH	$600.00	6	$3,600.00
614.060204	TREE REMOVAL OVER 6 INCHES TO 12 INCHES DIAMETER BREAST HEIGHT - STUMPS GRUBBED	EACH	$800.00	3	$2,400.00
614.060304	TREE REMOVAL OVER 12 INCHES TO 18 INCHES DIAMETER BREASTHEIGHT - STUMPS GRUBBED	EACH	$2,000.00	1	$2,000.00
619.01	BASIC WORK ZONE TRAFFIC CONTROL	LS	$75,000.00	1	$75,000.00
619.04	TYPE III CONSTRUCTION BARRICADE	EACH	$160.00	20	$3,200.00
620.05	STONE FILLING (HEAVY)	CY	$150.00	172	$25,800.00
620.07	GROUTED RIP-RAP	CY	$800.00	28	$22,400.00
625.01	SURVEY OPERATIONS	LS	$25,000.00	1	$25,000.00
627.50140008	CUTTING PAVEMENT	LF	$15.00	75	$1,125.00
637.04	CONCRETE CYLINDER CURING EQUIPMENT	EACH	$0.00	1	$0.00
637.12	ENGINEER'S FIELD OFFICE - TYPE 2	MNTH	$2,300.00	4	$9,200.00
637.34	OFFICE TECHNOLOGY AND SUPPLIES	DC	$5,000.00	1	$5,000.00
685.1102	WHITE EPOXY REFLECTORIZED PAVEMENT STRIPES - 20 MIL	LF	$4.00	1,133	$4,532.00
685.1202	YELLOW EPOXY REFLECTORIZED PAVEMENT STRIPES - 20 MIL	LF	$4.00	990	$3,960.00
655.1003	WELDED FRAME AND RECTANGULAR GRATE 3	EACH	$800.00	1	$800.00

VERSAILLES PLANK ROAD OVER BIG SISTER CREEK (BIN 3327390)
TOWN OF EVANS, ERIE COUNTY
BRIDGE REHABILITATION ALTERNATIVE - BRIDGE REPLACEMENT
PRELIMINARY ESTIMATE

ITEM #	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	TOTAL
				SUBTOTAL:	$3,045,041
				Field Change (5%):	$152,252
				SUBTOTAL 1:	$3,197,293
				Contingency (20%):	$639,459
				Mobilization (4%):	$127,892
				SUBTOTAL 2:	$3,964,643
				Years to Rehabiliatation:	1
				(3% / Year) Expected Award Amount:	$4,083,582
				ROW Costs:	$0
				TOTAL ALTERNATIVE COSTS:	**$4,083,582**

PORLI DESIGN GROUP
[illegible] Pembroke Drive • Penfield, New York 14526
main: 585.388.0360 • fax: 585.388.5072
www.porlidesign.com

MEMORANDUM

Date: April 22, 2026

To: Jennifer L. Michniewicz, P.E., PTOE

From: David Jenkinson, PE

CC: Jonathan DePlanche, P.E., Darlene M. Svilokos, P.E.

Subject: **Life Cycle Cost Analysis**

Versailles Plank Road Bridge over Big Sister Creek
PIN 5765.33
BIN 3327390
Life Cycle Cost Analysis

LIFE CYCLE COST ANALYSIS - BASIS & SUMMARY OF FINDINGS

Description	Alternative 1	Alternative 2	Alternative 3
	Superstructure Replacement	Bridge Replacement	Y0 Superstructure Replacement Y40 Full Replacement
Net Present Value	$6.00 M	$5.75 M	$6.78 M

General Assumptions:

1. User costs and societal costs are not included in the life cycle cost analysis. Only Agency costs are considered.
2. A real discount rate of 2.3% is included in accordance with *OBM Circular No. A-94*
3. All future activities (costs) are presented in constant (real) dollars
4. In accordance with *NYSDOT Fundamentals of Bridge Maintenance and Inspection manual*, the following maintenance schedule is assumed:
    a. Paving will occur every 12 years.
    b. New structures will be metalized and therefore no major maintenance in regard to the steel protective coating will occur in design life. Any steel protective coating maintenance is assumed to be included in routine maintenance cost.
    c. Routine maintenance every 5 years.
    d. Other repair tasks performed on an as needed basis
5. The null alternative was not considered in the Life Cycle Cost Analysis as it was previously determined in the BRJR to not meet the project objectives.
6. Rehabilitation and Replacement costs are based on BRJR the estimates for the specific work items. Where data was unavailable, reasonable engineering assumptions were made.
7. The initial construction cost for all alternatives is taken from the construction cost estimates in the BRJR.

Alternative 1 – Superstructure Replacement

Assumptions:

- Superstructure replacement occurs at year 0.
- Deck replacement will occur at year 40.
- Other major rehabilitation work will begin in year 10.
- Salvage value = $0 at year 75.

Superstructure Replacement at year 0 – $3.31 M (from BRJR).

1.1 Routine Maintenance

Work Includes	Cost	Time
Minor repairs to approaches, structure and appurtenances	$75K	Year 5, recurring every 5 years

1.2 Rehabilitation Schedule

Work Includes	Cost	Time
Deck Replacement	$780K	Year 40
Miscellaneous substructure repairs	$300K	Year 10, recurring every 10 years.
Miscellaneous substructure repairs price escalation	$50k escalating 100% every recurring period	Year 50 recurring every 10 years

1.3 Capital Painting

Work Includes	Cost	Time
	None	

1.4 Paving

Work Includes	Cost	Time
Paving	$120K	Year 12, recurring every 12 years

1.5 REI Services

Work Includes	Cost	Time
Construction Inspection, Testing, etc.	10% total cost, omitting salvage value	When cost occurs

Alternative 2 – Bridge Replacement

Assumptions:

- Replacement occurs at year 0
- Deck replacement will occur at year 40.
- Other major rehabilitation work will begin in year 20.
- Salvage value = $0 at year 75.

Bridge Replacement at year 0 - $4.08M (from BRJR).

2.1 Routine Maintenance

Work Includes	Cost	Time
Minor repairs to approaches, structure and appurtenances	$50K	Year 5, recurring every 5 years

2.2 Rehabilitation Schedule:

Work Includes	Cost	Time
Deck Replacement	$960K	Year 40
Miscellaneous substructure repairs	$75K	Year 20, recurring every 20 years.
Miscellaneous substructure repairs price escalation	$10k escalating 50% every recurring period	Year 40 recurring every 20 years

2.3 Capital Painting

Work Includes	Cost	Time
	None	

2.4 Paving

Work Includes	Cost	Time
Paving	$120K	Year 12, recurring every 12 years

2.5 REI Services

Work Includes	Cost	Time
Construction Inspection, Testing, etc.	10% total cost, omitting salvage value	When cost occurs

Alternative 3 – Y0 Superstructure Replacement Y40 Full Replacement

Assumptions:

- Superstructure replacement occurs at year 0.
- Full replacement will occur at year 40.
- Other major rehabilitation work will occur similar to its alternative above.
- Salvage value = Remaining service life divided by design life of replacement at year 75 (40/75 = 53%).

Superstructure Replacement at year 0 – $3.31 M (from BRJR).

Bridge Replacement at year 40 - $4.08M (from BRJR).

3.1 Routine Maintenance (Every 5 years)

Work Includes	Cost	Time
Minor repairs to approaches, structure and appurtenances	$75K	Year 5, recurring every 5 years until bridge is replaced at Year 40
Minor repairs to approaches, structure and appurtenances	$50K	Year 45, recurring every 5 years

3.2 Rehabilitation Schedule:

Work Includes	Cost	Time
Miscellaneous substructure repairs - rehabilitation	$300K	Year 10, recurring every 10 years until bridge is replaced at Year 40
Miscellaneous substructure repairs - replacement	$75K	Year 60, recurring every 20 years.

3.3 Capital Painting

Work Includes	Cost	Time
	None	

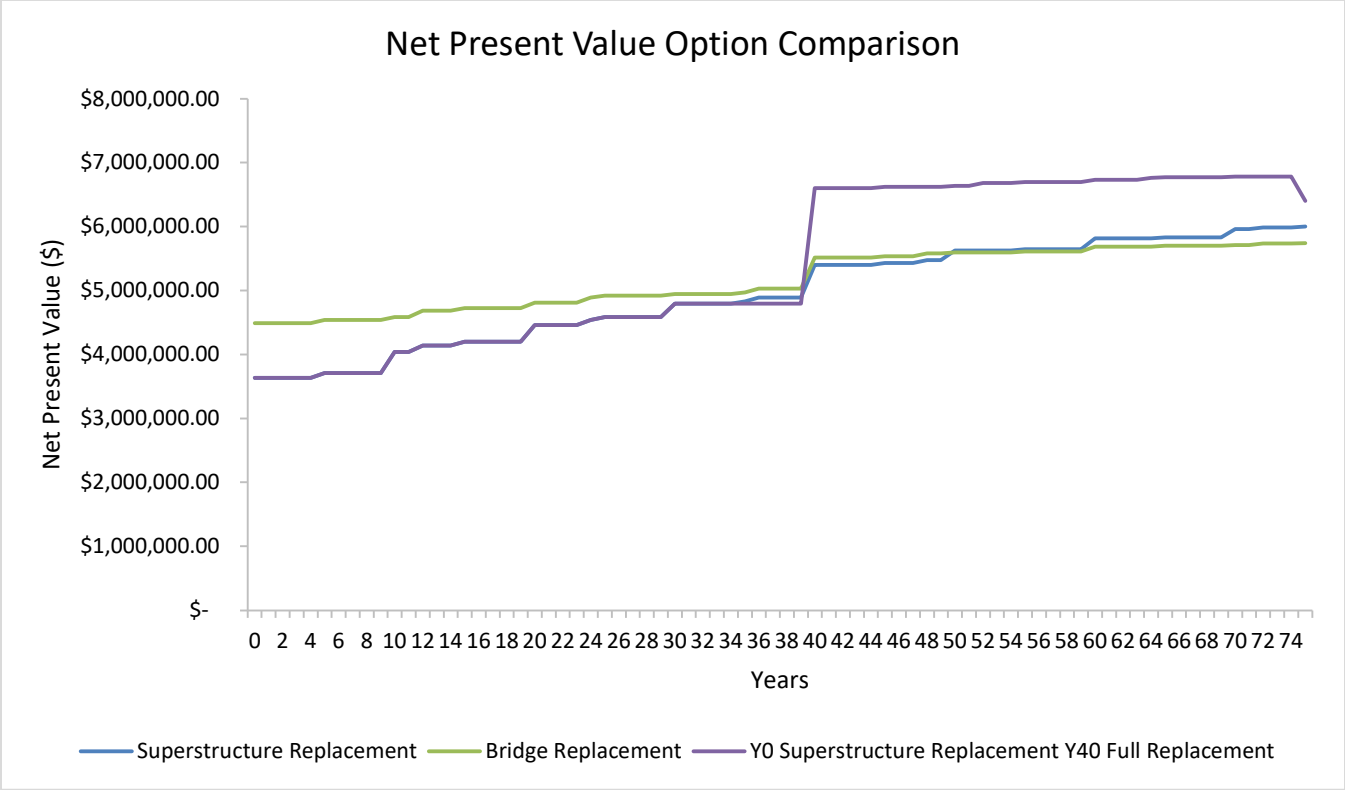
3.4 Paving

Work Includes	Cost	Time
Paving	$120K	Year 12, 24, 52, and 64

3.5 REI Services

Work Includes	Cost	Time
Construction Inspection, Testing, etc.	10% total cost, omitting salvage value	When cost occurs

Graphical Comparison of Life Cycle Cost



Conclusion

Description	Alternative 1	Alternative 2	Alternative 3
	Superstructure Replacement	Bridge Replacement	Y0 Superstructure Replacement Y40 Full Replacement
Net Present Value	$6.00 M	$5.75 M	$6.78 M

The life cycle cost analysis demonstrates that Bridge Replacement alternative will have the lowest life cycle cost.

VERSAILLES PLANK ROAD OVER BIG SISTER CREEK (BIN 3327390)
TOWN OF EVANS, ERIE COUNTY
BRIDGE REHABILITATION ALTERNATIVE - SUPERSTRUCTURE REPLACEMENT
PRELIMINARY ESTIMATE

ITEM #	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	TOTAL
201.06	CLEARING AND GRUBBING	LS	$20,000.00	1	$20,000.00
202.120001	REMOVING EXISTING SUPERSTRUCTURES	LS	$40,000.00	1	$40,000.00
202.19	REMOVAL OF SUBSTRUCTURES	CY	$175.00	167	$29,225.00
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL	CY	$35.00	798	$27,930.00
203.21	SELECT STRUCTURE FILL	CY	$100.00	48	$4,800.00
206.01	STRUCTURE EXCAVATION	CY	$45.00	76	$3,420.00
206.0201	TRENCH AND CULVERT EXCAVATION	CY	$50.00	50	$2,500.00
207.26	PREFABRICATED COMPOSITE STRUCTURAL DRAIN	SY	$30.00	53	$1,590.00
304.15	SUBBASE COURSE, OPTIONAL TYPE	CY	$100.00	480	$48,000.00
404.0189	TRUING & LEVELING F9, ASPHALT, 80 SERIES COMPACTION	TON	$150.00	26	$3,900.00
404.0983	9.5 F3 TOP COURSE ASPHALT, 80 SERIES COMPACTION	TON	$250.00	130	$32,500.00
404.1283	12.5 F3 TOP COURSE ASPHALT, 80 SERIES COMPACTION	TON	$250.00	98	$24,500.00
404.3789	37.5 F9 BASE COURSE ASPHALT, 80 SERIES COMPACTION	TON	$200.00	201	$40,200.00
407.0102	DILUTED TACK COAT	GAL	$25.00	152	$3,800.00
553.030001	TEMPORARY WATERWAY DIVERSION STRUCTURE	EACH	$20,000.00	1	$20,000.00
555.0021	CONCRETE FOR STRUCTURES, PERFORMANCE	CY	$1,800.00	199	$358,200.00
556.0202	EPOXY-COATED BAR REINFORCEMENT FOR STRUCTURES	LB	$2.00	19,900	$39,800.00
557.1011	STRUCTURAL APPROACH SLAB WITH INTEGRAL WEARING SURFACE ? TYPE 1 FRICTION	SY	$450.00	257	$115,533.33
557.1111	SUPERSTRUCTURE SLAB WITH INTEGRAL WEARING SURFACE ? BOTTOM FORMWORK REQUIRED - TYPE 1 FRICTION	SY	$600.00	469	$281,244.44
558.02	LONGITUDINAL SAWCUT GROOVING OF STRUCTURAL SLAB SURFACE	SY	$5.00	616	$3,078.89
559.01	PROTECTIVE SEALING OF STRUCTURAL CONCRETE ON NEW BRIDGE, DECKS AND BRIDGE DECK OVERLAYS	SF	$1.00	6,737	$6,737.33
564.05	STRUCTURAL STEEL	LS	$700,000.00	1	$700,000.00
565.2024	TYPE E.B. FIXED BEARING (169 - 225 KIPS)	EACH	$2,800.00	5	$14,000.00
565.2034	TYPE E.B EXPANSION BEARING (169 TO 225 KIPS)	EACH	$2,800.00	5	$14,000.00
568.51	STEEL BRIDGE RAILING (FOUR RAIL)	LF	$250.00	409	$102,250.00
568.70	TRANSITION BRIDGE RAILING	LF	$250.00	128	$32,000.00
572.00020101	METALIZING, TYPE 1	LS	$145,000.00	1	$145,000.00
580.01	REMOVAL OF STRUCTURAL CONCRETE	CY	$1,000.00	30	$30,196.89
580.04	REMOVAL OF CONCRETE APPROACH SLAB	SF	$6.00	2,294	$13,764.00
582.0052	REMOVAL AND REPLACEMENT OF STRUCTURAL CONCRETE	SF	$200.00	120	$24,000.00
586.0201	DRILLING AND GROUTING BOLTS OR REINFORCEMENT BARS	EACH	$100.00	252	$25,200.00
595.98200018	SPRAY-APPLIED, WATERPROOFING MEMBRANE	SF	$8.00	4,418	$35,344.00
603.9824	SMOOTH INTERIOR CORRUGATED POLYETHYLENE CULVERT AND STORMDRAIN 24 INCH DIAMETER	LF	$80.00	50	$4,000.00
604.070501	ALTERING DRAINAGE STRUCTURES, LEACHING BASINS AND MANHOLES	EACH	$1,500.00	2	$3,000.00
604.300103	RECTANGULAR DRAINAGE STRUCTURE (TYPE A) FOR #3 WELDED FRAME	LF	$1,200.00	5	$6,000.00
605.0901	UNDERDRAIN FILTER TYPE 1	CY	$100.00	45	$4,500.00
605.1702	OPTIONAL UNDERDRAIN PIPE, 6 INCH DIAMETER	LF	$5.00	672	$3,360.00
606.10	BOX BEAM GUIDE RAILING	LF	$60.00	81	$4,860.00
606.120102	BOX BEAM GUIDE RAILING END ASSEMBLY, TYPE I	EACH	$4,000.00	2	$8,000.00
606.120201	BOX BEAM GUIDE RAILING END ASSEMBLY, TYPE IIA	EACH	$2,500.00	1	$2,500.00
606.18	WEAK-POST, CORRUGATED BEAM GUIDE RAIL	LF	$30.00	70	$2,100.00
606.71	REMOVING AND DISPOSING CORRUGATED BEAM GUIDE RAILING	LF	$6.00	150	$900.00
608.020102	ASPHALT SIDEWALKS, DRIVEWAYS AND BICYCLE PATHS,AND VEGETATION CONTROL STRIPS	TON	$60.00	68	$4,080.00
610.1605	TURF ESTABLISHMENT PERFORMANCE	SY	$18.00	326	$5,868.00
614.060104	TREE REMOVAL OVER 4 INCHES TO 6 INCHES DIAMETER BREAST HEIGHT - STUMPS GRUBBED	EACH	$600.00	6	$3,600.00
614.060204	TREE REMOVAL OVER 6 INCHES TO 12 INCHES DIAMETER BREAST HEIGHT - STUMPS GRUBBED	EACH	$800.00	3	$2,400.00
614.060304	TREE REMOVAL OVER 12 INCHES TO 18 INCHES DIAMETER BREASTHEIGHT - STUMPS GRUBBED	EACH	$2,000.00	1	$2,000.00
619.01	BASIC WORK ZONE TRAFFIC CONTROL	LS	$65,000.00	1	$65,000.00
619.04	TYPE III CONSTRUCTION BARRICADE	EACH	$160.00	20	$3,200.00
620.05	STONE FILLING (HEAVY)	CY	$150.00	172	$25,800.00
620.07	GROUTED RIP-RAP	CY	$800.00	28	$22,400.00
625.01	SURVEY OPERATIONS	LS	$25,000.00	1	$25,000.00
627.50140008	CUTTING PAVEMENT	LF	$15.00	75	$1,125.00
637.04	CONCRETE CYLINDER CURING EQUIPMENT	EACH	$0.00	1	$0.00
637.12	ENGINEER'S FIELD OFFICE - TYPE 2	MNTH	$2,300.00	4	$9,200.00
637.34	OFFICE TECHNOLOGY AND SUPPLIES	DC	$5,000.00	1	$5,000.00
685.1102	WHITE EPOXY REFLECTORIZED PAVEMENT STRIPES - 20 MIL	LF	$4.00	1,133	$4,532.00
685.1202	YELLOW EPOXY REFLECTORIZED PAVEMENT STRIPES - 20 MIL	LF	$4.00	990	$3,960.00

VERSAILLES PLANK ROAD OVER BIG SISTER CREEK (BIN 3327390)
TOWN OF EVANS, ERIE COUNTY
BRIDGE REHABILITATION ALTERNATIVE - SUPERSTRUCTURE REPLACEMENT
PRELIMINARY ESTIMATE

ITEM #	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	TOTAL
655.1003	WELDED FRAME AND RECTANGULAR GRATE 3	EACH	$800.00	1	$800.00

SUBTOTAL:	$2,465,899
Field Change (5%):	$123,295
SUBTOTAL 1:	$2,589,194
Contingency (20%):	$517,839
Mobilization (4%):	$103,568
SUBTOTAL 2:	$3,210,600
Years to Rehabiliatation:	1
(3% / Year) Expected Award Amount:	$3,306,918
ROW Costs:	$0
TOTAL ALTERNATIVE COSTS:	**$3,306,918**

VERSAILLES PLANK ROAD OVER BIG SISTER CREEK (BIN 3327390)
TOWN OF EVANS, ERIE COUNTY
BRIDGE REHABILITATION ALTERNATIVE - BRIDGE REPLACEMENT
PRELIMINARY ESTIMATE

ITEM #	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	TOTAL
201.06	CLEARING AND GRUBBING	LS	$60,000.00	1	$60,000.00
202.120001	REMOVING EXISTING SUPERSTRUCTURES	LS	$40,000.00	1	$40,000.00
202.19	REMOVAL OF SUBSTRUCTURES	CY	$130.00	721	$93,730.00
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL	CY	$35.00	798	$27,930.00
203.21	SELECT STRUCTURE FILL	CY	$100.00	459	$45,900.00
206.01	STRUCTURE EXCAVATION	CY	$25.00	1,529	$38,225.00
206.0201	TRENCH AND CULVERT EXCAVATION	CY	$50.00	50	$2,500.00
207.26	PREFABRICATED COMPOSITE STRUCTURAL DRAIN	SY	$30.00	107	$3,210.00
304.15	SUBBASE COURSE, OPTIONAL TYPE	CY	$100.00	480	$48,000.00
404.0189	TRUING & LEVELING F9, ASPHALT, 80 SERIES COMPACTION	TON	$150.00	26	$3,900.00
404.0983	9.5 F3 TOP COURSE ASPHALT, 80 SERIES COMPACTION	TON	$250.00	130	$32,500.00
404.1283	12.5 F3 TOP COURSE ASPHALT, 80 SERIES COMPACTION	TON	$250.00	98	$24,500.00
404.3789	37.5 F9 BASE COURSE ASPHALT, 80 SERIES COMPACTION	TON	$200.00	201	$40,200.00
407.0102	DILUTED TACK COAT	GAL	$25.00	152	$3,800.00
551.010042	STEEL H-PILES (HP 10X42)	LF	$100.00	171	$17,100.00
551.13	FURNISHING EQUIPMENT FOR DRIVING PILES	LS	$80,000.00	1	$80,000.00
553.030001	TEMPORARY WATERWAY DIVERSION STRUCTURE	EACH	$20,000.00	1	$20,000.00
555.0011	FOOTING CONCRETE, PERFORMANCE	CY	$1,500.00	77	$115,111.11
555.0021	CONCRETE FOR STRUCTURES, PERFORMANCE	CY	$2,000.00	141	$282,469.14
556.0202	EPOXY-COATED BAR REINFORCEMENT FOR STRUCTURES	LB	$2.00	26,157	$52,314.07
557.1011	STRUCTURAL APPROACH SLAB WITH INTEGRAL WEARING SURFACE ? TYPE 1 FRICTION	SY	$450.00	207	$93,333.33
557.1111	SUPERSTRUCTURE SLAB WITH INTEGRAL WEARING SURFACE ? BOTTOM FORMWORK REQUIRED - TYPE 1 FRICTION	SY	$600.00	635	$380,800.00
558.02	LONGITUDINAL SAWCUT GROOVING OF STRUCTURAL SLAB SURFACE	SY	$5.00	6,902	$34,510.00
559.01	PROTECTIVE SEALING OF STRUCTURAL CONCRETE ON NEW BRIDGE, DECKS AND BRIDGE DECK OVERLAYS	SF	$1.00	8,323	$8,323.00
564.05	STRUCTURAL STEEL	LS	$900,000.00	1	$900,000.00
565.2025	TYPE E.B. FIXED BEARING (OVER 225 KIPS)	EACH	$3,000.00	5	$15,000.00
565.2035	TYPE E.B EXPANSION BEARING (OVER 225 KIPS)	EACH	$3,000.00	5	$15,000.00
568.51	STEEL BRIDGE RAILING (FOUR RAIL)	LF	$250.00	406	$101,500.00
568.70	TRANSITION BRIDGE RAILING	LF	$250.00	128	$32,000.00
572.00020101	METALIZING, TYPE 1	LS	$200,000.00	1	$200,000.00
603.9824	SMOOTH INTERIOR CORRUGATED POLYETHYLENE CULVERT AND STORMDRAIN 24 INCH DIAMETER	LF	$80.00	50	$4,000.00
604.070501	ALTERING DRAINAGE STRUCTURES, LEACHING BASINS AND MANHOLES	EACH	$1,500.00	2	$3,000.00
604.300103	RECTANGULAR DRAINAGE STRUCTURE (TYPE A) FOR #3 WELDED FRAME	LF	$1,200.00	5	$6,000.00
605.0901	UNDERDRAIN FILTER TYPE 1	CY	$100.00	45	$4,500.00
605.1702	OPTIONAL UNDERDRAIN PIPE, 6 INCH DIAMETER	LF	$5.00	672	$3,360.00
606.10	BOX BEAM GUIDE RAILING	LF	$60.00	81	$4,860.00
606.120102	BOX BEAM GUIDE RAILING END ASSEMBLY, TYPE I	EACH	$4,000.00	2	$8,000.00
606.120201	BOX BEAM GUIDE RAILING END ASSEMBLY, TYPE IIA	EACH	$2,500.00	1	$2,500.00
606.18	WEAK-POST, CORRUGATED BEAM GUIDE RAIL	LF	$30.00	70	$2,100.00
606.71	REMOVING AND DISPOSING CORRUGATED BEAM GUIDE RAILING	LF	$6.00	150	$900.00
608.020102	ASPHALT SIDEWALKS, DRIVEWAYS AND BICYCLE PATHS,AND VEGETATION CONTROL STRIPS	TON	$60.00	68	$4,080.00
610.1605	TURF ESTABLISHMENT PERFORMANCE	SY	$18.00	326	$5,868.00
614.060104	TREE REMOVAL OVER 4 INCHES TO 6 INCHES DIAMETER BREAST HEIGHT - STUMPS GRUBBED	EACH	$600.00	6	$3,600.00
614.060204	TREE REMOVAL OVER 6 INCHES TO 12 INCHES DIAMETER BREAST HEIGHT - STUMPS GRUBBED	EACH	$800.00	3	$2,400.00
614.060304	TREE REMOVAL OVER 12 INCHES TO 18 INCHES DIAMETER BREASTHEIGHT - STUMPS GRUBBED	EACH	$2,000.00	1	$2,000.00
619.01	BASIC WORK ZONE TRAFFIC CONTROL	LS	$75,000.00	1	$75,000.00
619.04	TYPE III CONSTRUCTION BARRICADE	EACH	$160.00	20	$3,200.00
620.05	STONE FILLING (HEAVY)	CY	$150.00	172	$25,800.00
620.07	GROUTED RIP-RAP	CY	$800.00	28	$22,400.00
625.01	SURVEY OPERATIONS	LS	$25,000.00	1	$25,000.00
627.50140008	CUTTING PAVEMENT	LF	$15.00	75	$1,125.00
637.04	CONCRETE CYLINDER CURING EQUIPMENT	EACH	$0.00	1	$0.00
637.12	ENGINEER'S FIELD OFFICE - TYPE 2	MNTH	$2,300.00	4	$9,200.00
637.34	OFFICE TECHNOLOGY AND SUPPLIES	DC	$5,000.00	1	$5,000.00
685.1102	WHITE EPOXY REFLECTORIZED PAVEMENT STRIPES - 20 MIL	LF	$4.00	1,133	$4,532.00
685.1202	YELLOW EPOXY REFLECTORIZED PAVEMENT STRIPES - 20 MIL	LF	$4.00	990	$3,960.00
655.1003	WELDED FRAME AND RECTANGULAR GRATE 3	EACH	$800.00	1	$800.00

VERSAILLES PLANK ROAD OVER BIG SISTER CREEK (BIN 3327390)
TOWN OF EVANS, ERIE COUNTY
BRIDGE REHABILITATION ALTERNATIVE - BRIDGE REPLACEMENT
PRELIMINARY ESTIMATE

ITEM #	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	TOTAL
				SUBTOTAL:	$3,045,041
				Field Change (5%):	$152,252
				SUBTOTAL 1:	$3,197,293
				Contingency (20%):	$639,459
				Mobilization (4%):	$127,892
				SUBTOTAL 2:	$3,964,643
				Years to Rehabiliatation:	1
				(3% / Year) Expected Award Amount:	$4,083,582
				ROW Costs:	$0
				TOTAL ALTERNATIVE COSTS:	**$4,083,582**

real discounted rate	**2.3%**
n	**75**

Alternative 1 - Superstructure Replacement

Current year	Routine Maintainence	Rehabilitation	Capital Painting	Paving	REI/CSS	Net Present Value
0	$ -	$ 3,306,918.36	$ -	$ -	$ 330,691.84	$ 3,637,610.20
1	$ -	$ -	$ -	$ -	$ -	$ -
2	$ -	$ -	$ -	$ -	$ -	$ -
3	$ -	$ -	$ -	$ -	$ -	$ -
4	$ -	$ -	$ -	$ -	$ -	$ -
5	$ 75,000.00	$ -	$ -	$ -	$ 7,500.00	$ 73,633.56
6	$ -	$ -	$ -	$ -	$ -	$ -
7	$ -	$ -	$ -	$ -	$ -	$ -
8	$ -	$ -	$ -	$ -	$ -	$ -
9	$ -	$ -	$ -	$ -	$ -	$ -
10	$ 75,000.00	$ 300,000.00	$ -	$ -	$ 37,500.00	$ 328,600.04
11	$ -	$ -	$ -	$ -	$ -	$ -
12	$ -	$ -	$ -	$ 120,000.00	$ 12,000.00	$ 100,476.92
13	$ -	$ -	$ -	$ -	$ -	$ -
14	$ -	$ -	$ -	$ -	$ -	$ -
15	$ 75,000.00	$ -	$ -	$ -	$ 7,500.00	$ 58,656.95
16	$ -	$ -	$ -	$ -	$ -	$ -
17	$ -	$ -	$ -	$ -	$ -	$ -
18	$ -	$ -	$ -	$ -	$ -	$ -
19	$ -	$ -	$ -	$ -	$ -	$ -
20	$ 75,000.00	$ 300,000.00	$ -	$ -	$ 37,500.00	$ 261,764.82
21	$ -	$ -	$ -	$ -	$ -	$ -
22	$ -	$ -	$ -	$ -	$ -	$ -
23	$ -	$ -	$ -	$ -	$ -	$ -
24	$ -	$ -	$ -	$ 120,000.00	$ 12,000.00	$ 76,481.91
25	$ 75,000.00	$ -	$ -	$ -	$ 7,500.00	$ 46,726.48
26	$ -	$ -	$ -	$ -	$ -	$ -
27	$ -	$ -	$ -	$ -	$ -	$ -
28	$ -	$ -	$ -	$ -	$ -	$ -
29	$ -	$ -	$ -	$ -	$ -	$ -
30	$ 75,000.00	$ 300,000.00	$ -	$ -	$ 37,500.00	$ 208,523.47
31	$ -	$ -	$ -	$ -	$ -	$ -
32	$ -	$ -	$ -	$ -	$ -	$ -
33	$ -	$ -	$ -	$ -	$ -	$ -
34	$ -	$ -	$ -	$ -	$ -	$ -
35	$ 75,000.00	$ -	$ -	$ -	$ 7,500.00	$ 37,222.61
36	$ -	$ -	$ -	$ 120,000.00	$ 12,000.00	$ 58,217.17
37	$ -	$ -	$ -	$ -	$ -	$ -
38	$ -	$ -	$ -	$ -	$ -	$ -
39	$ -	$ -	$ -	$ -	$ -	$ -
40	$ 75,000.00	$ 1,080,000.00	$ -	$ -	$ 115,500.00	$ 511,622.13
41	$ -	$ -	$ -	$ -	$ -	$ -
42	$ -	$ -	$ -	$ -	$ -	$ -
43	$ -	$ -	$ -	$ -	$ -	$ -
44	$ -	$ -	$ -	$ -	$ -	$ -
45	$ 75,000.00	$ -	$ -	$ -	$ 7,500.00	$ 29,651.76
46	$ -	$ -	$ -	$ -	$ -	$ -
47	$ -	$ -	$ -	$ -	$ -	$ -
48	$ -	$ -	$ -	$ 120,000.00	$ 12,000.00	$ 44,314.26
49	$ -	$ -	$ -	$ -	$ -	$ -
50	$ 75,000.00	$ 350,000.00	$ -	$ -	$ 42,500.00	$ 149,968.46
51	$ -	$ -	$ -	$ -	$ -	$ -
52	$ -	$ -	$ -	$ -	$ -	$ -
53	$ -	$ -	$ -	$ -	$ -	$ -
54	$ -	$ -	$ -	$ -	$ -	$ -
55	$ 75,000.00	$ -	$ -	$ -	$ 7,500.00	$ 23,620.77
56	$ -	$ -	$ -	$ -	$ -	$ -
57	$ -	$ -	$ -	$ -	$ -	$ -
58	$ -	$ -	$ -	$ -	$ -	$ -
59	$ -	$ -	$ -	$ -	$ -	$ -
60	$ 75,000.00	$ 400,000.00	$ -	$ 120,000.00	$ 59,500.00	$ 167,252.12
61	$ -	$ -	$ -	$ -	$ -	$ -
62	$ -	$ -	$ -	$ -	$ -	$ -
63	$ -	$ -	$ -	$ -	$ -	$ -
64	$ -	$ -	$ -	$ -	$ -	$ -
65	$ 75,000.00	$ -	$ -	$ -	$ 7,500.00	$ 18,816.45
66	$ -	$ -	$ -	$ -	$ -	$ -
67	$ -	$ -	$ -	$ -	$ -	$ -
68	$ -	$ -	$ -	$ -	$ -	$ -
69	$ -	$ -	$ -	$ -	$ -	$ -
70	$ 75,000.00	$ 500,000.00	$ -	$ -	$ 57,500.00	$ 128,755.61
71	$ -	$ -	$ -	$ -	$ -	$ -
72	$ -	$ -	$ -	$ 120,000.00	$ 12,000.00	$ 25,676.06
73	$ -	$ -	$ -	$ -	$ -	$ -
74	$ -	$ -	$ -	$ -	$ -	$ -
75	$ 75,000.00	$ -	$ -	$ -	$ 7,500.00	$ 14,989.30
Total	**$ 1,125,000.00**	**$ 6,536,918.36**	**$ -**	**$ 720,000.00**	**$ 838,191.84**	**$ 6,002,581.05**

real discounted rate	**2.3%**
n	**75**

Alternative 2 -Bridge Replacement

Current year	Routine Maintainence	Rehabilitation	Capital Painting	Paving	REI/CSS	Sum for the year (no adjustments)	Net Present Value
0	$ -	$ 4,083,582.22	$ -	$ -	$ 408,358.22	$ 4,491,940.44	$ 4,491,940.44
1	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2	$ -	$ -	$ -	$ -	$ -	$ -	$ -
3	$ -	$ -	$ -	$ -	$ -	$ -	$ -
4	$ -	$ -	$ -	$ -	$ -	$ -	$ -
5	$ 50,000.00	$ -	$ -	$ -	$ 5,000.00	$ 55,000.00	$ 49,089.04
6	$ -	$ -	$ -	$ -	$ -	$ -	$ -
7	$ -	$ -	$ -	$ -	$ -	$ -	$ -
8	$ -	$ -	$ -	$ -	$ -	$ -	$ -
9	$ -	$ -	$ -	$ -	$ -	$ -	$ -
10	$ 50,000.00	$ -	$ -	$ -	$ 5,000.00	$ 55,000.00	$ 43,813.34
11	$ -	$ -	$ -	$ -	$ -	$ -	$ -
12	$ -	$ -	$ -	$ 120,000.00	$ 12,000.00	$ 132,000.00	$ 100,476.92
13	$ -	$ -	$ -	$ -	$ -	$ -	$ -
14	$ -	$ -	$ -	$ -	$ -	$ -	$ -
15	$ 50,000.00	$ -	$ -	$ -	$ 5,000.00	$ 55,000.00	$ 39,104.63
16	$ -	$ -	$ -	$ -	$ -	$ -	$ -
17	$ -	$ -	$ -	$ -	$ -	$ -	$ -
18	$ -	$ -	$ -	$ -	$ -	$ -	$ -
19	$ -	$ -	$ -	$ -	$ -	$ -	$ -
20	$ 50,000.00	$ 75,000.00	$ -	$ -	$ 12,500.00	$ 137,500.00	$ 87,254.94
21	$ -	$ -	$ -	$ -	$ -	$ -	$ -
22	$ -	$ -	$ -	$ -	$ -	$ -	$ -
23	$ -	$ -	$ -	$ -	$ -	$ -	$ -
24	$ -	$ -	$ -	$ 120,000.00	$ 12,000.00	$ 132,000.00	$ 76,481.91
25	$ 50,000.00	$ -	$ -	$ -	$ 5,000.00	$ 55,000.00	$ 31,150.99
26	$ -	$ -	$ -	$ -	$ -	$ -	$ -
27	$ -	$ -	$ -	$ -	$ -	$ -	$ -
28	$ -	$ -	$ -	$ -	$ -	$ -	$ -
29	$ -	$ -	$ -	$ -	$ -	$ -	$ -
30	$ 50,000.00	$ -	$ -	$ -	$ 5,000.00	$ 55,000.00	$ 27,803.13
31	$ -	$ -	$ -	$ -	$ -	$ -	$ -
32	$ -	$ -	$ -	$ -	$ -	$ -	$ -
33	$ -	$ -	$ -	$ -	$ -	$ -	$ -
34	$ -	$ -	$ -	$ -	$ -	$ -	$ -
35	$ 50,000.00	$ -	$ -	$ -	$ 5,000.00	$ 55,000.00	$ 24,815.07
36	$ -	$ -	$ -	$ 120,000.00	$ 12,000.00	$ 132,000.00	$ 58,217.17
37	$ -	$ -	$ -	$ -	$ -	$ -	$ -
38	$ -	$ -	$ -	$ -	$ -	$ -	$ -
39	$ -	$ -	$ -	$ -	$ -	$ -	$ -
40	$ 50,000.00	$ 1,045,000.00	$ -	$ -	$ 109,500.00	$ 1,204,500.00	$ 485,044.36
41	$ -	$ -	$ -	$ -	$ -	$ -	$ -
42	$ -	$ -	$ -	$ -	$ -	$ -	$ -
43	$ -	$ -	$ -	$ -	$ -	$ -	$ -
44	$ -	$ -	$ -	$ -	$ -	$ -	$ -
45	$ 50,000.00	$ -	$ -	$ -	$ 5,000.00	$ 55,000.00	$ 19,767.84
46	$ -	$ -	$ -	$ -	$ -	$ -	$ -
47	$ -	$ -	$ -	$ -	$ -	$ -	$ -
48	$ -	$ -	$ -	$ 120,000.00	$ 12,000.00	$ 132,000.00	$ 44,314.26
49	$ -	$ -	$ -	$ -	$ -	$ -	$ -
50	$ 50,000.00	$ -	$ -	$ -	$ 5,000.00	$ 55,000.00	$ 17,643.35
51	$ -	$ -	$ -	$ -	$ -	$ -	$ -
52	$ -	$ -	$ -	$ -	$ -	$ -	$ -
53	$ -	$ -	$ -	$ -	$ -	$ -	$ -
54	$ -	$ -	$ -	$ -	$ -	$ -	$ -
55	$ 50,000.00	$ -	$ -	$ -	$ 5,000.00	$ 55,000.00	$ 15,747.18
56	$ -	$ -	$ -	$ -	$ -	$ -	$ -
57	$ -	$ -	$ -	$ -	$ -	$ -	$ -
58	$ -	$ -	$ -	$ -	$ -	$ -	$ -
59	$ -	$ -	$ -	$ -	$ -	$ -	$ -
60	$ 50,000.00	$ 90,000.00	$ -	$ 120,000.00	$ 26,000.00	$ 286,000.00	$ 73,084.96
61	$ -	$ -	$ -	$ -	$ -	$ -	$ -
62	$ -	$ -	$ -	$ -	$ -	$ -	$ -
63	$ -	$ -	$ -	$ -	$ -	$ -	$ -
64	$ -	$ -	$ -	$ -	$ -	$ -	$ -
65	$ 50,000.00	$ -	$ -	$ -	$ 5,000.00	$ 55,000.00	$ 12,544.30
66	$ -	$ -	$ -	$ -	$ -	$ -	$ -
67	$ -	$ -	$ -	$ -	$ -	$ -	$ -
68	$ -	$ -	$ -	$ -	$ -	$ -	$ -
69	$ -	$ -	$ -	$ -	$ -	$ -	$ -
70	$ 50,000.00	$ -	$ -	$ -	$ 5,000.00	$ 55,000.00	$ 11,196.14
71	$ -	$ -	$ -	$ -	$ -	$ -	$ -
72	$ -	$ -	$ -	$ 120,000.00	$ 12,000.00	$ 132,000.00	$ 25,676.06
73	$ -	$ -	$ -	$ -	$ -	$ -	$ -
74	$ -	$ -	$ -	$ -	$ -	$ -	$ -
75	$ 50,000.00	$ -	$ -	$ -	$ 5,000.00	$ 55,000.00	$ 9,992.87
Total	**$ 750,000.00**	**$ 5,293,582.22**	**$ -**	**$ 720,000.00**	**$ 676,358.22**	**$ 7,439,940.44**	**$ 5,745,158.89**

real discounted rate	**2.3%**
n	**75**

Alternative 3 - Y0 Superstructure Replacement Y40 Full Replacement

Current year	Routine Maintainence	Rehabilitation	Capital Painting	Paving	REI/CSS	Sum for the year (no adjustments)	Net Present Value
0	$ -	$ 3,306,918.36	$ -	$ -	$ 330,691.84	$ 3,637,610.20	$ 3,637,610.20
1	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2	$ -	$ -	$ -	$ -	$ -	$ -	$ -
3	$ -	$ -	$ -	$ -	$ -	$ -	$ -
4	$ -	$ -	$ -	$ -	$ -	$ -	$ -
5	$ 75,000.00	$ -	$ -	$ -	$ 7,500.00	$ 82,500.00	$ 73,633.56
6	$ -	$ -	$ -	$ -	$ -	$ -	$ -
7	$ -	$ -	$ -	$ -	$ -	$ -	$ -
8	$ -	$ -	$ -	$ -	$ -	$ -	$ -
9	$ -	$ -	$ -	$ -	$ -	$ -	$ -
10	$ 75,000.00	$ 300,000.00	$ -	$ -	$ 37,500.00	$ 412,500.00	$ 328,600.04
11	$ -	$ -	$ -	$ -	$ -	$ -	$ -
12	$ -	$ -	$ -	$ 120,000.00	$ 12,000.00	$ 132,000.00	$ 100,476.92
13	$ -	$ -	$ -	$ -	$ -	$ -	$ -
14	$ -	$ -	$ -	$ -	$ -	$ -	$ -
15	$ 75,000.00	$ -	$ -	$ -	$ 7,500.00	$ 82,500.00	$ 58,656.95
16	$ -	$ -	$ -	$ -	$ -	$ -	$ -
17	$ -	$ -	$ -	$ -	$ -	$ -	$ -
18	$ -	$ -	$ -	$ -	$ -	$ -	$ -
19	$ -	$ -	$ -	$ -	$ -	$ -	$ -
20	$ 75,000.00	$ 300,000.00	$ -	$ -	$ 37,500.00	$ 412,500.00	$ 261,764.82
21	$ -	$ -	$ -	$ -	$ -	$ -	$ -
22	$ -	$ -	$ -	$ -	$ -	$ -	$ -
23	$ -	$ -	$ -	$ -	$ -	$ -	$ -
24	$ -	$ -	$ -	$ 120,000.00	$ 12,000.00	$ 132,000.00	$ 76,481.91
25	$ 75,000.00	$ -	$ -	$ -	$ 7,500.00	$ 82,500.00	$ 46,726.48
26	$ -	$ -	$ -	$ -	$ -	$ -	$ -
27	$ -	$ -	$ -	$ -	$ -	$ -	$ -
28	$ -	$ -	$ -	$ -	$ -	$ -	$ -
29	$ -	$ -	$ -	$ -	$ -	$ -	$ -
30	$ 75,000.00	$ 300,000.00	$ -	$ -	$ 37,500.00	$ 412,500.00	$ 208,523.47
31	$ -	$ -	$ -	$ -	$ -	$ -	$ -
32	$ -	$ -	$ -	$ -	$ -	$ -	$ -
33	$ -	$ -	$ -	$ -	$ -	$ -	$ -
34	$ -	$ -	$ -	$ -	$ -	$ -	$ -
35	$ -	$ -	$ -	$ -	$ -	$ -	$ -
36	$ -	$ -	$ -	$ -	$ -	$ -	$ -
37	$ -	$ -	$ -	$ -	$ -	$ -	$ -
38	$ -	$ -	$ -	$ -	$ -	$ -	$ -
39	$ -	$ -	$ -	$ -	$ -	$ -	$ -
40	$ -	$ 4,083,582.22	$ -	$ -	$ 408,358.22	$ 4,491,940.44	$ 1,808,875.35
41	$ -	$ -	$ -	$ -	$ -	$ -	$ -
42	$ -	$ -	$ -	$ -	$ -	$ -	$ -
43	$ -	$ -	$ -	$ -	$ -	$ -	$ -
44	$ -	$ -	$ -	$ -	$ -	$ -	$ -
45	$ 50,000.00	$ -	$ -	$ -	$ 5,000.00	$ 55,000.00	$ 19,767.84
46	$ -	$ -	$ -	$ -	$ -	$ -	$ -
47	$ -	$ -	$ -	$ -	$ -	$ -	$ -
48	$ -	$ -	$ -	$ -	$ -	$ -	$ -
49	$ -	$ -	$ -	$ -	$ -	$ -	$ -
50	$ 50,000.00	$ -	$ -	$ -	$ 5,000.00	$ 55,000.00	$ 17,643.35
51	$ -	$ -	$ -	$ -	$ -	$ -	$ -
52	$ -	$ -	$ -	$ 120,000.00	$ 12,000.00	$ 132,000.00	$ 40,461.41
53	$ -	$ -	$ -	$ -	$ -	$ -	$ -
54	$ -	$ -	$ -	$ -	$ -	$ -	$ -
55	$ 50,000.00	$ -	$ -	$ -	$ 5,000.00	$ 55,000.00	$ 15,747.18
56	$ -	$ -	$ -	$ -	$ -	$ -	$ -
57	$ -	$ -	$ -	$ -	$ -	$ -	$ -
58	$ -	$ -	$ -	$ -	$ -	$ -	$ -
59	$ -	$ -	$ -	$ -	$ -	$ -	$ -
60	$ 50,000.00	$ 75,000.00	$ -	$ -	$ 12,500.00	$ 137,500.00	$ 35,137.00
61	$ -	$ -	$ -	$ -	$ -	$ -	$ -
62	$ -	$ -	$ -	$ -	$ -	$ -	$ -
63	$ -	$ -	$ -	$ -	$ -	$ -	$ -
64	$ -	$ -	$ -	$ 120,000.00	$ 12,000.00	$ 132,000.00	$ 30,798.77
65	$ 50,000.00	$ -	$ -	$ -	$ 5,000.00	$ 55,000.00	$ 12,544.30
66	$ -	$ -	$ -	$ -	$ -	$ -	$ -
67	$ -	$ -	$ -	$ -	$ -	$ -	$ -
68	$ -	$ -	$ -	$ -	$ -	$ -	$ -
69	$ -	$ -	$ -	$ -	$ -	$ -	$ -
70	$ 50,000.00	$ -	$ -	$ -	$ 5,000.00	$ 55,000.00	$ 11,196.14
71	$ -	$ -	$ -	$ -	$ -	$ -	$ -
72	$ -	$ -	$ -	$ -	$ -	$ -	$ -
73	$ -	$ -	$ -	$ -	$ -	$ -	$ -
74	$ -	$ -	$ -	$ -	$ -	$ -	$ -
75	$ 50,000.00	$ (2,177,910.52)	$ -	$ -	$ 5,000.00	$ (2,122,910.52)	$ (385,708.46)
Total	**$ 800,000.00**	**$ 6,187,590.07**	**$ -**	**$ 480,000.00**	**$ 964,550.06**	**$ 8,432,140.12**	**$ 6,398,937.23**

JM Davidson Engineering, D.P.C.

935 Sheridan Drive, Suite 120
Tonawanda, New York 14150
Phone: 716.453.1646

Memorandum

To:	David Jenkinson, PE, Popli Design Group
From:	Tiphaine Ketch, PE, CFM, JM Davidson Engineering, DPC
Date:	February 2, 2026
Subject:	PIN 5765.33 Versailles Plank Road (BIN 3327390) over Big Sister Creek Bridge Replacement Project No-Rise Hydraulic Analysis Summary

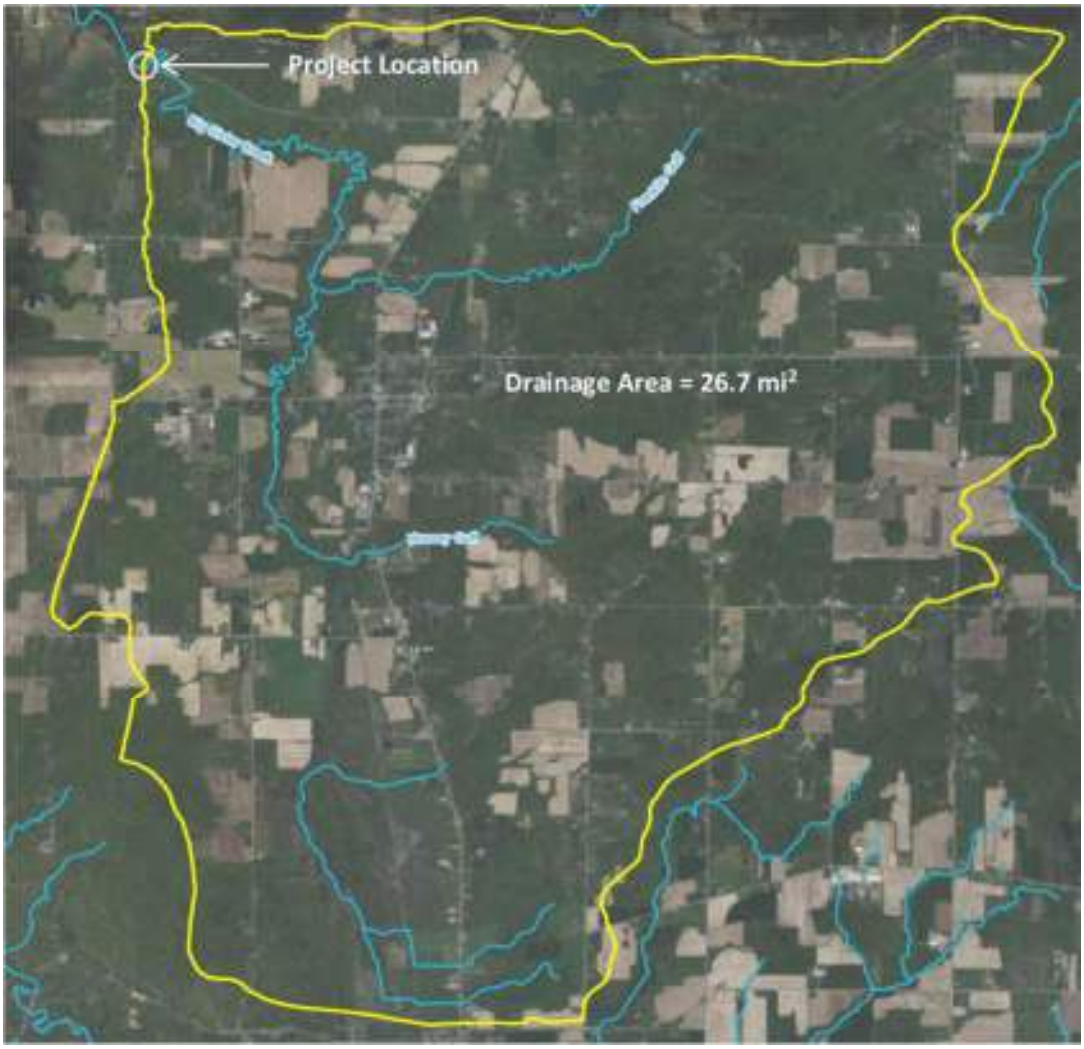
JM Davidson Engineering, D.P.C. (JMD) was subcontracted by Popli Design Group (PDG) to conduct a hydraulic analysis for the replacement of the Versailles Plank Road bridge over Big Sister Creek in the Town of Evans, Erie County. The project involves the rehabilitation of the existing bridge by replacing the two-span, steel girder-floorbeam-stringer superstructure with a single steel multi-girder superstructure. The existing pier will be removed in its entirety and repairs will be made to the existing abutments. The project is located just north of the intersection of Versailles Plank Road and Pontiac Road as shown in Figure 1. Photos of the area are provided in **Attachment A**.

Figure 1 - Project Location

Hydrology

Big Sister Creek is a perennial stream. The drainage area at Versailles Plank Road is 26.7 mi^2 as delineated by *USGS StreamStats*. The drainage area is roughly 37% forested with the remainder being rural residential and agricultural. The drainage area is shown in Figure 2.

Figure 2 – Big Sister Creek Drainage Area at Versailles Plank Road (delineated by *USGS StreamStats*)



In accordance with New York State Department of Transportation (NYSDOT) guidance, the *USGS StreamStats* application was utilized to approximate peak discharges at the project location. *StreamStats* calculates anticipated peak discharges based on regional regression equations utilizing basin characteristics. The resulting discharges are shown in Table 1. The *StreamStats* output is included in **Attachment B**.

The FEMA Flood Insurance Rate Map (Panels 36029C0626H, 36029C0627H, and 36029C0464H) for Erie County, New York shows the project area within a detailed (Zone AE) study area with a delineated floodway; therefore, FEMA will not allow any increase (0.00 ft) to the 100-yr water surface elevation (based on FEMA's published 100-yr flow) from existing to proposed conditions. The published flows in the Flood Insurance Study (FIS) for Big Sister Creek were "determined utilizing USGS Water-Supply Paper 1677 (USGS 1965), which uses the following equation to correlate discharges at the mouth of the stream to discharge at selected locations upstream:

$$\left(\frac{Q_{site}}{Q_{mouth}}\right) = \left(\frac{D_{site}}{D_{mouth}}\right)^a$$

where 'a' is an exponent defined by USGS." The published flows nearest the project site in the FIS for Big Sister Creek, reported "Upstream of confluence with Unnamed Tributary" with a drainage area of 45.8 mi^2, are shown in Table 1. FEMA documentation is included in **Attachment B**.

The FEMA discharges are significantly larger than the flows determined by *StreamStats*. This discrepancy can largely be attributed to the difference in drainage area between the *USGS StreamStats* (26.7 mi^2) and the FEMA flows (45.8 mi^2). The FIS does not provide flows for Big Sister Creek anywhere closer to the project location. Therefore, the *USGS StreamStats* flows, increased by 10% to account for future development and climate change in accordance with NYSDOT guidance, were used as the design flows in the hydraulic analysis and to assess the structure against bridge design criteria. The published FEMA 100-yr flow was also included to ensure the project complies with federal requirements. All flow results are shown in Table 1.

Table 1 - Peak Discharges for Big Sister Creek

Return Period (years)	USGS StreamStats (cfs)	FEMA (cfs)	USGS StreamStats +10%* (cfs)
2	1,180	----	**1,298**
5	1,860	----	**2,046**
10	2,370	4,400	**2,607**
50	3,690	6,100	**4,059**
100	4,290	6,800	**4,719**
500	5,840	8,300	**6,424**

*Design flows used in the hydraulic analysis

Geomorphology

Big Sister Creek at the Versailles Plank Road crossing is a large perennial stream confined to a deep, winding gorge. The top of the gorge is approximately 33-ft above the bottom elevation of the channel. The substrate is primarily bedrock. The gorge walls are shale bedrock with many mature and small trees growing off the sides. The bridge is located at a meander where Big Sister Creek flows southwest through the bridge. The gorge then turns northwest just downstream of the bridge. The southern abutment is constructed into the southern valley wall, while the northern abutment is situated on a high floodplain bench at the inside of the meander. The shale has shown some minor signs of degradation at the southern abutment and center pier foundation. The center pier is aligned perpendicular to the roadway and creates a large shadow within the upstream channel. A significant mid-channel bar has formed behind the pier which essentially divides flow during low to moderate storm conditions. The ordinary high-water width, in accordance with the Army Corps of Engineers definition, is approximately 80 ft. The ordinary high-water depth is approximately 2.5 ft.

Hydraulics

A steady state, 1-dimensional hydraulic model was developed for Big Sister Creek within the project area utilizing HEC-RAS Version 6.6. The model was built using project survey data and 2019 1-meter digital elevation models (DEM) obtained from the NYS GIS Clearinghouse.

Existing Conditions

The existing bridge was modeled with a 109 ft clear span and a low chord elevation of 716.94 ft. The existing pier is centered within the overall span. The pier width varies from 8.5 ft at the streambed to 5.1 ft where it meets the superstructure. The bridge has an out-to-out width of 37 ft. The vertical clearance of the hydraulic opening is approximately 26-27 ft. The superstructure is elevated well above the bottom of the gorge.

Manning's 'n' values of 0.03 and 0.05 were used in the channel and overbank areas, respectively. The downstream boundary condition was set to the "Known Water Surface Elevation" of 694.55 ft for the FEMA 100-yr flow, which was taken from the profile for Big Sister Creek included in the FIS. A normal depth boundary condition was used for the other profiles in the hydraulic model. To determine the slope for the normal depth calculation, the boundary condition for the FEMA 100-yr profile was temporarily changed to normal depth and the slope was adjusted until the results closely matched the known water surface elevation in the profile of the FIS. The resulting 0.005 ft/ft slope was then applied to the remaining profiles. There are no ineffective flow areas in the model since flow is confined within the gorge with little access to a floodplain and the bridge abutments are not significant obstructions.

The existing conditions hydraulic model indicates that there is 19.6 ft of freeboard to the low chord for the Design 50-yr event. The Design 100-yr water surface flows through the bridge with 18.9 ft of freeboard to the low chord. The velocities in the channel range from 4 to 10 ft/s. There is 17.2 ft of freeboard to the low chord over the FEMA 100-yr water surface elevation.

Proposed Conditions

The proposed rehabilitation includes the replacement of the two-span superstructure with a single-span superstructure. The existing pier will be removed in its entirety. The existing abutments will be repaired in a way that does not increase their encroachment on the channel. The proposed conditions model was created by duplicating the existing conditions hydraulic model and eliminating the pier. The rest of the proposed model remains the same as existing since the pier is the only element of the bridge that affects flow and its removal is the only hydraulically significant change. As a result of removing the pier, the hydraulic opening will be increased by 6% (from 2,666 ft^2 to 2,823 ft^2). The out-to-out width of the proposed structure will be maintained at 37.0 ft.

The results of the proposed hydraulic analysis show 19.7 ft of freeboard to the low chord at the Design 50-yr event, which exceeds NYSDOT's 2 ft freeboard requirement. The Design 100-yr water surface flows through the bridge with freeboard (19.0 ft), which exceeds NYSDOT's requirement of the Design 100-yr flow passing through the bridge without impacting the superstructure. Water surface elevations for both the Design 50-yr and Design 100-yr events are maintained or slightly lowered throughout the modeled reach of Big Sister Creek as shown in Table 2 and Table 3. Table 4 shows that there is no rise to water surface elevations for the FEMA 100-yr flow, which meets federal requirements. Documentation regarding the hydraulic analysis is included in **Attachment C.**

Table 2 - Comparison of Velocities and Water Surface Elevations for the Design 50-yr Flow

Big Sister Creek at Versailles Plank Road - 50-yr						
HEC-RAS Section	Channel Velocities			Water Surface Elevation		
	Existing (ft/s)	Proposed (ft/s)	Difference (ft/s)	Existing (ft/s)	Proposed (ft/s)	Difference (ft/s)
2978	7.58	7.64	0.06	698.20	698.16	-0.04
2781	8.69	8.84	0.15	697.28	697.19	-0.09
2717	8.73	8.96	0.23	697.02	696.89	-0.13
2694	7.04	7.18	0.14	697.25	697.14	-0.11
2679	7.31	7.46	0.15	697.15	697.03	-0.12
2658	5.55	5.65	0.10	697.36	697.26	-0.10
2622	**Versailles Plank Road Bridge**					
2584	6.87	6.87	0.00	696.87	696.87	0.00
2566	8.87	8.87	0.00	696.29	696.29	0.00
2549	8.80	8.80	0.00	696.25	696.25	0.00
2505	10.56	10.56	0.00	695.49	695.49	0.00
2406	7.09	7.09	0.00	695.86	695.86	0.00
2303	12.48	12.48	0.00	693.74	693.74	0.00
2000	10.03	10.03	0.00	692.51	692.51	0.00

Table 3 - Comparison of Velocities and Water Surface Elevations for the Design 100-yr Flow

Big Sister Creek at Versailles Plank Road - 100-yr						
HEC-RAS Section	Channel Velocities			Water Surface Elevation		
	Existing (ft/s)	Proposed (ft/s)	Difference (ft/s)	Existing (ft/s)	Proposed (ft/s)	Difference (ft/s)
2978	7.74	7.82	0.08	698.87	698.82	-0.05
2781	9.04	9.21	0.17	697.89	697.79	-0.10
2717	8.99	9.22	0.23	697.67	697.53	-0.14
2694	7.38	7.51	0.13	697.90	697.78	-0.12
2679	7.66	7.81	0.15	697.79	697.67	-0.12
2658	5.87	5.97	0.10	698.03	697.91	-0.12
2622	**Versailles Plank Road Bridge**					
2584	7.21	7.21	0.00	697.51	697.51	0.00
2566	9.37	9.37	0.00	696.86	696.86	0.00
2549	9.25	9.25	0.00	696.84	696.84	0.00
2505	10.61	10.61	0.00	696.23	696.23	0.00
2406	7.37	7.37	0.00	696.58	696.58	0.00
2303	13.29	13.29	0.00	694.20	694.20	0.00
2000	10.65	10.65	0.00	692.97	692.97	0.00

Table 4 - Comparison of Velocities and Water Surface Elevations for the Published FEMA 100-yr Flow

Big Sister Creek at Versailles Plank Road - FEMA 100-yr							
HEC-RAS Section	Channel Velocities			Water Surface Elevation			
	Existing (ft/s)	Proposed (ft/s)	Difference (ft/s)	Existing (ft/s)	Proposed (ft/s)	Difference (ft/s)	Rise? (Yes/No)
2978	8.30	8.40	0.10	700.72	700.64	-0.08	**No**
2781	10.07	10.28	0.21	699.57	699.42	-0.15	**No**
2717	9.96	10.21	0.25	699.36	699.19	-0.17	**No**
2694	8.41	8.58	0.17	699.62	699.46	-0.16	**No**
2679	8.73	8.92	0.19	699.49	699.33	-0.16	**No**
2658	6.79	6.91	0.12	699.79	699.64	-0.15	**No**
2622	**Versailles Plank Road Bridge**						
2584	8.29	8.29	0.00	699.15	699.15	0.00	**No**
2566	10.90	10.90	0.00	698.30	698.30	0.00	**No**
2549	10.69	10.69	0.00	698.29	698.29	0.00	**No**
2505	11.68	11.68	0.00	697.81	697.81	0.00	**No**
2406	8.55	8.55	0.00	698.19	698.19	0.00	**No**
2303	13.88	13.88	0.00	696.01	696.01	0.00	**No**
2000	11.79	11.79	0.00	694.55	694.55	0.00	**No**

Scour

The entire channel width is bedrock. Scour is dependent on the competency of the rock determined by the geotechnical analysis. Typical scour computations are not appropriate.

Based on the velocities, medium stone is recommended for protection along the abutments where designated in the plans. Given the bedrock nature of the stream, anchoring the stone into the bedrock or some other measure should be considered to help keep the stone in place.

The hydraulic analysis shows that the overall velocities through the bridge have slightly decreased due to the proposed removal of the existing pier. Therefore, there is no increased risk of scour through the rehabilitated structure.

Summary

The results of the hydraulic modeling show that the proposed bridge will not increase Design 50-yr and Design 100-yr water surface elevations within the project reach. The proposed bridge will not increase FEMA 100-yr water surface elevations, which meets federal requirements for projects located within Detailed (Zone AE) study areas with a delineated floodway. The proposed bridge exceeds NYSDOT bridge design criteria with regard to freeboard for the Design 50-yr event and the Design 100-yr event does not impact the superstructure. Table 5 provides the necessary comparison information for the NYSDOT Hydraulic Design Table.

The proposed low chord elevation matches existing in this analysis. Since the freeboard over all modeled events, including the FEMA 100-yr is greater than 17 ft, the elevation of the proposed low chord may be adjusted as needed to accommodate the depth of a single span superstructure without affecting water surface elevations and design criteria.

Ordinary Water Levels

For the purpose of permitting and bridge construction, the following elevations shall be used to estimate ordinary water surface elevations:

- Ordinary High Water (OHW NYSDOT) – 693.8 ft
  - NYSDOT defines OHW as calculated using the 2.33-yr return interval
- Ordinary Water (OW) / USACE OHW – 691.5 ft
  - This is a visual observation based on physical indicators in the field of typical flood elevations associated with a bankfull event. This should be used for OHW by USACE for Nationwide Permitting.
- Low Water (LW) – 690 ft
  - This is a visual observation of typical low water values seen in the field under normal flow conditions.

Table 5 - NYSDOT Hydraulic Data Table – Versailles Plank Road over Big Sister Creek

HYDRAULIC DATA – VERSAILLES PLANK ROAD BRIDGE			
Drainage Area	26.7 (sq. mi.)	Basic Flood	Design Flood
Recurrence Interval	(yrs.)	100	50
Peak Discharge	(cfs)	4,719	4,059
High Water Elevation @ Pt. of Maximum Backwater	Existing	698.03	697.36
	Proposed	697.91	697.26
Avg. Velocity Thru Structure (Proposed)	(fps)	7.13	6.79
Scour Analysis: N/A*			
*Abutments are being rehabilitated, not replaced. The channel is bedrock.			

Attachment A

Photographs

Photo 1: Looking upstream from Versailles Plank Road bridge.

Photo 2: Upstream elevation of Versailles Plank Road bridge.

Photo 3: Looking downstream from Versailles Plank Road bridge.

Photo 4: Downstream elevation of Versailles Plank Road bridge.

Photo 5: Looking north along Versailles Plank Road.

Photo 6: Looking south along Versailles Plank Road.

Attachment B

Hydrology Documentation

National Flood Hazard Layer FIRMette

FEMA

78°58'27"W 42°37'41"N

Feet

0 250 500 1,000 1,500 2,000

1:6,000

78°57'50"W 42°37'14"N

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD

- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS

- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES

- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES

- B 20.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- 8 Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS

- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 1/30/2026 at 2:08 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

FLOOD INSURANCE STUDY

VOLUME 1 OF 7

ERIE COUNTY, NEW YORK
(ALL JURISDICTIONS)

Community Name	Community Number	Community Name	Community Number	Community Name	Community Number
Akron, Village of	361553	Depew, Village of	360236	Marilla, Town of	360250
Alden, Town of	360225	East Aurora, Village of	365335	Newstead, Town of	360251
Alden, Village of	360224	Eden, Town of	360238	North Collins, Town of[1]	360252
Amherst, Town of	360226	Elma, Town of	360239	North Collins, Village of[1]	360789
Angola, Village of	360982	Evans, Town of	360240	Orchard Park, Town of	360255
Aurora, Town of	360227	Farnham, Village of[1]	361588	Orchard Park, Village of	360254
Blasdell, Village of	361489	Gowanda, Village of	360075	Sardinia, Town of	360256
Boston, Town of	360228	Grand Island, Town of	360242	Sloan, Village of[1]	361589
Brant, Town of	360229	Hamburg, Town of	360244	Springville, Village of	360258
Buffalo, City of	360230	Hamburg, Village of	360243	Tonawanda, City of	360259
Cheektowaga, Town of	360231	Holland, Town of	360245	Tonawanda, Town of	360260
Clarence, Town of	360232	Kenmore, Village of[1]	361590	Wales, Town of	360261
Colden, Town of	360233	Lackawanna, City of	360247	West Seneca, Town of	360262
Collins, Town of	360234	Lancaster, Town of	360249	Williamsville, Village of	360263
Concord, Town of	360235	Lancaster, Village of	360248		

[1] No Special Flood Hazard Areas identified

REVISED:
June 16, 2021

Federal Emergency Management Agency

FLOOD INSURANCE STUDY NUMBER
36029CV001C

Buffalo River south of Casimer Street, however, it does not provide protection against the 1-percent-annual-chance flood event. (FEMA, Town of West Seneca, 1992).

In the Village of Williamsville, several improvements since 1929 to the channel have been made, however, no physical work has been done to Ellicott Creek to protect the village from flooding. The 1929 improvements consisted of: a new channel, 1,100 feet long with a bottom width of 70 feet; cleaning, deepening, and widening of the existing channel upstream of the new channel for a distance of 1,400 feet; and the construction of a small gate-controlled dam at the lower end of the new channel. These improvements were made within the village, just upstream of Williamsville (Glen) Falls.

The study area of Erie County is located within the effective range of the Weather Surveillance Radar operating continuously at the Environmental Science Services Administration Weather Bureau Station at the Buffalo Airport. This equipment provides for early detection and plotting of heavy precipitation and makes possible immediate radio and television broadcasts of information concerning the predicted path and amount of rainfall from a given storm.

3.0 ENGINEERING METHODS

For the flooding sources studied in detail in the county, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this FIS. Flood events of a magnitude which are expected to be equaled or exceeded once on the average during any 10-, 50-, 100-, or 500-year period (recurrence interval) have been selected as having special significance for floodplain management and for flood insurance rates. These events, commonly termed the 10-, 50-, 100-, and 500-year floods, have a 10-, 2-, 1-, and 0.2-percent chance, respectively, of being equaled or exceeded during any year. Although the recurrence interval represents the long term average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than 1 year are considered. For example, the risk of having a flood which equals or exceeds the 100-year flood (1-percent chance of annual exceedance) in any 50-year period is approximately 40 percent (4 in 10), and, for any 90-year period, the risk increases to approximately 60 percent (6 in 10). The analyses reported herein reflect flooding potentials based on conditions existing in the county at the time of completion of this FIS. Maps and flood elevations will be amended periodically to reflect future changes.

Note: Within the Villages of Depew and Lancaster, and the Towns of Amherst and Cheektowaga, there are one or more levees that have not been demonstrated by the community or levee owner(s) to meet the requirements of 44 CFR Part 65.10 of the NFIP regulations as it relates to the levees' capacity to provide 1-percent annual-chance flood protection. Please refer to the Notice to Flood Insurance Study Users page at the front of this FIS report for more information.

3.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish the peak discharge-frequency relationships for the flooding sources studied in detail affecting the county.

Pre-countywide Analyses

For each selected community within Erie County that has a previously printed FIS report, the hydrologic analyses described in those reports have been compiled and are summarized below.

For streams studied by detailed methods in Erie County, several different methodologies were used for hydrologic analyses.

For Berricks Creek in the Town of Hamburg and Village of Hamburg, discharges for the reach downstream of the New York State Thruway were determined using the method presented in the New York State (NYS) Water Resources Commission Study (Erie and Niagara Counties Regional Planning Board, 1968) establishes regional curves developed from stream gage data and correlate drainage area to stream flow.

For Berricks Creek upstream of the New York State Thruway, peak discharges were determined using the Rational Method, where Q (flow) = C (Land use variable) * I (precipitation intensity) * A (drainage area) (American Society of Civil Engineers, 1889).

For Big Sister Creek in the Town of Evans and Village of Angola, peak discharges were determined utilizing USGS Water-Supply Paper 1677 (USGS, 1965), which uses the following equation to correlate discharges at the mouth of a stream to discharges at selected locations upstream:

$$(Q_{site} / Q_{mouth}) = (D_{site} / D_{mouth})^{a},$$

where a is an exponent defined by USGS. A total drainage area computed at the mouth of Big Sister Creek was 49.2 square miles. Discharges were also calculated in this way at a point just upstream on an unnamed tributary in the Town of Evans.

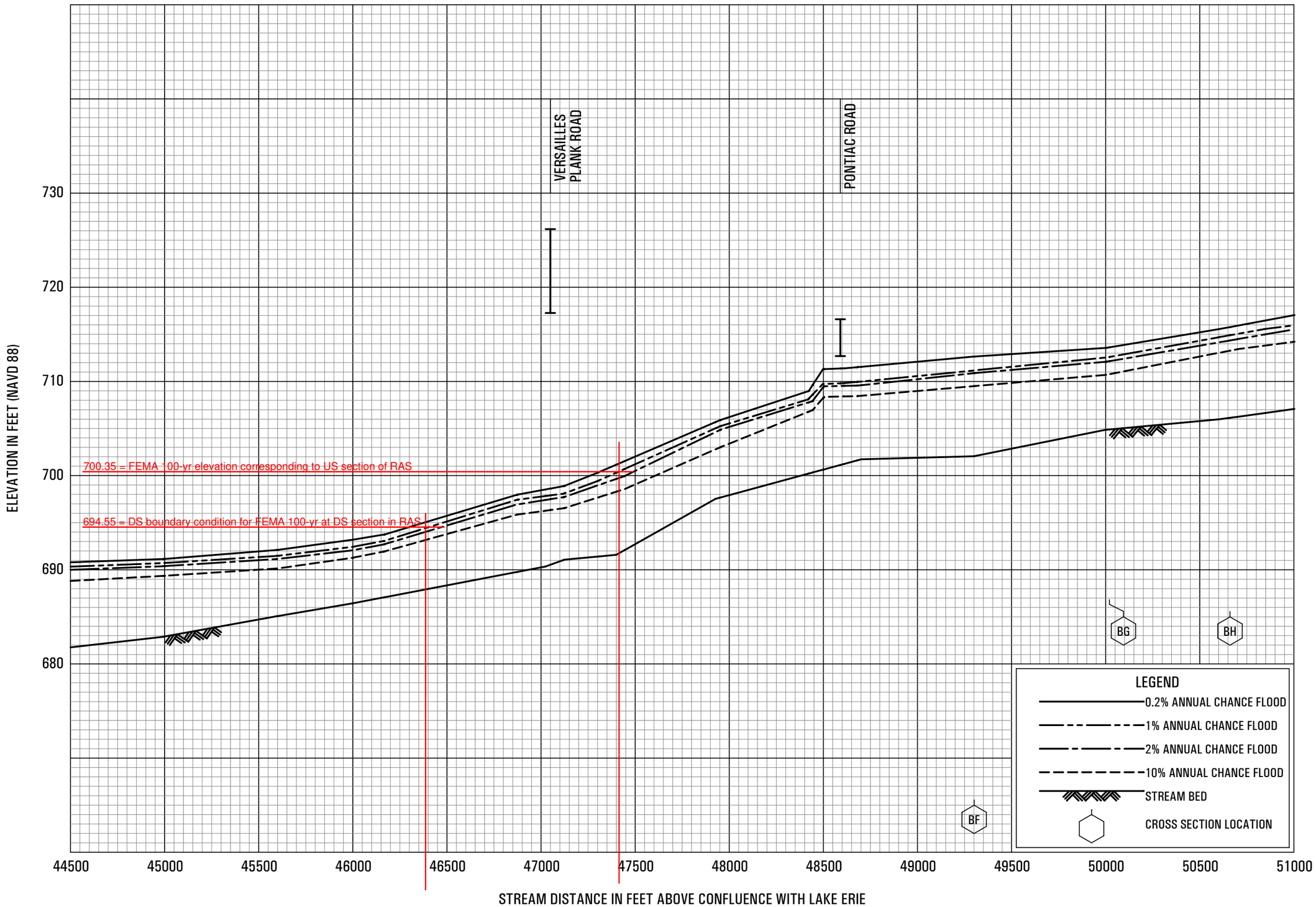
For Black Creek in the towns of Amherst and Clarence, a basin study for the Black Creek / Ransom Creek watershed showed that areas adjacent to Black Creek can experience flooding from its own runoff and overflow from Tonawanda Creek. Peak discharges were calculated for both scenarios; Black Creek was studied independently using a regional frequency analysis developed by the USACE (USACE, January 1990), and the Tonawanda Creek overflow was determined using a HEC-1 balanced hydrograph (USACE, December 1988).

For Buffalo Creek in the Town of Marilla, a regional drainage area / mean annual discharge curve was established utilizing the Water Resources Council (WRC) Bulletin 17 (WRC, 1976), by using gage data from a gage located on Buffalo Creek at Gardenville, New York, with a drainage area of 145 square miles and records dating to 1939. Additionally, information taken from a gage located at Wales Hollow, New York along Buffalo Creek was weighted against the original curve to develop an analysis more representative of the drainage area in question. For Buffalo Creek in the towns of Wales and West Seneca, peak discharges were determined in accordance with Water Resources Investigations (WRI) 79-83 (USGS, 1979), for ungaged sites on gaged streams, on the Buffalo River. For the western region of New York, the following equation is used:

TABLE 7 - SUMMARY OF DISCHARGES

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. miles)	PEAK DISCHARGES (cfs) 10-PERCENT	2-PERCENT	1-PERCENT	0.2-PERCENT
Berricks Creek					
At confluence with Lake Erie	3.6	770	1,060	1,170	1,460
Approximately 400 ft upstream of Sunset Drive	1.0	290	510	570	830
At Sunset Drive	0.3	170	210	245	340
Big Sister Creek					
At confluence with Lake Erie	49.2	5,500	7,500	8,400	10,400
Upstream of confluence with Unnamed Tributary	45.8	4,400	6,100	6,800	8,300
Black Creek					
At confluence of Ransom Creek	13.6	2,660	4,660	5,140	6,800
At Town of Amherst / Town of Clarence corporate limits	12.9	*	*	5,120	*
Buffalo Creek					
Upstream of confluence of Cayuga Creek	146.0	*	*	16,000	*
Approximately 100 ft downstream of towns of Elma, Marilla corporate limit	106.0	9,200	12,000	13,100	15,800
Approximately 1,300 ft upstream of towns of Elma, Marilla corporate limit	104.0	9,000	11,700	12,800	15,400
Approximately 5,050 ft upstream of towns of Elma, Marilla corporate limit	102.0	8,900	11,500	12,600	15,200
Approximately 400 ft upstream of towns of Marilla, Wales corporate limit	100.0	8,700	11,400	12,400	14,900
At Strykersville Road	81.0	7,300	9,600	10,500	12,700
Approximately 300 ft upstream of confluence with Stony Bottom Creek	74.0	6,800	8,900	9,800	11,800
Upstream limit of study	57.0	5,500	7,200	8,000	9,700
Buffalo River					
At mouth	431.5	*	*	37,290	*

*Data not available



FLOOD PROFILES

BIG SISTER CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

ERIE COUNTY, NY

(ALL JURISDICTIONS)

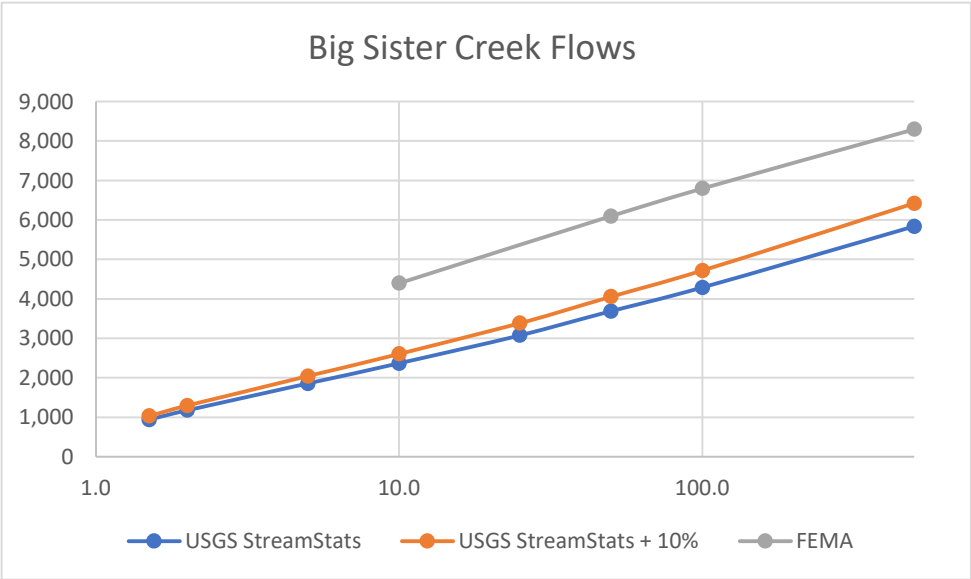
JMDavidson Engineering, D.P.C.

By: TAK Date: 12/15/2025

Versailles Plank Road over Big Sister Creek

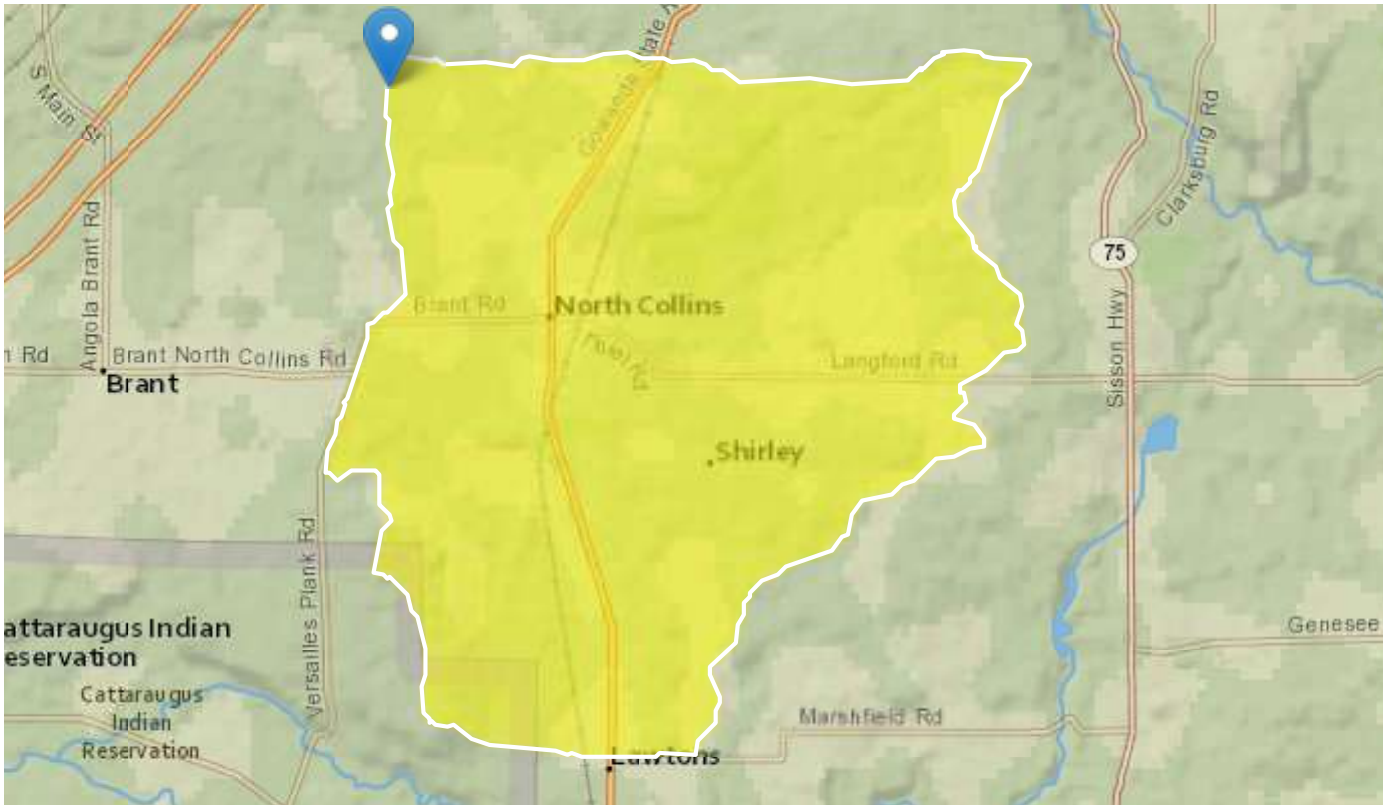
26.7 sq mi

Return Period (years)	StreamStats (cfs)	FEMA (cfs)	StreamStats + 10% (cfs)
1.5	943	----	1,037
2	1,180	----	1,298
5	1,860	----	2,046
10	2,370	4,400	2,607
25	3,080	----	3,388
50	3,690	6,100	4,059
100	4,290	6,800	4,719
500	5,840	8,300	6,424



Versailles Plank Road over Big Sister Creek

Region ID: NY
Workspace ID: NY20241116011915715000
Clicked Point (Latitude, Longitude): 42.62412, -78.96902
Time: 2024-11-15 20:19:38 -0500



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLOPCM	Mean basin slope determined by summing lengths of all contours in basin mulitplying by contour interval and dividing product by drainage area	237	feet per mi
CENTROIDX	Basin centroid horizontal (x) location in state plane coordinates	178088.5	meters
CENTROIDY	Basin centroid vertical (y) location in state plane units	4722665.2	meters

Parameter Code	Parameter Description	Value	Unit
CONTOUR	Total length of all elevation contours in drainage area in miles	63.37	miles
CSL1085LO	10-85 slope of lower half of main channel in feet per mile.	8.27	feet per mi
CSL1085UP	10-85 slope of upper half of main channel in feet per mile.	80.1	feet per mi
CSL10_85	Change in elevation divided by length between points 10 and 85 percent of distance along main channel to basin divide - main channel method not known	38.3	feet per mi
DRNAREA	Area that drains to a point on a stream	26.7	square miles
EL1200	Percentage of basin at or above 1200 ft elevation	14	percent
FOREST	Percentage of area covered by forest	37.3	percent
JULAVPRE	Mean July Precipitation	3.83	inches
JUNAVPRE	Mean June Precipitation	3.96	inches
JUNMAXTMP	Maximum June Temperature, in degrees F	76.5	degrees F
LAGFACTOR	Lag Factor as defined in SIR 2006-5112	0.45	dimensionless
LC11DEV	Percentage of developed (urban) land from NLCD 2011 classes 21-24	6.23	percent
LC11IMP	Average percentage of impervious area determined from NLCD 2011 impervious dataset	0.91	percent
LENGTH	Length along the main channel from the measuring location extended to the basin divide	12.4	miles
MAR	Mean annual runoff for the period of record in inches	21	inches
MAYAVPRE	Mean May Precipitation	3.25	inches
MXSNO	50th percentile of seasonal maximum snow depth from Northeast Regional Climate Center atlas by Cember and Wilks, 1993	20.1	inches
OUTLETX	Basin outlet horizontal (x) location in state plane coordinates	174505	feet
OUTLETY	Basin outlet vertical (y) location in state plane coordinates	4726715	feet

Parameter Code	Parameter Description	Value	Unit
PRECIP	Mean Annual Precipitation	40.2	inches
PRJUNAUG00	Basin average mean precip for June to August from PRISM 1971-2000	11.6	inches
SLOPERATIO	Ratio of main channel slope to basin slope as defined in SIR 2006-5112	0.16	dimensionless
SSURGOA	Percentage of area of Hydrologic Soil Type A from SSURGO	6.45	percent
SSURGOB	Percentage of area of Hydrologic Soil Type B from SSURGO	9.73	percent
STORAGE	Percentage of area of storage (lakes ponds reservoirs wetlands)	0.37	percent

Peak-Flow Statistics

Peak-Flow Statistics Parameters [2006 Full Region 5]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	26.7	square miles	1.7	4773
CSL10_85	Stream Slope 10 and 85 Method	38.3	feet per mi	2.76	222.55
PRECIP	Mean Annual Precipitation	40.2	inches	31.64	49.79

Peak-Flow Statistics Flow Report [2006 Full Region 5]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR^2: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	SE	ASEp	Equiv. Yrs.
80-percent AEP flood	776	ft^3/s	38.5	38.5	2.2
66.7-percent AEP flood	943	ft^3/s	38	38	1.9
50-percent AEP flood	1180	ft^3/s	37.4	37.4	2
20-percent AEP flood	1860	ft^3/s	36.3	36.3	3.4

Statistic	Value	Unit	SE	ASEp	Equiv. Yrs.
10-percent AEP flood	2370	ft^3/s	36.1	36.1	4.9
4-percent AEP flood	3080	ft^3/s	36.7	36.7	7
2-percent AEP flood	3690	ft^3/s	37.5	37.5	8.5
1-percent AEP flood	4290	ft^3/s	38.7	38.7	9.7
0.5-percent AEP flood	4930	ft^3/s	40.2	40.2	10.8
0.2-percent AEP flood	5840	ft^3/s	42.6	42.6	11.8

Peak-Flow Statistics Citations

Lumia, Richard, Freehafer, D.A., and Smith, M.J.,2006, Magnitude and Frequency of Floods in New York: U.S. Geological Survey Scientific Investigations Report 2006–5112, 152 p. (http://pubs.usgs.gov/sir/2006/5112/)

USGS Data Disclaimer: Unless otherwise stated, all data, metadata and related materials are considered to satisfy the quality standards relative to the purpose for which the data were collected. Although these data and associated metadata have been reviewed for accuracy and completeness and approved for release by the U.S. Geological Survey (USGS), no warranty expressed or implied is made regarding the display or utility of the data for other purposes, nor on all computer systems, nor shall the act of distribution constitute any such warranty.

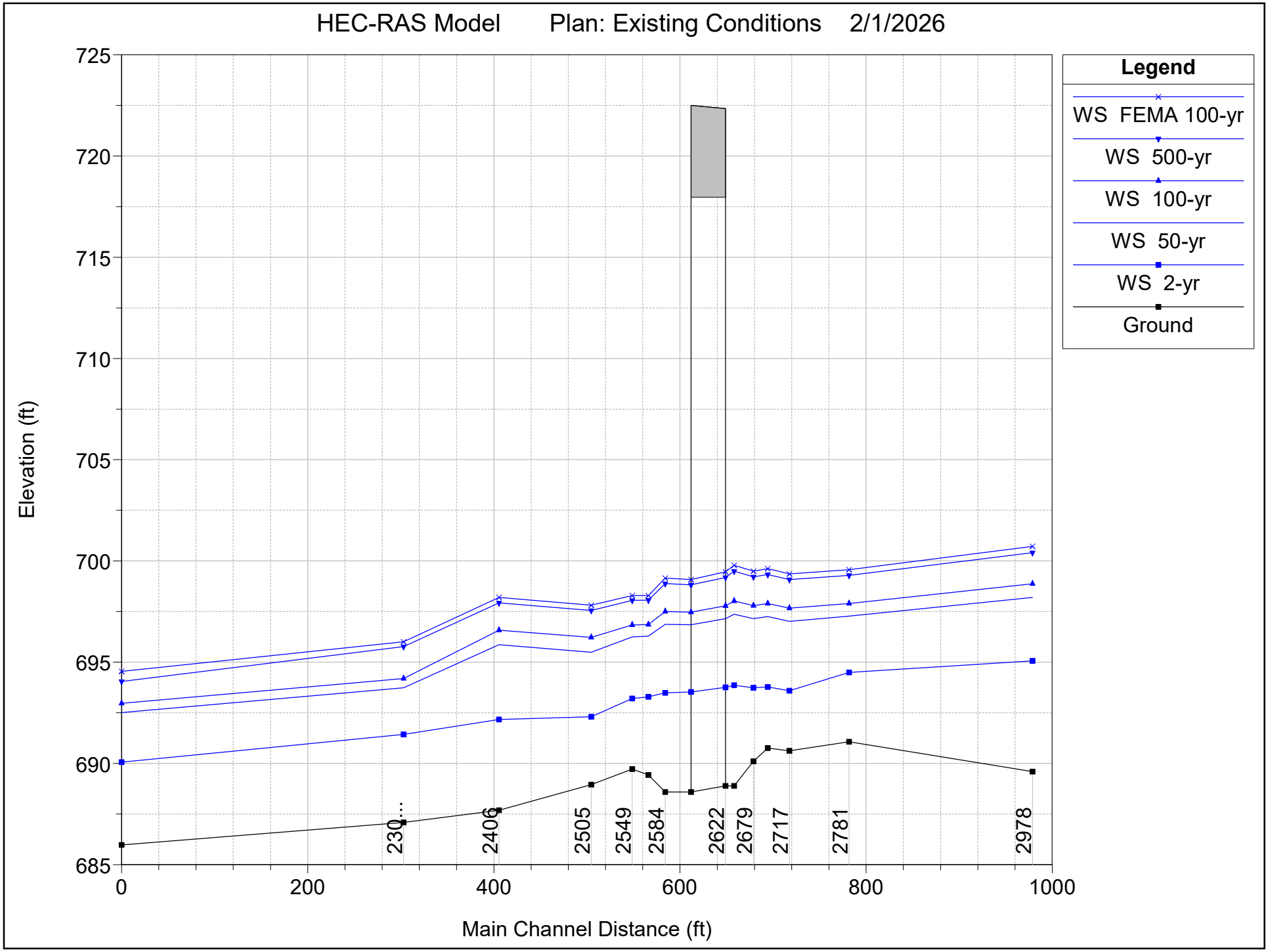
USGS Software Disclaimer: This software has been approved for release by the U.S. Geological Survey (USGS). Although the software has been subjected to rigorous review, the USGS reserves the right to update the software as needed pursuant to further analysis and review. No warranty, expressed or implied, is made by the USGS or the U.S. Government as to the functionality of the software and related material nor shall the fact of release constitute any such warranty. Furthermore, the software is released on condition that neither the USGS nor the U.S. Government shall be held liable for any damages resulting from its authorized or unauthorized use.

USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

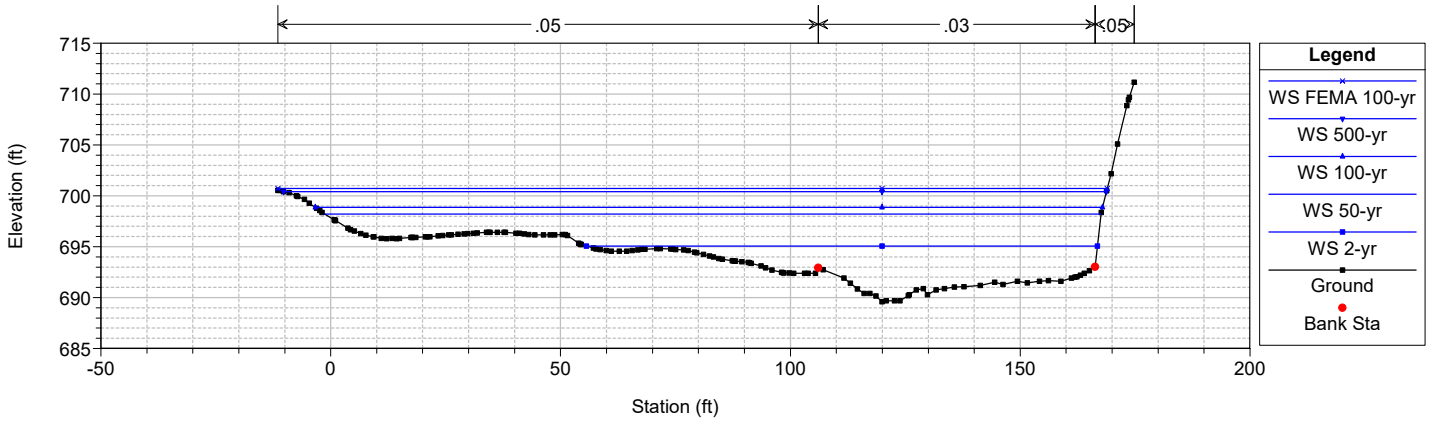
Application Version: 4.24.0
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

Attachment C

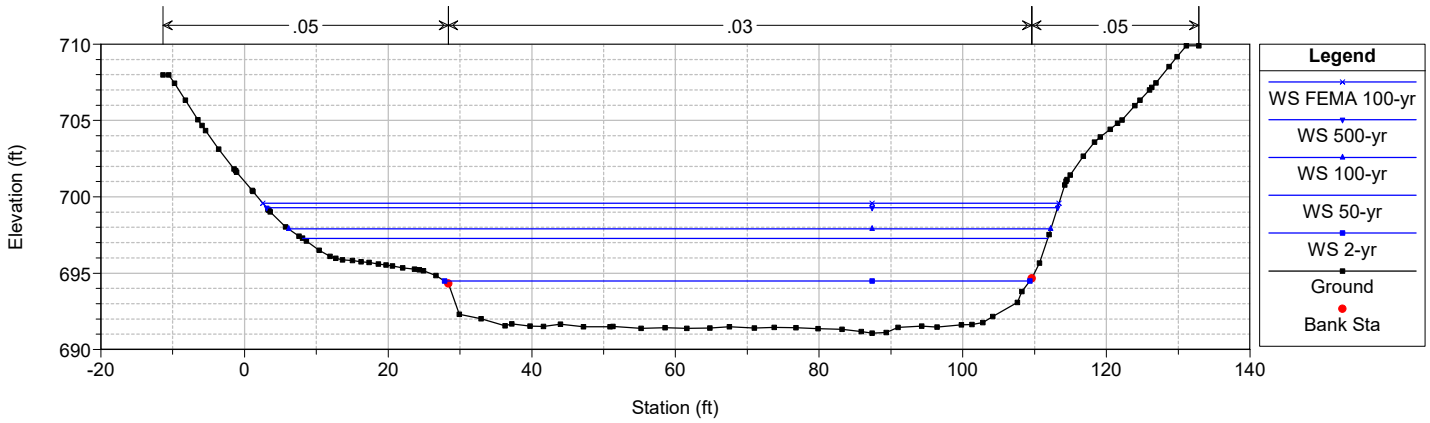
HEC-RAS Analysis Results


HEC-RAS Model Plan: Existing Conditions 2/1/2026
Legend
WS FEMA 100-yr
WS 500-yr
WS 100-yr
WS 50-yr
WS 2-yr
Ground
Elevation (ft)
725
720
715
710
705
700
695
690
685
0
200
400
600
800
1000
Main Channel Distance (ft)
230...
2406
2505
2549
2584
2622
2679
2717
2781
2978

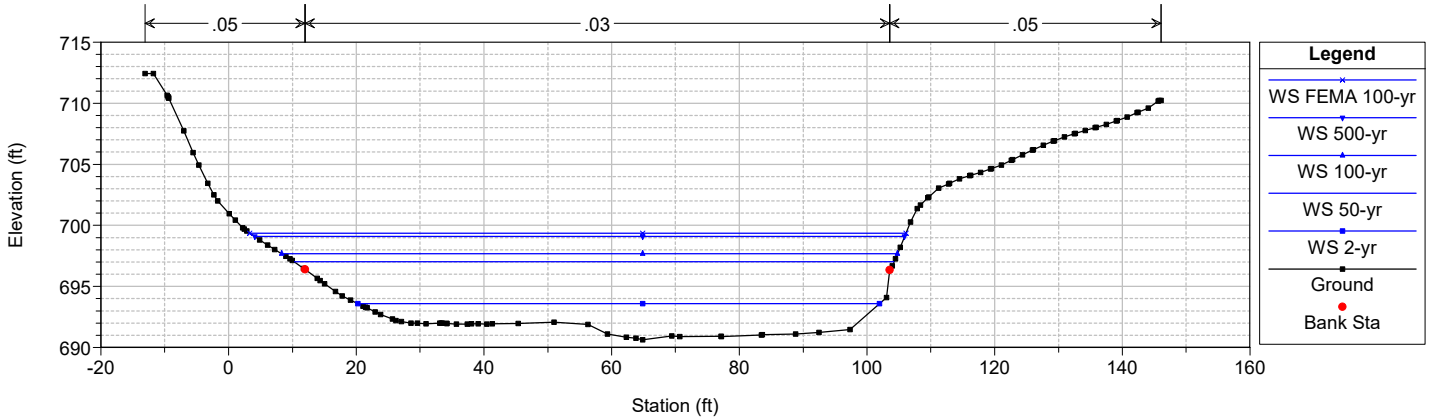
HEC-RAS Model Plan: Existing Conditions 2/1/2026
RS = 2978



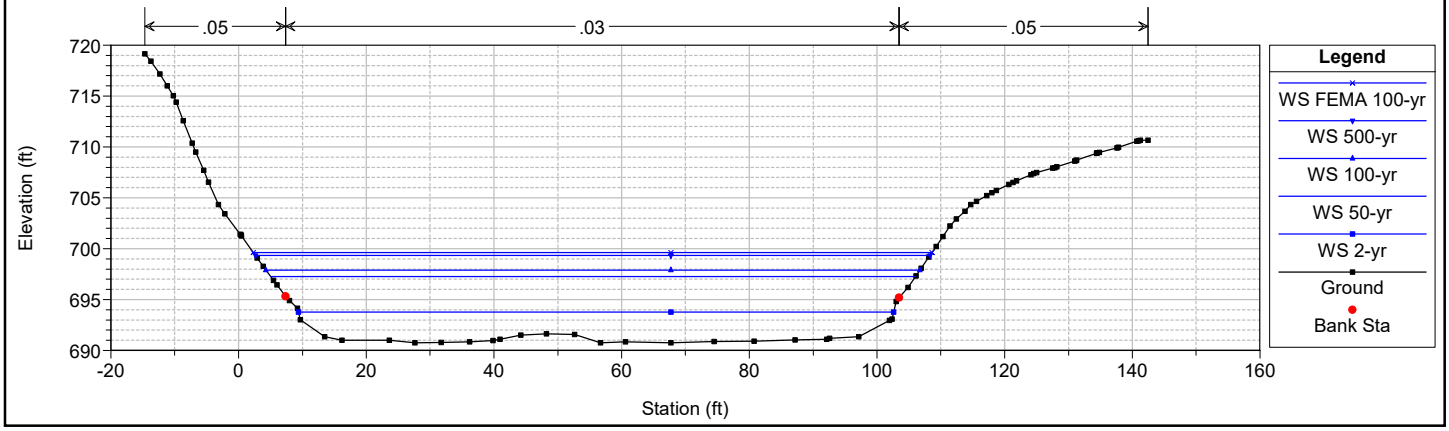
HEC-RAS Model Plan: Existing Conditions 2/1/2026
RS = 2781



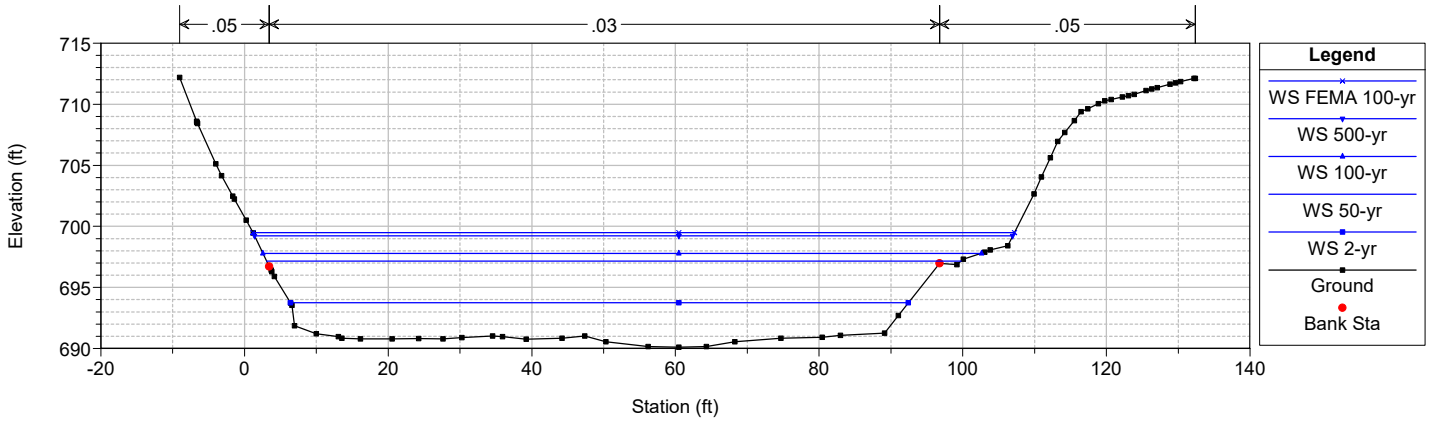
HEC-RAS Model Plan: Existing Conditions 2/1/2026
RS = 2717



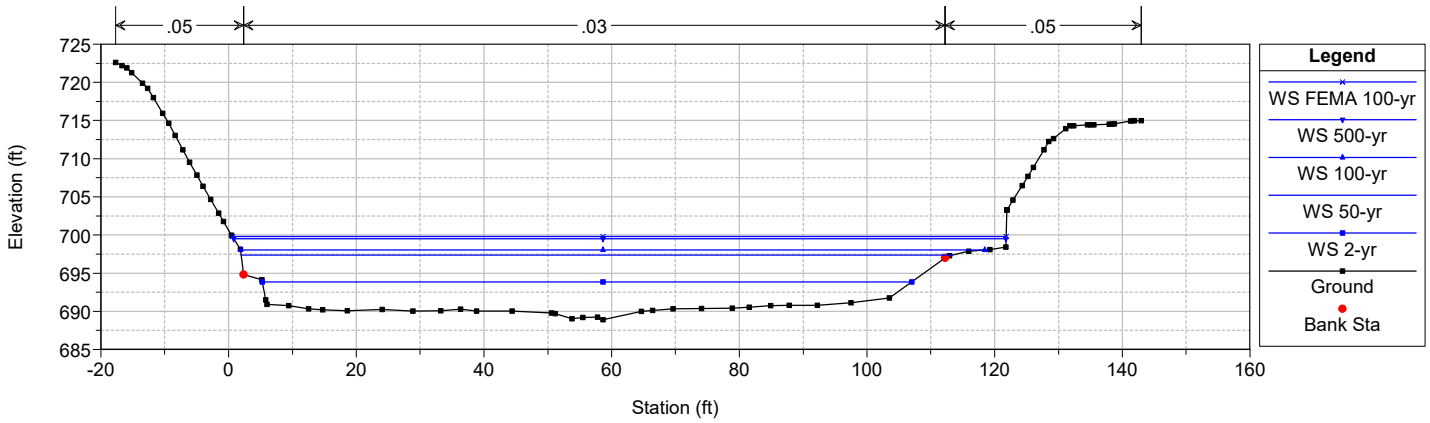
HEC-RAS Model Plan: Existing Conditions 2/1/2026
RS = 2694



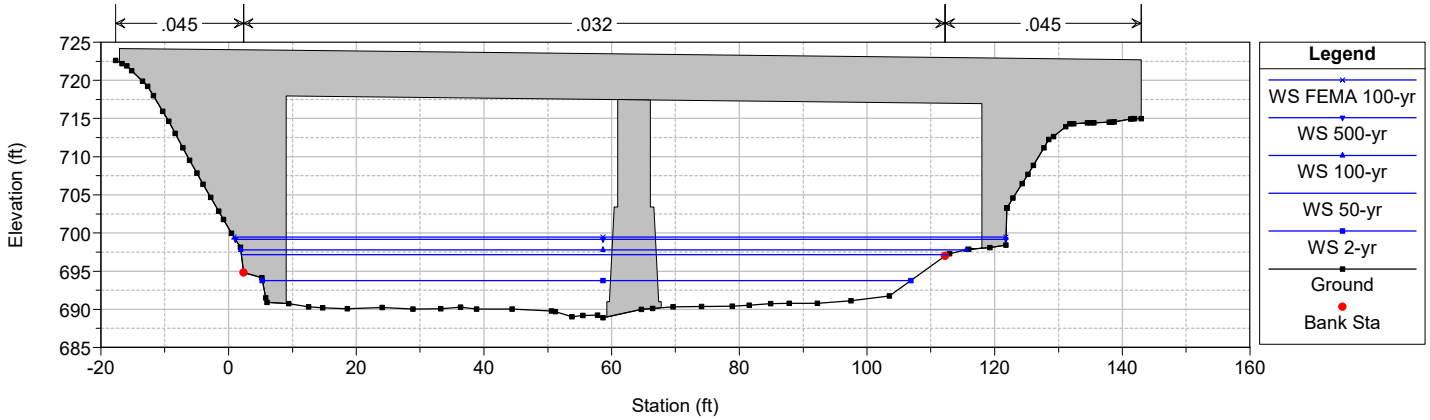
HEC-RAS Model Plan: Existing Conditions 2/1/2026
RS = 2679



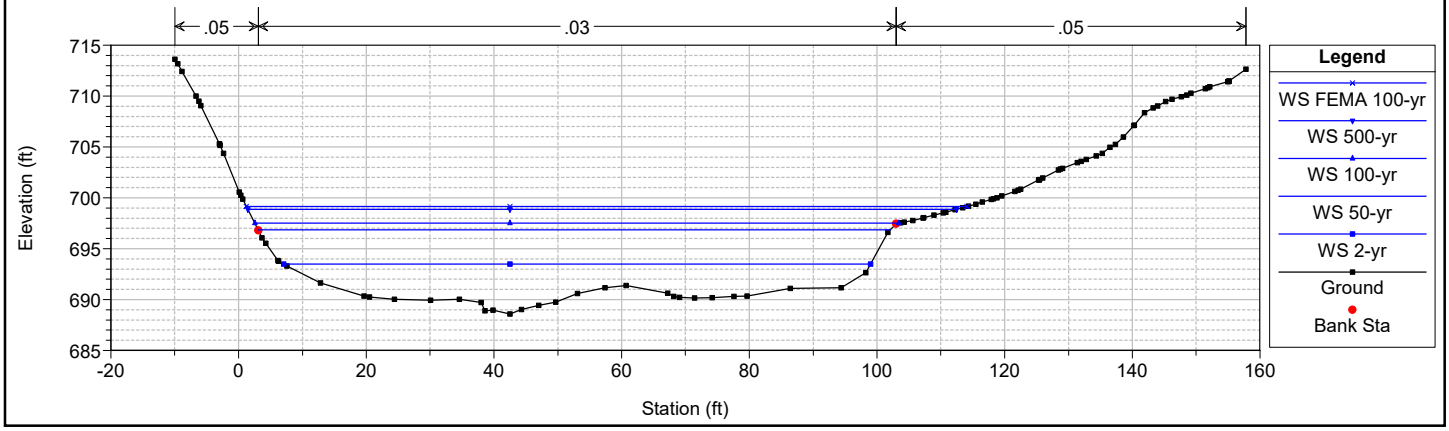
HEC-RAS Model Plan: Existing Conditions 2/1/2026
RS = 2658



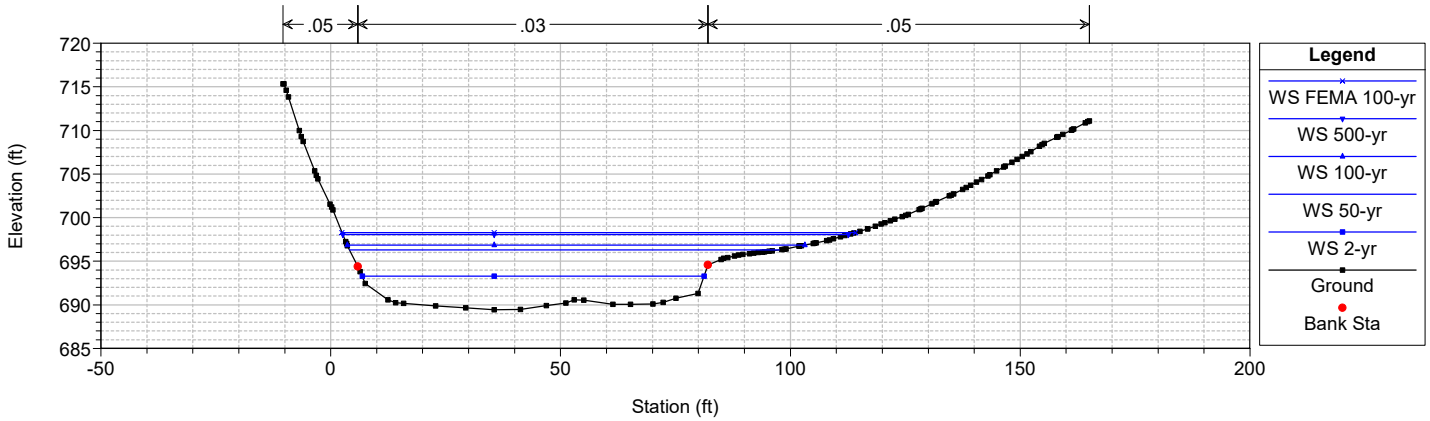
HEC-RAS Model Plan: Existing Conditions 2/1/2026
RS = 2622 BR



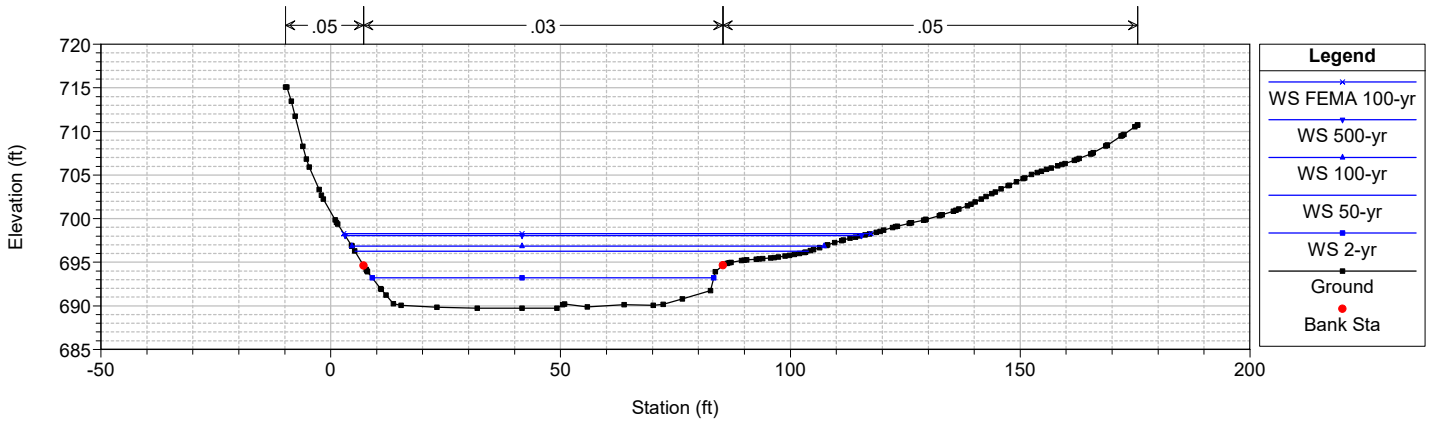
HEC-RAS Model Plan: Existing Conditions 2/1/2026
RS = 2584



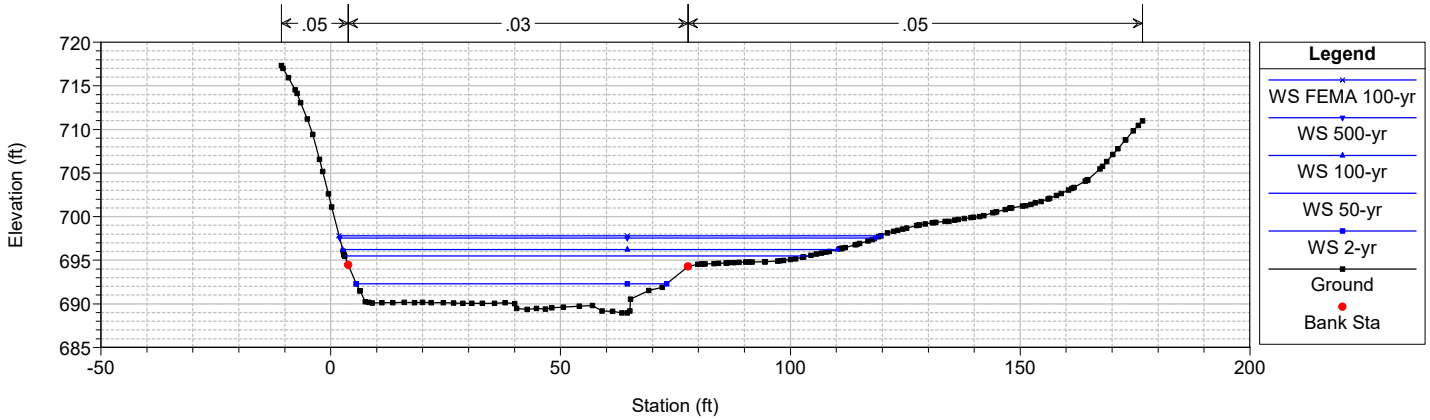
HEC-RAS Model Plan: Existing Conditions 2/1/2026
RS = 2566



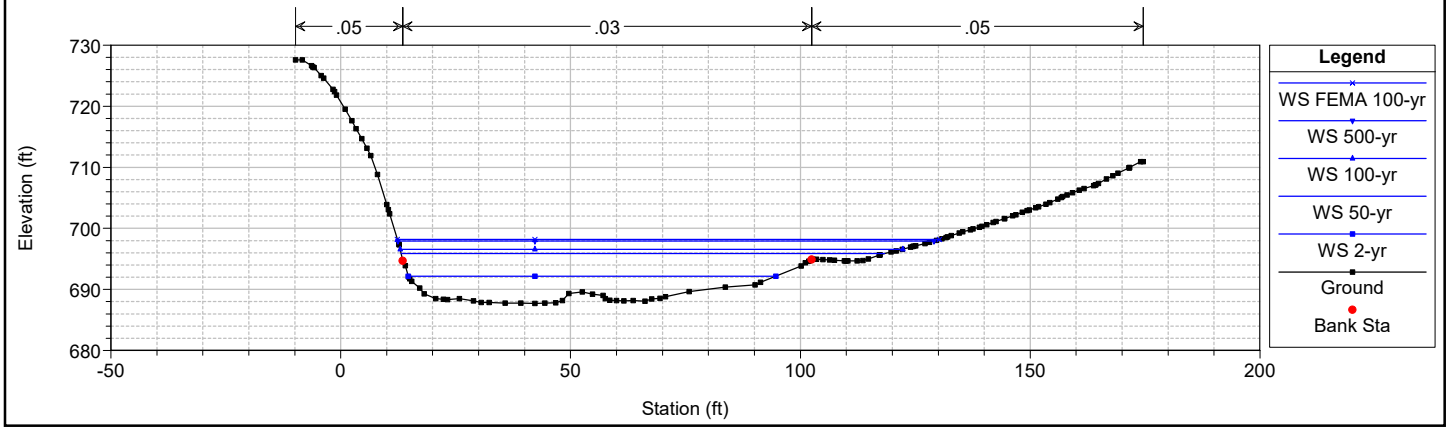
HEC-RAS Model Plan: Existing Conditions 2/1/2026
RS = 2549

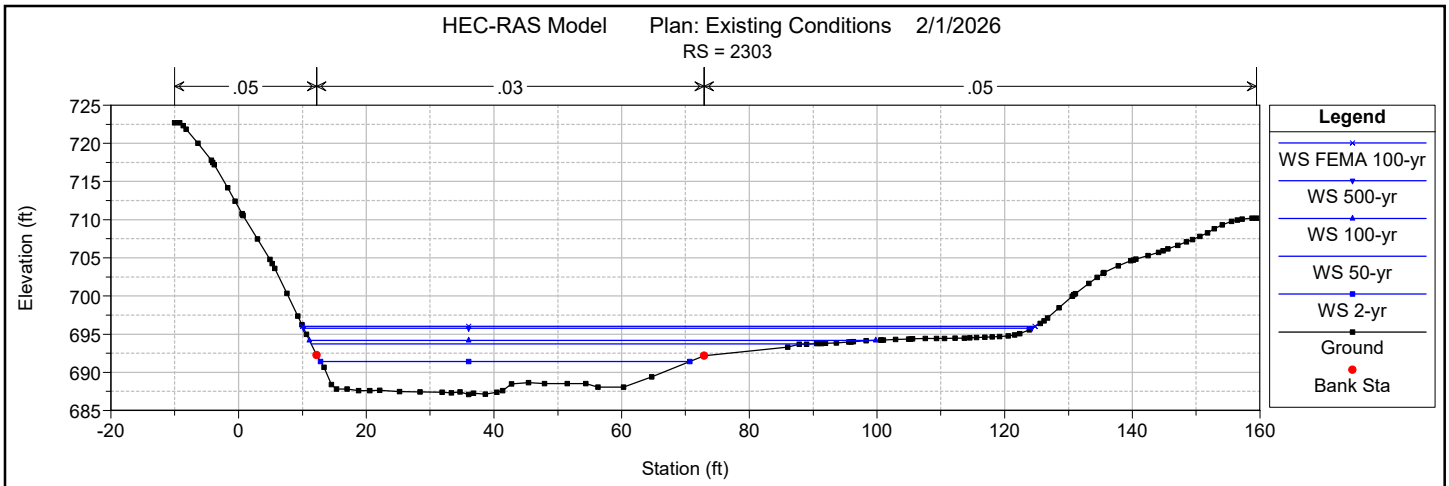


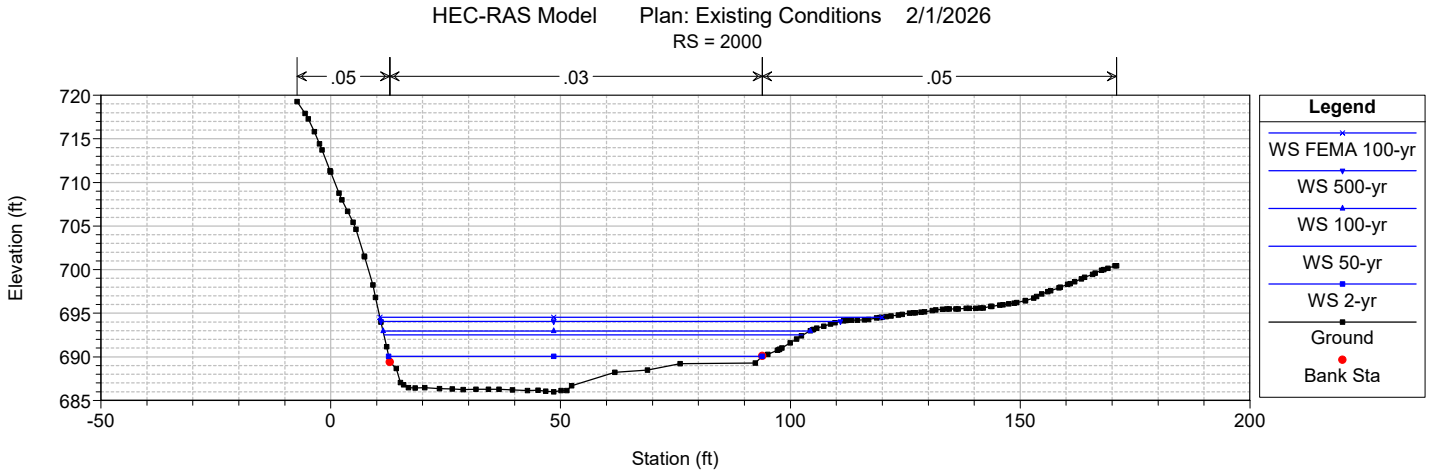
HEC-RAS Model Plan: Existing Conditions 2/1/2026
RS = 2505



HEC-RAS Model Plan: Existing Conditions 2/1/2026
RS = 2406




HEC-RAS Model Plan: Existing Conditions 2/1/2026
RS = 2303
.05
.03
.05
Elevation (ft)
Station (ft)
Legend
WS FEMA 100-yr
WS 500-yr
WS 100-yr
WS 50-yr
WS 2-yr
Ground
Bank Sta


HEC-RAS Model Plan: Existing Conditions 2/1/2026
RS = 2000
.05
.03
.05
Elevation (ft)
Station (ft)
Legend
WS FEMA 100-yr
WS 500-yr
WS 100-yr
WS 50-yr
WS 2-yr
Ground
Bank Sta

HEC-RAS Plan: Existing Conditions River: Big Sister Crk Reach: Evans

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Evans	2978	50-yr	4059.00	689.60	698.20		698.92	0.001800	7.58	752.63	168.80	0.51
Evans	2978	100-yr	4719.00	689.60	698.87		699.60	0.001663	7.74	866.10	171.27	0.49
Evans	2978	500-yr	6424.00	689.60	700.41		701.19	0.001463	8.20	1134.31	179.03	0.48
Evans	2978	FEMA 100-yr	6800.00	689.60	700.72		701.52	0.001430	8.30	1191.03	180.42	0.47
Evans	2978	2-yr	1298.00	689.60	695.07		695.47	0.001911	5.25	290.72	111.20	0.47
Evans	2781	50-yr	4059.00	691.07	697.28		698.43	0.003164	8.69	493.84	103.74	0.65
Evans	2781	100-yr	4719.00	691.07	697.89		699.13	0.002981	9.04	558.57	106.11	0.64
Evans	2781	500-yr	6424.00	691.07	699.29		700.75	0.002727	9.89	709.82	110.14	0.63
Evans	2781	FEMA 100-yr	6800.00	691.07	699.57		701.08	0.002694	10.07	740.73	110.83	0.63
Evans	2781	2-yr	1298.00	691.07	694.49		694.98	0.003253	5.61	231.56	81.52	0.58
Evans	2717	50-yr	4059.00	690.62	697.02		698.20	0.003725	8.73	465.69	93.93	0.68
Evans	2717	100-yr	4719.00	690.62	697.67		698.93	0.003368	8.99	527.42	96.43	0.66
Evans	2717	500-yr	6424.00	690.62	699.08		700.57	0.002973	9.79	667.55	101.79	0.65
Evans	2717	FEMA 100-yr	6800.00	690.62	699.36		700.90	0.002927	9.96	696.07	102.77	0.64
Evans	2717	2-yr	1298.00	690.62	693.59	693.59	694.58	0.010585	8.00	162.25	81.70	1.00
Evans	2694	50-yr	4059.00	690.76	697.25		698.02	0.001941	7.04	580.74	101.02	0.51
Evans	2694	100-yr	4719.00	690.76	697.90		698.74	0.001855	7.38	647.03	102.46	0.50
Evans	2694	500-yr	6424.00	690.76	699.33		700.38	0.001782	8.23	796.19	105.68	0.51
Evans	2694	FEMA 100-yr	6800.00	690.76	699.62		700.71	0.001778	8.41	826.26	106.31	0.51
Evans	2694	2-yr	1298.00	690.76	693.78		694.21	0.003261	5.31	244.43	93.22	0.58
Evans	2679	50-yr	4059.00	690.11	697.15		697.98	0.002159	7.31	556.07	96.67	0.53
Evans	2679	100-yr	4719.00	690.11	697.79		698.71	0.002068	7.66	619.36	100.04	0.53
Evans	2679	500-yr	6424.00	690.11	699.21		700.34	0.001986	8.55	766.36	105.57	0.53
Evans	2679	FEMA 100-yr	6800.00	690.11	699.49		700.67	0.001979	8.73	796.11	106.04	0.53
Evans	2679	2-yr	1298.00	690.11	693.74		694.16	0.002812	5.23	248.41	86.05	0.54
Evans	2658	50-yr	4059.00	688.89	697.36	694.03	697.84	0.001060	5.55	731.45	111.45	0.38
Evans	2658	100-yr	4719.00	688.89	698.03	694.45	698.56	0.001043	5.87	806.66	116.58	0.38
Evans	2658	500-yr	6424.00	688.89	699.50	695.39	700.18	0.001044	6.63	983.11	120.96	0.39
Evans	2658	FEMA 100-yr	6800.00	688.89	699.79	695.58	700.50	0.001047	6.79	1018.49	121.19	0.40
Evans	2658	2-yr	1298.00	688.89	693.86	692.03	694.06	0.001070	3.65	355.39	101.74	0.34
Evans	2622		Bridge									
Evans	2584	50-yr	4059.00	688.59	696.87		697.60	0.001890	6.87	590.85	99.04	0.50
Evans	2584	100-yr	4719.00	688.59	697.51		698.31	0.001843	7.21	654.62	100.85	0.50
Evans	2584	500-yr	6424.00	688.59	698.88		699.90	0.001806	8.10	800.47	111.06	0.51
Evans	2584	FEMA 100-yr	6800.00	688.59	699.15		700.22	0.001806	8.29	830.96	112.89	0.51
Evans	2584	2-yr	1298.00	688.59	693.48		693.85	0.002388	4.86	267.07	91.91	0.50
Evans	2566	50-yr	4059.00	689.43	696.29		697.51	0.003114	8.87	467.48	93.46	0.64
Evans	2566	100-yr	4719.00	689.43	696.86		698.22	0.003078	9.37	522.81	99.58	0.64
Evans	2566	500-yr	6424.00	689.43	698.06		699.79	0.003177	10.64	648.70	109.98	0.67
Evans	2566	FEMA 100-yr	6800.00	689.43	698.30		700.10	0.003202	10.90	674.81	111.75	0.68
Evans	2566	2-yr	1298.00	689.43	693.29		693.79	0.003050	5.68	228.53	74.37	0.57
Evans	2549	50-yr	4059.00	689.72	696.25		697.45	0.003136	8.80	474.83	98.63	0.64
Evans	2549	100-yr	4719.00	689.72	696.84		698.15	0.003051	9.25	533.86	102.74	0.64
Evans	2549	500-yr	6424.00	689.72	698.05		699.71	0.003093	10.44	664.28	112.40	0.66
Evans	2549	FEMA 100-yr	6800.00	689.72	698.29		700.02	0.003111	10.69	691.38	114.68	0.67
Evans	2549	2-yr	1298.00	689.72	693.21		693.73	0.003242	5.79	224.27	74.29	0.59
Evans	2505	50-yr	4059.00	688.95	695.49	694.93	697.21	0.005499	10.56	399.41	100.80	0.82
Evans	2505	100-yr	4719.00	688.95	696.23	695.47	697.95	0.004645	10.61	476.40	107.62	0.77
Evans	2505	500-yr	6424.00	688.95	697.55	696.67	699.52	0.004167	11.50	624.90	116.67	0.75
Evans	2505	FEMA 100-yr	6800.00	688.95	697.81	696.90	699.84	0.004095	11.68	655.93	117.92	0.75
Evans	2505	2-yr	1298.00	688.95	692.30	692.30	693.43	0.010571	8.52	152.30	67.51	1.00
Evans	2406	50-yr	4059.00	687.69	695.86		696.64	0.001837	7.09	585.18	105.24	0.49
Evans	2406	100-yr	4719.00	687.69	696.58		697.42	0.001726	7.37	662.40	109.38	0.49
Evans	2406	500-yr	6424.00	687.69	697.93		698.99	0.001758	8.35	814.62	116.63	0.51
Evans	2406	FEMA 100-yr	6800.00	687.69	698.19		699.31	0.001768	8.55	846.03	117.94	0.51
Evans	2406	2-yr	1298.00	687.69	692.17		692.57	0.002406	5.13	252.99	79.98	0.51
Evans	2303	50-yr	4059.00	687.09	693.74	693.62	696.14	0.007370	12.48	336.96	78.86	0.95
Evans	2303	100-yr	4719.00	687.09	694.20	694.20	696.91	0.007481	13.29	375.66	88.71	0.97
Evans	2303	500-yr	6424.00	687.09	695.77	695.77	698.53	0.005736	13.66	545.11	114.08	0.89
Evans	2303	FEMA 100-yr	6800.00	687.09	696.01	696.01	698.84	0.005666	13.88	573.31	114.73	0.89
Evans	2303	2-yr	1298.00	687.09	691.43		692.20	0.004648	7.06	183.82	57.86	0.70

HEC-RAS Plan: Existing Conditions River: Big Sister Crk Reach: Evans (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Evans	2000	50-yr	4059.00	685.98	692.51	691.84	694.06	0.005001	10.03	415.09	91.17	0.79
Evans	2000	100-yr	4719.00	685.98	692.97	692.28	694.71	0.005008	10.65	457.27	92.96	0.81
Evans	2000	500-yr	6424.00	685.98	694.05	693.36	696.26	0.005005	12.02	560.97	100.01	0.83
Evans	2000	FEMA 100-yr	6800.00	685.98	694.55	693.60	696.67	0.004359	11.79	613.65	109.26	0.79
Evans	2000	2-yr	1298.00	685.98	690.07	689.54	690.70	0.005002	6.38	203.47	81.22	0.71

Plan: Existing Conditions Big Sister Crk Evans RS: 2622 Profile: 50-yr

E.G. US. (ft)	697.84	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	697.36	E.G. Elev (ft)	697.81	697.70
Q Total (cfs)	4059.00	W.S. Elev (ft)	697.15	696.85
Q Bridge (cfs)	4059.00	Crit W.S. (ft)	694.38	694.73
Q Weir (cfs)		Max Chl Dpth (ft)	8.26	8.26
Weir Sta Lft (ft)		Vel Total (ft/s)	6.54	7.43
Weir Sta Rgt (ft)		Flow Area (sq ft)	620.69	546.40
Weir Submerg		Froude # Chl	0.45	0.54
Weir Max Depth (ft)		Specif Force (cu ft)	2919.48	2672.38
Min El Weir Flow (ft)	722.51	Hydr Depth (ft)	6.42	5.94
Min El Prs (ft)	717.96	W.P. Total (ft)	112.84	107.77
Delta EG (ft)	0.24	Conv. Total (cfs)	90041.4	74912.2
Delta WS (ft)	0.50	Top Width (ft)	96.68	91.99
BR Open Area (sq ft)	2665.97	Frctn Loss (ft)	0.09	0.06
BR Open Vel (ft/s)	7.43	C & E Loss (ft)	0.02	0.04
BR Sluice Coef		Shear Total (lb/sq ft)	0.70	0.93
BR Sel Method	Energy only	Power Total (lb/ft s)	4.56	6.90

Plan: Existing Conditions Big Sister Crk Evans RS: 2622 Profile: 100-yr

E.G. US. (ft)	698.56	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	698.03	E.G. Elev (ft)	698.53	698.42
Q Total (cfs)	4719.00	W.S. Elev (ft)	697.79	697.47
Q Bridge (cfs)	4719.00	Crit W.S. (ft)	694.81	695.17
Q Weir (cfs)		Max Chl Dpth (ft)	8.90	8.88
Weir Sta Lft (ft)		Vel Total (ft/s)	6.91	7.81
Weir Sta Rgt (ft)		Flow Area (sq ft)	683.29	604.48
Weir Submerg		Froude # Chl	0.46	0.54
Weir Max Depth (ft)		Specif Force (cu ft)	3525.00	3241.29
Min El Weir Flow (ft)	722.51	Hydr Depth (ft)	6.86	6.49
Min El Prs (ft)	717.96	W.P. Total (ft)	117.07	110.38
Delta EG (ft)	0.25	Conv. Total (cfs)	104622.8	87348.9
Delta WS (ft)	0.52	Top Width (ft)	99.64	93.19
BR Open Area (sq ft)	2665.97	Frctn Loss (ft)	0.09	0.06
BR Open Vel (ft/s)	7.81	C & E Loss (ft)	0.02	0.04
BR Sluice Coef		Shear Total (lb/sq ft)	0.74	1.00
BR Sel Method	Energy only	Power Total (lb/ft s)	5.12	7.79

Plan: Existing Conditions Big Sister Crk Evans RS: 2622 Profile: 500-yr

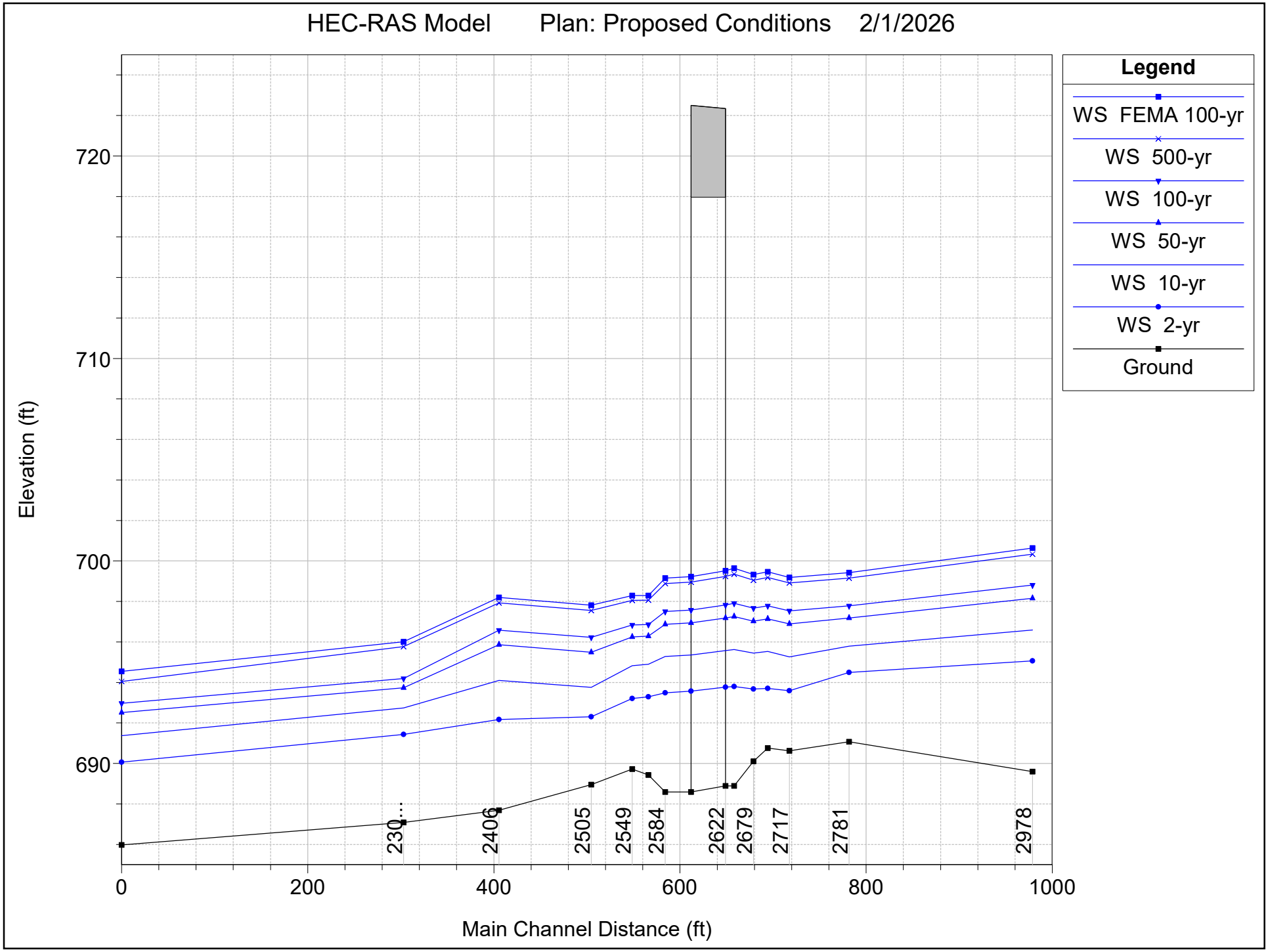
E.G. US. (ft)	700.18	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	699.50	E.G. Elev (ft)	700.14	700.02
Q Total (cfs)	6424.00	W.S. Elev (ft)	699.19	698.82
Q Bridge (cfs)	6424.00	Crit W.S. (ft)	695.83	696.22
Q Weir (cfs)		Max Chl Dpth (ft)	10.30	10.23
Weir Sta Lft (ft)		Vel Total (ft/s)	7.78	8.72
Weir Sta Rgt (ft)		Flow Area (sq ft)	826.03	736.28
Weir Submerg		Froude # Chl	0.43	0.48
Weir Max Depth (ft)		Specif Force (cu ft)	5129.40	4749.43
Min El Weir Flow (ft)	722.51	Hydr Depth (ft)	8.08	7.20
Min El Prs (ft)	717.96	W.P. Total (ft)	131.99	123.96
Delta EG (ft)	0.28	Conv. Total (cfs)	133063.1	117772.2
Delta WS (ft)	0.62	Top Width (ft)	102.29	102.25
BR Open Area (sq ft)	2665.97	Frctn Loss (ft)	0.10	0.06
BR Open Vel (ft/s)	8.72	C & E Loss (ft)	0.02	0.05
BR Sluice Coef		Shear Total (lb/sq ft)	0.91	1.10
BR Sel Method	Energy only	Power Total (lb/ft s)	7.08	9.63

Plan: Existing Conditions Big Sister Crk Evans RS: 2622 Profile: FEMA 100-yr

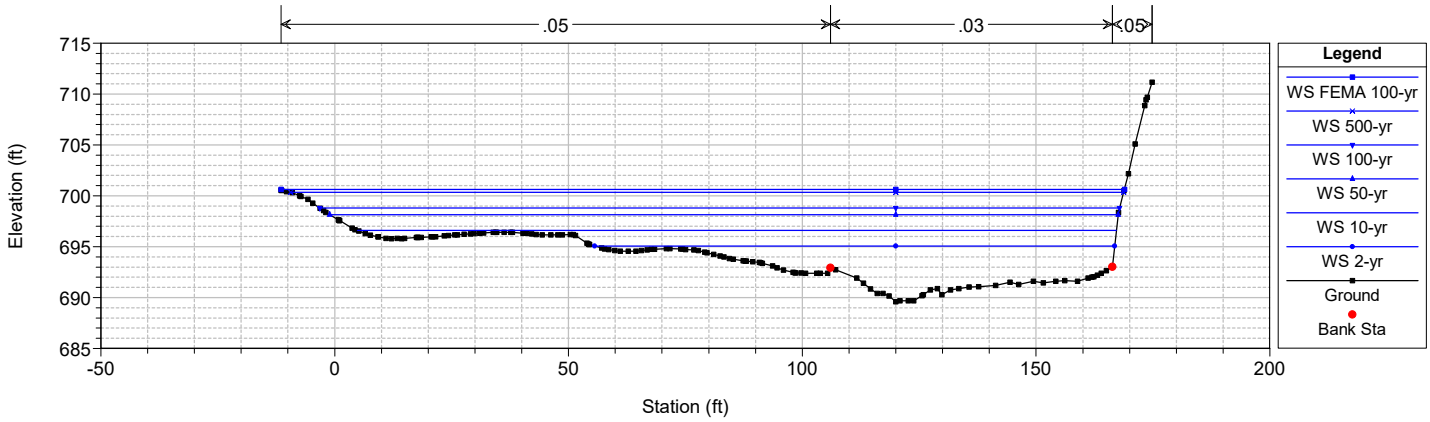
E.G. US. (ft)	700.50	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	699.79	E.G. Elev (ft)	700.46	700.34
Q Total (cfs)	6800.00	W.S. Elev (ft)	699.46	699.08
Q Bridge (cfs)	6800.00	Crit W.S. (ft)	696.03	696.43
Q Weir (cfs)		Max Chl Dpth (ft)	10.57	10.49
Weir Sta Lft (ft)		Vel Total (ft/s)	7.96	8.91
Weir Sta Rgt (ft)		Flow Area (sq ft)	854.28	763.55
Weir Submerg		Froude # Chl	0.43	0.49
Weir Max Depth (ft)		Specif Force (cu ft)	5492.74	5093.24
Min El Weir Flow (ft)	722.51	Hydr Depth (ft)	8.35	7.47
Min El Prs (ft)	717.96	W.P. Total (ft)	133.10	125.03
Delta EG (ft)	0.29	Conv. Total (cfs)	139837.1	124244.5
Delta WS (ft)	0.64	Top Width (ft)	102.32	102.28
BR Open Area (sq ft)	2665.97	Frctn Loss (ft)	0.10	0.06
BR Open Vel (ft/s)	8.91	C & E Loss (ft)	0.03	0.06
BR Sluice Coef		Shear Total (lb/sq ft)	0.95	1.14
BR Sel Method	Energy only	Power Total (lb/ft s)	7.54	10.17

Plan: Existing Conditions Big Sister Crk Evans RS: 2622 Profile: 2-yr

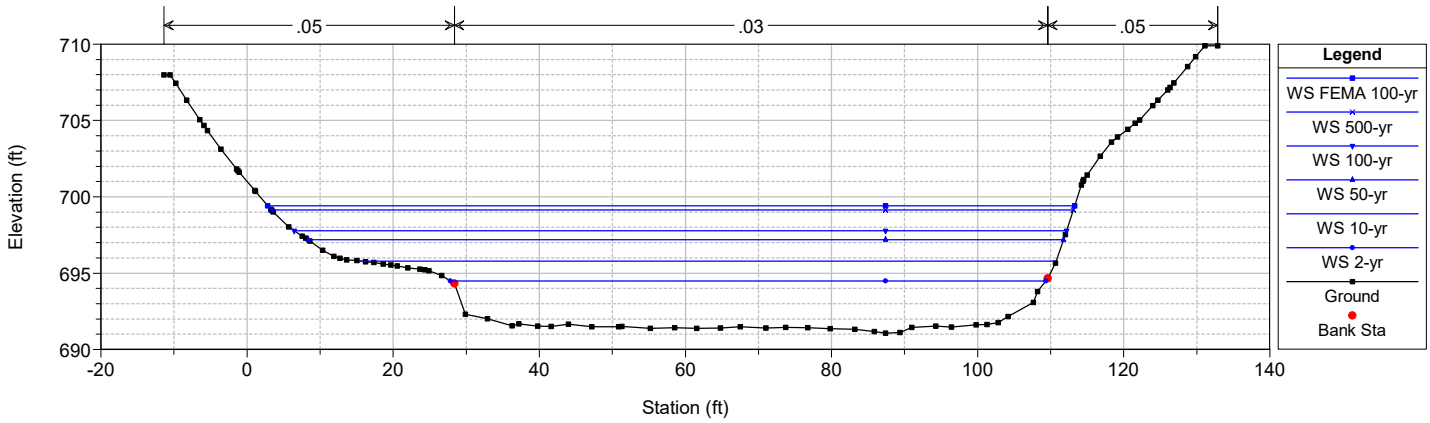
E.G. US. (ft)	694.06	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	693.86	E.G. Elev (ft)	694.04	693.94
Q Total (cfs)	1298.00	W.S. Elev (ft)	693.76	693.53
Q Bridge (cfs)	1298.00	Crit W.S. (ft)	692.20	692.41
Q Weir (cfs)		Max Chl Dpth (ft)	4.87	4.94
Weir Sta Lft (ft)		Vel Total (ft/s)	4.27	5.13
Weir Sta Rgt (ft)		Flow Area (sq ft)	304.04	253.07
Weir Submerg		Froude # Chl	0.41	0.52
Weir Max Depth (ft)		Specif Force (cu ft)	706.83	624.62
Min El Weir Flow (ft)	722.51	Hydr Depth (ft)	3.36	2.99
Min El Prs (ft)	717.96	W.P. Total (ft)	99.34	91.48
Delta EG (ft)	0.21	Conv. Total (cfs)	29760.8	23158.0
Delta WS (ft)	0.37	Top Width (ft)	90.48	84.70
BR Open Area (sq ft)	2665.97	Frctn Loss (ft)	0.09	0.08
BR Open Vel (ft/s)	5.13	C & E Loss (ft)	0.01	0.01
BR Sluice Coef		Shear Total (lb/sq ft)	0.36	0.54
BR Sel Method	Energy only	Power Total (lb/ft s)	1.55	2.78


HEC-RAS Model Plan: Proposed Conditions 2/1/2026
Legend
WS FEMA 100-yr
WS 500-yr
WS 100-yr
WS 50-yr
WS 10-yr
WS 2-yr
Ground
Elevation (ft)
720
710
700
690
0
200
400
600
800
1000
Main Channel Distance (ft)
230...
2406
2505
2549
2584
2622
2679
2717
2781
2978

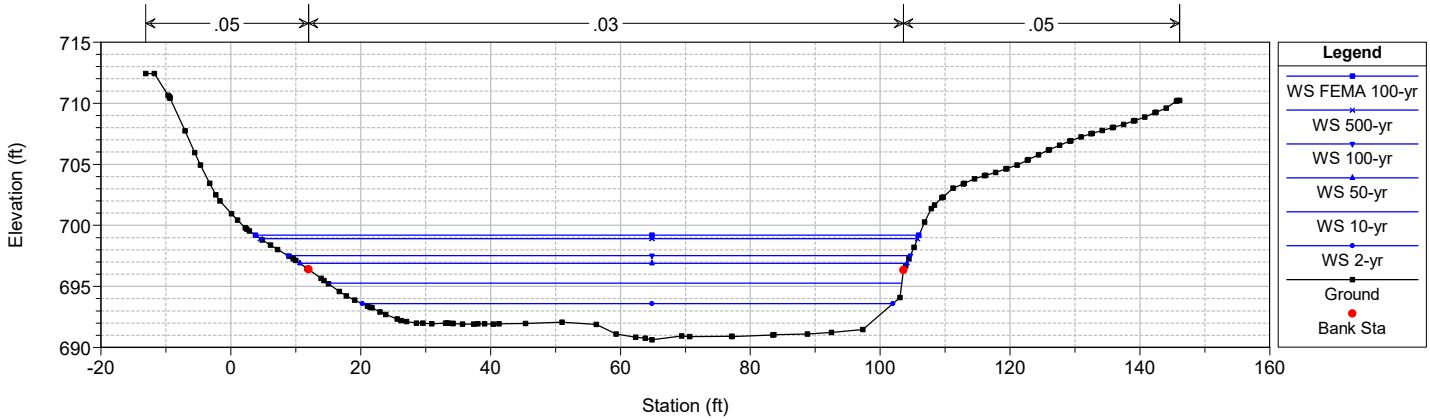
HEC-RAS Model Plan: Proposed Conditions 2/1/2026
RS = 2978



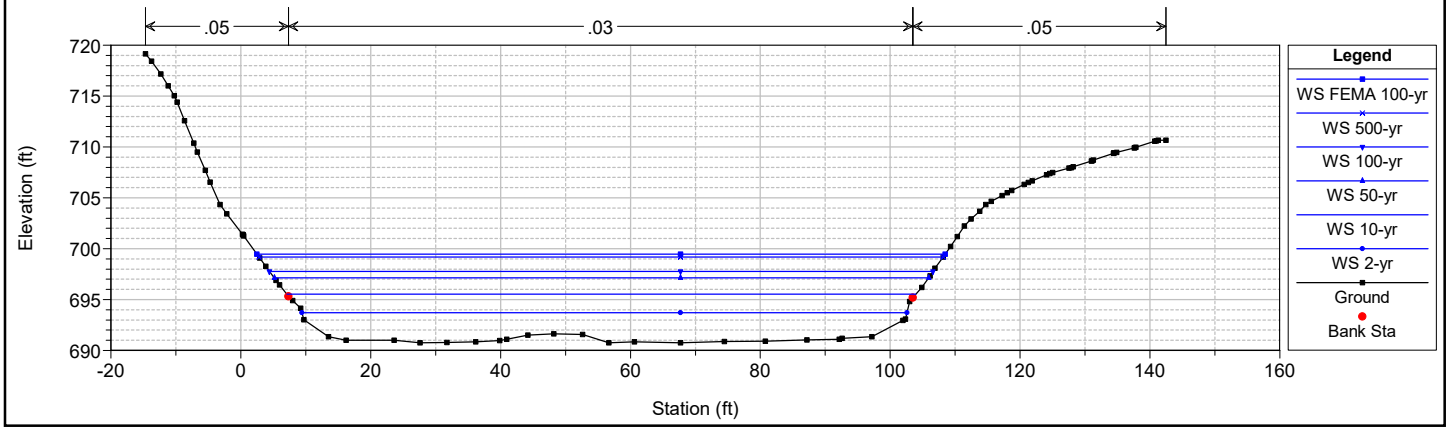
HEC-RAS Model Plan: Proposed Conditions 2/1/2026
RS = 2781



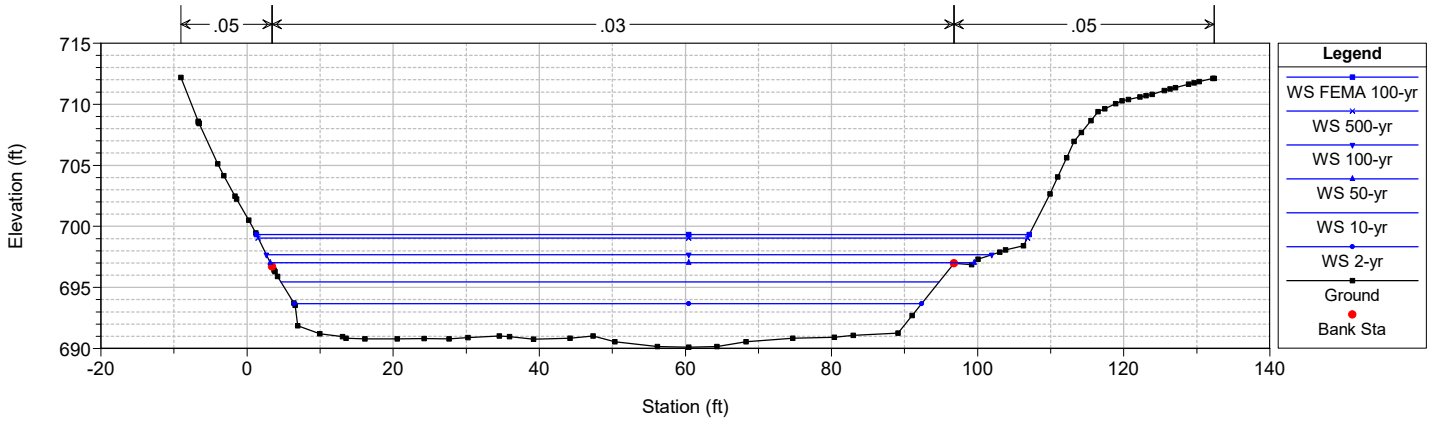
HEC-RAS Model Plan: Proposed Conditions 2/1/2026
RS = 2717



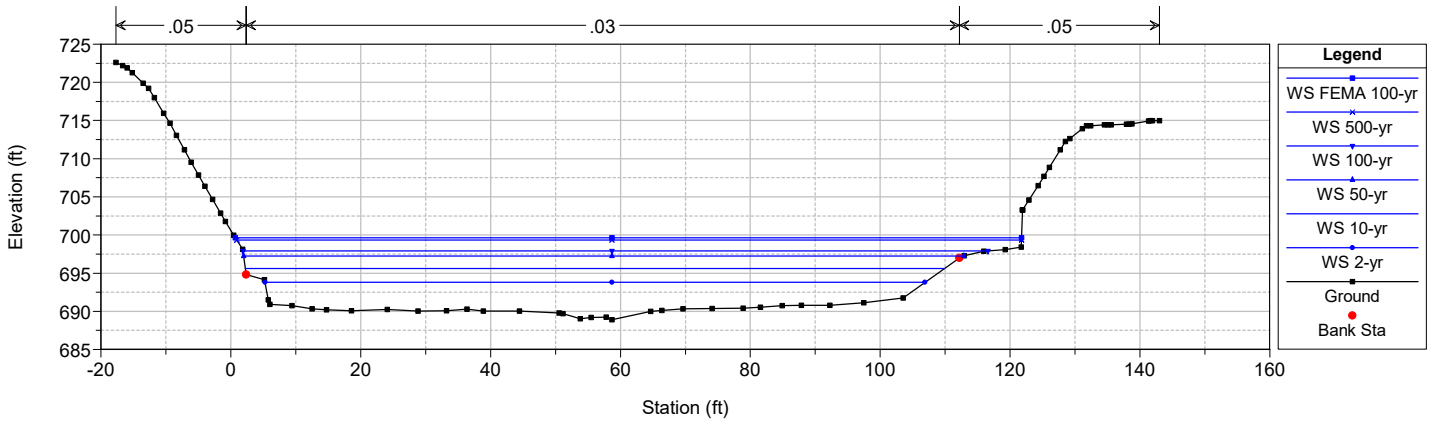
HEC-RAS Model Plan: Proposed Conditions 2/1/2026
RS = 2694



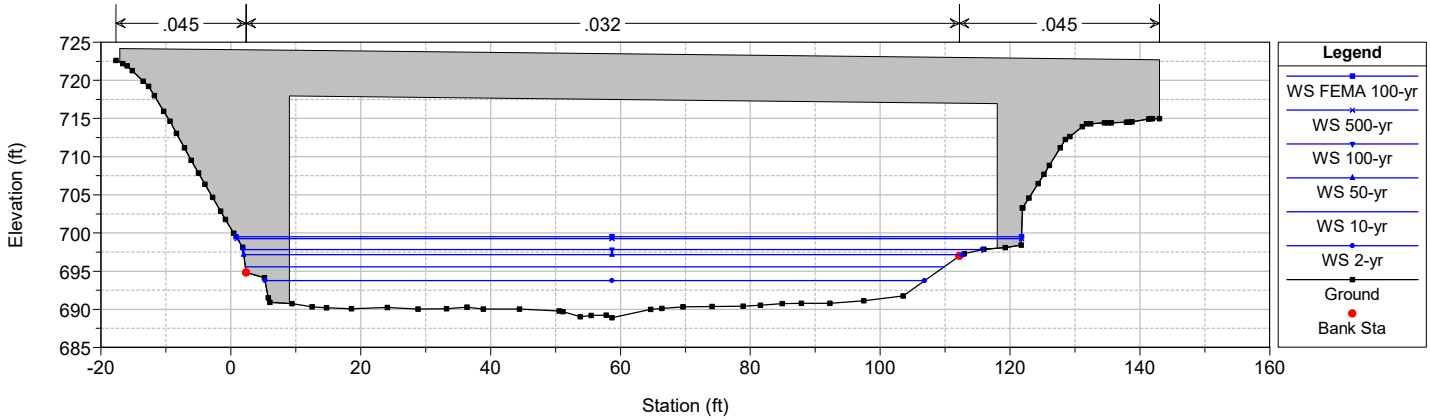
HEC-RAS Model Plan: Proposed Conditions 2/1/2026
RS = 2679



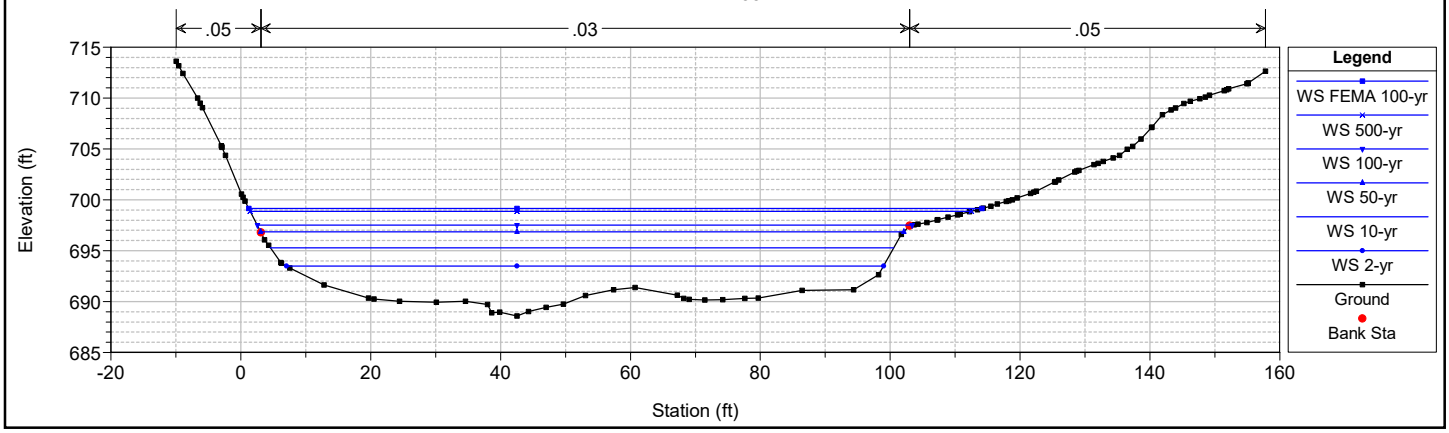
HEC-RAS Model Plan: Proposed Conditions 2/1/2026
RS = 2658



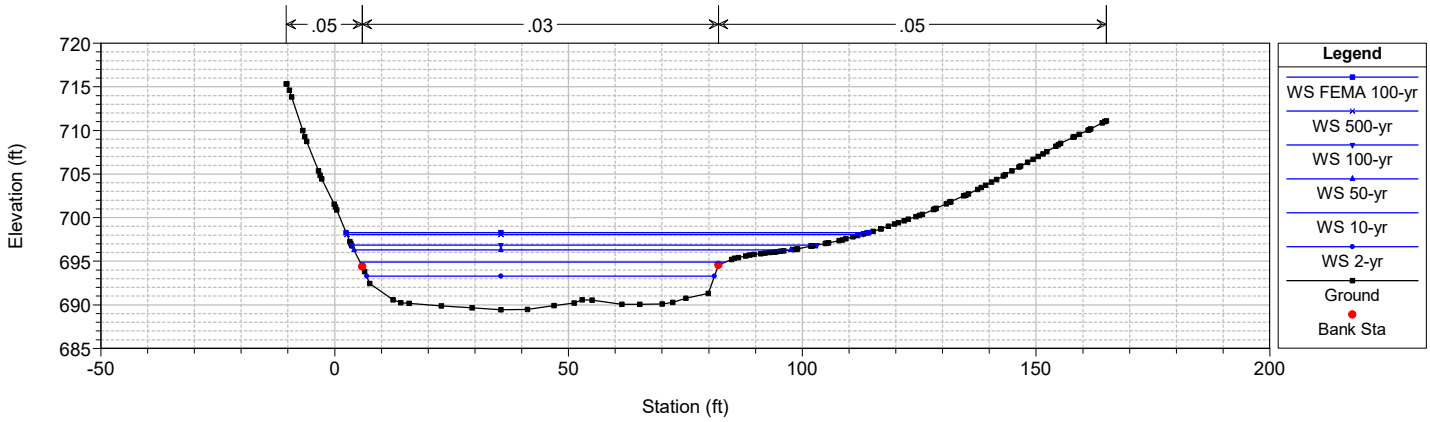
HEC-RAS Model Plan: Proposed Conditions 2/1/2026
RS = 2622 BR



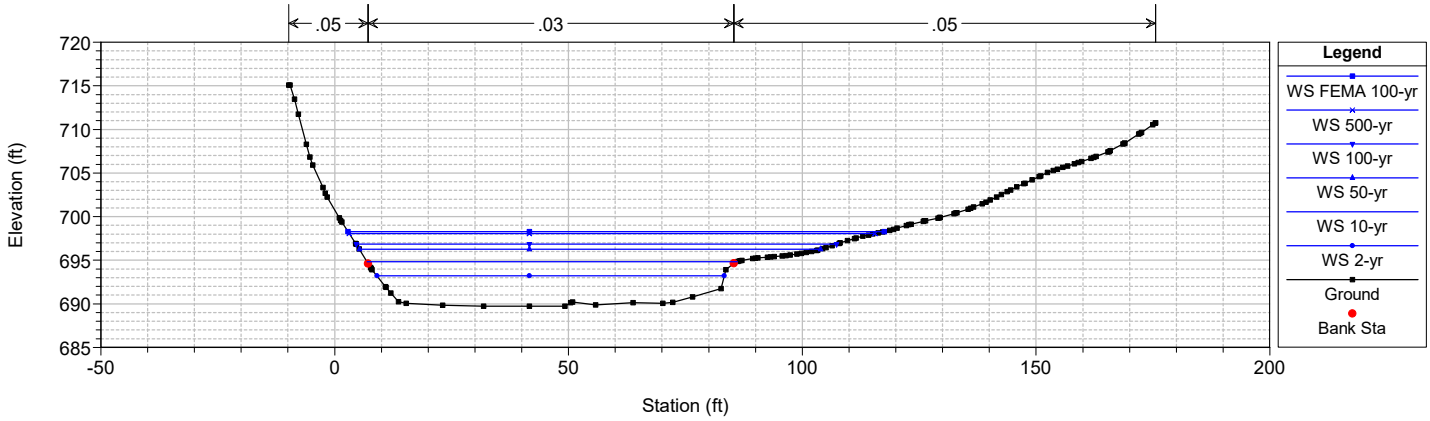
HEC-RAS Model Plan: Proposed Conditions 2/1/2026
RS = 2584



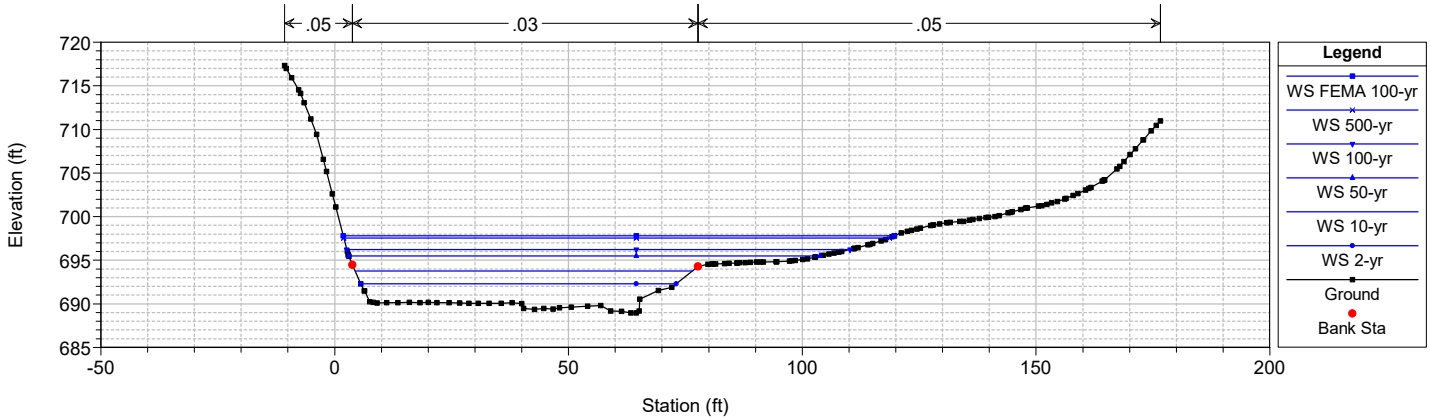
HEC-RAS Model Plan: Proposed Conditions 2/1/2026
RS = 2566



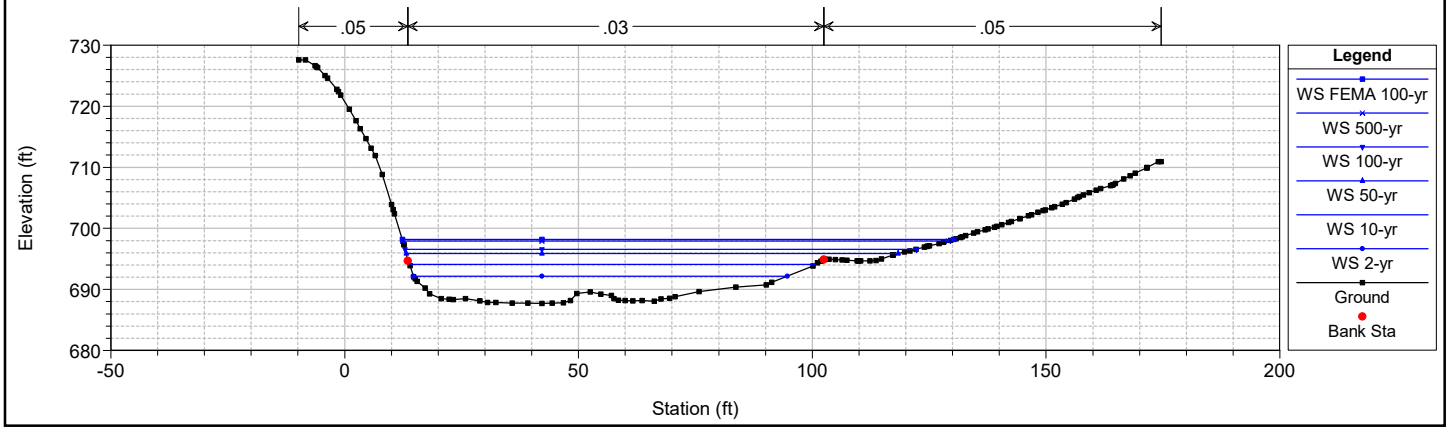
HEC-RAS Model Plan: Proposed Conditions 2/1/2026
RS = 2549

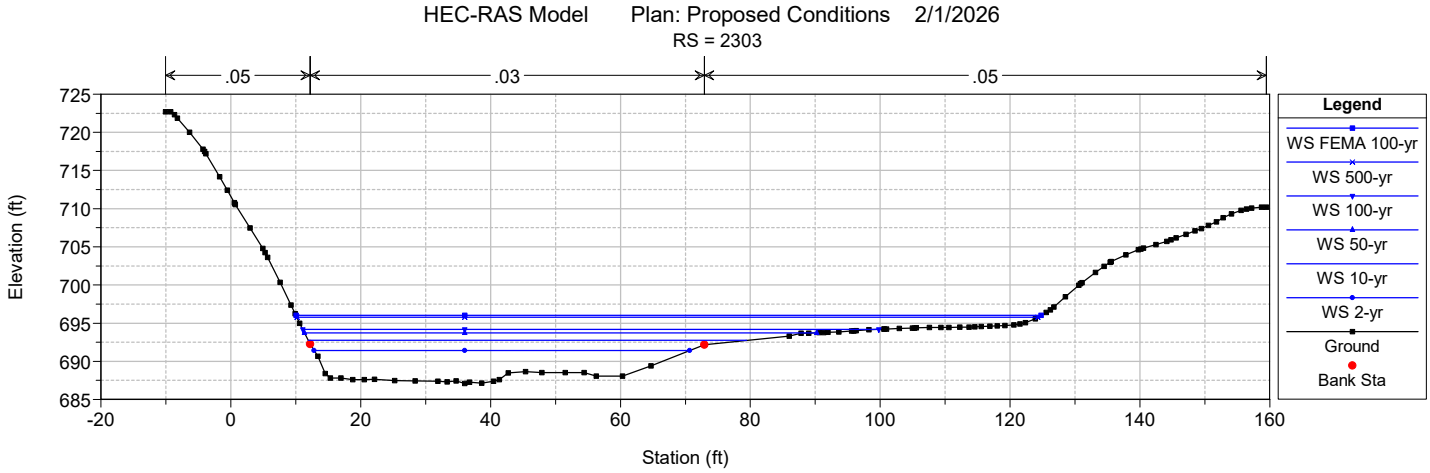


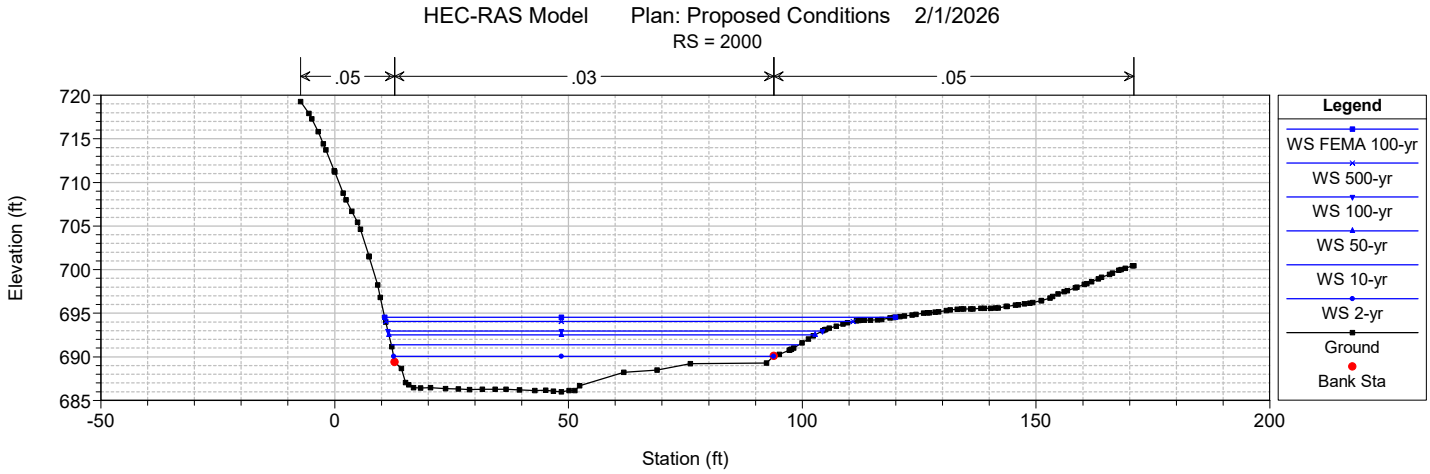
HEC-RAS Model Plan: Proposed Conditions 2/1/2026
RS = 2505



HEC-RAS Model Plan: Proposed Conditions 2/1/2026
RS = 2406




HEC-RAS Model Plan: Proposed Conditions 2/1/2026
RS = 2303
.05
.03
.05
Elevation (ft)
Station (ft)
Legend
WS FEMA 100-yr
WS 500-yr
WS 100-yr
WS 50-yr
WS 10-yr
WS 2-yr
Ground
Bank Sta


HEC-RAS Model Plan: Proposed Conditions 2/1/2026
RS = 2000
.05
.03
.05
Elevation (ft)
Station (ft)
Legend
WS FEMA 100-yr
WS 500-yr
WS 100-yr
WS 50-yr
WS 10-yr
WS 2-yr
Ground
Bank Sta

HEC-RAS Plan: Proposed Conditions River: Big Sister Crk Reach: Evans

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Evans	2978	10-yr	2607.00	689.60	696.59		697.29	0.002246	7.11	485.91	162.31	0.54
Evans	2978	50-yr	4059.00	689.60	698.16		698.90	0.001846	7.64	745.53	168.64	0.51
Evans	2978	100-yr	4719.00	689.60	698.82		699.57	0.001711	7.82	857.07	171.08	0.50
Evans	2978	500-yr	6424.00	689.60	700.33		701.14	0.001509	8.29	1121.01	178.14	0.48
Evans	2978	FEMA 100-yr	6800.00	689.60	700.64		701.46	0.001481	8.40	1176.54	180.38	0.48
Evans	2978	2-yr	1298.00	689.60	695.07		695.47	0.001911	5.25	290.72	111.20	0.47
Evans	2781	10-yr	2607.00	691.07	695.79		696.71	0.003748	7.71	344.07	95.21	0.67
Evans	2781	50-yr	4059.00	691.07	697.19		698.38	0.003348	8.84	484.43	103.40	0.66
Evans	2781	100-yr	4719.00	691.07	697.79		699.07	0.003163	9.21	547.35	105.72	0.65
Evans	2781	500-yr	6424.00	691.07	699.15		700.67	0.002913	10.09	694.20	109.79	0.65
Evans	2781	FEMA 100-yr	6800.00	691.07	699.42		701.00	0.002879	10.28	724.31	110.47	0.65
Evans	2781	2-yr	1298.00	691.07	694.49		694.98	0.003253	5.61	231.56	81.52	0.58
Evans	2717	10-yr	2607.00	690.62	695.26		696.39	0.005839	8.52	305.84	88.39	0.81
Evans	2717	50-yr	4059.00	690.62	696.89		698.14	0.004063	8.96	453.47	93.47	0.71
Evans	2717	100-yr	4719.00	690.62	697.53		698.85	0.003654	9.22	514.16	95.89	0.69
Evans	2717	500-yr	6424.00	690.62	698.91		700.47	0.003224	10.03	650.35	101.20	0.67
Evans	2717	FEMA 100-yr	6800.00	690.62	699.19		700.80	0.003174	10.21	678.04	102.15	0.67
Evans	2717	2-yr	1298.00	690.62	693.59	693.59	694.58	0.010585	8.00	162.25	81.70	1.00
Evans	2694	10-yr	2607.00	690.76	695.53		696.16	0.002484	6.35	410.35	96.83	0.54
Evans	2694	50-yr	4059.00	690.76	697.14		697.94	0.002067	7.18	569.46	100.76	0.52
Evans	2694	100-yr	4719.00	690.76	697.78		698.66	0.001973	7.51	634.74	102.19	0.52
Evans	2694	500-yr	6424.00	690.76	699.18		700.27	0.001898	8.39	780.40	105.35	0.53
Evans	2694	FEMA 100-yr	6800.00	690.76	699.46		700.60	0.001894	8.58	809.76	105.96	0.53
Evans	2694	2-yr	1298.00	690.76	693.71		694.17	0.003543	5.45	238.27	93.17	0.60
Evans	2679	10-yr	2607.00	690.11	695.45		696.11	0.002525	6.53	399.05	90.10	0.55
Evans	2679	50-yr	4059.00	690.11	697.03		697.89	0.002310	7.46	544.58	96.34	0.54
Evans	2679	100-yr	4719.00	690.11	697.67		698.61	0.002208	7.81	606.62	99.27	0.54
Evans	2679	500-yr	6424.00	690.11	699.05		700.23	0.002126	8.73	749.47	105.30	0.55
Evans	2679	FEMA 100-yr	6800.00	690.11	699.33		700.56	0.002120	8.92	778.50	105.76	0.55
Evans	2679	2-yr	1298.00	690.11	693.67		694.12	0.003035	5.35	242.54	85.88	0.56
Evans	2658	10-yr	2607.00	688.89	695.63	693.08	695.99	0.001151	4.81	541.58	107.74	0.38
Evans	2658	50-yr	4059.00	688.89	697.26	694.03	697.75	0.001120	5.65	719.42	110.93	0.39
Evans	2658	100-yr	4719.00	688.89	697.91	694.45	698.46	0.001100	5.97	793.23	114.72	0.39
Evans	2658	500-yr	6424.00	688.89	699.35	695.39	700.06	0.001104	6.75	965.62	120.85	0.40
Evans	2658	FEMA 100-yr	6800.00	688.89	699.64	695.58	700.38	0.001108	6.91	1000.34	121.07	0.41
Evans	2658	2-yr	1298.00	688.89	693.80	692.03	694.01	0.001133	3.72	349.15	101.62	0.35
Evans	2622		Bridge									
Evans	2584	10-yr	2607.00	688.59	695.28		695.84	0.002025	5.98	436.25	95.99	0.49
Evans	2584	50-yr	4059.00	688.59	696.87		697.60	0.001890	6.87	590.85	99.04	0.50
Evans	2584	100-yr	4719.00	688.59	697.51		698.31	0.001843	7.21	654.62	100.85	0.50
Evans	2584	500-yr	6424.00	688.59	698.88		699.90	0.001806	8.10	800.47	111.06	0.51
Evans	2584	FEMA 100-yr	6800.00	688.59	699.15		700.22	0.001806	8.29	830.96	112.89	0.51
Evans	2584	2-yr	1298.00	688.59	693.48		693.85	0.002388	4.86	267.07	91.91	0.50
Evans	2566	10-yr	2607.00	689.43	694.90		695.76	0.003126	7.45	350.42	78.10	0.61
Evans	2566	50-yr	4059.00	689.43	696.29		697.51	0.003114	8.87	467.48	93.46	0.64
Evans	2566	100-yr	4719.00	689.43	696.86		698.22	0.003078	9.37	522.81	99.58	0.64
Evans	2566	500-yr	6424.00	689.43	698.06		699.79	0.003177	10.64	648.70	109.98	0.67
Evans	2566	FEMA 100-yr	6800.00	689.43	698.30		700.10	0.003202	10.90	674.81	111.75	0.68
Evans	2566	2-yr	1298.00	689.43	693.29		693.79	0.003050	5.68	228.53	74.37	0.57
Evans	2549	10-yr	2607.00	689.72	694.82		695.70	0.003312	7.51	347.36	79.18	0.63
Evans	2549	50-yr	4059.00	689.72	696.25		697.45	0.003136	8.80	474.83	98.63	0.64
Evans	2549	100-yr	4719.00	689.72	696.84		698.15	0.003051	9.25	533.86	102.74	0.64
Evans	2549	500-yr	6424.00	689.72	698.05		699.71	0.003093	10.44	664.28	112.40	0.66
Evans	2549	FEMA 100-yr	6800.00	689.72	698.29		700.02	0.003111	10.69	691.38	114.68	0.67
Evans	2549	2-yr	1298.00	689.72	693.21		693.73	0.003242	5.79	224.27	74.29	0.59
Evans	2505	10-yr	2607.00	688.95	693.75	693.66	695.40	0.008644	10.28	253.48	72.13	0.97
Evans	2505	50-yr	4059.00	688.95	695.49	694.93	697.21	0.005499	10.56	399.41	100.80	0.82
Evans	2505	100-yr	4719.00	688.95	696.23	695.47	697.95	0.004645	10.61	476.40	107.62	0.77
Evans	2505	500-yr	6424.00	688.95	697.55	696.67	699.52	0.004167	11.50	624.90	116.67	0.75
Evans	2505	FEMA 100-yr	6800.00	688.95	697.81	696.90	699.84	0.004095	11.68	655.93	117.92	0.75
Evans	2505	2-yr	1298.00	688.95	692.30	692.30	693.43	0.010571	8.52	152.30	67.51	1.00
Evans	2406	10-yr	2607.00	687.69	694.09		694.71	0.002137	6.30	414.03	86.74	0.51
Evans	2406	50-yr	4059.00	687.69	695.86		696.64	0.001837	7.09	585.18	105.24	0.49

HEC-RAS Plan: Proposed Conditions River: Big Sister Crk Reach: Evans (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Evans	2406	100-yr	4719.00	687.69	696.58		697.42	0.001726	7.37	662.40	109.38	0.49
Evans	2406	500-yr	6424.00	687.69	697.93		698.99	0.001758	8.35	814.62	116.63	0.51
Evans	2406	FEMA 100-yr	6800.00	687.69	698.19		699.31	0.001768	8.55	846.03	117.94	0.51
Evans	2406	2-yr	1298.00	687.69	692.17		692.57	0.002406	5.13	252.99	79.98	0.51
Evans	2303	10-yr	2607.00	687.09	692.74	692.25	694.27	0.006149	9.93	264.20	67.48	0.84
Evans	2303	50-yr	4059.00	687.09	693.74	693.62	696.14	0.007370	12.48	336.96	78.86	0.95
Evans	2303	100-yr	4719.00	687.09	694.20	694.20	696.91	0.007481	13.29	375.66	88.71	0.97
Evans	2303	500-yr	6424.00	687.09	695.77	695.77	698.53	0.005736	13.66	545.11	114.08	0.89
Evans	2303	FEMA 100-yr	6800.00	687.09	696.01	696.01	698.84	0.005666	13.88	573.31	114.73	0.89
Evans	2303	2-yr	1298.00	687.09	691.43		692.20	0.004648	7.06	183.82	57.86	0.70
Evans	2000	10-yr	2607.00	685.98	691.37	690.73	692.47	0.005001	8.42	313.20	87.07	0.76
Evans	2000	50-yr	4059.00	685.98	692.51	691.84	694.06	0.005001	10.03	415.09	91.17	0.79
Evans	2000	100-yr	4719.00	685.98	692.97	692.28	694.71	0.005008	10.65	457.27	92.96	0.81
Evans	2000	500-yr	6424.00	685.98	694.05	693.36	696.26	0.005005	12.02	560.97	100.01	0.83
Evans	2000	FEMA 100-yr	6800.00	685.98	694.55	693.60	696.67	0.004359	11.79	613.65	109.26	0.79
Evans	2000	2-yr	1298.00	685.98	690.07	689.54	690.70	0.005002	6.38	203.47	81.22	0.71

Plan: Proposed Conditions Big Sister Crk Evans RS: 2622 Profile: 50-yr

E.G. US. (ft)	697.75	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	697.26	E.G. Elev (ft)	697.73	697.66
Q Total (cfs)	4059.00	W.S. Elev (ft)	697.18	696.94
Q Bridge (cfs)	4059.00	Crit W.S. (ft)	694.11	694.53
Q Weir (cfs)		Max Chl Dpth (ft)	8.29	8.35
Weir Sta Lft (ft)		Vel Total (ft/s)	5.97	6.79
Weir Sta Rgt (ft)		Flow Area (sq ft)	680.11	598.08
Weir Submerg		Froude # Chl	0.41	0.49
Weir Max Depth (ft)		Specif Force (cu ft)	3085.53	2771.59
Min El Weir Flow (ft)	722.51	Hydr Depth (ft)	6.56	6.03
Min El Prs (ft)	717.96	W.P. Total (ft)	105.61	104.03
Delta EG (ft)	0.15	Conv. Total (cfs)	109673.5	89235.5
Delta WS (ft)	0.39	Top Width (ft)	103.72	99.20
BR Open Area (sq ft)	2823.14	Frctn Loss (ft)	0.06	0.06
BR Open Vel (ft/s)	6.79	C & E Loss (ft)	0.02	0.00
BR Sluice Coef		Shear Total (lb/sq ft)	0.55	0.74
BR Sel Method	Energy only	Power Total (lb/ft s)	3.29	5.04

Plan: Proposed Conditions Big Sister Crk Evans RS: 2622 Profile: 100-yr

E.G. US. (ft)	698.46	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	697.91	E.G. Elev (ft)	698.45	698.37
Q Total (cfs)	4719.00	W.S. Elev (ft)	697.83	697.58
Q Bridge (cfs)	4719.00	Crit W.S. (ft)	694.51	694.95
Q Weir (cfs)		Max Chl Dpth (ft)	8.94	8.99
Weir Sta Lft (ft)		Vel Total (ft/s)	6.31	7.13
Weir Sta Rgt (ft)		Flow Area (sq ft)	747.96	661.67
Weir Submerg		Froude # Chl	0.41	0.49
Weir Max Depth (ft)		Specif Force (cu ft)	3719.94	3363.06
Min El Weir Flow (ft)	722.51	Hydr Depth (ft)	7.01	6.55
Min El Prs (ft)	717.96	W.P. Total (ft)	108.68	105.97
Delta EG (ft)	0.15	Conv. Total (cfs)	128178.0	104929.9
Delta WS (ft)	0.40	Top Width (ft)	106.72	100.99
BR Open Area (sq ft)	2823.14	Frctn Loss (ft)	0.06	0.05
BR Open Vel (ft/s)	7.13	C & E Loss (ft)	0.02	0.00
BR Sluice Coef		Shear Total (lb/sq ft)	0.58	0.79
BR Sel Method	Energy only	Power Total (lb/ft s)	3.67	5.62

Plan: Proposed Conditions Big Sister Crk Evans RS: 2622 Profile: 500-yr

E.G. US. (ft)	700.06	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	699.35	E.G. Elev (ft)	700.04	699.95
Q Total (cfs)	6424.00	W.S. Elev (ft)	699.24	698.95
Q Bridge (cfs)	6424.00	Crit W.S. (ft)	695.48	695.93
Q Weir (cfs)		Max Chl Dpth (ft)	10.35	10.36
Weir Sta Lft (ft)		Vel Total (ft/s)	7.13	7.96
Weir Sta Rgt (ft)		Flow Area (sq ft)	901.57	806.77
Weir Submerg		Froude # Chl	0.39	0.44
Weir Max Depth (ft)		Specif Force (cu ft)	5388.95	4925.25
Min El Weir Flow (ft)	722.51	Hydr Depth (ft)	8.27	7.40
Min El Prs (ft)	717.96	W.P. Total (ft)	120.69	116.24
Delta EG (ft)	0.16	Conv. Total (cfs)	164146.6	143885.6
Delta WS (ft)	0.47	Top Width (ft)	109.00	109.00
BR Open Area (sq ft)	2823.14	Frctn Loss (ft)	0.06	0.05
BR Open Vel (ft/s)	7.96	C & E Loss (ft)	0.02	0.00
BR Sluice Coef		Shear Total (lb/sq ft)	0.71	0.86
BR Sel Method	Energy only	Power Total (lb/ft s)	5.09	6.88

Plan: Proposed Conditions Big Sister Crk Evans RS: 2622 Profile: FEMA 100-yr

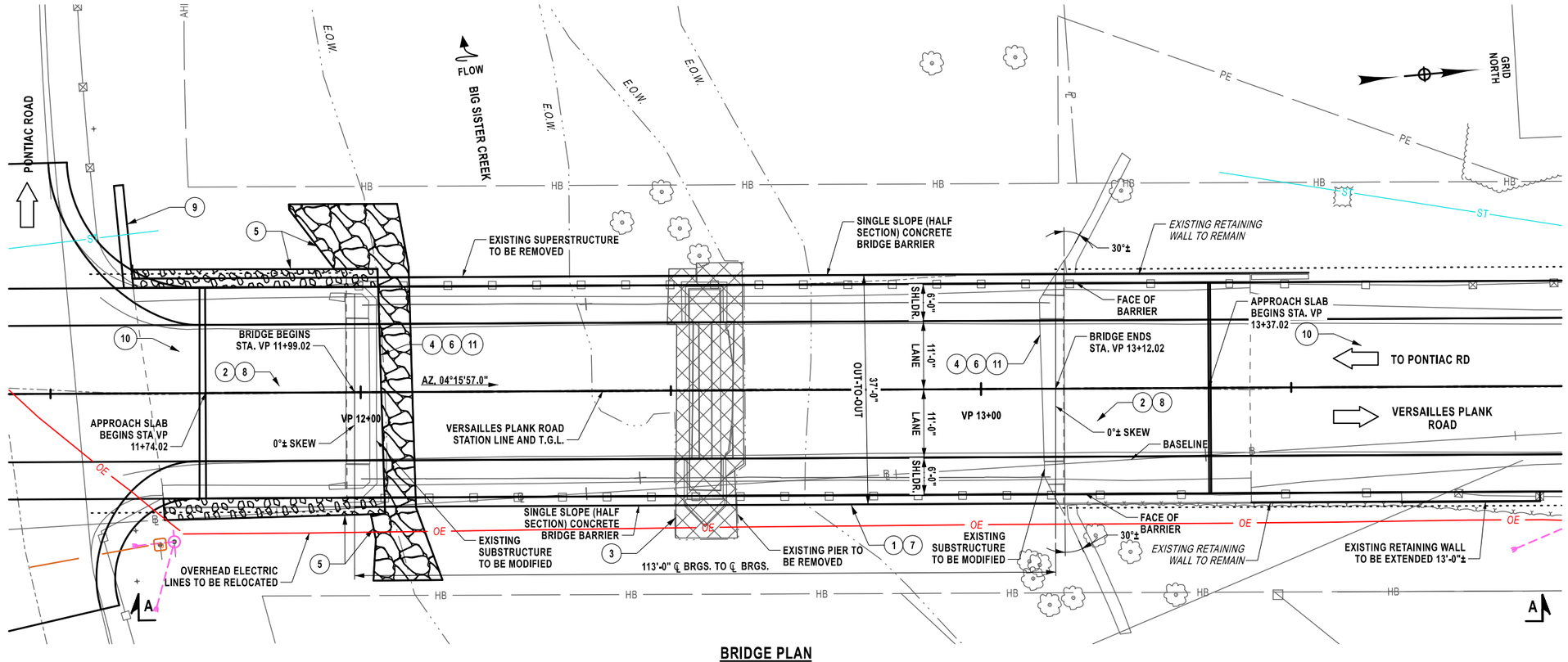
E.G. US. (ft)	700.38	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	699.64	E.G. Elev (ft)	700.36	700.27
Q Total (cfs)	6800.00	W.S. Elev (ft)	699.52	699.22
Q Bridge (cfs)	6800.00	Crit W.S. (ft)	695.67	696.15
Q Weir (cfs)		Max Chl Dpth (ft)	10.63	10.63
Weir Sta Lft (ft)		Vel Total (ft/s)	7.30	8.13
Weir Sta Rgt (ft)		Flow Area (sq ft)	932.08	836.51
Weir Submerg		Froude # Chl	0.40	0.44
Weir Max Depth (ft)		Specif Force (cu ft)	5766.48	5280.92
Min El Weir Flow (ft)	722.51	Hydr Depth (ft)	8.55	7.67
Min El Prs (ft)	717.96	W.P. Total (ft)	121.25	116.79
Delta EG (ft)	0.16	Conv. Total (cfs)	172894.2	152274.3
Delta WS (ft)	0.49	Top Width (ft)	109.00	109.00
BR Open Area (sq ft)	2823.14	Frctn Loss (ft)	0.06	0.05
BR Open Vel (ft/s)	8.13	C & E Loss (ft)	0.02	0.00
BR Sluice Coef		Shear Total (lb/sq ft)	0.74	0.89
BR Sel Method	Energy only	Power Total (lb/ft s)	5.42	7.25

Plan: Proposed Conditions Big Sister Crk Evans RS: 2622 Profile: 2-yr

E.G. US. (ft)	694.01	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	693.80	E.G. Elev (ft)	694.00	693.92
Q Total (cfs)	1298.00	W.S. Elev (ft)	693.77	693.58
Q Bridge (cfs)	1298.00	Crit W.S. (ft)	692.05	692.35
Q Weir (cfs)		Max Chl Dpth (ft)	4.88	4.99
Weir Sta Lft (ft)		Vel Total (ft/s)	3.86	4.71
Weir Sta Rgt (ft)		Flow Area (sq ft)	336.33	275.40
Weir Submerg		Froude # Chl	0.37	0.48
Weir Max Depth (ft)		Specif Force (cu ft)	758.91	642.28
Min El Weir Flow (ft)	722.51	Hydr Depth (ft)	3.44	2.99
Min El Prs (ft)	717.96	W.P. Total (ft)	98.82	94.26
Delta EG (ft)	0.16	Conv. Total (cfs)	35336.1	26135.7
Delta WS (ft)	0.31	Top Width (ft)	97.85	92.25
BR Open Area (sq ft)	2823.14	Frctn Loss (ft)	0.07	0.07
BR Open Vel (ft/s)	4.71	C & E Loss (ft)	0.01	0.00
BR Sluice Coef		Shear Total (lb/sq ft)	0.29	0.45
BR Sel Method	Energy only	Power Total (lb/ft s)	1.11	2.12

Attachment D

Preliminary Plans



BRIDGE PLAN

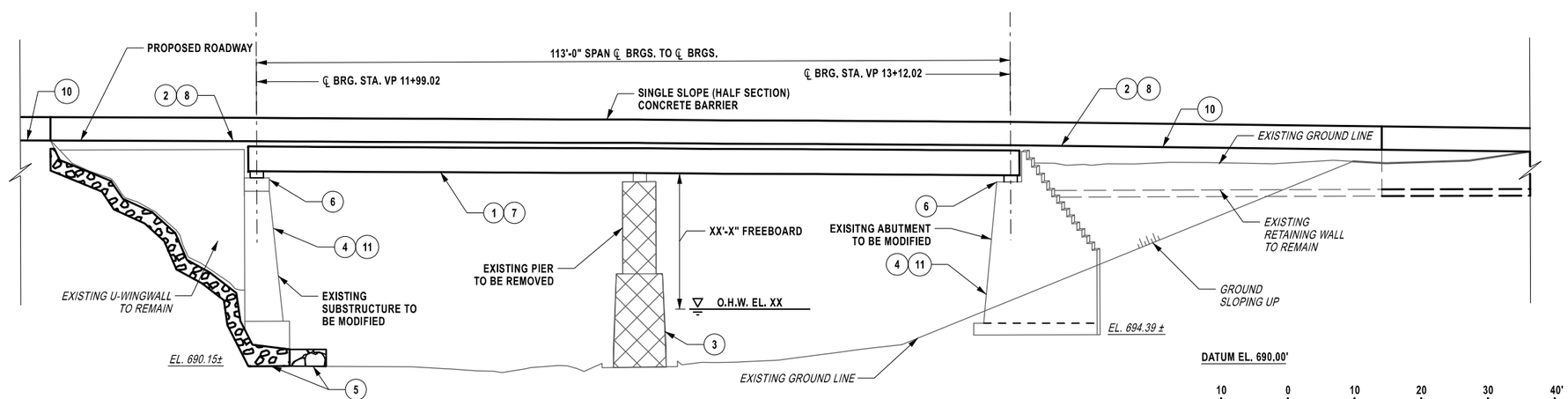
SCALE: 1" = 20'-0"

HYDRAULIC DATA

DRAINAGE AREA = X.X MI²		BASIC FLOOD	DESIGN FLOOD
RECURRENCY INTERVAL (YRS)		XX	XX
PEAK DISCHARGE (FT³/S)		XX	XX
HIGH WATER ELEVATION @ PT. OF MAX. BACKWATER (FT)	EXISTING	XX.XX	XX.XX
	PROPOSED	XX.XX	XX.XX
AVG. VELOCITY THRU STRUCTURE @ DESIGN FLOOD = XX.X FT/S			

BRIDGE REHABILITAION SCOPE OF WORK:

1. REMOVE EXISTING SUPERSTRUCTURE. INCLUDES CONCRETE DECK, STEEL MEMBERS, BEARINGS, BRIDGE RAILING.
2. REMOVE APPROACH SLABS, INCLUDES CONCRETE APPROACH SLABS AND RAILING.
3. REMOVE PIER INCLUDING ALL ELEMENTS FROM STREAM BED TO BEARINGS.
4. REPAIR HOLLOW/SPALLED CONCRETE ON ABUTMENTS.
5. PROVIDE SCOUR PROTECTION TO SOUTH ABUTMENT.
6. MODIFY EXISTING SUBSTRUCTURES TO ACCEPT THE PROPOSED SUPERSTRUCTURE AND PROVIDE JOINTLESS DETAIL AT THE ABUTMENTS.
7. INSTALL PROPOSED SUPERSTRUCTURE (STEEL MULTI GIRDERS WITH COMPOSITE CONCRETE DECK) AND STEEL BRIDGE RAIL.
8. INSTALL PROPOSED APPROACH SLABS.
9. REMOVE AND RECONSTRUCT RETAINING WALL IN SOUTH WEST QUADRANT.
10. INSTALL PROPOSED HIGHWAY SECTIONS ON IMMEDIATE APPROACHES.
11. APPLY PROTECTIVE SEALER TO ALL EXPOSED SUBSTRUCTURE CONCRETE.



ELEVATION A-A

SCALE: 1" = 20'-0"

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

SUPERSTRUCTURE REPLACEMENT OF VERSAILLES PLANK ROAD BRIDGE
VERSAILLES PLANK ROAD OVER BIG SISTER CREEK
TOWN OF EVANS
COUNTY: ERIE REGION: 05

PIN 5765.33 | BRIDGES 3327390 | CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

BRIDGE PLAN AND ELEVATION

CONTRACT NUMBER --

DRAWING NO. XXXX-XX
SHEET NO. XX OF XX

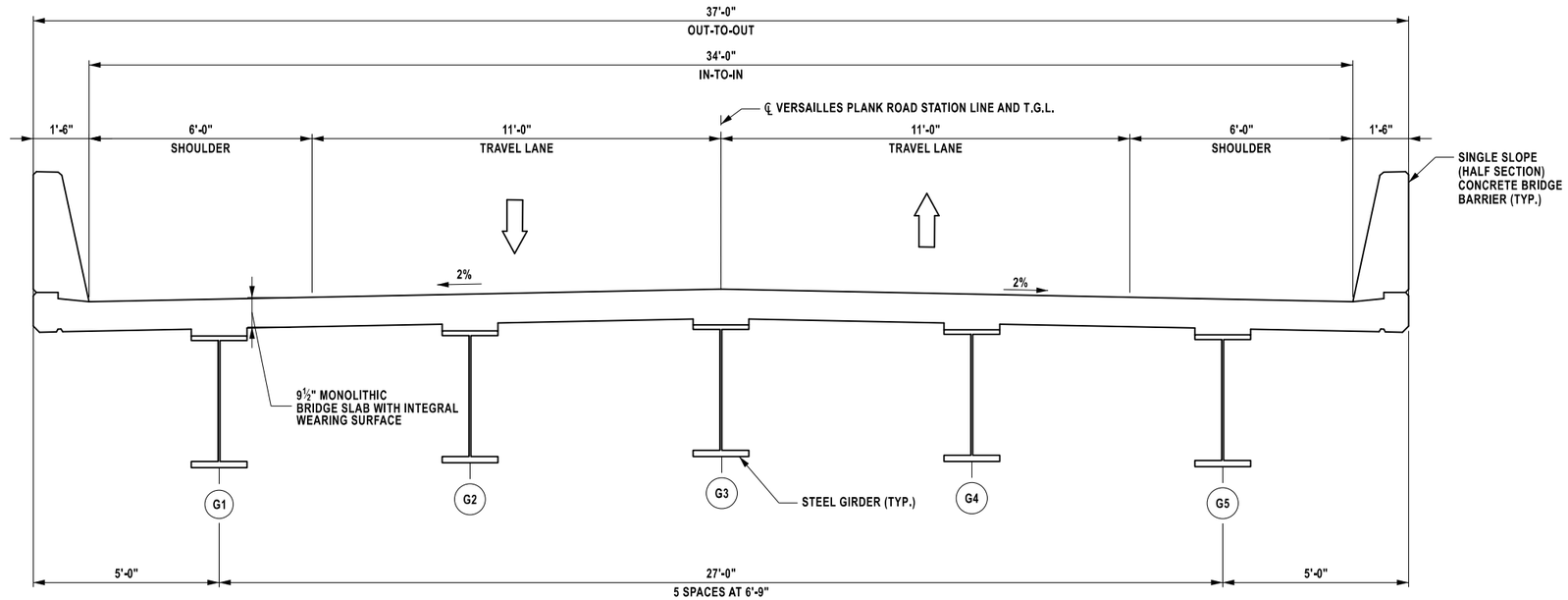
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

PDG POPLI DESIGN GROUP

ERIE COUNTY DPW - HIGHWAYS
DOCUMENT NAME: 576533_cpb_gen.dgn

PROJECT MANAGER D. JENKINSON
CHECK R. HILLY
DRAFTING V. REYES
CHECK R. HILLY
DESIGN V. REYES
JOB MANAGER D. JENKINSON
DESIGN SUPERVISOR D. JENKINSON

FILE NAME = J:\BD 25039.00 Versailles Plank Road Bridge Rehabilitation\CADD\576533_cpb_gen.dgn
DATE/TIME = 14-JAN-2026 09:52
USER = vreyes



BRIDGE TYPICAL SECTION

LOOKING UP UPSTATION

SCALE: 1/4" = 1'-0"

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

SUPERSTRUCTURE REPLACEMENT OF VERSAILLES PLANK ROAD BRIDGE

VERSAILLES PLANK ROAD OVER BIG SISTER CREEK

TOWN OF EVANS

COUNTY: ERIE REGION: 05

PIN 5765.33

BRIDGES 3327390

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

TYPICAL SECTIONS

CONTRACT NUMBER --

DRAWING NO. XXXX-XX

SHEET NO. XX OF XX

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

PDG POPLI DESIGN GROUP

ERIE COUNTY DPW - HIGHWAYS

DOCUMENT NAME: 576533_cpb_sec_typ.dgn

PROJECT MANAGER D. JENKINSON
CHECK R. HILLY
DRAFTING V. REYES
CHECK R. HILLY
DESIGN V. REYES
JOB MANAGER D. JENKINSON
DESIGN SUPERVISOR D. JENKINSON

FILE NAME = J:\BD 25039.00 Versailles Plank Road Bridge Rehabilitation\CADD\576533_cpb_sec_typ.dgn
DATE/TIME = 14-JAN-2026 09:52
USER = vreyes

IN-DEPTH INSPECTION REPORT

P.I.N. 5765.33

B.I.N. 3327390

TEAM LEADER Raymond Hilly 109315
NYSPE LICENSE #

ASSISTANT TEAM LEADER Victoria Reyes

FEATURE CARRIED Versailles Plank Road

FEATURE CROSSED Big Sister Creek

DATE FIELD WORK BEGAN 09/10/2025

DATE FIELD WORK COMPLETED 09/10/2025

DATE REPORT COMPLETED 01/05/2026

TABLE OF CONTENTS

- IN-DEPTH CONDITION DOCUMENTATION
- IN-DEPTH PHOTO DOCUMENTATION
- BIENNIAL BRIDGE INSPECTION SUMMARY

IN-DEPTH CONDITION DOCUMENTATION

BIN 3327390

General Description

BIN 3327390 carries Versailles Plank Rd over Big Sister Creek in Town of Evans, Erie County NY. The bridge was originally constructed in 1928 with a major rehabilitation in 1980 including deck replacement with the installation of approach slabs, repairs to the steel superstructure and reinforced concrete substructures, new bearings, and railing replacement.

The bridge is a two-span fracture critical painted steel girder-floorbeam-stringer bridge with a 9.5” composite reinforced concrete deck on reinforced concrete abutments and concrete multi-column pier founded on bedrock. The bridge is comprised of two simply-supported spans with lengths of 56’-3” and 56’-9”. The bridge carries NB and SB traffic with one 12’-0” lane in either direction bounded by approximately 6’-0” wide paved shoulders for a total clear roadway width of 34’-0” and out-to-out width of 37’-0”. The south approach slab is 32’-0” and the north approach slab is 30’-0” made up of reinforced concrete.

The 2022 Biennial Bridge Inspection reports that in 2020 a “No Trucks with R Permits” sign has been installed at the approaches up to the bridge, and in 2022 an Oil and Stone treatment was in progress during inspection.

Bridge Conditions

The bridge is part of Erie County's 2024 BridgeNY Projects and has been identified to receive a superstructure replacement along with removal of the pier and repairs of the abutments. Popli Design Group carried out an In-Depth Inspection of the bridge in September 2025 with the intent to quantify repair quantities for the abutments and determine any other deficiencies that may not be addressed in the initial scope. For this reason, all superstructure items will not be included in the in-depth inspection report.

<u>Deck and Approach Slabs:</u>

The deck and approach slabs were not inspected at this time.

<u>Steel Superstructure:</u>

The steel superstructure was not inspected at this time.

<u>Bearings:</u>

Bearings were visually inspected while sounding the abutments. Bearings show signs of wear but appear to be functioning. An anchor bolt was found sheared at the northwest bearing.

Abutments

The abutments exhibit numerous areas of spalled and delaminated concrete on the stems and backwalls. The north and south abutment also have rust stains on the backwall indicating a failing joint above. Crack widths are typically 1/8” or less unless otherwise stated. Refer to condition sketches for defect locations of abutments.

Wingwalls:

The southwest wingwall exhibits many hollow sounding areas and spalls. The bottom of the wingwall is undermined either by the bottom of the wingwall spalling or the stream bed eroding over time.

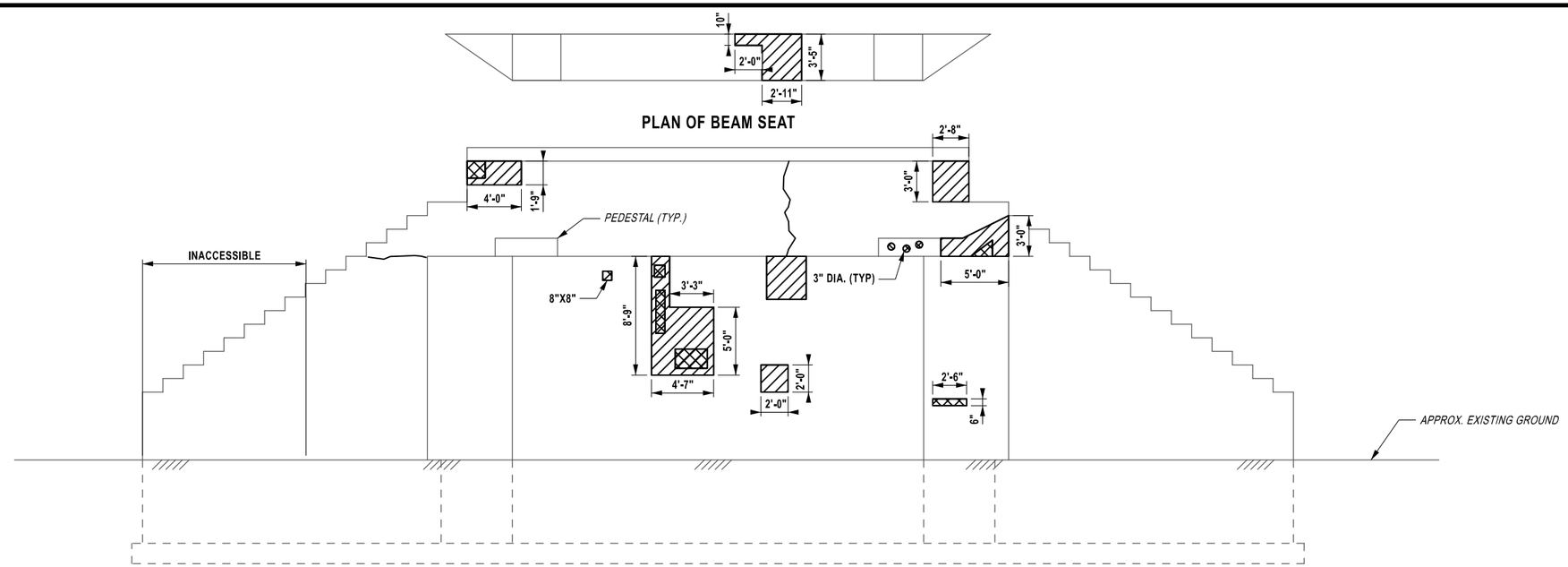
The southwest wingwall could not be sounded due to the overhead electric lines and the UBIU not reaching. This wingwall was visually inspected and appeared to be in better condition than the southwest. The bottom of the wingwall is also undermined.

The north wingwalls exhibit minor concrete defects. The end portion of the northwest wingwall could not be inspected due to heavy vegetation growth. Refer to sketches below for the area inaccessible.

Refer to condition sketches for defect locations of wingwalls.

Pier:

The pier exhibits localized areas of hollow sounding concrete and spalls. The underside of the pier cap has exposed rebar and spalling. The pier is expected to be removed. Refer to condition sketches for defect locations of the pier.



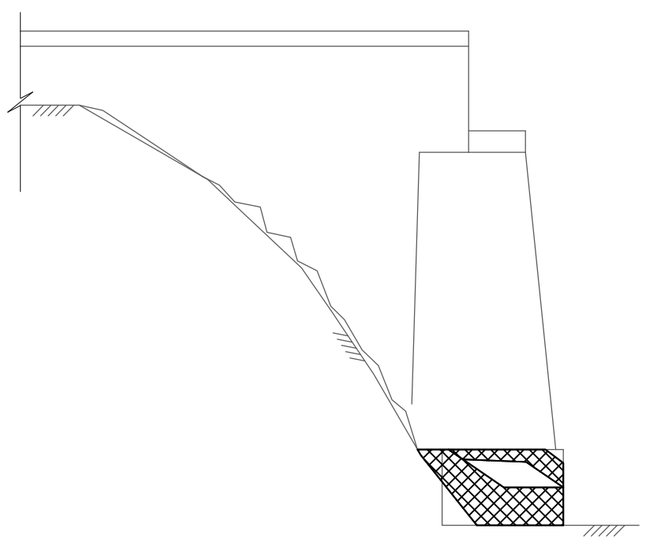
PLAN OF BEAM SEAT

ELEVATION OF NORTH ABUTMENT

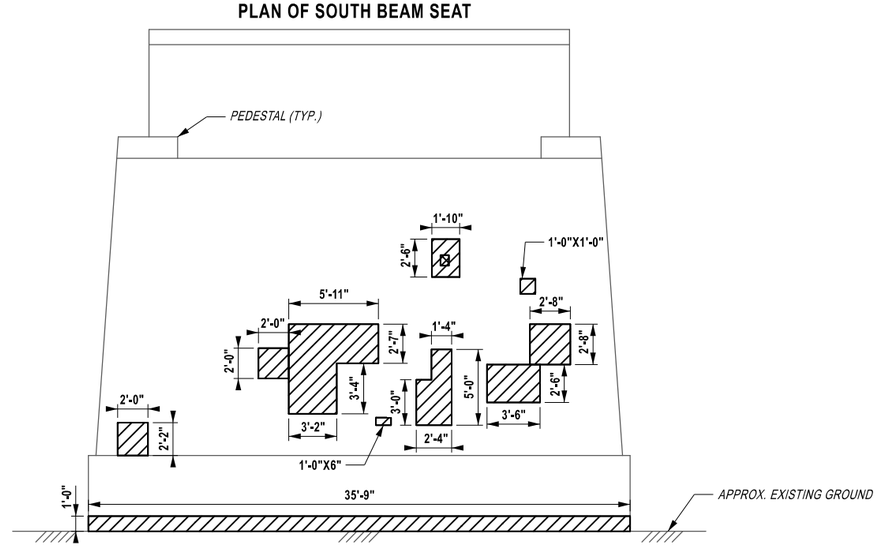
PLAN OF SOUTH BEAM SEAT

LEGEND:

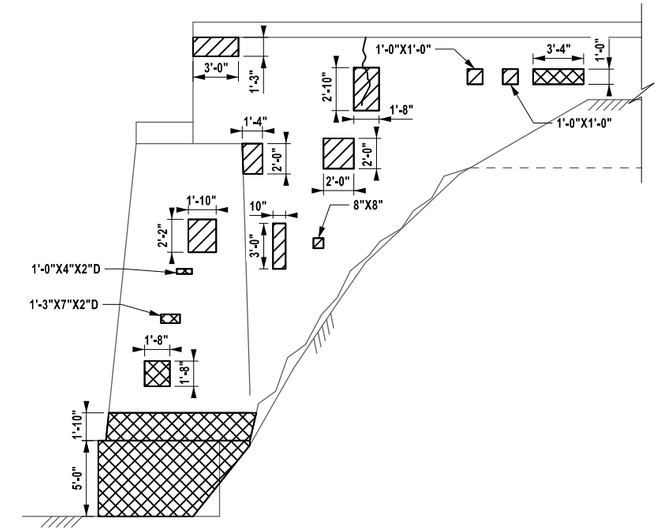
- DELAMINATION/ HOLLOW SOUNDING CONCRETE
- SPALL
- CRACK



EAST ELEVATION OF SOUTH ABUTMENT



ELEVATION OF SOUTH ABUTMENT



WEST ELEVATION OF SOUTH ABUTMENT

5 0 5 10 15 20'

1" = 10'

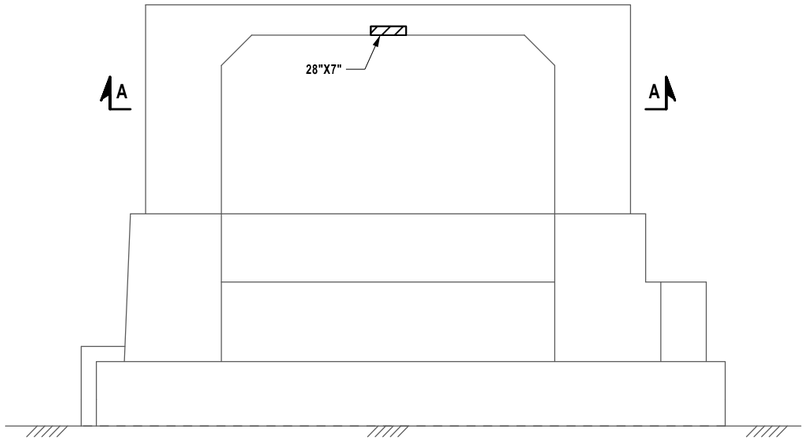
AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:		PIN	BRIDGES	CULVERTS	ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED	CONTRACT NUMBER
	COUNTY: REGION:				NORTH AND SOUTH ABUTMENT DETERIORTATION SKETCH	DRAWING NO. REP-01 SHEET NO. 01 OF 02

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

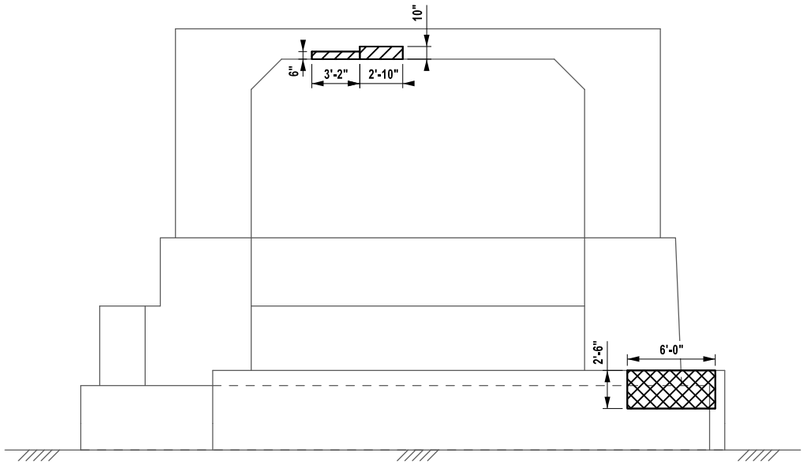
PDG POPLI DESIGN GROUP

PROJECT MANAGER
CHECK
DRAFTING
CHECK
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

FILE NAME = DGN$FILENAME
DATE/TIME = 5-JAN-2026 11:51
USER = rhilly

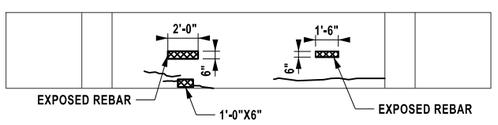


SOUTH ELEVATION OF PIER

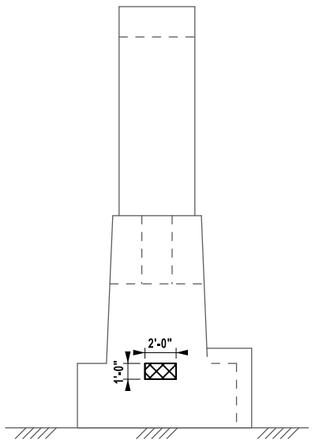


NORTH ELEVATION OF PIER

PIER PLAN



SECTION A-A



EAST PIER ELEVATION

LEGEND:

- DELAMINATION/ HOLLOW SOUNDING CONCRETE
- SPALL
- CRACK

5 0 5 10 15 20'

1" = 10'

AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:		PIN	BRIDGES	CULVERTS	ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED
	COUNTY: REGION:				PIER DETERIORATION SKETCH

CONTRACT NUMBER

DRAWING NO. REP-02

SHEET NO. 02 OF 02

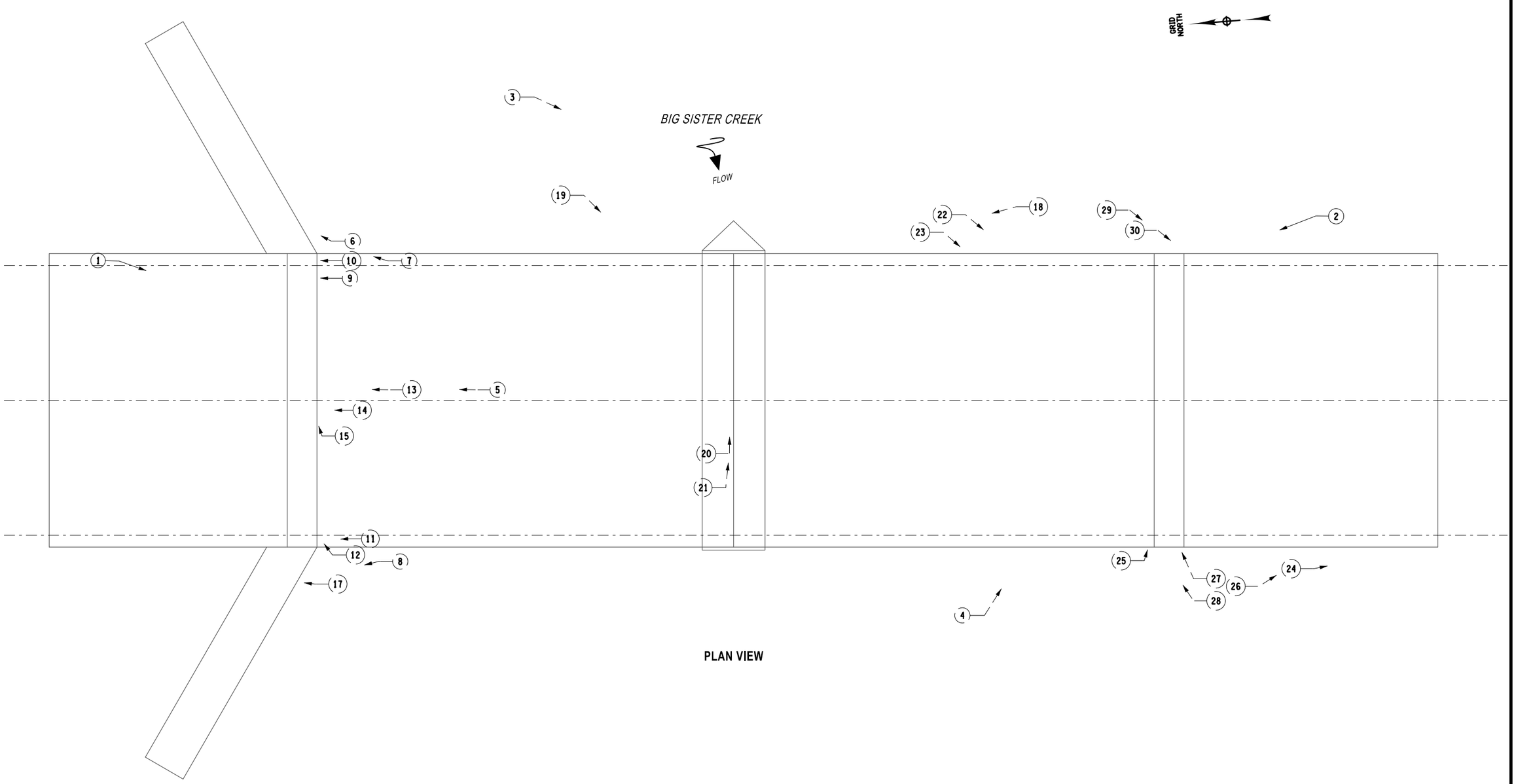
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

PDG POPLI DESIGN GROUP

PROJECT MANAGER
CHECK
DRAFTING
CHECK
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

FILE NAME = DGN$FILENAME
DATETIME = 5-JAN-2026 11:52
USER = rhilly

IN-DEPTH PHOTO DOCUMENTATION



PLAN VIEW

AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:		PIN	BRIDGES	CULVERTS	ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED
	COUNTY: REGION:				PHOTO LOCATION PLAN

CONTRACT NUMBER

DRAWING NO. PLP-01

SHEET NO. 01 OF 01

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

PDG POPLI DESIGN GROUP

PROJECT MANAGER
CHECK
DRAFTING
CHECK
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

FILE NAME = DGNSFILENAME
DATETIME = 5-JAN-2026 13:33
USER = rhilly

Photo 1: **Description:** Versailles Plank Road top of Deck general condition looking south.	
Photo 2: **Description:** Elevation view of east side of Versailles Road looking north west.	

Photo 3: **Description:** Elevation view of east side of Versailles Road looking south west.	
Photo 4: **Description:** Elevation view of west side Versailles Road looking east.	

Photo 5: **Description:** North abutment general condition looking north.	
Photo 6: **Description:** Northeast wingwall general condition looking north.	

Photo 7: **Description:** Northeast wingwall general condition looking north east.	
Photo 8: **Description:** Northwest wingwall covered by vegetation restricting inspection access looking north.	

Photo 9: **Description:** Pedestal and Girder (G2) at North abutment general condition looking north.	
Photo 10: **Description:** Hollow, spalled and cracked area found on North abutment top right side. Spalling and cracking found on backwall.	

Photo 11: **Description:** Hollow and spalled area found on North abutment top left side looking north.	
Photo 12: **Description:** Anchor bolt at Girder (G1) pedestal sheared at north abutment looking north east.	

Photo 13: **Description:** Typical hollow sounding and spalled area on north abutment looking north.	
Photo 14: **Description:** Rust stains on north abutment backwall looking north.	

Photo 15: **Description:** Top of beam seat at north abutment general condition looking east.	
Photo 16: **Description:** North west wingwall of bridge vegetation growth and access looking north east.	

Photo 17: **Description:** Crack found on west of north abutment at interface of beamseat and backwall looking north.	
Photo 18: **Description:** South face of pier looking north west.	

Photo 19: **Description:** North face of pier looking south west.	
Photo 20: **Description:** Underside of pier showing exposed rebar and spalling looking east.	

Photo 21: **Description:** General view of bottom portion of pier showing steel columns extruding from concrete surface looking south east.	
Photo 22: **Description:** South abutment of bridge general condition looking south.	

Photo 23: **Description:** Footing and grade general condition at south abutment looking south.	
Photo 24: **Description:** Deteriorating retaining wall at south west quadrant of bridge looking south.	

Photo 25: **Description:** Undermining at bottom of west wingwall at south abutment looking east.	
Photo 26: **Description:** Undermining at bottom of west wingwall at south abutment looking south east.	

Photo 27: **Description:** West side of south abutment, looking north east.	
Photo 28: **Description:** West wingwall of south abutment, looking north.	

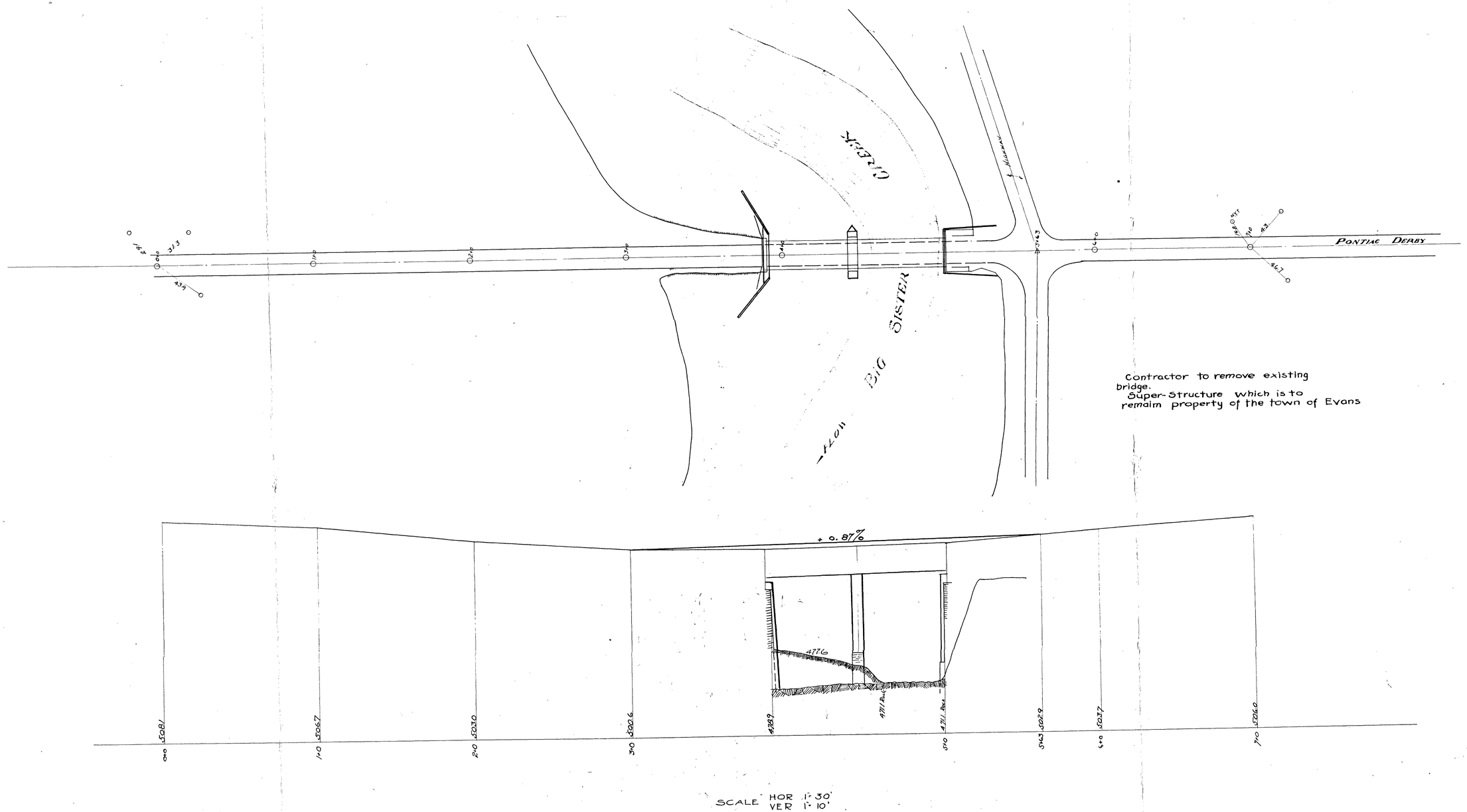
Photo 29: **Description:** East wingwall at south abutment looking south west.	
Photo 30: **Description:** Spalling at east wingwall at south abutment looking west.	

BIENNIAL BRIDGE INSPECTION SUMMARY

Element Quantities

Element Assessment Summary Table							
Element	**Total Quantity**	**Unit**	**CS-1**	**CS-2**	**CS-3**	**CS-4**	**CS-5**
12 - Reinforced Concrete Deck	4182	ft^2	3960	210	12		0
107 - Steel Open Girder/Beam	226	ft	218	8			0
113 - Steel Stringer	792	ft	788	2	2		0
152 - Steel Floor Beam	243	ft	171	71	1		0
205 - Reinforced Concrete Column	2	each		2			0
210 - Reinforced Concrete Pier Wall	41	ft		41			0
215 - Reinforced Concrete Abutment	192	ft	88	35	69		0
220 - Reinforced Concrete Pile Cap/Footing	176	ft	98	31	47		0
234 - Reinforced Concrete Pier Cap	32	ft		10	22		0
302 - Compression Joint Seal	111	ft		111			0
310 - Elastomeric Bearing	8	each	4	4			0
321 - Reinforced Concrete Approach Slab	2294	ft^2		2254	40		0
330 - Metal Bridge Railing	226	ft	206	20			0
510 - Wearing Surfaces	3842	ft^2		3842			0
515 - Steel Protective Coating	10740	ft^2	9470	1270			0
800 - Erosion or Scour	336	ft	158	73	105		0
801 - Stream Hydraulics	1	each			1		0
830 - Secondary Members	2	each		2			0
831 - Steel Beam End	8	each		8			0
850 - Backwall	74	ft		69	5		0
851 - Abutment Pedestal	4	each	2	2			0
852 - Pier Pedestal	4	each		4			0
853 - Wingwall	60	ft		60			0

Element Assessment by Span							
Element**	**Total Quantity**	**Unit**	**CS-1**	**CS-2**	**CS-3**	**CS-4**	**CS-5**
Span Number : 1							
BA215 - Reinforced Concrete Abutment	94	ft		30	64		0
BA220 - Reinforced Concrete Pile Cap/Footing	36	ft			36		0
BA302 - Compression Joint Seal	37	ft		37			0
BA310 - Elastomeric Bearing	2	each		2			0
515 - Steel Protective Coating	4	ft^2	4				0
BA321 - Reinforced Concrete Approach Slab	1184	ft^2		1144	40		0



Contractor to remove existing bridge.
Super-Structure which is to remain property of the town of Evans

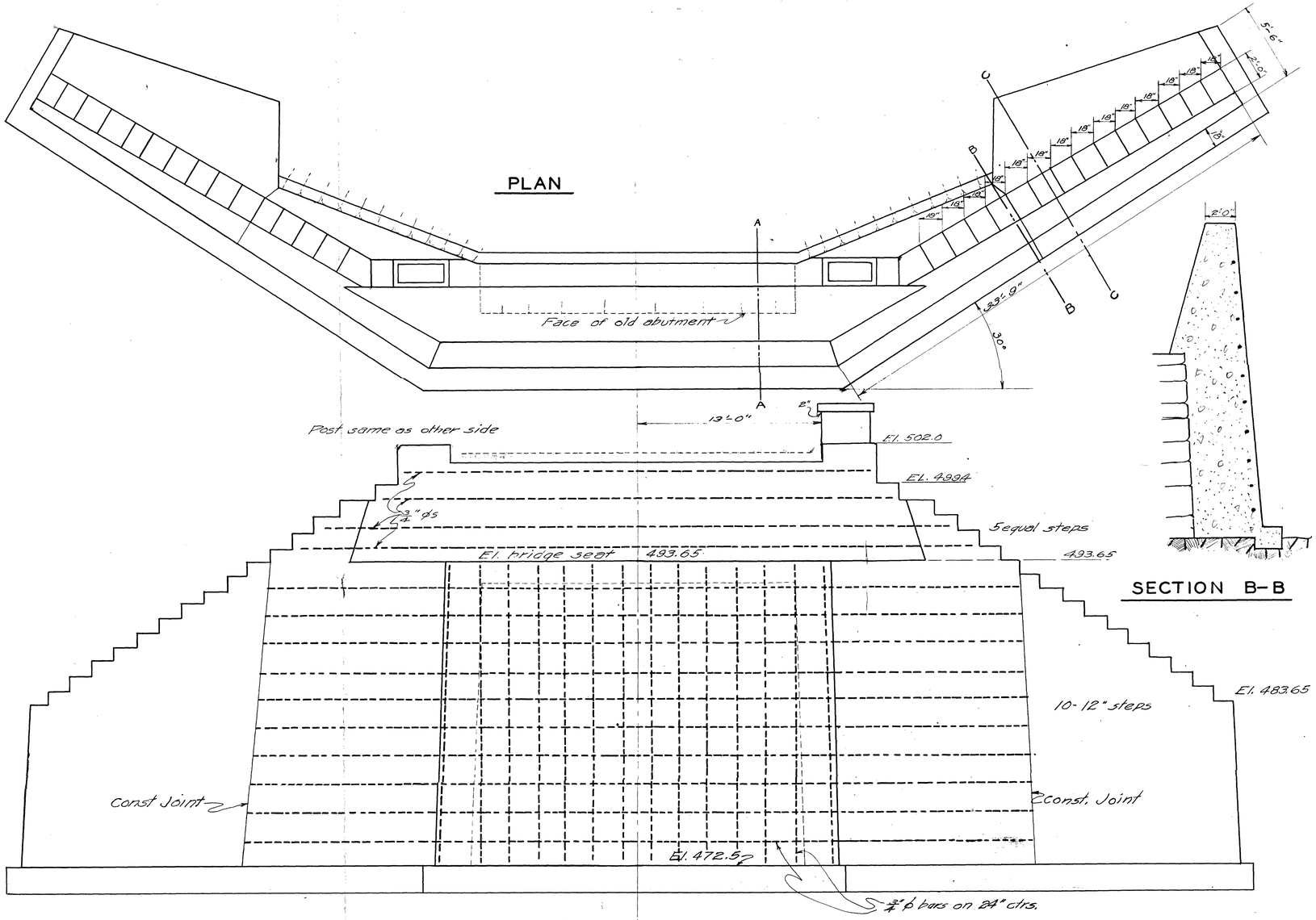
PROJECT NO. 27

PONTIAC RD. OVER BIG SISTER CK.

TOWN OF EVANS

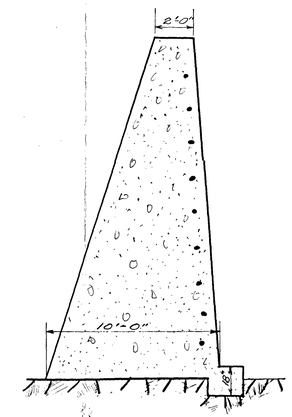
LOCATION PLAN & PROFILE

BIN # 3327390
C.R. 27-1

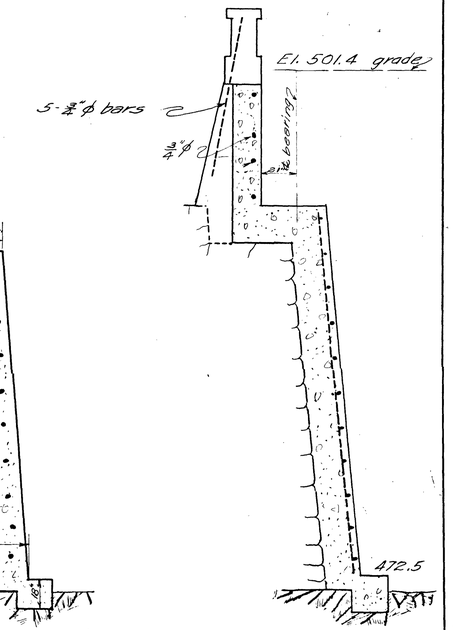


FRONT ELEVATION NORTH ABUTMENT

SECTION B-B



SECTION C-C



SECTION A-A

PROJECT NO. 27

PONTIAC DERBY ROAD

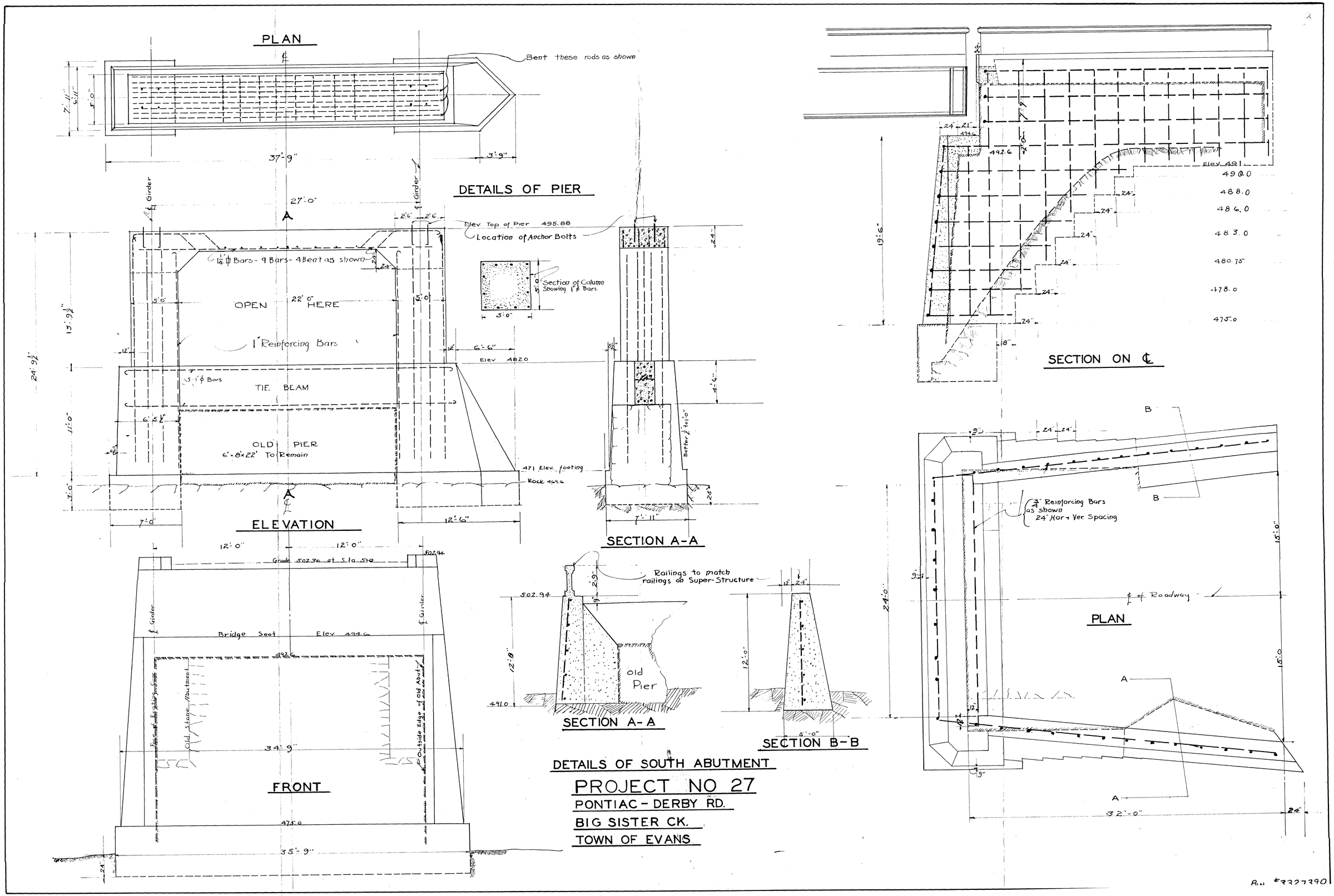
BIG SISTER CREEK

TOWN OF EVANS

NORTH ABUTMENT

SCALE ¼" = 1'

BIN #3327390

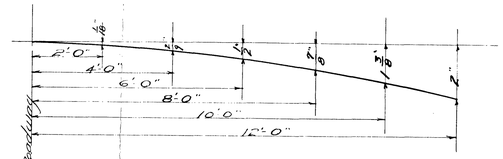

PLAN
Bent these rods as shown
37'-9"
3'-9"
DETAILS OF PIER
27'-0"
Elev. Top of Pier 495.88
Location of Anchor Bolts
Bars - 9 Bars - 4 Bent as shown
OPEN 22' 0" HERE
1" Reinforcing Bars
Section of Column Showing 1" Bars
TIE BEAM
Elev 482.0
OLD PIER
6'-8"x22' To Remain
471 Elev. footing
Rock 469.6
ELEVATION
SECTION A-A
Batter 1" to 1'-0"
Grade 502.36 at S.1a.5+0
Bridge Seat Elev 494.6
Old Stage Abutment
Outside Edge of Old Abut.
FRONT
Railings to match railings on Super-Structure
old Pier
SECTION A-A
SECTION B-B
DETAILS OF SOUTH ABUTMENT
PROJECT NO 27
PONTIAC - DERBY RD.
BIG SISTER CK.
TOWN OF EVANS
SECTION ON ℄
Elev 491
490.0
488.0
486.0
483.0
480.75
478.0
475.0
19'-6"
Reinforcing Bars as shown 24" Hor + Ver Spacing
℄ of Roadway
PLAN
32'-0"
24'-0"
15'-0"

2 Plate Girder Spans Required
Length CtoC of Bearings 53'-9"
Length Overall 55'-3"
Four (4) Panels Required as Show on Floor Plan

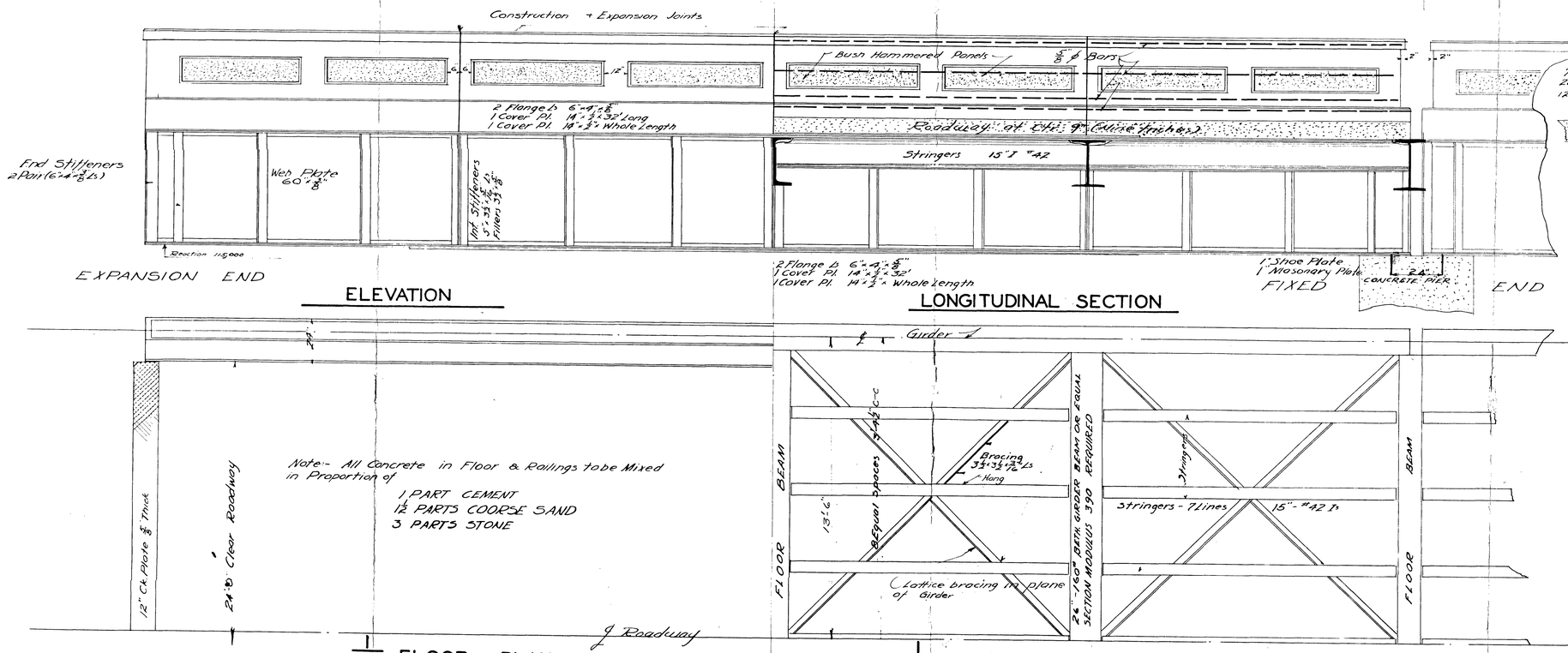
Depth B to B of Flange Angles 5'-0"
Width C-C of Girders 21'-0"
Clear Width of Roadway 24'-0"
Clear Span About 50'-0"

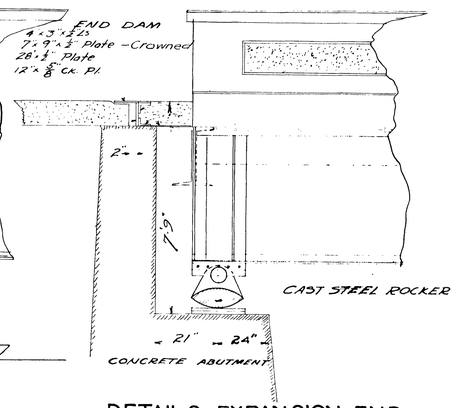
Floor Beam Connections to Girders 2-6"×6"×7/16" Ls 1'-8½" Long
Stringer Connection to Floor Beams 2-4"×4"×3/8" Ls 12" Long
All Steel Shapes & Plates to be of Medium open Hearth Steel
Rivets ¾" dia.

SUPER—STRUCTURE DETAILS & SECTIONS

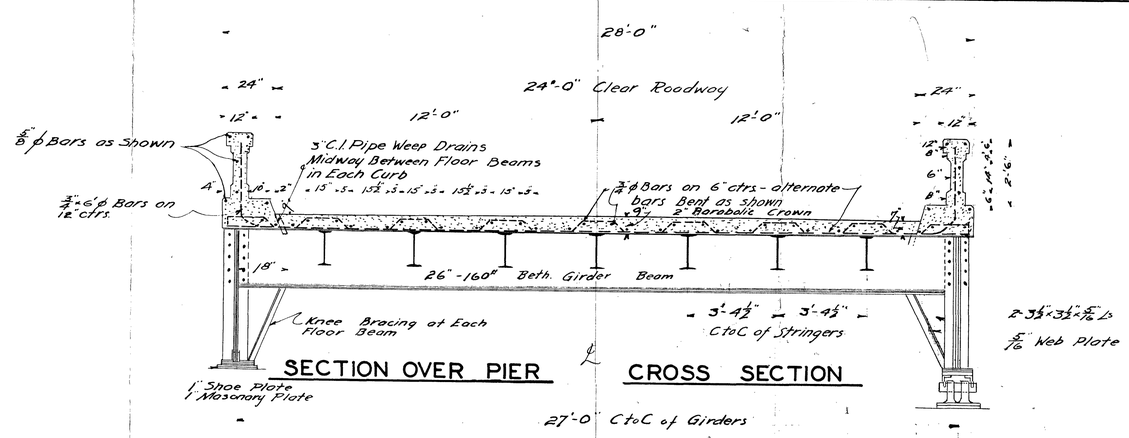


ORDINATES 2' PARABOLIC CROWN ON 12' WIDTH





DETAILS EXPANSION END



PROJECT NO. 27

PONTIAC-DERBY RD.

BIG SISTER CK.

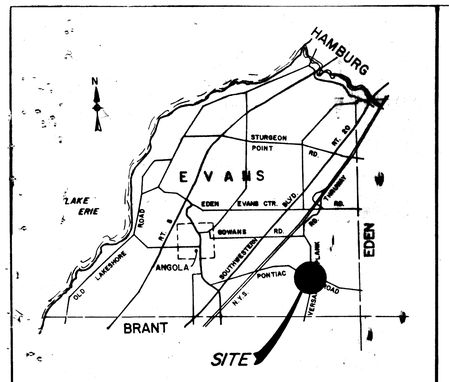
TOWN OF EVANS

SCALE ⅜"=1'-0"

Rot'n to Bind Fold

BIN # 3327390

R.W.P. BR. 41-1-75
SHEET 1 OF 20



LOCATION PLAN
SCALE: 1" = 2 MI.

ERIE COUNTY DEPARTMENT OF PUBLIC WORKS

DIVISION OF HIGHWAYS

PROJECT NUMBER RWP BR 41-1-75

REHABILITATION OF BRIDGE NUMBER 41 VERSAILLES PLANK RD.

TOWN OF EVANS

TYPE OF CONSTRUCTION

REPLACE DECK SLAB AND REHABILITATE STEEL PLATE GIRDER FRAMEWORK AND SUB-STRUCTURE OF BRIDGE NUMBER BR-41-1. NEW DECK SLAB TO BE REINFORCED CONCRETE, 9½" THICK, 113'LONG, 37' WIDE. REINFORCED CONCRETE APPROACH SLABS AT EACH END OF BRIDGE, 30' AND 32' LONG, 37' WIDE.

ALL WORK CONTEMPLATED UNDER THIS CONTRACT IS TO BE COVERED BY AND IN CONFORMITY WITH THE SPECIFICATIONS OF THE NEW YORK STATE DEPT. OF TRANSPORTATION, ADOPTED JAN. 3, 1978, WITH SUBSEQUENT MODIFICATIONS INCLUDING ADDENDUM NO. 1, ADOPTED JAN. 2, 1979, AND THOSE MADE BY THE ERIE COUNTY DEPT. OF PUBLIC WORKS - DIVISION OF HIGHWAYS, EXCEPT AS MODIFIED ON THESE PLANS AND IN THE ITEMIZED PROPOSAL AND INSTRUCTIONS TO BIDDERS.

STANDARD SHEETS: EC 76-1, EC 76-3, EC 79-4, EC 79-5, ECB 76-1, EC 625-1, E 645-3, E 645-4, 203-5R1, 606-3R2, 606-6R1, 609-1, 619-2R1 & 655-3.

SHEET NUMBER	DESCRIPTION
1	TITLE SHEET
2	TYPICAL HIGHWAY SECTIONS AND MISCELLANEOUS TABLES AND NOTES
3	SUMMARY OF QUANTITIES
4	SPECIAL SPECIFICATIONS AND GENERAL NOTES
5	BASE MAP - PLAN AND PROFILE
6	PLAN AND PROFILE - VERSAILLES PLANK ROAD 10+50 to 16+50
7	DRAINAGE TABLE
8	BRIDGE LOCATION PLAN AND SCHEMATIC DETAILS
9	REINFORCING BAR TABLE
10	BRIDGE DECK AND APPROACH SLABS-REINFORCING PLANS
11	CONCRETE REPAIRS-NORTH ABUTMENT AND SECTIONS
12	CONCRETE REPAIRS-CENTER PIER
13	CONCRETE REPAIRS-SOUTH ABUTMENT
14	RAILING DETAILS
15	STRUCTURAL STEEL REPAIRS
16	SLAB BOTTOM ELEVATIONS AND ANTICIPATED DEFLECTIONS
17	BRIDGE LIFTING PLAN
18	EXISTING BRIDGE DECK CONSTRUCTION DRAWINGS FOR USE IN DEMOLITION PHASE
19	EXISTING NORTH ABUTMENT CONSTRUCTION DRAWINGS FOR USE IN DEMOLITION PHASE
20	EXISTING SOUTH ABUTMENT AND CENTER PIER CONSTRUCTION DRAWINGS FOR USE IN DEMOLITION PHASE

STATE OF NEW YORK
FREDERIC M. DOBING, P.E.
No. 51717
LICENSED PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL
CARLTON S. FROST, P.E.
SENIOR CIVIL ENGINEER
DATE June 23, 1980

RECOMMENDED FOR APPROVAL
KENNETH T. RYBARCZYK, P.E.
SENIOR CIVIL ENGINEER
DATE 6/23/80

RECOMMENDED FOR APPROVAL
S. JEROME HAWKINS, P.E.
ASSOCIATE CIVIL ENGINEER
DATE June 23, 1980

RECOMMENDED FOR APPROVAL
PHILIP F. FRANDINA, P.E.
ASSOCIATE CIVIL ENGINEER
DATE 6-23-80

RECOMMENDED FOR APPROVAL
KENNETH L. REITMEIER, P.E.
ERIE COUNTY D.P.W.
DEPUTY COMMISSIONER
DIVISION OF HIGHWAYS
DATE 6/23/80

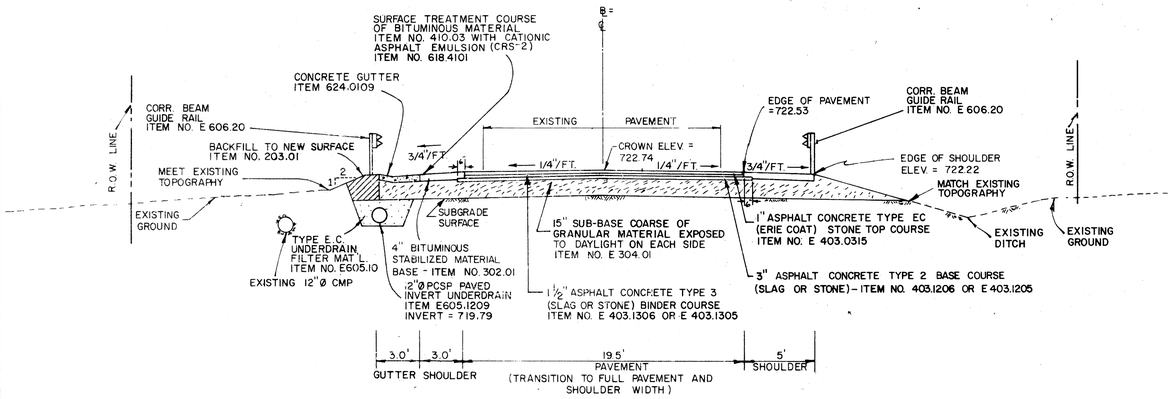
WARNING:

IT IS A VIOLATION OF SECTION 7209, SUBDIVISION 2, OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR TO ALTER, IN ANY WAY, ANY PLANS, SPECIFICATIONS, PLATS, OR REPORTS TO WHICH THE SEAL OF A PROFESSIONAL ENGINEER OR LAND SURVEYOR HAS BEEN APPLIED.

URS McPHEE, SMITH, ROSENSTEIN ENGINEERS P.C.
Subsidiary of URS/Madigan-Praeger, Inc
Buffalo, N.Y. Katonah N.Y.

MADE BY G.M.K.
TRACED BY M.J.S.
CHECKED BY K.M.P.

ERIE COUNTY DEPT. OF PUBLIC WORKS
DIVISION OF HIGHWAYS
95 FRANKLIN ST. BUFFALO, N.Y.
PROJECT Nº. RWP BR 41-1-75
TITLE SHEET
DATE APRIL 1980
SCALE NONE



(A) TRANSITION SECTION--VERSAILLES PLANK ROAD

(NORTH OF PONTIAC ROAD)

SCALE: 1" = 5'

SECTION SHOWN IS AT STA. 14+00

PERMANENT SURVEY MARKERS TYPE "B"		
STATION	LOCATION	E626.0102
P.I. 11 + 43.00	℄	1 EA.
P.O.L. 16 + 00.00	℄	1 EA.
	TOTAL	2 EA.

TABLE OF SECTIONS		
ROAD	CENTERLINE STATIONING	TYPE OF SECTION
VERSAILLES PLANK	11+69 to 12+01	CONCRETE BRIDGE APPROACH SLAB (SEE SHEET # 13)
VERSAILLES PLANK	12+01 to 13+14	CONCRETE BRIDGE DECK (SEE SHEET # 10)
VERSAILLES PLANK	13+14 to 13+44	CONCRETE BRIDGE APPROACH SLAB (SEE SHEET # 11)
VERSAILLES PLANK	13+44 to 14+77	TRANSITION TO EXISTING PAVEMENT (SIMILAR TO SECT. A)

EARTHWORK SUMMARY		
ITEM NO. 203.01	UNCLASSIFIED EXCAVATION & EMBANKMENT	CUBIC YARDS
FROM HIGHWAY SECTIONS		303
TOTAL - ITEM NO. 203.01		303
ITEM NO. E206.01	STRUCTURAL EXCAVATION	CUBIC YARDS
FROM BRIDGE REHABILITATION		63
TOTAL - ITEM NO. E 206.01		63
ITEM NO. E206.02	TRENCH & CULVERT EXCAVATION	CUBIC YARDS
FROM DRAINAGE TABLE		75.8
TOTAL - ITEM NO. E 206.02		75.8

GUIDE RAILING TABLE										
ITEM NUMBER	DESCRIPTION	LOCATION (℄ STATIONING) FROM STATION	TO STATION	POST SPACING	LENGTH (FEET)	606.14	606.11	606.10	E606.20	568.11
—	STEEL BRIDGE RAILING (FOUR-RAIL)	11+70 (17'L)	13+48 (17'L)	10'-6"	178					178
—	STEEL BRIDGE RAILING (FOUR-RAIL)	11+70 (17'R)	13+48 (17'R)	10'-6"	178					178
—	BOX BEAM GUIDE RAILING	13+45 (17'L)	13+80 (16'L)	6'	35			35		
—	BOX BEAM GUIDE RAILING	13+45 (17'R)	13+80 (15'R)	6'	35			35		
—	CORRUGATED BEAM GUIDE RAILING (WITH TRANSITION TO BOX BEAM & APPROACH SECTION)	13+80 (16'L)	14+44 (15'L)	12'-6"	64				64	
—	CORRUGATED BEAM GUIDE RAILING (WITH TRANSITION TO BOX BEAM & TERMINAL SECTION)	13+80 (15'R)	14+44 (16'R)	12'-6"	64				64	
—	BOX BEAM GUIDE RAILING (SHOP CURVED)	A 9+17 (16'L)	11+73 (17'L)	3'	82		82			
—	BOX BEAM GUIDE RAILING (SHOP CURVED)	11+73 (17'R)	A 11+10 (25'R)	3'	102		102			
—	BOX BEAM GUIDE RAILING END ASSEMBLY	A 11+10 (25'L)	A 11+12 (26'L)	—	—	1				
—	BOX BEAM GUIDE RAILING END ASSEMBLY	A 9+15 (17'L)	A 9+17 (16'L)	—	—	1				
—	TOTALS	—	—	—	—	2	184	70	128	356

ERIE COUNTY DEPT. OF PUBLIC WORKS
DIVISION OF HIGHWAYS
95 FRANKLIN ST. BUFFALO, N.Y.

SHEET NO 2
DATE JUNE 80
SCALE AS SHOWN

PROJECT No. R.W.P. BR. 41-1-75

TYPICAL HIGHWAY SECTIONS & MISC. TABLES & NOTES

SUMMARY OF QUANTITIES

ITEM NUMBER	DESCRIPTION	UNIT	QUANTITIES HIGHWAY NEAT	HIGHWAY ROUND	BRIDGE NEAT	BRIDGE ROUND	TOTAL NEAT	TOTAL ROUND	AS BUILT
201.0601	CLEARING AND GRUBBING	LS	NEC.	NEC			NEC.	NEC.	
203.01	UNCLASSIFIED EXCAVATION AND EMBANKMENT	CY	303	350	135	200	438	550	
E203.07	SELECT GRANULAR FILL	CY	10	15			10	15	
E203.15	FURNISHING WATER EQUIPMENT	LS	NEC.	NEC.	NEC.	NEC.	NEC.	NEC.	
E203.1601	APPLYING WATER	M.GAL	10	10	10	10	20	20	
E203.21	SELECT STRUCTURAL FILL	CY			50	60	50	60	
E206.01	STRUCTURE EXCAVATION	CY			63	80	63	80	
E206.02	TRENCH AND CULVERT EXCAVATION	CY	76	85			76	85	
302.01	BITUMINOUS STABILIZED COURSE	CY	13	20			13	20	
E304.01	SUBBASE COURSE, RUN-OF-CRUSHER (SLAG OR STONE)	CY	219	250	43	60	262	310	
E403.0315	ASPHALT CONCRETE-TYPE EC (ERIE COAT) TOP COURSE (STONE AGGREGATE)	TON	51	80			51	80	
E403.1205 E403.1206	ASPHALT CONCRETE - TYPE 2 BASE COURSE (STONE OR SLAG AGGREGATE) STONE SLAG	TON TON	50 46	70 60			50 46	70 60	
E403.1305 E403.1306	ASPHALT CONCRETE-TYPE 3 BINDER COURSE (STONE OR SLAG AGGREGATE) STONE SLAG	TON TON	104 96	130 120			104 96	130 120	
410.03	BITUMINOUS SURFACE TREATMENT (SINGLE COURSE FOR SHOULDERS)	SY	118	130			118	130	
555.01	CONCRETE FOR STURCTURES - CLASS A	CY			3	10	3	10	
555.02	CONCRETE FOR STRUCTURES - CLASS B	CY			43*	65*	43*	65*	
555.0401	CONCRETE FOR STRUCTURES - CLASS E (STRUCTURAL SLAB WITH INTEGRAL WEARING SURFACE - BOTTOM FORMWORK REQUIRED)	SF			4,181	4,300	4,181	4,300	
555.0404	CONCRETE FOR STRUCTURES - CLASS E (STRUCTURAL APPROACH SLAB WITH INTEGRAL WEARING SURFACE)	SF			2,294	2,400	2,294	2,400	
209.01	TEMP SOIL EROSION+WATER POLLUTION CONTROL				NEC.	NEC.	NEC.	NEC.	
556.0201	UNCOATED BAR REINFORCEMENT FOR CONCRETE STRUCTURES	LB			21,650	23,000	21,650	23,000	
556.0202	EPOXY-COATED BAR REINFORCEMENT FOR STRUCTURES	LB			18,897	20,000	18,897	20,000	
558.01	BITUMINOUS MATERIAL	SF			524	600	524	600	
559.01	EPOXY PROTECTIVE COATING	SF			1,288	1,500	1,288	1,500	
E559.03	LINSEED OIL PROTECTIVE COATING	GAL			36	50	36	50	

SUMMARY OF QUANTITIES

ITEM NUMBER	DESCRIPTION	UNIT	QUANTITIES HIGHWAY NEAT	HIGHWAY ROUND	BRIDGE NEAT	BRIDGE ROUND	TOTAL NEAT	TOTAL ROUND	AS BUILT
564.01	STRUCTURAL STEEL	LB			7,618*	7,700*	7,618*	7,700*	
564.10	STRUCTURAL STEEL REPLACEMENT (LB.)-TYPE 1 THRU TYPE 20	LB			7,485*	12,000*	7,485*	12,000*	
564.2001	STRUCTURAL STEEL REPLACEMENT (EACH)-TYPE 1 (HIGH STRENGTH BOLTS) TYPE 1 THRU TYPE 20	EACH			168*	200*	168*	200*	
564.2002	STRUCTURAL STEEL REPLACEMENT (EACH)-TYPE 2 (WELDING) TYPE 1 THRU TYPE 20	EACH			11*	15*	11*	15*	
565.0815	STEEL LAMINATED ELASTOMERIC BRIDGE BEARING (11" x 32")	EACH			4	4	4	4	
567.21	ARMORED JOINT SYSTEM WITH ELASTOMERIC SEALER	LF			74	80	74	80	
568.11	STEEL BRIDGE RAILING (4-RAIL)	LF			356	360	356	360	
570.0101	CLEANING & PRIMING NEW STRUCTURAL STEEL	LS			NEC.*	NEC.*	NEC.*	NEC.*	
570.0201	PAINTING NEW STRUCTURAL STEEL	LS			NEC. *	NEC. *	NEC. *	NEC. *	
570.0301	MAINTENANCE CLEANING & PRIMING OF STRUCTURAL STEEL	LS			NEC.	NEC.	NEC.	NEC.	
570.0401	MAINTENANCE PAINTING OF STRUCTURAL STEEL	LS			NEC.	NEC.	NEC.	NEC.	
580.01	REMOVAL OF STRUCTURAL CONCRETE	CY			43*	65*	43*	65*	
580.03	REMOVAL OF STEEL SUPPORTED STRUCTURAL SLAB (WITHOUT SHEAR CONNECTORS)	SF			3,164	3,200	3,164	3,200	
582.01	REMOVAL & REPLACEMENT OF STRUCTURAL CONCRETE	CY			5 *	10 *	5 *	10 *	
E583.01	SHOTCRETE	BAG			113*	120*	113*	120*	
E584.01	EPOXY CRACK INJECTION	LF			60	100	60	100	
E584.02	WEEP HOLES FOR EXISTING CONCRETE STRUCTURES	EACH			46	50	46	50	
585.01	STRUCTURAL LIFTING OPERATIONS-TYPE A	EACH			8	8	8	8	
589.01	REMOVAL OF EXISTING STEEL (LB.)-TYPE 1 THRU 20	LB			7,485*	12,000*	7,485*	12,000*	
589.0201	REMOVAL OF EXISTING STEEL (EACH)-TYPE NUMBER 1 (RIVETS)	EACH			168*	200*	168*	200*	
589.0202	REMOVAL OF EXISTING STEEL (EACH) - TYPE NUMBER 2 (BRIDGE BEARINGS)	EACH			4	4	4	4	

SUMMARY OF QUANTITIES

ITEM	DESCRIPTION	UNIT	QUANTITIES HIGHWAY NEAT	HIGHWAY ROUND	BRIDGE NEAT	BRIDGE ROUND	TOTAL NEAT	TOTAL ROUND	AS BUILT
E604.0501	DROP INLETS TYPE "A"	LF	4.6	5.0			4.6	5.0	
E605.10	UNDERDRAIN FILTER TYPE EC	CY	23	30			23	30	
E605.1209	PERFORATED STEEL PIPE UNDERDRAIN-PAVED INVERT (2 2/3x 1/2) -12" Ø-16 GAUGE	LF	92	100			92	100	
606.10	BOX BEAM GUIDE RAILING	LF	70	80			70	80	
606.11	BOX BEAM GUIDE RAILING (SHOP-CURVED)	LF	184	190			184	190	
606.14	BOX BEAM GUIDE RAILING END ASSEMBLY	EACH	2	2			2	2	
E606.20	CORRUGATED BEAM GUIDE RAILING	LF	128	135			128	135	
E610.0201	SEEDING	ACRE	01	02			01	02	
E610.03	SEEDING ON SPECIAL AREAS	ACRE	02	05			02	05	
613.0101	TOPSOIL	CY	8	10			8	10	
618.4101	CATIONIC ASPHALT EMULSION (CRS-2)	GAL	36	50			36	50	
E619.0101	BASIC MAINTENANCE AND PROTECTION OF TRAFFIC (WITH WATCHMAN SERVICE REQUIREMENT "C")	LS	NEC.	NEC.	NEC.	NEC.	NEC.	NEC.	
620.03	STONE FILLING (LIGHT)	CY	23	30			23	30	
624.0109	CONVENTIONALLY FORMED OR MACHINE FORMED CONCRETE GUTTERS TYPE "BB"	SY	27	30			27	30	
E626.0102	PERMANENT SURVEY MARKERS-TYPE B	EACH	2	2			2	2	
634.01	SURVEY AND STAKEOUT	LS	NEC.	NEC.	NEC.	NEC.	NEC.	NEC.	
E637.05	ENGINEER'S OFFICE - TYPE A	LS	NEC.	NEC.	NEC.	NEC.	NEC.	NEC.	
652.01	FURNISHING AND APPLYING CALCIUM CHLORIDE	TON	1	1			1	1	
655.02	FRAMES AND GRATES (FABRICATED)	SF	6.8	14.0			6.8	14.0	
699.01	MOBILIZATION (NOT TO EXCEED 3% OF TOTAL)	LS	NEC.	NEC.			NEC.	NEC.	
625.04	CONCRETE ROW MARKERS- TYPE "L" LOW	EACH	7	9			7	9	

* NOTE: QUANTITIES MAY CHANGE SIGNIFICANTLY AFTER MATERIAL IS EXPOSED BY REMOVAL OF BRIDGE DECK AND/OR AFTER DETAILED INSPECTION BY ENGINEER OF EXISTING STRUCTURAL STEEL MEMBERS, CONNECTIONS, AND DETERIORATED CONCRETE. FINAL QUANTITIES WILL BE BASED ON WORK AS DIRECTED BY ENGINEER.

MADE BY: G.M.K.
TRACED BY: M.J.S.
CHECKED BY: K.M.P.

URS Sabree, Smith, Robertson, Engineers P.C. Consulting Engineers Buffalo N.Y. Kalorah N.Y.

ERIE COUNTY DEPT. OF PUBLIC WORKS
DIVISION OF HIGHWAYS
95 FRANKLIN ST. BUFFALO, N. Y.

PROJECT Nº. RWP BR. 41-1-75
SUMMARY OF QUANTITIES

SHEET No. 3
DATE APRIL 1980
SCALE NONE

GENERAL NOTES

BRIDGE CONSTRUCTION NOTES

(1) DESIGN SPECIFICATIONS: A.A.S.H.T.O. 1978 Modified and Current American Welding Society Modified. The stresses assumed for design purposes conform to 1978 A.A.S.H.T.O. specifications with the 28 day compressive strength of concrete = 3000 psi min.

(2) LIVE LOAD: HS 20-44.

(3) MATERIAL AND CONSTRUCTION SPECIFICATIONS: Standard Specifications, Construction and Materials, New York State Department of Transportation, Design and Construction Division, dated January 3, 1978, with current additions and modifications.

(4) STREAM CONSERVATION NOTE: During the course of construction, the Contractor shall conduct his operation in such a manner to prevent to a minimum any damage to any stream from pollution by debris, sediment, or other foreign material, or from the manipulation of equipment and/or materials in/or near such streams. He shall not return directly to a stream, any water which has been used for wash purposes or other similar operations, which cause this water to be polluted with sand, silt, cement, oil, or other impurities. If he uses water from a stream, he shall construct any intake or temporary dam required to protect and maintain water rights to sustain aquatic life downstream.

RECONSTRUCTION NOTES:

(5) The Contractor's attention is directed to the fact that, due to the nature of reconstruction projects, the exact extent of reconstruction work cannot always be accurately determined prior to the commencement of work. These Contract Documents have been prepared based on field inspection and other information available at the time. Actual field conditions may require modifications to construction details and work quantities. The Contractor shall perform the work in accordance with field conditions.

(6) The Contractor shall perform all work with care so that any materials which are to remain in place, or which are to remain the property of the County, will not be damaged. If the Contractor damages any materials which are to remain in place, or which are to remain the property of the County, the damaged materials shall be repaired or replaced in manner satisfactory to the Engineer at the expense of the Contractor.

(7) Whenever items in the Contract require materials to be removed and disposed of, the cost of supplying a disposal area and transportation to that area shall be included in the unit price bid for those items.

(8) During removal operations, the Contractor shall not be allowed to drop waste concrete, debris, and other material to the area below the bridge except where the plans specifically permit the dropping of material. Platforms, nets, screens or other protective devices shall be used to catch the material. If the Engineer determines that adequate protective devices are not being employed, the work shall be suspended until adequate protection is provided.

(9) All material falling on the area below and adjacent to the bridge shall be removed and disposed of by the Contractor.

(10) The cost of furnishing, installing, maintaining, removing and disposing of all platforms, nets, screens or other protective devices shall be included in the unit bid price of the appropriate items of the Contract.

(11) The details on Drawings No. 11, 12, & 13 indicate the spalls, scales, and cracks noted on a field inspection by the Engineer. All of the major areas of spalling, scaling and cracking known to exist at the time of contract preparation have been shown to indicate the approximate extent of deterioration that will have to be repaired by the Contractor. Final determination of areas to be repaired shall be the decision of the Engineer.

(12) Areas of deterioration 12 inches or less in depth shall be repaired by Item E583.01, "Shotcrete". Areas that are greater in depth than this shall be repaired with Item 582.01, "Removal and Replacement of Structural Concrete". The indicated depth limitation is only an approximate guide and final determination of which item to use shall be the decision of the Engineer.

(13) Except for structural slabs, all surfaces receiving new concrete shall be sandblasted. Just prior to the application of new concrete, the surfaces shall be air cleaned and coated with Epoxy Polysulfide Grout (721-03) thoroughly brushed into the surface. It will not be necessary to brush the grout into surfaces made inaccessible by mesh or closely spaced reinforcement when so determined by the Engineer. There will be no separate payment for this work. The cost shall be included in the bid price for the various concrete items in the Contract.

(14) Existing concrete deck and railing shall be removed under Item 580.03, "Removal of Steel Supported Structural Slab". Removal of existing scuppers, joints, and reinforcement contained therein to be included in the unit price bid for Item 580.03.

(15) Existing Substructures shall be removed to within the limits shown on the plans under Item 580.01, "Removal of Structural Concrete".

(16) The Contractor will take note that existing reinforcing is to remain in place at the North and South abutments and wing walls (except as noted on drawings).

(17) Contractor is to verify dimensions and locations of all existing steel and concrete in field before proceeding with construction.

CONCRETE NOTES:

(18) All concrete shall be air entrained in accordance with the specifications.

(19) All concrete shall be made with Type 2 cement.

(20) The cost of all preformed elastic joint material and preparation, including P.V.C. waterstops, will be included in the unit price bid for the various concrete items of the contract.

(21) All exposed edges of concrete and exposed joints shall be chamfered 1" x 1" unless otherwise noted.

(22) All formwork must be removed after placement of concrete including all formwork used on the bridge spans.

(23) Reinforcing bars shall conform to the requirements of A.S.T.M. Designation: A615, Grade 60, and shall be lapped a minimum of 30 bar diameters.

(24) Bituminous Material, Item 558.01, shall be applied to the backs of all abutments and wingwalls above top of footings where fill is in contact with the walls. This note applies only to areas exposed in reconstructing abutment backwalls and wingwalls.

(25) Epoxy Protective Coating for Concrete. Item 559.01 shall be applied to the following surfaces:

ABUTMENTS: All exposed pedestal surfaces, bridge seats, including those under the bearings, exposed vertical surfaces of backwall, and curtain walls facing the superstructure.

PIERS: The entire pier cap as indicated on drawing number 12.

(26) No curing compounds shall be applied to surfaces of deck or approach slabs. Apply Item E559.03, "Linseed Oil Protective Coating" for concrete, to wearing surfaces on approach slabs and bridge slab.

(27) Surfaces exposed to view shall be rubbed unless otherwise ordered by the Engineer. The following rubbing procedure shall be repeated as many times as the Engineer deems it necessary in order to secure a satisfactory finish. Immediately before starting this work the concrete surfaces shall be kept thoroughly saturated with water for a minimum period of three hours and then rubbed with a No. 16 carborundum brick or other abrasive until the surfaces are even, smooth and of uniform appearance, without applying any cement or other coating. The final finish shall be obtained by a thorough rubbing with a No. 30 carborundum brick or other abrasive of equal quality. After the final rubbing is completed, the surface shall be cured as described under "Curing Concrete", unless otherwise directed.

(28) Concrete surfaces which have been disfigured by the drip from the abrasive which cannot be removed by scrubbing with a stiff brush and water shall be thoroughly cleaned by means of a dilute solution of muriatic acid.

(27 Cont'd.) All surfaces exposed to view shall have all projections and irregularities carefully removed and all cavities neatly filled with mortar of the proportion used in the concrete. (27) & (27 Cont'd.) shall be included in the price bid for Item 555.01.

SUBSTRUCTURE NOTES:

(29) The installation of Select Structure Fill, Item E203.21, as shown on the Structural Plans, shall be completed immediately following the completion of abutments or walls.

(30) Do all renovations work to pier & abutments after existing bridge deck and railings are removed and before new deck is installed.

STRUCTURAL STEEL NOTES:

(31) All structural steel shall conform to A.S.T.M. Designation A36 unless otherwise shown.

(32) All structural steel, regardless of type, (except for rivet replacement or reconstruction) will be paid for under Item 564.01. Replacement of rivets by high strength bolts will be paid for under Item 564.2001. Reconstruction of rivet heads by welding will paid for under Item 564.2002.

(33) All field welding on structural steel shall be by A.W.S. certified welders approved by the Engineer.

(34) As part of this project, the contractor shall be required to relieve the load on existing rocker bearings. See drawing number 17 (Item 585.01).

(35) Structural steel members which are imbedded or in contact with cast or pneumatically projected concrete shall not be painted.

(36) All new structural steel shall be cleaned, primed and painted in accordance with 740.01 in the field after installation (Items 570.0101 and 570.0201)

(37) Clean, prime, and paint all existing steel after existing bridge deck and upper portion of existing abutment backwalls have been removed and before new concrete work is placed. (Items 570.0301 and 570.0401)

(38) Remove all concrete mortar which leaks through joints in forms or is splashed on structural steel.

HIGHWAY CONSTRUCTION NOTES:

(39) Reference is made to previously stated Bridge Construction Notes Nos. 3, 4, 5, 6, and 7.

(40) DESIGN SPECIFICATIONS - Highway design has been performed under the requirements of the latest revision of the Erie County Highway Design Manual and the New York State Department of Transportation Highway Design Manual, in accordance with County design classification R3 (rural-local).

(41) The location and design of a suitable detour route shall be performed by the Erie County DPW-Division of Highways.

(42) During the closing of the project area to through traffic, driveway services to homes within the affected area are required to be maintained.

(43) All locations of existing underground utilities and structures are approximate and they must be verified in the field prior to the commencement of any excavation. Assistance in this matter may be obtained by contacting the Underground Utility Locating Service (716-893-1133) and/or the affected utility company. Particular attention is called to the protection of services of the 8" Ø watermain, which runs along the west leg of Pontiac Road, and its connecting services.

(44) Pavement markings and sign placement shall be arranged and installed by the Erie County DPW-Division of Highways.

(45) For the convenience of the Contractor, it is recommended that Bench Mark No. 2 be reset at a secure nearby location prior to the demolition of the bridge structure upon which it is presently set.

SEQUENCE OF OPERATIONS:

(46) At the start of construction, the Contractor shall work on only the bridge portion of this contract, so as to maintain traffic on the surrounding approach roads. He shall close off only the bridge and required work area to traffic and remove the existing concrete deck slab, parapets, and upper abutment backwalls. The existing steel framework is to then be completely cleaned. The County Engineer will then conduct a close inspection of the existing steel in order to determine the amount of deterioration from the original sections. While the inspection is being conducted and results analyzed, the Contractor shall begin construction on the highway portion of this contract. Following completion of the inspection analysis, the Contractor will be directed as to the amount of steel reinforcement and/or replacement necessary in addition to the previously determined and called out floor beam reinforcement and selected corroded rivet replacement. If additional steel members have to be ordered, the Contractor may continue work on the highway portion while waiting for arrival of the steel shipment. When the steel arrives, or if no additional steel is needed, the Contractor is to resume work on the bridge protion, while simultaneously continuing work on the highway portion.

(47) If the Contractor desires to deviate from this sequence of operations, he must submit his suggested sequence in writing to the Engineer for approval.

(48) Construction joints other than shown will be permitted only upon permission of the Deputy Commissioner of Public Works.

(49) Blockout date plates with "year" numerals of 1/2" width by 3" height and raised 1/4", shall be incorporated in the formwork in two locations on the bridge as ordered by the Engineer. No payment will be made.

(50) Any sleeves required by Public Utilities shall be furnished by the utility involved and placed as directed by the Engineer. No direct payment will be made for placing sleeves.

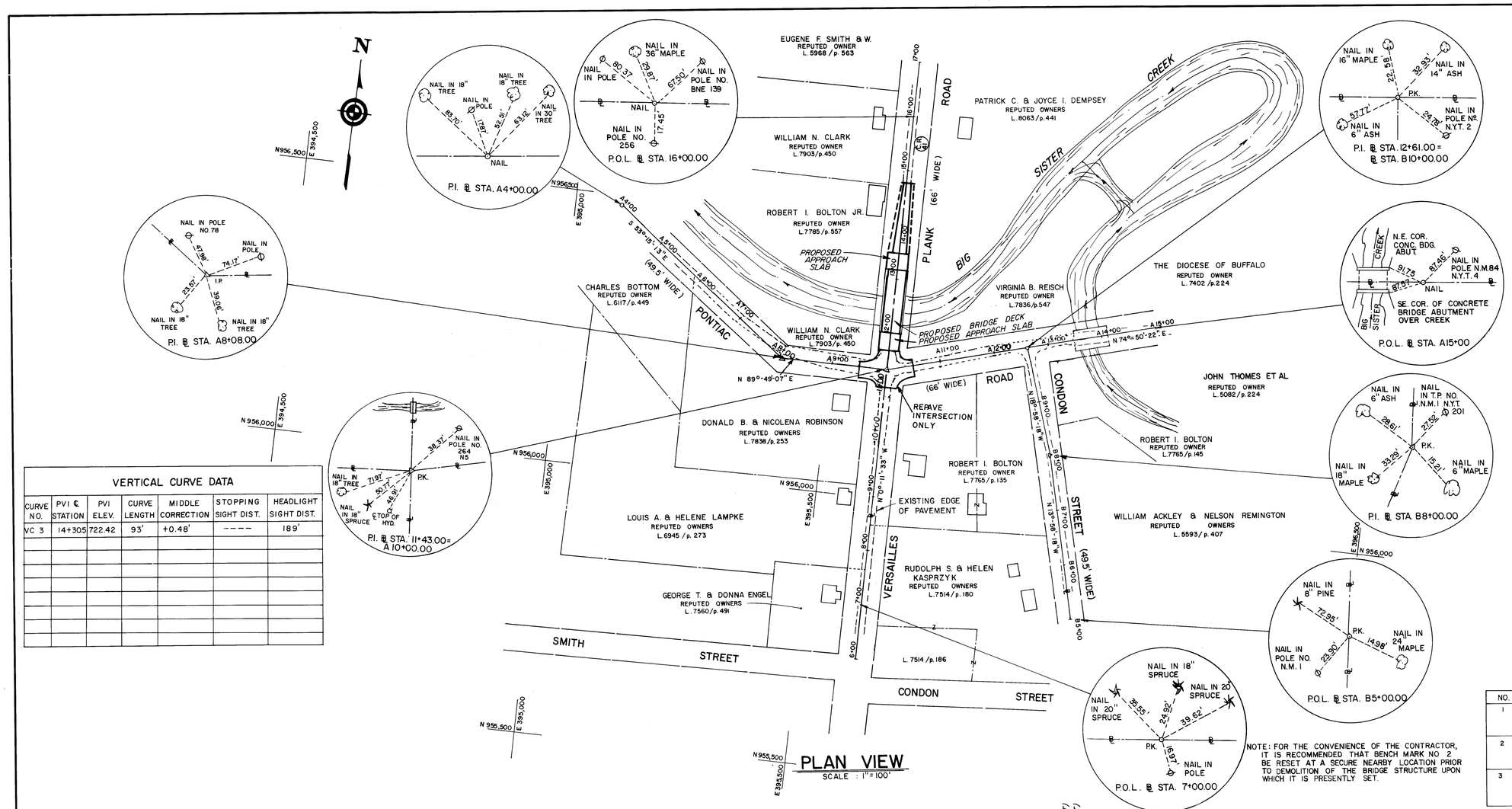
MADE BY: G.M.K.
TRACED BY: M.J.S.
CHECKED BY: K.M.P.

URS MARVIS, SMITH, ROSENSTEIN ENGINEERS P.C. Subsidiary of URS/Madigan-Praeger Inc. Buffalo, N.Y. Kansas, N.Y.

ERIE COUNTY DEPT. OF PUBLIC WORKS DIVISION OF HIGHWAYS 95 FRANKLIN ST. BUFFALO, N. Y.	SHEET NO. 4
PROJECT Nº. RWP BR 41-1-75	DATE APRIL 1980
GENERAL NOTES	SCALE NONE

R.W.P. BR. 41-1-75

SHEET 5 OF 20



PLAN VIEW

SCALE : 1" = 100'

BASELINE COORDINATES				
STA.	BEARING	LENGTH	NORTH	EAST
7+00.00			955,793.25	396,005.43
	N0°-11'-33"W	443.00'		
11+43.00			956,236.25	396,003.94
	N0°-11'-33"W	457.00'		
16+00.00			956,693.25	396,002.41
A4+00.00			956,479.74	395,485.01
	S53°-15'-13"E	408.00'		
A8+08.00			956,253.64	395,811.94
	N89°-49'-07"E	192.00'		
A10+00.00			956,236.25	396,003.94
	N74°-50'-22"E	261.00'		
A12+61.00			956,304.51	396,255.85
	N74°-50'-22"E	239.00'		
A15+00.00			956,367.01	396,486.54
B5+00.00			955,824.25	396,393.31
	N13°-58'-18"W	300.00'		
B8+00.00			956,115.37	396,320.87
	N18°-58'-18"W	200.00'		
B10+00.00			956,304.51	396,255.85

CENTERLINE COORDINATES				
STA.	BEARING	LENGTH	NORTH	EAST
9+93.00			956,086.25	396,004.44
	N0°-11'-33"W	484.00'		
14+77.00			956,570.25	396,002.81
A6+36.00			956,338.10	395,671.31
	S52°-20'-10"E	90.22'		
A7+26.22			956,282.98	395,742.73
	CURVE	173.78'		
A9+00.00			956,229.41	395,903.96
	N89°-05'-26"E	100.00'		
A10+00.00			956,231.00	396,003.95
A10+00.00			956,227.30	396,003.97
	N72°-23'-36"E	265.00'		
A12+65.00			956,307.46	396,256.56
	CURVE	79.93'		
A13+44.93			956,327.68	396,333.85
	N78°-16'-39"E	5.07'		
A13+50.00			956,328.71	396,338.81
B9+67.00			956,273.30	396,266.58
	N18°-58'-18"W	35.54'		
B10+02.61			956,306.97	396,255.00

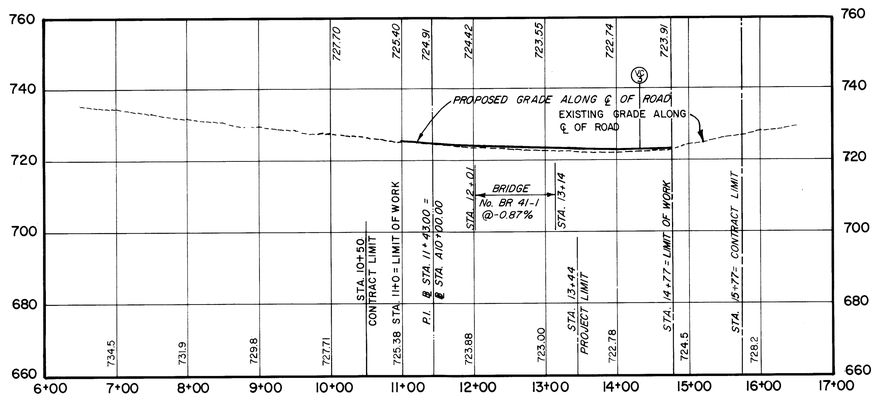
℄ EQUALITIES NOTE : ℄ STA. B10+02.61 = ℄ STA. A12+63.37
℄ STA. A10+00.00 (WEST) = ℄ STA. 11+37.75
℄ STA. A10+00.00 (EAST) = ℄ STA. 11+34.05

VERTICAL CURVE DATA						
CURVE NO.	PVI ℄ STATION	PVI ELEV.	CURVE LENGTH	MIDDLE CORRECTION	STOPPING SIGHT DIST.	HEADLIGHT SIGHT DIST.
VC 3	14+305	722.42	93'	+0.48'	----	189'

TABLE OF BENCHMARKS

NO.	ELEV.	DESCRIPTION
1	733.30	PONTIAC, 1.0 MI. E. OF ; 1.2 MI. W. OF U.S HIGHWAY 62 AT CONC. BRIDGE; IN N.W. COR. OF CONC. WINGWALL; STANDARD TABLET STAMPED "2 WSM 1947 333"
2	727.02	DERBY, 4.3 MI. S. OF ; AT PONTIAC, JUST N. OF X ROADS; AT S.W. END OF CONC. BRIDGE OVER BIG SISTER CR.; ON CONC. GUARDRAIL ; CHISELED SQUARE
3	731.91	DERBY, 4.3 MI. S. OF ; 25' & 25' E OF JUNCTION OF PONTIAC-DERBY RD. & NEW JERUSALEM RD., AT S.W. COR. OF PASTURE FENCE; IN CONC. POST; STANDARD TABLET STAMPED "1 WSM 1947 732"

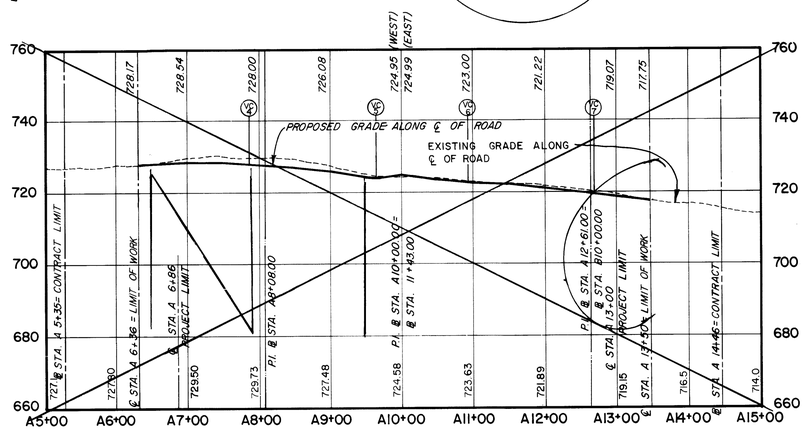
NOTE: FOR THE CONVENIENCE OF THE CONTRACTOR, IT IS RECOMMENDED THAT BENCH MARK NO 2 BE RESET AT A SECURE NEARBY LOCATION PRIOR TO DEMOLITION OF THE BRIDGE STRUCTURE UPON WHICH IT IS PRESENTLY SET.



℄ PROFILE - VERSAILLES PLANK RD. C.R. 41

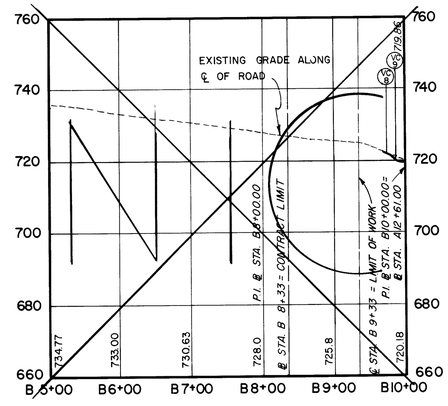
SCALE : HORZ. 1" = 100'
VERT. 1" = 20'

NOTE: ON VERSAILLES-PLANK ROAD, THE NEW CENTERLINE AND BASELINE COINCIDE.



℄ PROFILE - PONTIAC ROAD C.R. 490

SCALE : HORZ. 1" = 100'
VERT. 1" = 20'



℄ PROFILE - CONDON ST.

SCALE : HORZ. 1" = 100'
VERT. 1" = 20'

New Benchmarks		
No.	ELEV.	DESCRIPTION
2A	728.95	STA. 11+05, 32' LT NORTH BOLT TOP OF FIRE HYDRANT. S.W. CORNER VERT. & FRONT. INT.
2B	721.62	STA. 14+18, 34' LT. S.W. CORNER BOTTOM STEP FRONT ENTRANCE TO N38th 9550

MADE BY GM.K.
TRACED BY M.J.S.
CHECKED BY K.M.P.

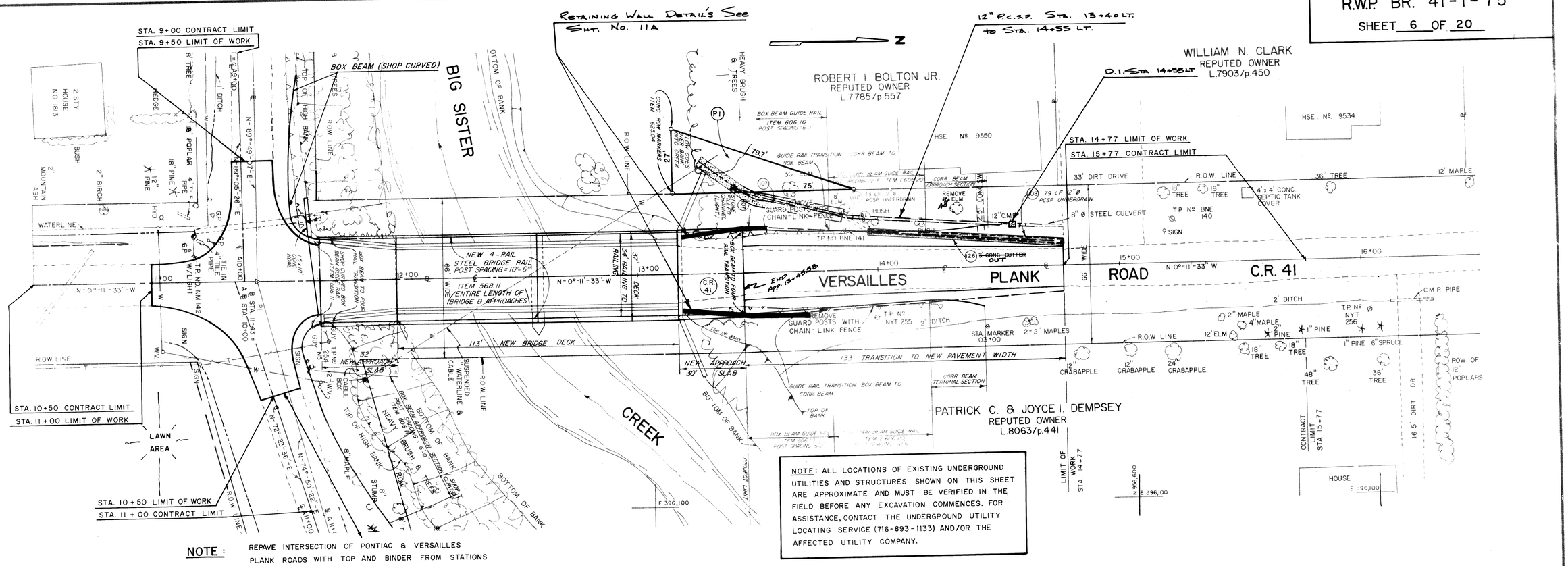
URS DAMES, SMITH, SUSTAKITIS ENGINEERS P.C. Subsidiary of URS/Madigan Praeger Inc. Buffalo, N.Y. Equal A.E.I.

ERIE COUNTY DEPT. OF PUBLIC WORKS
DIVISION OF HIGHWAYS
95 FRANKLIN ST. BUFFALO, N. Y.

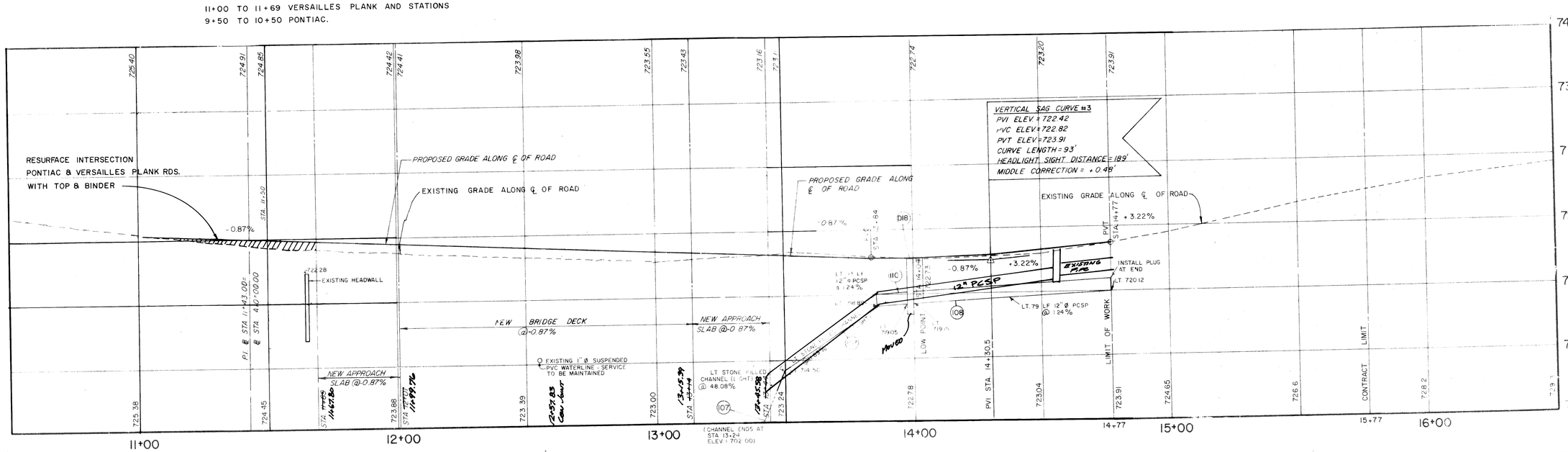
PROJECT Nº. RWP BR 41-1-75
BASE MAP - PLAN & PROFILE

SHEET No. 5
DATE APRIL 1980
SCALE HORZ. 1" = 100' VERT. 1" = 20'
BASE MAP

R.W.P. BR. 41-1-75
SHEET 6 OF 20



NOTE: REPAVE INTERSECTION OF PONTIAC & VERSAILLES PLANK ROADS WITH TOP AND BINDER FROM STATIONS 11+00 TO 11+69 VERSAILLES PLANK AND STATIONS 9+50 TO 10+50 PONTIAC.



℄ PROFILE - VERSAILLES PLANK RD. C.R. 35 & 41

SCALE HORZ 1" = 20'
VERT 1" = 4'

Revised 6-17-81

ERIE COUNTY DEPT. OF PUBLIC WORKS 95 FRANKLIN ST. DIVISION OF HIGHWAYS BUFFALO, N.Y.	SHEET No. 6
PLAN & PROFILE - VERSAILLES PLANK ROAD	DATE APRIL 1980
STA. 10+50 TO STA. 16+50	SCALE HORZ. 1" = 20' VERT. 1" = 4'
	DETAILED MAP

STRUCTURE Nº	STATION TO STATION (BASELINE STATIONING)	DESCRIPTION	ELEVATION OF STRUCTURE		ELEVATION OF PIPES & SEWERS		ITEMS								
			GRATE ELEV.	PAD ELEV.	INLET	OUTLET	E203.07 C.Y.	E206.02 C.Y.	E604.0501 L.F.	E605.10 C.Y.	E605.1209 L.F.	620.03 C.Y.	624.0109 S.Y.	655.02 S.F.	E610.03 ACRE
D. I. 8	STA. 13 + 98 (16.5' LT.)	CONSTRUCT ERIE COUNTY STD. GUTTER DROP INLET – TYPE "A"	722.19	718.30	719.15	719.05	9.2	12.0	4.6					6.8	
107	STA. 13 + 24 (46' LT.) TO STA. 13 + 87 (22' LT.)	EXCAVATE 65 L.F. OF DRAINAGE DITCH – LINE WITH 65 L.F. STONE FILLING (LIGHT)			718.89	702.00						22.4			
108	STA. 13 + 98 (16.5' LT.) TO STA. 14 + 77 (10' LT.)	CONSTRUCT 79 L.F. OF 12" Ø P.C.S.P. UNDERDRAIN			720.12	719.15		54.8		19.4	79				.01
110	STA. 13 + 87 (22' LT.) TO STA. 13 + 98 (16.5' LT.)	CONSTRUCT 13 L.F. OF 12" Ø P.C.S.P. UNDERDRAIN			719.05	718.89		9.0		3.2	13				.01
126	STA. 13 + 96 (15' LT.) TO STA. 14 + 77 (10' LT.)	CONSTRUCT 81 L.F. OF 3FT. WIDE CONCRETE GUTTER											27		
		COLUMN TOTAL					9.2	75.8	4.6	22.6	92	22.4	27	6.8	.02
		BROUGHT FORWARD FROM SHEET Nº													
		TOTAL					9.2	75.8	4.6	22.6	92	22.4	27	6.8	.02

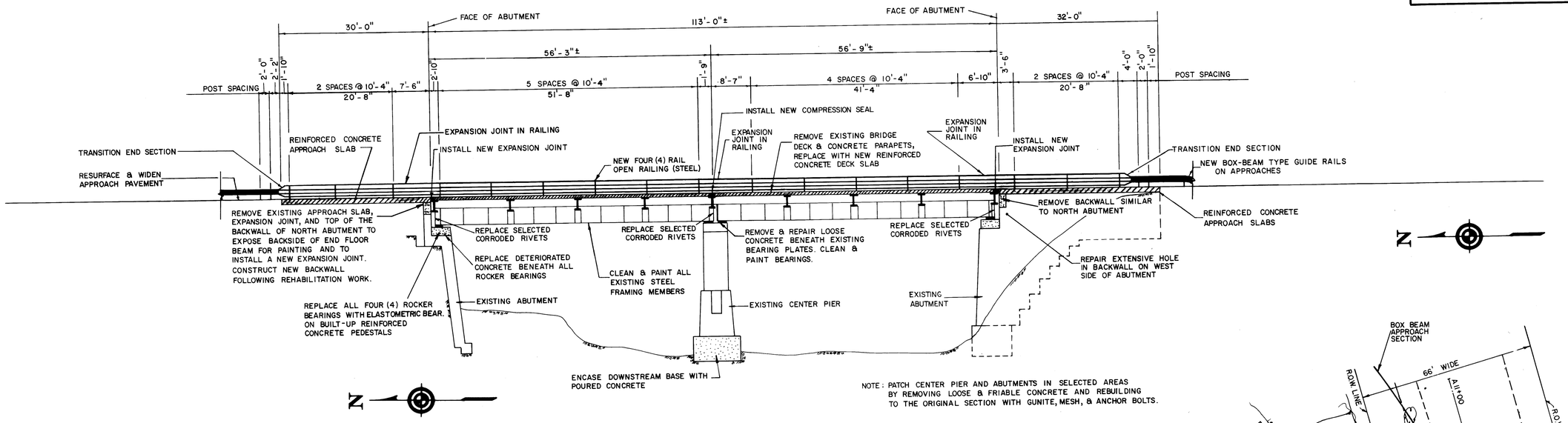
ERIE COUNTY DEPT. OF PUBLIC WORKS
DIVISION OF HIGHWAYS
95 FRANKLIN ST. BUFFALO, N.Y.

PROJECT Nº R.W.P. BR. 41-1-75

DRAINAGE TABLE

SHEET No. 7
DATE JUNE 1980
SCALE NONE

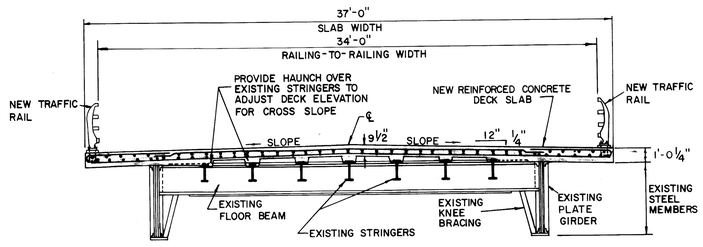
Seneca Blue Print Co., Inc. 2111B



NOTE: PATCH CENTER PIER AND ABUTMENTS IN SELECTED AREAS BY REMOVING LOOSE & FRIABLE CONCRETE AND REBUILDING TO THE ORIGINAL SECTION WITH GUNITE, MESH, & ANCHOR BOLTS.

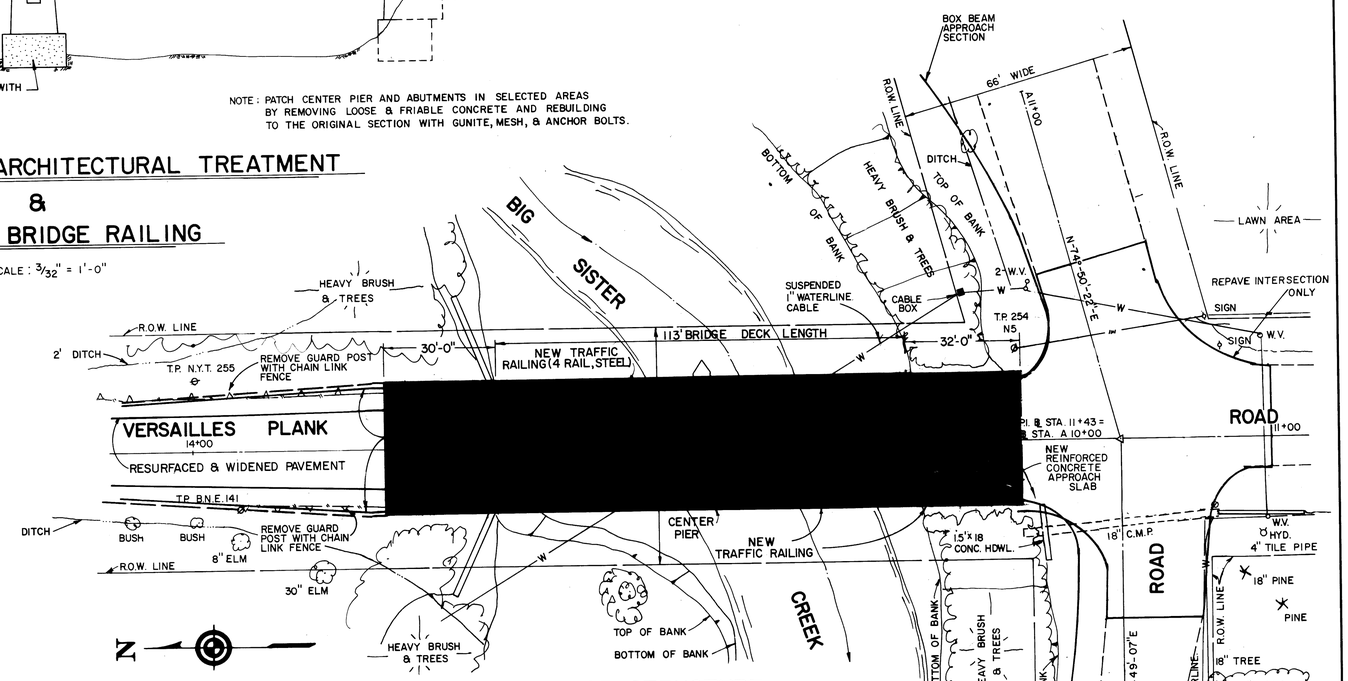
ELEVATION SHOWING ARCHITECTURAL TREATMENT & LAYOUT OF BRIDGE RAILING

SCALE : 3/32" = 1'-0"



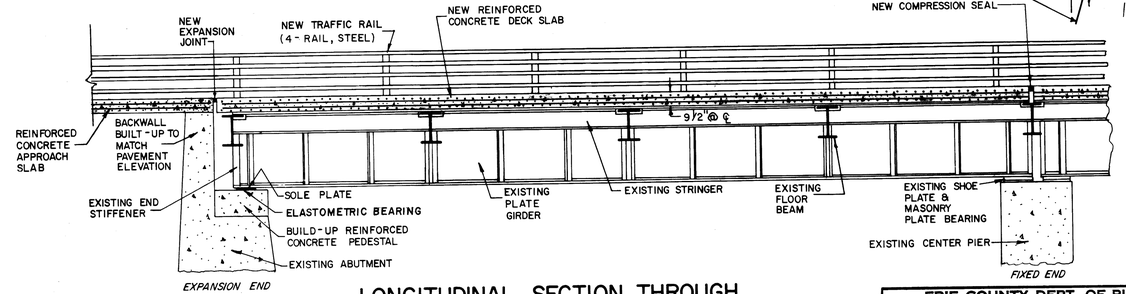
TYPICAL BRIDGE SECTION

SCALE : 1"=5'



LOCATION PLAN OF BRIDGE STRUCTURE

SCALE : 1"-20'



NOTE: ONLY HALF OF BRIDGE LENGTH IS SHOWN, OTHER HALF IS ESSENTIALLY SIMILAR.

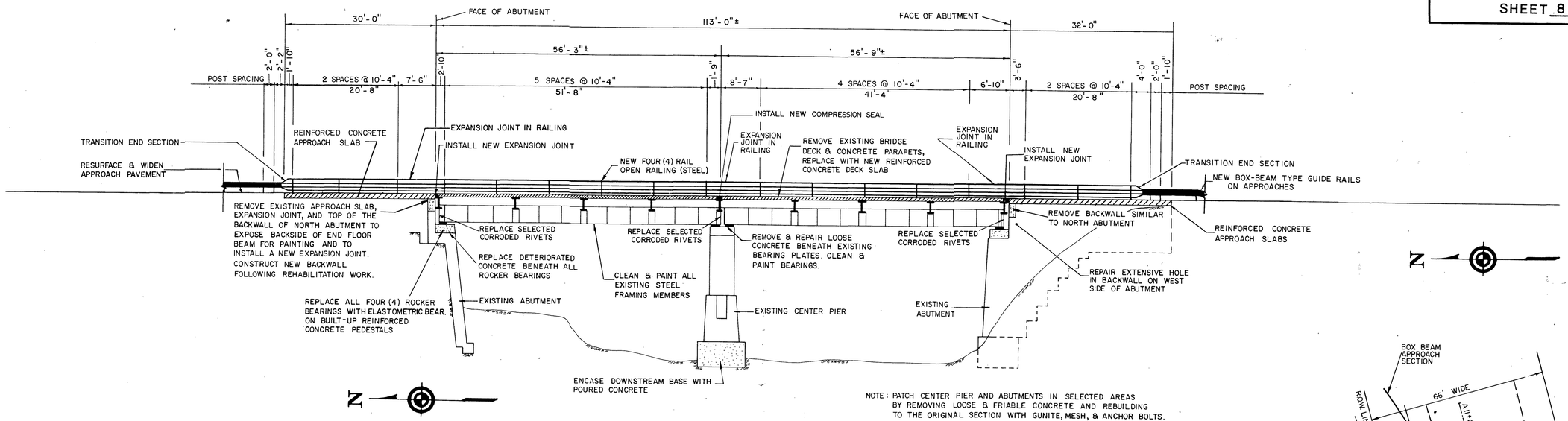
LONGITUDINAL SECTION THROUGH CENTERLINE OF BRIDGE

SCALE : 1"=5'-0"

MADE BY F.M.D.
TRACED BY M.J.S.
CHECKED BY K.M.P.

URS Burns, Smith, Robertson Engineers P.C. Subsidiary of URS/Dalton Power Inc. Buffalo, N.Y. Licensed N.Y.

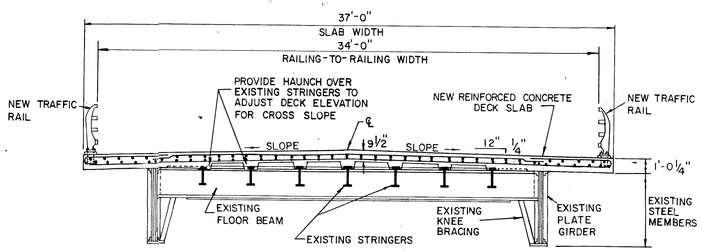
ERIE COUNTY DEPT. OF PUBLIC WORKS DIVISION OF HIGHWAYS 95 FRANKLIN ST. BUFFALO, N. Y.	SHEET No. 8
PROJECT No. RWP BR 41-1-75	DATE APRIL 1980
BRIDGE LOCATION PLAN & SCHEMATIC DETAILS	SCALE AS SHOWN



NOTE: PATCH CENTER PIER AND ABUTMENTS IN SELECTED AREAS BY REMOVING LOOSE & FRIABLE CONCRETE AND REBUILDING TO THE ORIGINAL SECTION WITH GUNITE, MESH, & ANCHOR BOLTS.

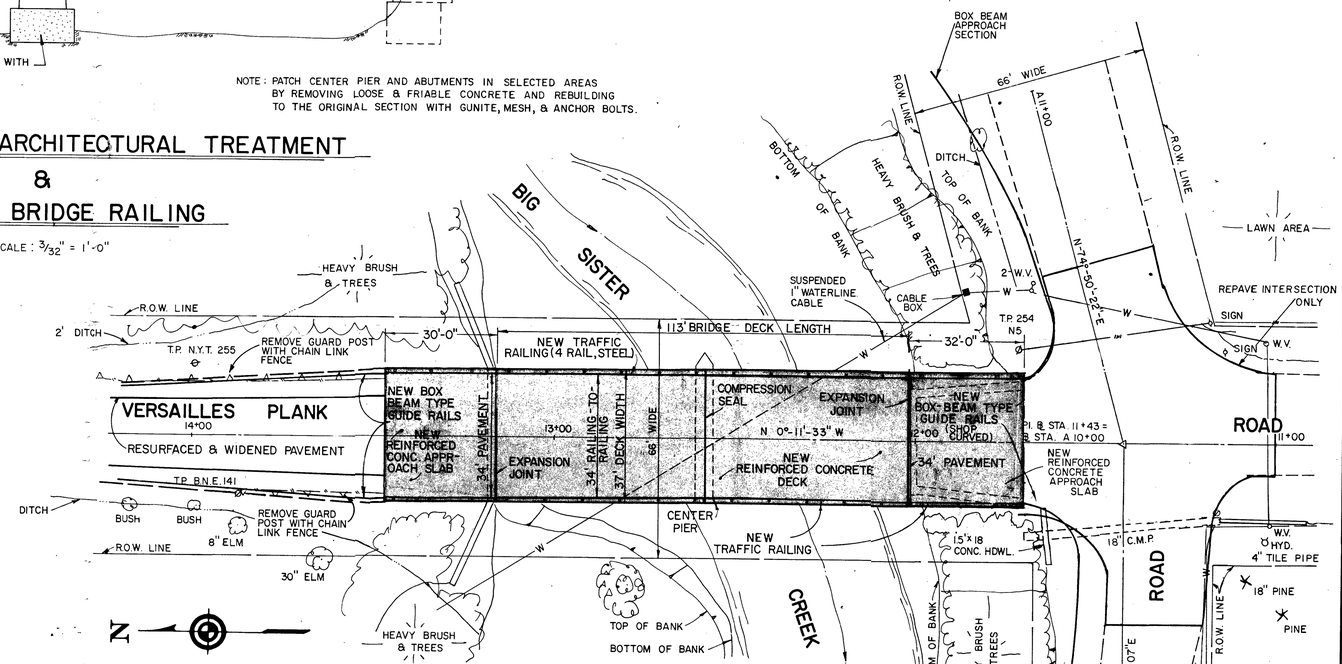
ELEVATION SHOWING ARCHITECTURAL TREATMENT & LAYOUT OF BRIDGE RAILING

SCALE : 3/32" = 1'-0"



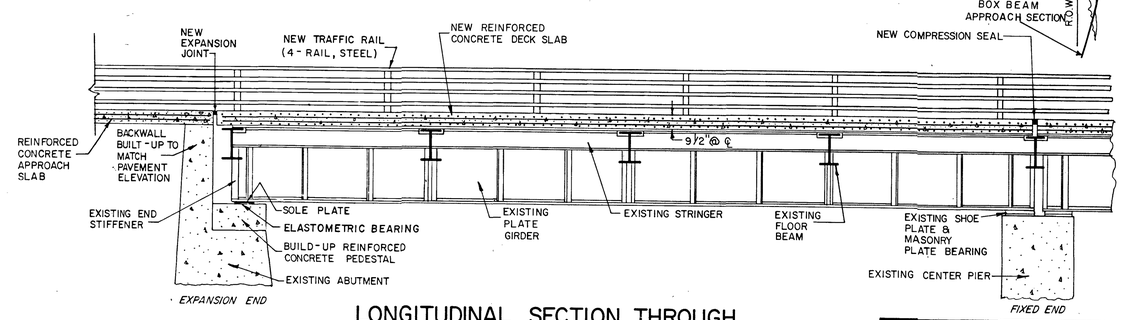
TYPICAL BRIDGE SECTION

SCALE : 1"=5'



LOCATION PLAN OF BRIDGE STRUCTURE

SCALE : 1"-20'



LONGITUDINAL SECTION THROUGH CENTERLINE OF BRIDGE

SCALE : 1"=5'-0"

NOTE: ONLY HALF OF BRIDGE LENGTH IS SHOWN, OTHER HALF IS ESSENTIALLY SIMILAR.

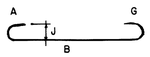
ISSUED
JAN 30 1981
ERIE COUNTY
DEPT. OF PUBLIC WORKS

MADE BY F.M.D.
TRACED BY M.J.S.
CHECKED BY K.M.P.

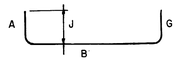
URS MAHIES, SMITH, ROSENSTEIN ENGINEERS P.C. Consulting Engineers Buffalo, N.Y. Kenneth R. Trybus Associates, Inc. Kenmore, N.Y.

ERIE COUNTY DEPT. OF PUBLIC WORKS DIVISION OF HIGHWAYS 95 FRANKLIN ST. BUFFALO, N. Y.	SHEET No. 8
PROJECT Nº. RWP BR 41-1-75	DATE APRIL 1980
BRIDGE LOCATION PLAN & SCHEMATIC DETAILS	SCALE AS SHOWN

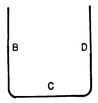
REINFORCING BAR TABLE



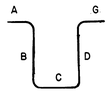
TYPE 1



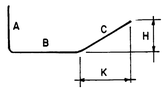
TYPE 2



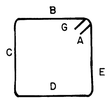
TYPE 17



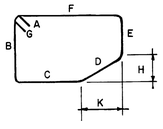
TYPE S4



TYPE S20



TYPE T1



TYPE T20

MARK	SIZE	LENGTH	QTY	TYPE	A	B	C	D	E	F	G	H	J	K	R	O	COMMENTS	LOCATION	WEIGHT (POUNDS)
NORTH APPROACH SLAB																			
AE 501	#5	36'-6"	30	STR.													EPOXY COATED	TOP TRANSVERSE BARS	1142
AE 602	#6	29'-7"	37	STR.													EPOXY COATED	TOP LONGITUDINAL BARS	1644
A 603	#6	29'-7"	74	STR.														BOTTOM LONGITUDINAL BARS	3288
A 504	#5	36'-6"	30	STR.														BOTTOM TRANSVERSE BARS	1142
7" HCP			80																
3" PRECAST CONCRETE BLOCKS			80															WEIGHT EPOXY COATED BARS, THIS POUR	2786
																		WEIGHT UNCOATED BARS, THIS POUR	4430
																		TOTAL WEIGHT, THIS POUR	7216
BRIDGE SLAB																			
BE 601	#6	9'-6"	390	1	8	8'-10"							6				EPOXY COATED	TOP TRANSVERSE BARS IN CANTILEVER	5565
BE 502	#5	25'-8"	130	STR.													EPOXY COATED	TOP TRANSVERSE BARS	3480
BE 503	#5	30'-0"	50	STR.													EPOXY COATED	TOP LONGITUDINAL BARS	1565
BE 504	#5	27'-9"	25	STR.													EPOXY COATED	TOP LONGITUDINAL BARS	724
BE 505	#5	28'-3"	25	STR.													EPOXY COATED	TOP LONGITUDINAL BARS	737
B 506	#5	36'-6"	130	STR.														BOTTOM TRANVERSE BARS	4949
B 507	#5	30'-0"	56	STR.														BOTTOM LONGITUDINAL BARS	1752
B 508	#5	27'-9"	28	STR.														BOTTOM LONGITUDINAL BARS	810
B 509	#5	28'-3"	28	STR.														BOTTOM LONGITUDINAL BARS	825
B 510	#5	1'-11 1/2"	32	S20	8	4	11 1/2"					8		8				STIRRUPS AT CENTER JOINT HAUNCH	65
B 511	#5	2'-2"	16	S20	9	4	1'-1"					9		9				STIRRUPS AT CENTER JOINT HAUNCH	36
B 512	#5	2'-4"	16	S20	10	4	1'-2"					10		10				STIRRUPS AT CENTER JOINT HAUNCH	39
B 513	#5	2'-6 1/2"	10	S20	11	4	1'-3 1/2"					11		11				STIRRUPS AT CENTER JOINT HAUNCH	27
B 514	#5	36'-6"	10	STR.														ADDITIONAL TRANSVERSAL BOTTOM BARS AT JOINTS	381
B 515	#5	2'-7 1/2"	32	S20	8	1'-0"	11 1/2"					8		8				STIRRUPS AT END JOINT HAUNCHES	88
B 516	#5	2'-10"	16	S20	9	1'-0"	1'-1"					9		9				STIRRUPS AT END JOINT HAUNCHES	47
B 517	#5	3'-0"	16	S20	10	1'-0"	1'-2"					10		10				STIRRUPS AT END JOINT HAUNCHES	50
B 518	#5	3'-2 1/2"	10	S20	11	1'-0"	1'-3 1/2"					11		11				STIRRUPS AT END JOINT HAUNCHES	33
B 519	#5	3'-5 1/2"	525	S4	9	9	5 1/2"	9			9							STIRRUPS AT STRINGER HAUNCHES	1894
B 520	#5	4'-2"	108	S4	9	9	1'-2"	9			9							STIRRUPS AT FLOOR BEAM HAUNCHES	469
9 3/4" HC			58																
8 1/2" HC			26															WEIGHT EPOXY COATED BARS, THIS POUR	12,071
8" HC			32															WEIGHT UNCOATED BARS, THIS POUR	11,465
7 3/4" HC			58															TOTAL WEIGHT, THIS POUR	23,536
5 3/4" HC			68																
4 3/4" HC			174																
4 1/4" HC			68																
1" SB x 5'-0"			156																
SOUTH APPROACH SLAB																			
CE 601	#6	31'-7"	37	STR.													EPOXY COATED	TOP LONGITUDINAL BARS	1755
CE 602	#6	9'-3"	96	1	8	8'-7"							6				EPOXY COATED	TOP TRANSVERSE BARS IN CANTILEVER	1334
CE 503	#5	28'-6"	32	STR.													EPOXY COATED	TOP TRANSVERSE BARS	951
C 504	#5	36'-6"	32	STR.														BOTTOM TRANSVERSE BARS	1218
C 605	#6	31'-7"	74	STR.														BOTTOM LONGITUDINAL BARS	3510
7 3/4" HC			16																
3 3/4" HC			16															WEIGHT EPOXY COATED BARS, THIS POUR	4040
8 3/4" HCP			16															WEIGHT UNCOATED BARS, THIS POUR	4728
7" HCP			48															TOTAL WEIGHT, THIS POUR	8768
4 3/4" HCP			16																
3" PRECAST CONCRETE BLOCKS			48																
NORTH ABUTMENT																			
D 501	#5	36'-6"	3	STR.														HORIZONTAL BARS IN BACK WALL	114
D 502	#5	6'-5"	19	17		1'-7"	4'-10"											VERTICAL BARS IN BACK WALL	127
D 503	#5	13'-9"	8	T1	5 1/2	3'-5"	3'-0"	3'-5"	3'-0"		5 1/2							PEDESTAL TIES	115
D 504	#5	3'-7"	14	2	10	2'-9"												VERTICAL DOWELS TO PEDESTAL	52
D 505	#5	3'-2"	6	STR.														HORIZONTAL DOWELS TO PEDESTAL	20
																		WEIGHT THIS POUR	428
SOUTH ABUTMENT																			
E 501	#5	4'-7"	11	17		1'-7"	3'-0"											HORIZONTAL CORNER BAR	53
E 502	#5	31'-6"	2	STR.														HORIZONTAL BARS IN WINGWALL	66
E 503	#5	6'-5"	12	17		1'-7"	4'-10"											VERTICAL BARS IN BACK WALL	80
E 504	#5	30'-3"	3	STR.														HORIZONTAL BARS IN BACK WALL	95
E 505	#5	11'-8"	5	STR.														HORIZONTAL BARS IN BACK WALL	61
E 506	#5	10'-11"	5	17		1'-7"	9'-4"											VERTICAL BARS IN BACK WALL	57
E 507	#5	3'-7"	14	2	10	2'-9"												VERTICAL DOWELS TO PEDESTAL	52
E 508	#5	3'-2"	6	STR.														HORIZONTAL DOWELS TO PEDESTAL	20
E 509	#5	13'-10"	8	T20	5 1/2	3'-5"	2'-5"	1'-3 1/2"	2'-6"	3'-4"	5'-1/2"	11		11				PEDESTAL TIES	115
																		WEIGHT THIS POUR	599

NOTE:

1) ALL DIMENSIONS ARE OUT TO OUT
2) DIMENSIONS OMITTED ARE ZERO
3) CONTRACTOR IS TO VERIFY LENGTH AND QUANTITIES OF REINFORCING BARS BEFORE ORDERING

TOTAL WEIGHT EPOXY COATED BARS	18,897 lbs.
TOTAL WEIGHT UNCOATED BARS	21,650 lbs.
TOTAL WEIGHT	40,547 lbs.

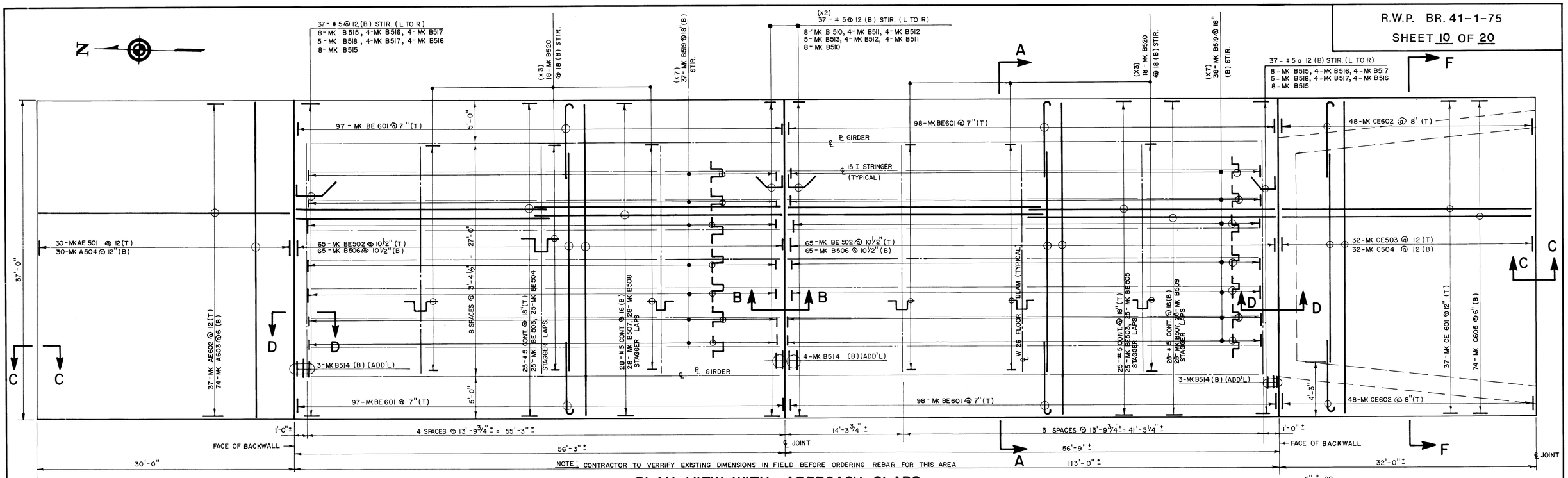
MADE BY F.M.D.
TRACED BY M.J.S.
CHECKED BY K.M.P.

URS

ERIE COUNTY DEPT. OF PUBLIC WORKS
DIVISION OF HIGHWAYS
95 FRANKLIN ST. BUFFALO, N.Y.

SHEET NO. 9
DATE APRIL 1980
SCALE NONE

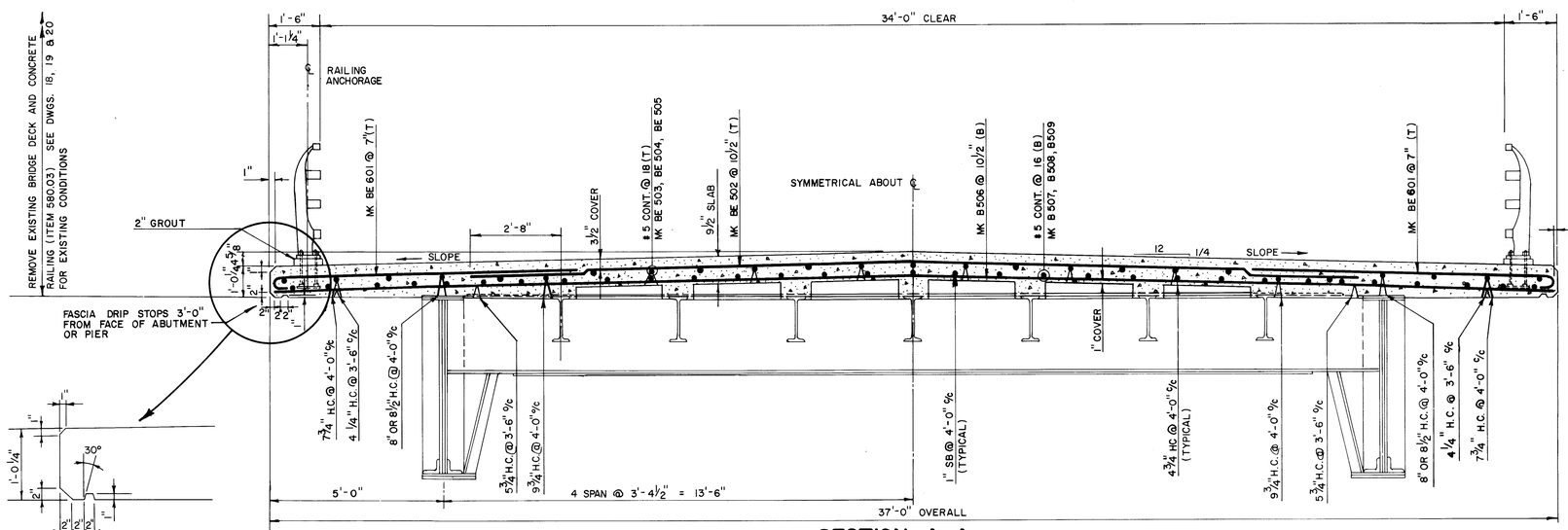
PROJECT NO. BR 41-1-75
REINFORCING BAR TABLE



NOTE: LAP CONTINUOUS #5 BARS 21" MIN.

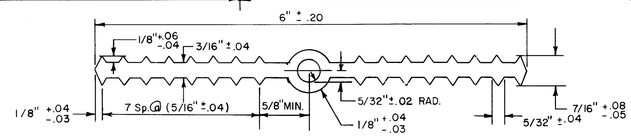
PLAN VIEW WITH APPROACH SLABS

SCALE: 3/16" = 1'-0"



SECTION A-A

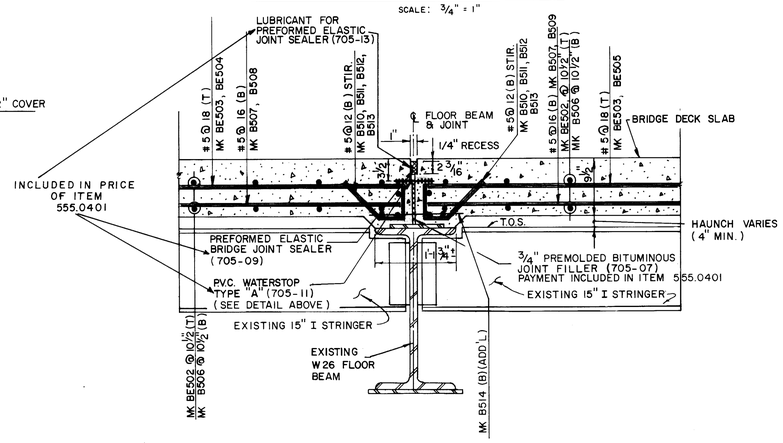
SCALE: 1/2" = 1'-0"



DETAIL

P.V.C. WATERSTOP TYPE "A" (705-11)

SCALE: 3/4" = 1"

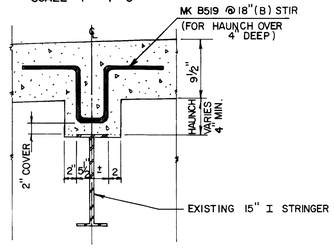


SECTION B-B

SCALE: 1" = 1'-0"

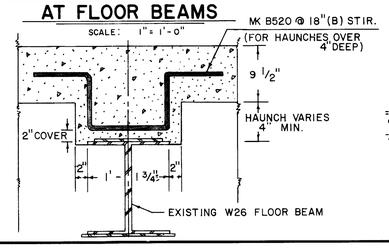
TYPICAL HAUNCH DETAIL AT STRINGERS

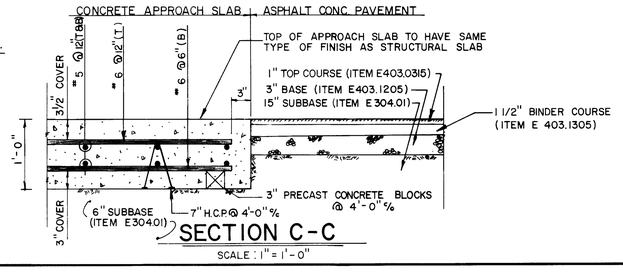
SCALE: 1" = 1'-0"



TYPICAL HAUNCH DETAIL AT FLOOR BEAMS

SCALE: 1" = 1'-0"





SECTION C-C

SCALE: 1" = 1'-0"

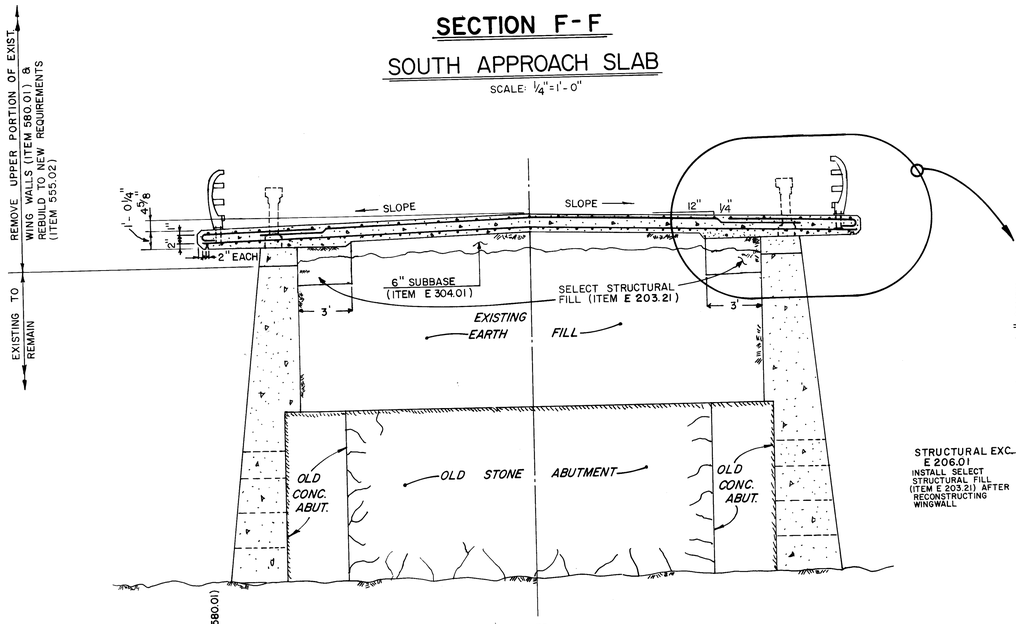
NOTE: WORK THIS DWG. WITH DWGS. Nº. 11, 12 & 13

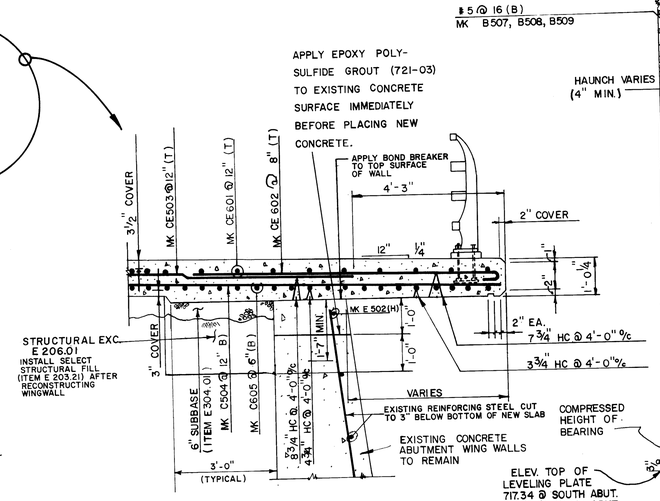
MADE BY F.M.D.
TRACED BY M.J.S.
CHECKED BY K.M.P.

URS WRIGHT, WITH, GOSSELIN, ENGINEERS P.C. Subsidiary of URS/Madigan Praeger, Inc. Buffalo, N.Y. Kansas, N.Y.

ERIE COUNTY DEPT. OF PUBLIC WORKS 95 FRANKLIN ST. DIVISION OF HIGHWAYS BUFFALO, N.Y.	SHEET No. 10
PROJECT Nº. RWP BR 41-1-75	DATE APRIL 1980
BRIDGE DECK & APPROACH SLABS – REINFORCING PLANS	SCALE AS SHOWN

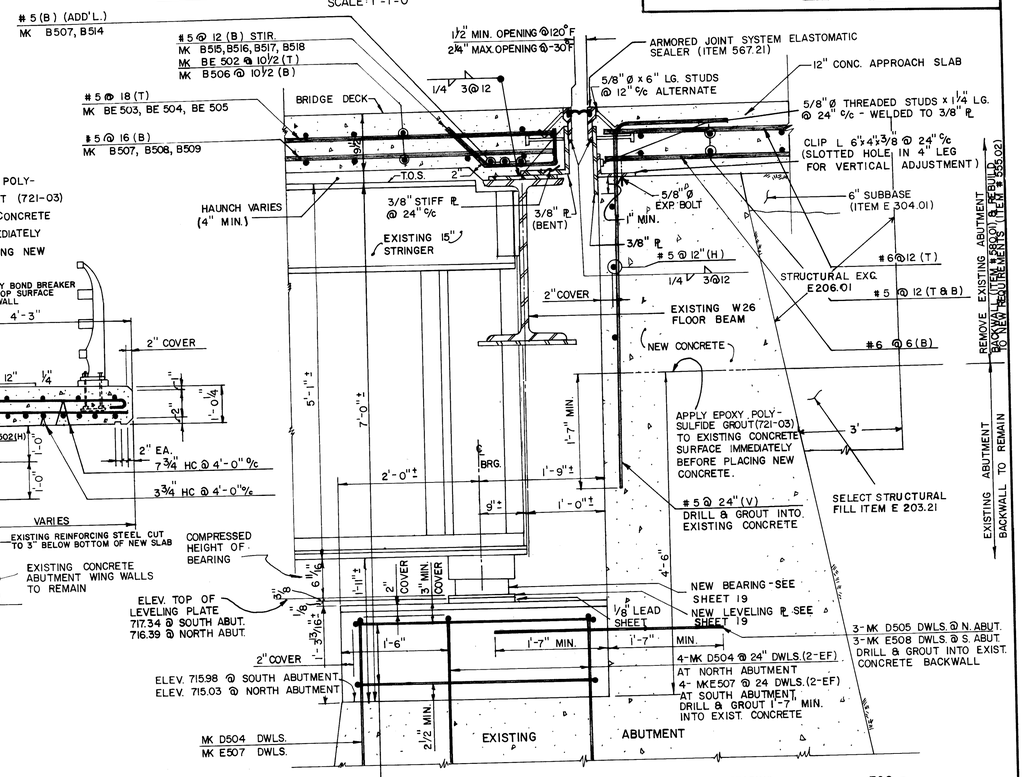
SECTION F-F
SOUTH APPROACH SLAB
SCALE: 1/4"=1'-0"

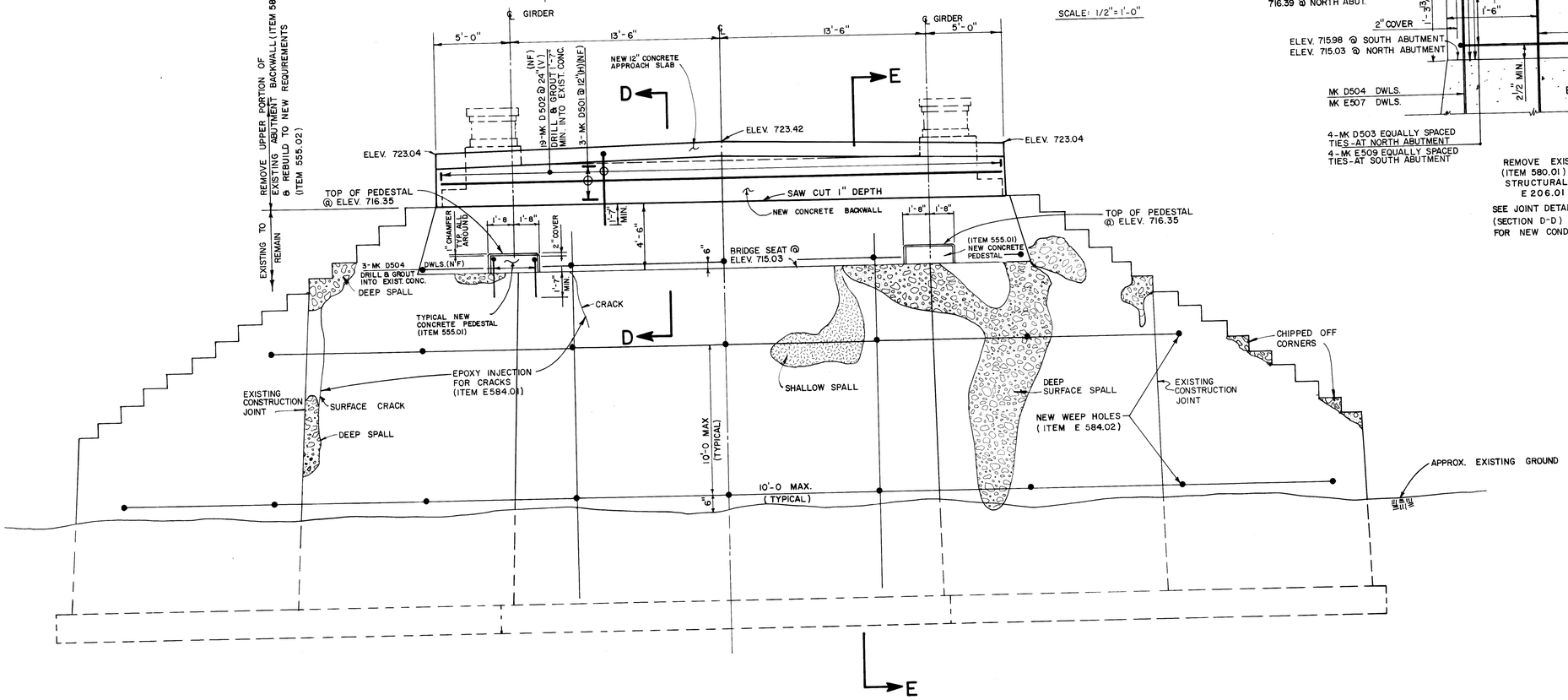




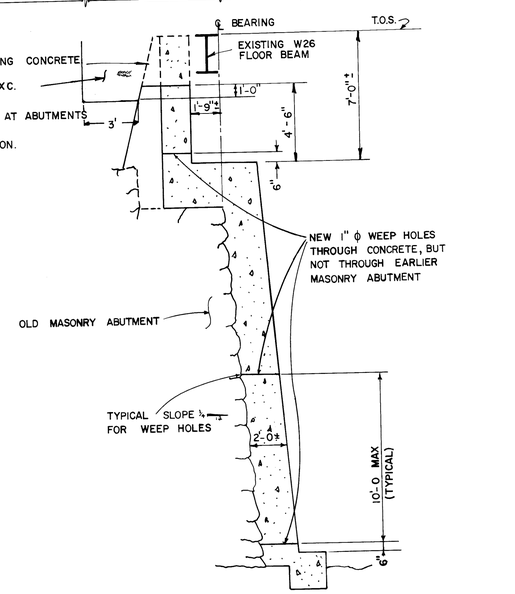
SCALE: 1/2"=1'-0"

JOINT DETAIL AT ABUTMENTS (SECTION D-D)
SCALE: 1"=1'-0"





FRONT ELEVATION NORTH ABUTMENT
SCALE: 1/4"=1'-0"



SECTION E-E
SCALE: 1/4"=1'-0"

NOTE: WORK THIS DWG. WITH DWGS. #10, 12 & 13

KEY
- 1"-2" SPALLING (SHALLOW)
- 4"-6" SPALLING (DEEP)

NOTE: SEE THE ORIGINAL CONSTRUCTION DRAWINGS (DWGS 18-20) FOR THE EXISTING CONDITIONS IN AREAS TO BE REMOVED.

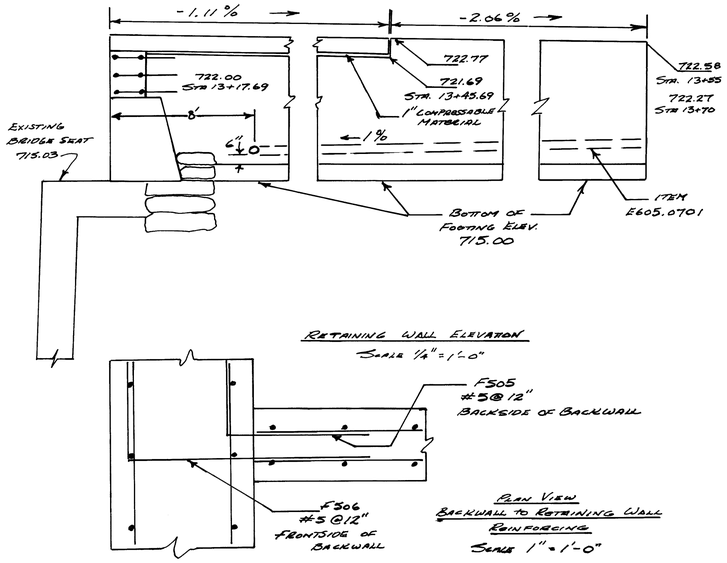
ERIE COUNTY DEPT. OF PUBLIC WORKS 95 FRANKLIN ST. DIVISION OF HIGHWAYS BUFFALO, N.Y.	SHEET No. 11 DATE APRIL 1980
PROJECT No. RWP BR 41-1-75	SCALE AS SHOWN
CONCRETE REPAIRS - NORTH ABUTMENT & SECTIONS	

MADE BY F.M.D.
TRACED BY M.J.S.
CHECKED BY K.M.P.

URS

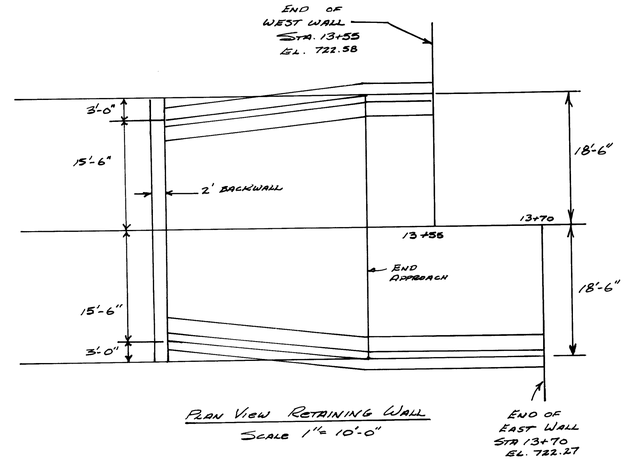
H.H.S. 19 1253

R.W.P. BR. 41-1-75
SHEET NO. 11A

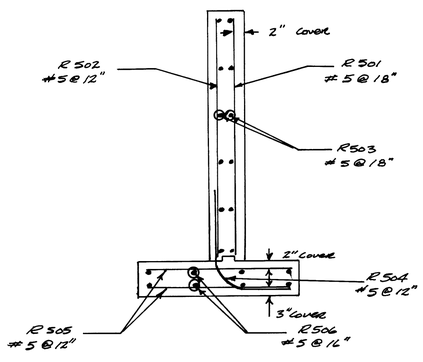


RETAINING WALL ELEVATION
SCALE 1/4" = 1'-0"

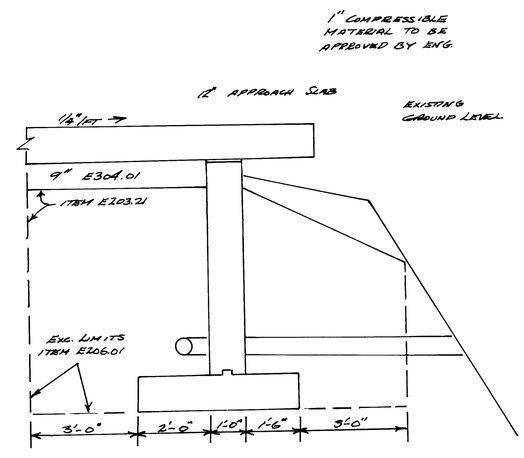
PLAN VIEW
BACKWALL TO RETAINING WALL
REINFORCING
SCALE 1" = 1'-0"



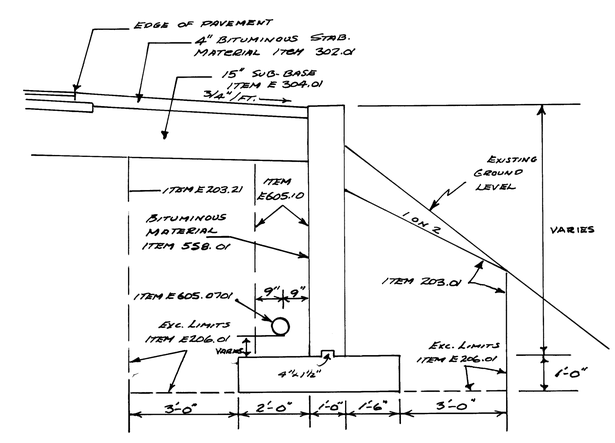
PLAN VIEW RETAINING WALL
SCALE 1" = 10'-0"



TYPICAL RETAINING WALL REINFORCEMENT
SCALE 1/2" = 1'-0"



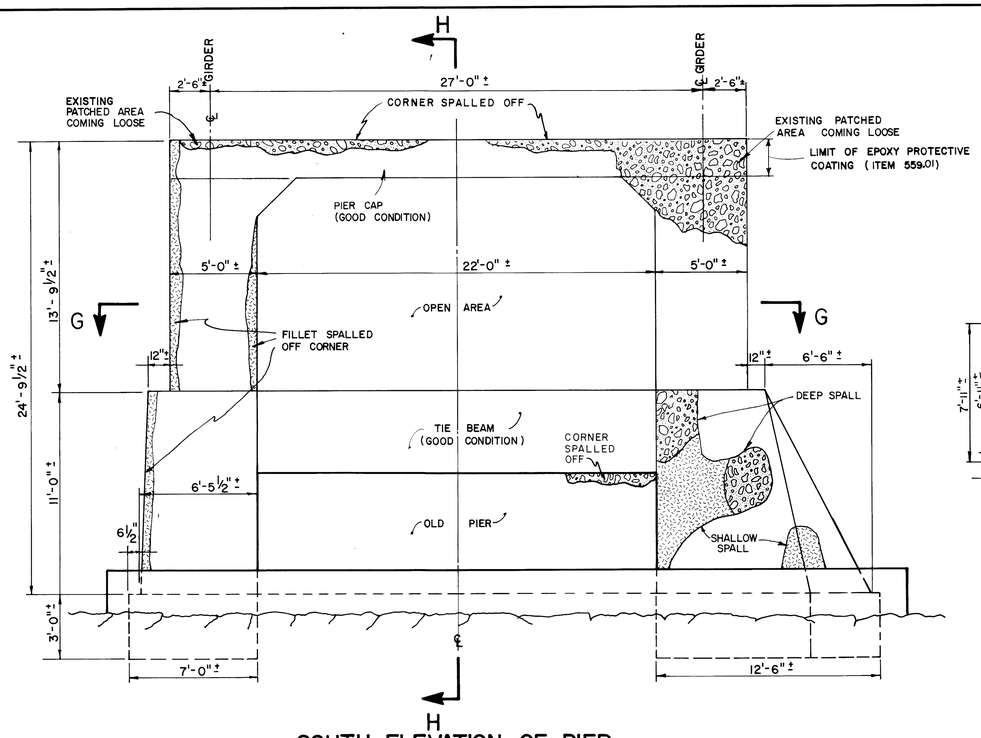
TYPICAL RETAINING WALL SECTION
AT APPROACH SLAB
SCALE 1/2" = 1'-0"



TYPICAL RETAINING WALL SECTION
NORTH OF APPROACH SLAB
SCALE 1/2" = 1'-0"

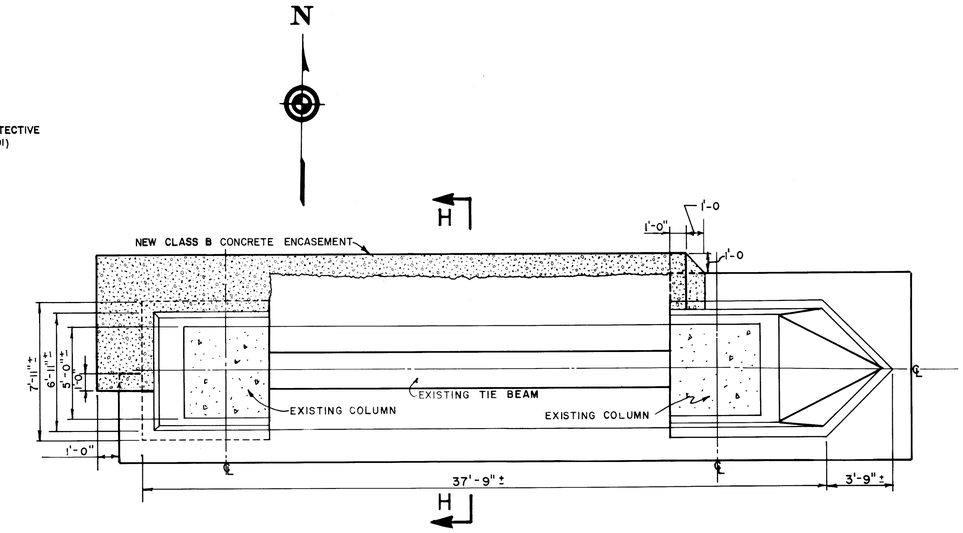
AS BUILT 6-17-81

ERIE COUNTY DEPT. OF PUBLIC WORKS DIVISION OF HIGHWAYS 95 FRANKLIN ST. BUFFALO, N. Y.	SHEET NO. 11A DATE 6-17-81
R.W.P. BR. 41-1-75	SCALE
VERSAILLES PLANK RD.	



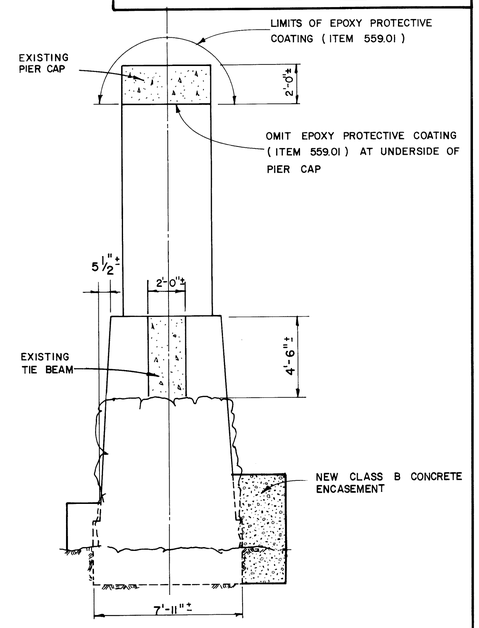
SOUTH ELEVATION OF PIER

SCALE: 1/4" = 1'-0"



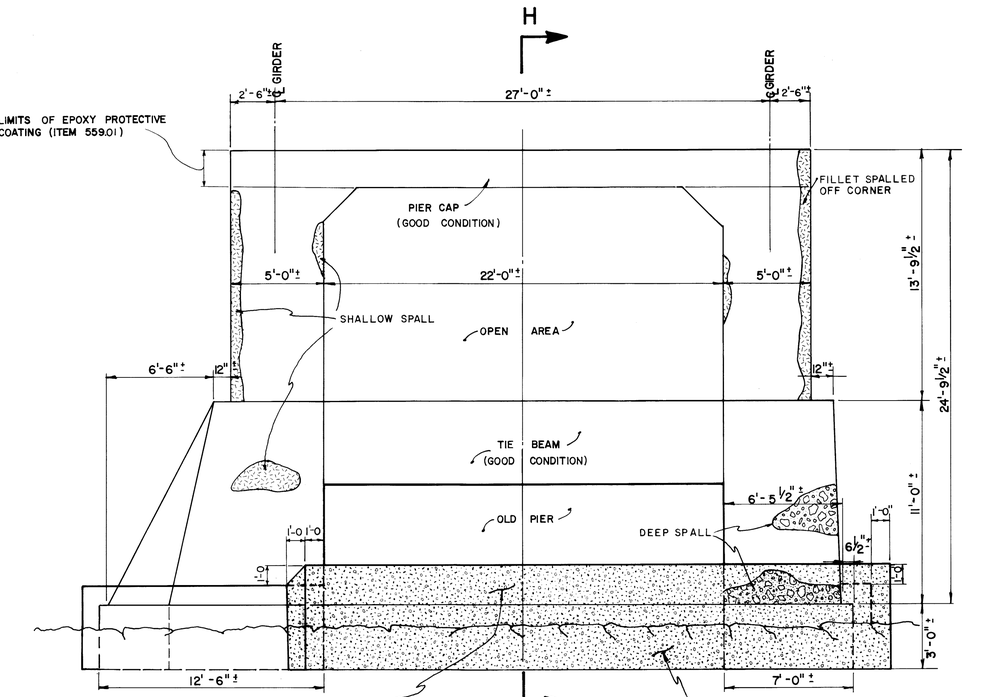
SECTION G-G

SCALE: 1/4" = 1'-0"



SECTION H-H

SCALE: 1/4" = 1'-0"



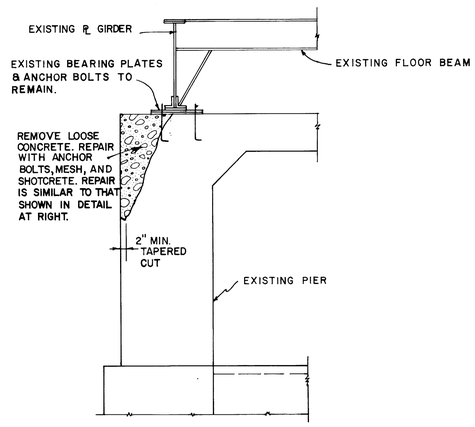
NEW CLASS B CONCRETE ENCASEMENT (ITEM 555.02) REMOVE LOOSE & FRIABLE CONC. TO SOUND MATRIX.

APPLY POLYSULFIDE GROUT (721-03) TO EXISTING CONC. SURFACES IMMEDIATELY BEFORE PLACING NEW CONCRETE. PAYMENT INCLUDED IN ITEM 555.02

REMOVE WEATHERED ROCK TO A 1'-0 MINIMUM DEPTH, & PLACE CONCRETE ON SOUND ROCK BASE. (ITEM E206.01)

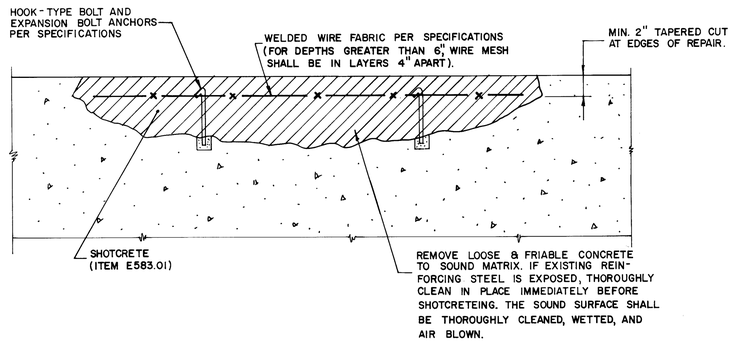
NORTH ELEVATION OF PIER

SCALE: 1/4" = 1'-0"



REPAIR OF PIER AT BEARNG PLATE

SCALE: 1/4" = 1'-0"



CONCRETE REPAIR DETAIL

FOR AREAS WITH DETERIORATION 2" TO 12" IN DEPTH

(NOT TO SCALE)

KEY

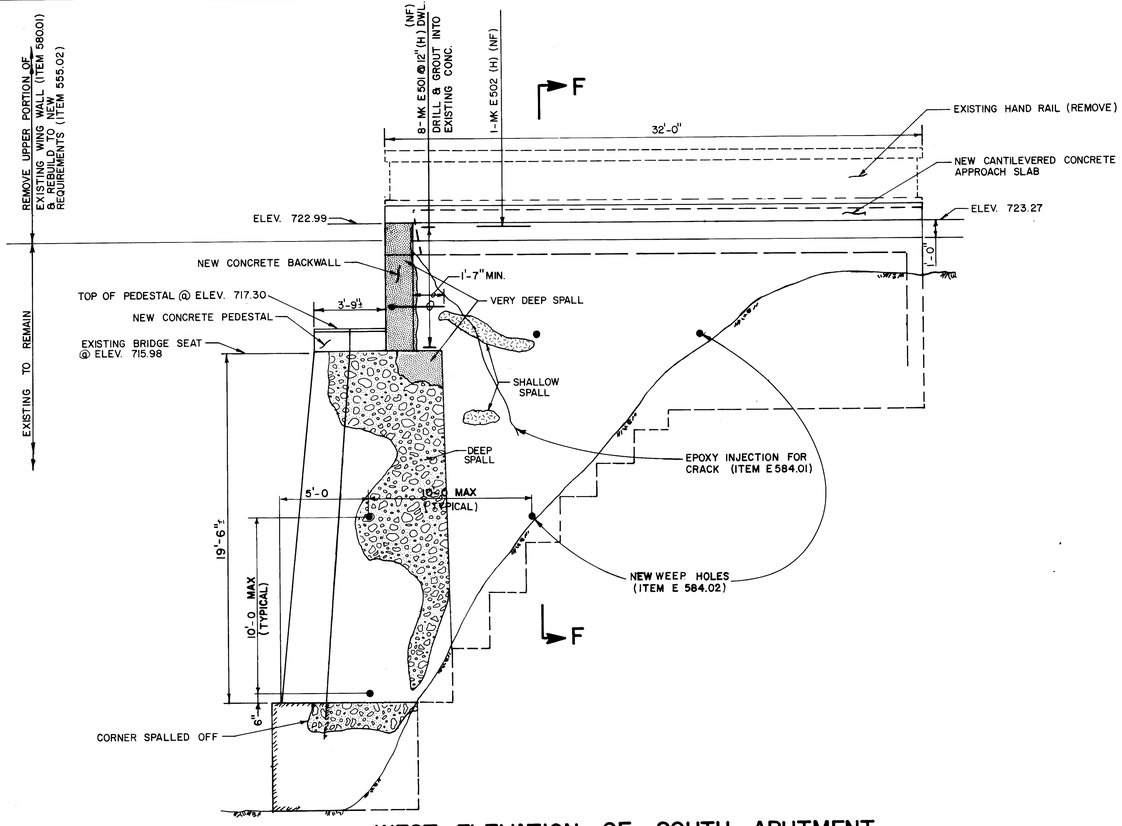
- 1" TO 2" SPALLING (SHALLOW)
- 4" TO 6" SPALLING (DEEP)

NOTE: WORK THIS DWG. WITH DWGS. #10, 11 & 13

MADE BY F.M.D.
TRACED BY M.J.S.
CHECKED BY K.M.P.

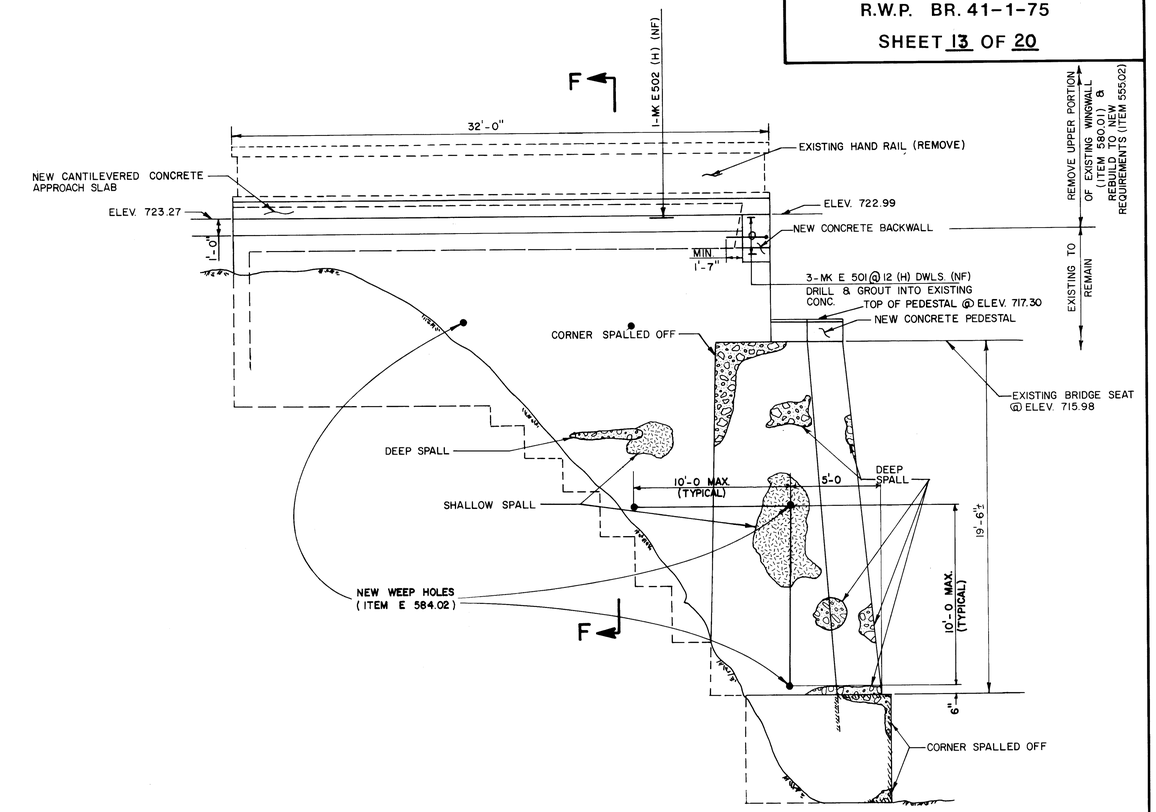
URS

ERIE COUNTY DEPT. OF PUBLIC WORKS DIVISION OF HIGHWAYS 95 FRANKLIN ST. BUFFALO, N. Y.	SHEET No. 12 DATE APRIL 1980
PROJECT No. RWP BR 41-1-75	SCALE AS SHOWN
CONCRETE REPAIRS - CENTER PIER	



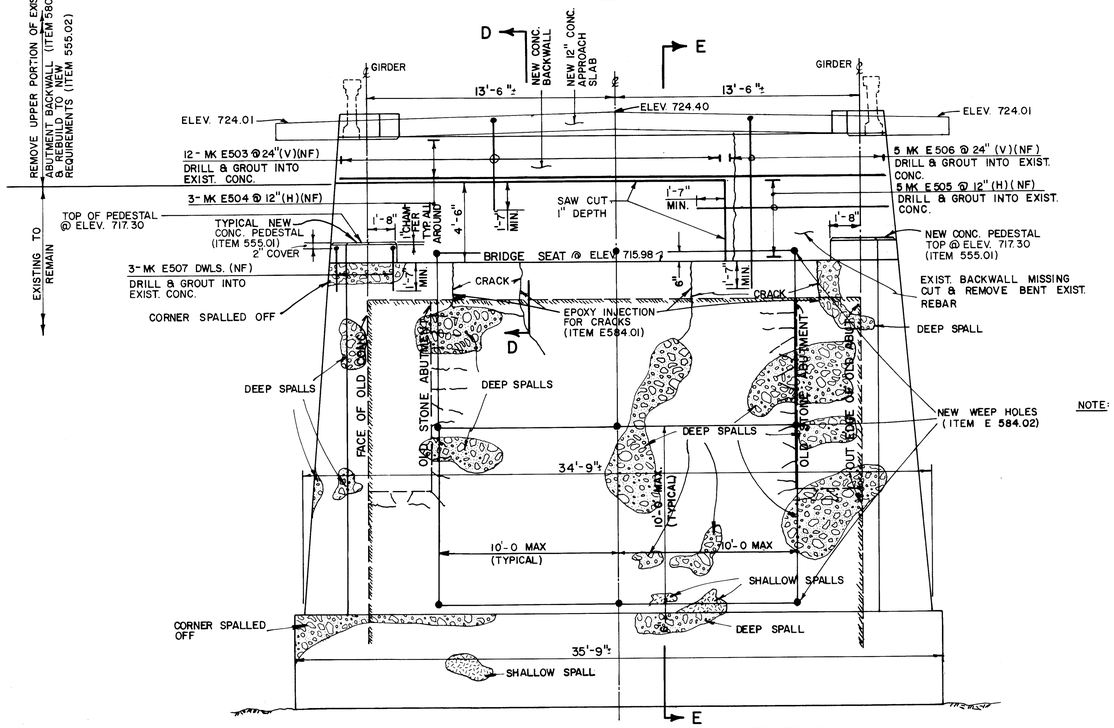
WEST ELEVATION OF SOUTH ABUTMENT

SCALE : 1/4" = 1'-0"



EAST ELEVATION OF SOUTH ABUTMENT

SCALE : 1/4" = 1'-0"



ELEVATION OF SOUTH ABUTMENT

SCALE : 1/4" = 1'-0"

NOTE: SEE THE ORIGINAL CONSTRUCTION DRAWINGS (DWGS 18-20) FOR THE EXISTING CONDITIONS IN AREAS TO BE REMOVED.

KEY

1" TO 2" SPALLING (SHALLOW)

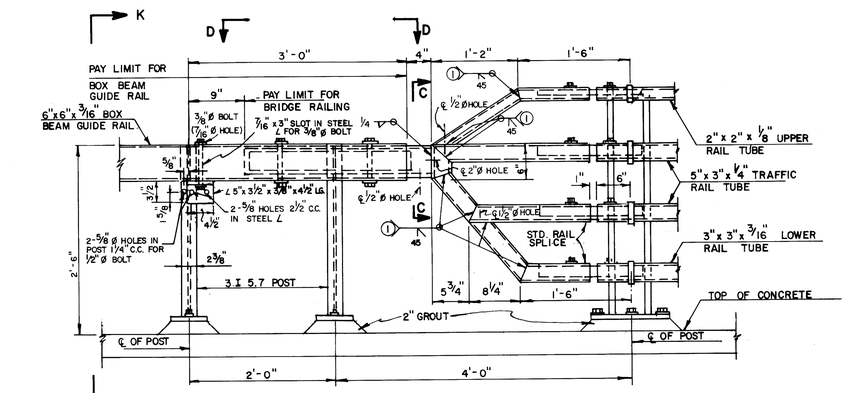
4" TO 6" SPALLING (DEEP)

NOTE: WORK THIS DWG. WITH DWGS. # 10, 11 & 12
FOR SECTION F-F SEE DWG. # 11

MADE BY F.M.D.
TRACED BY M.J.S.
CHECKED BY K.M.P.

URS BURNES, SMITH, ROSENBLUTH ENGINEERS P.C. 1000 Liberty Building Buffalo, N.Y. Kaiser N.Y.

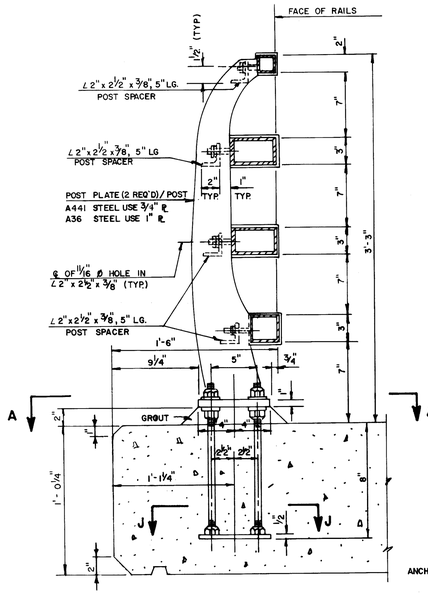
ERIE COUNTY DEPT. OF PUBLIC WORKS DIVISION OF HIGHWAYS 95 FRANKLIN ST. BUFFALO, N. Y.	SHEET No. 13 DATE APRIL 1980
PROJECT NO. RWP BR 41-1-75	SCALE 1/4" = 1'-0"
CONCRETE REPAIRS - SOUTH ABUTMENT	



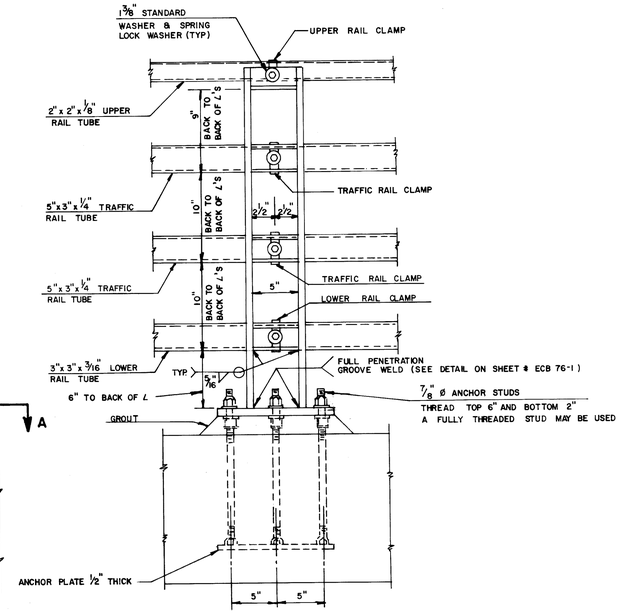
ELEVATION OF TRANSITION END SECTION
STEEL BRIDGE RAILING CONNECTION TO BOX BEAM GUIDE RAILING

(SEE DWG # ECB 76-1 FOR SECTIONS C-C AND D-D)
(USE THIS ELEVATION IN PLACE OF ELEVATION 'A' ON DWG. # ECB 76-1)

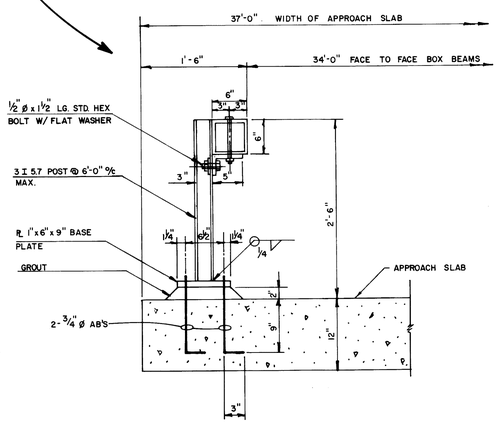
NOTE: ① GROVE WELD AND GRIND SMOOTH ON ROAD SIDE.



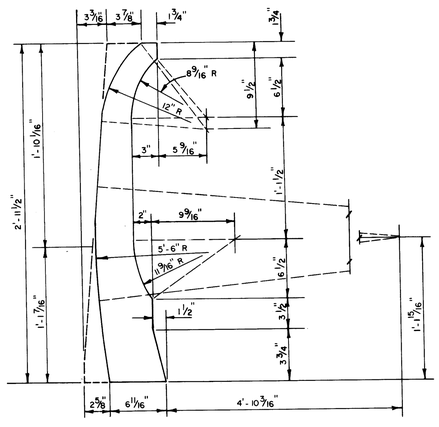
PARTIAL SECTION



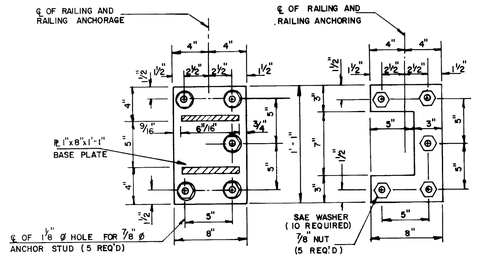
PARTIAL ELEVATION



SECTION K-K



POST PLATE LAYOUT



SECTION A-A

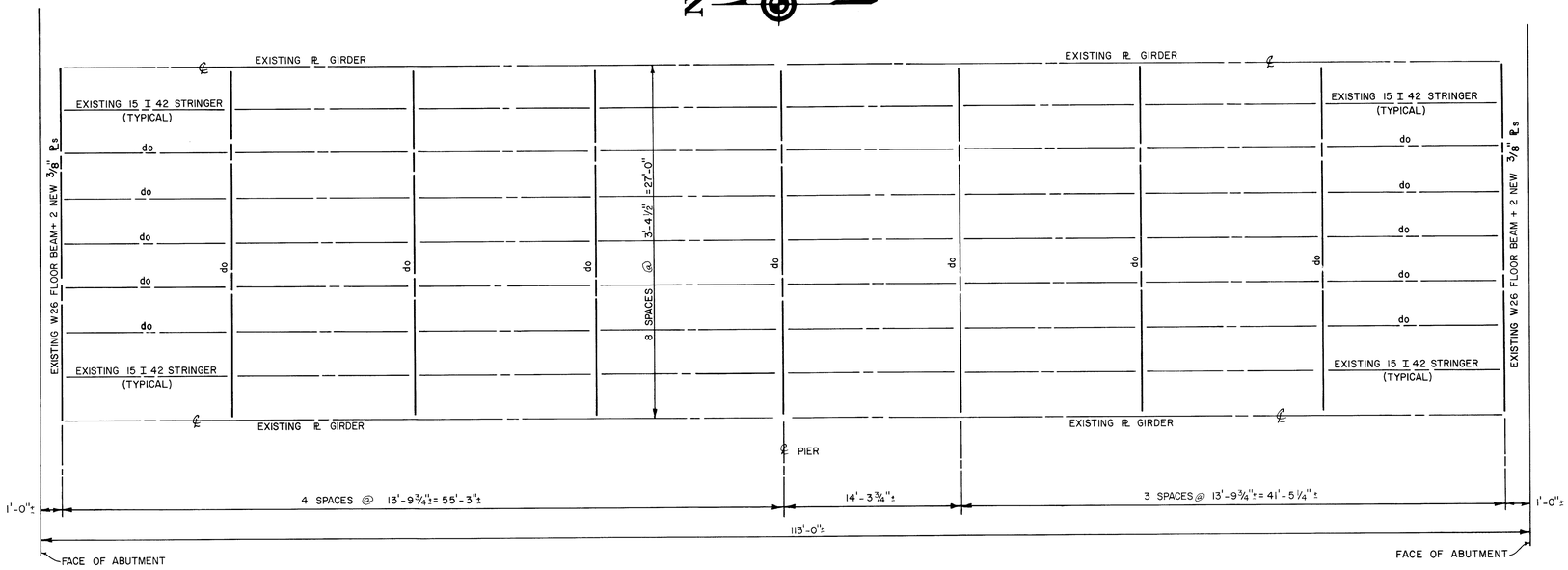
SECTION J-J

NOTE: WORK THIS DRAWING WITH ERIE COUNTY STANDARD DETAIL SHEET # ECB 76-1 STEEL BRIDGE RAILING - FOUR RAIL

ERIE COUNTY DEPT. OF PUBLIC WORKS DIVISION OF HIGHWAYS 95 FRANKLIN ST. BUFFALO, N.Y.	SHEET No. 14 DATE APRIL 1980
PROJECT Nº. RWP BR 41-1-75	SCALE NONE
RAILING DETAILS	

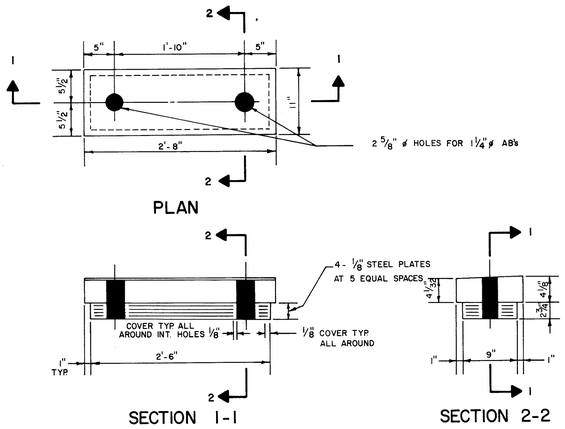
MADE BY F.M.D.
TRACED BY M.J.S.
CHECKED BY K.M.P.

URS MICHEL, SMITH, ROBERTSON ENGINEERS P.C.
CONSULTING ENGINEERS
BUFFALO, N.Y.



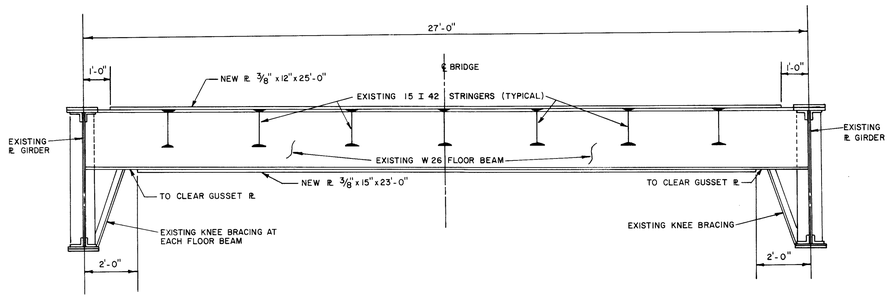
FRAMING PLAN SHOWING REINFORCEMENT OF EXISTING STEEL

SCALE: 3/16" = 1'-0"



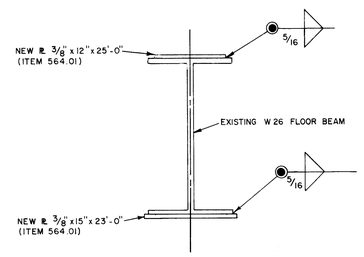
DETAIL OF STEEL LAMINATED ELASTOMERIC BRIDGE BEARING (716-04 ITEM 565.0815 4 REQ'D)

SCALE: 1" = 1'-0"



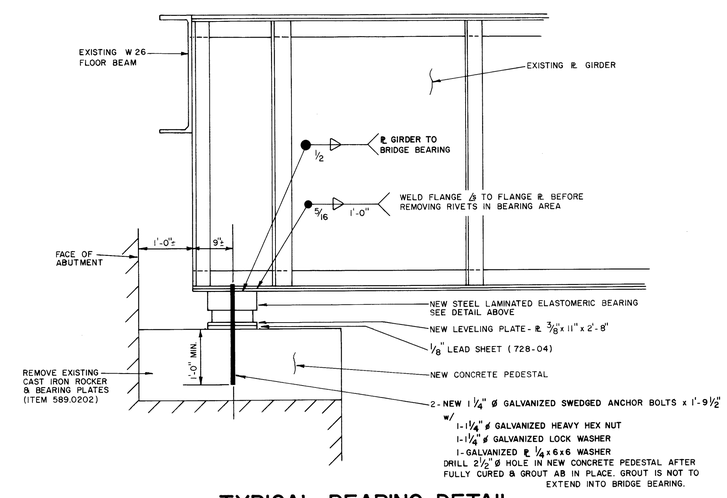
TYPICAL CROSS SECTION SHOWING NEW COVER PLATES ON FLOOR BEAMS

SCALE: 3/8" = 1'-0"



TYPICAL SECTION THRU FLOOR BEAM SHOWING NEW COVER PLATES

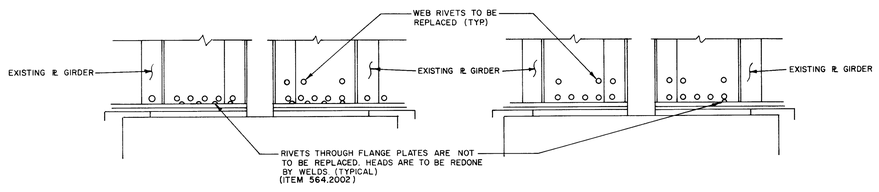
SCALE: 1" = 1'-0"



TYPICAL BEARING DETAIL NORTH & SOUTH ABUTMENTS

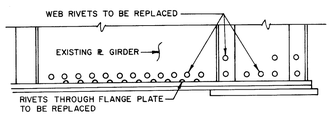
SCALE 3/4" = 1'-0"

NOTE:
1. AFTER REMOVAL OF EXISTING CONCRETE DECK ALL EXISTING STRUCTURAL STEEL MUST BE THOROUGHLY CLEANED IN ACCORDANCE WITH 740-01 SURFACE PREPARATION, F. COMMERCIAL BLAST CLEANING. (ITEM 570.0301)
2. AN EXTENSIVE INSPECTION OF SUSPECTED STRUCTURAL STEEL MEMBERS WILL BE MADE BY THE COUNTY ENGINEER TO DETERMINE THE AMOUNT AND EXTENT OF ADDITIONAL REINFORCEMENT OR STEEL REPLACEMENT THAT MAY BE REQUIRED.



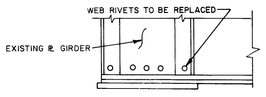
CENTER PIER - EAST SIDE

CENTER PIER - WEST SIDE



NORTH ABUTMENT - EAST SIDE

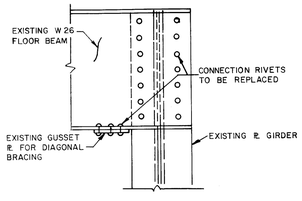
NOTE: RIVETS IN GIRDER AT SOUTH ABUTMENT - WEST SIDE DO NOT NEED REPLACEMENT



NORTH ABUTMENT - WEST SIDE
SOUTH ABUTMENT - EAST SIDE

NOTE:
1. REMOVE ALL DAMAGED OR CORRODED RIVETS (ITEM 589.0201) AND REPLACE WITH 3/4" ø HIGH STRENGTH (A 325) BOLTS. (ITEM 564.2001)
2. AT LEAST 2/3 OF THE FASTENERS IN ANY ONE CONNECTION ARE TO BE IN PLACE AT ALL TIMES.
3. ADDITIONAL RIVETS MAY BE REQUIRED TO BE REPLACED AS DIRECTED BY THE ENGINEER.

RIVET REPLACEMENT DETAILS

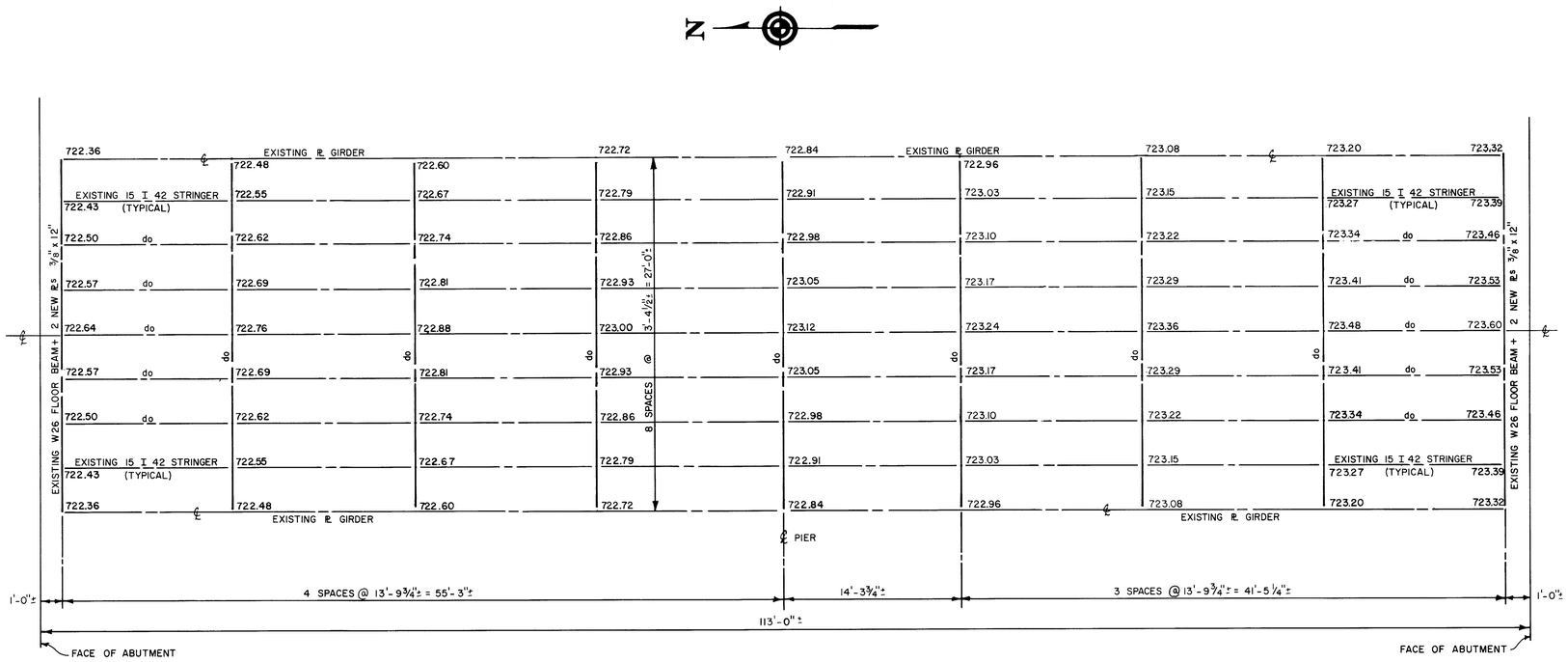


FLOOR BEAM TO GIRDER CONNECTION AT ABUTMENT ENDS OF GIRDERS

MADE BY F.M.D.
TRACED BY M.J.S.
CHECKED BY K.M.P.

URS Greiner, Inc. (Formerly Greiner, Inc.) Buffalo, N.Y.

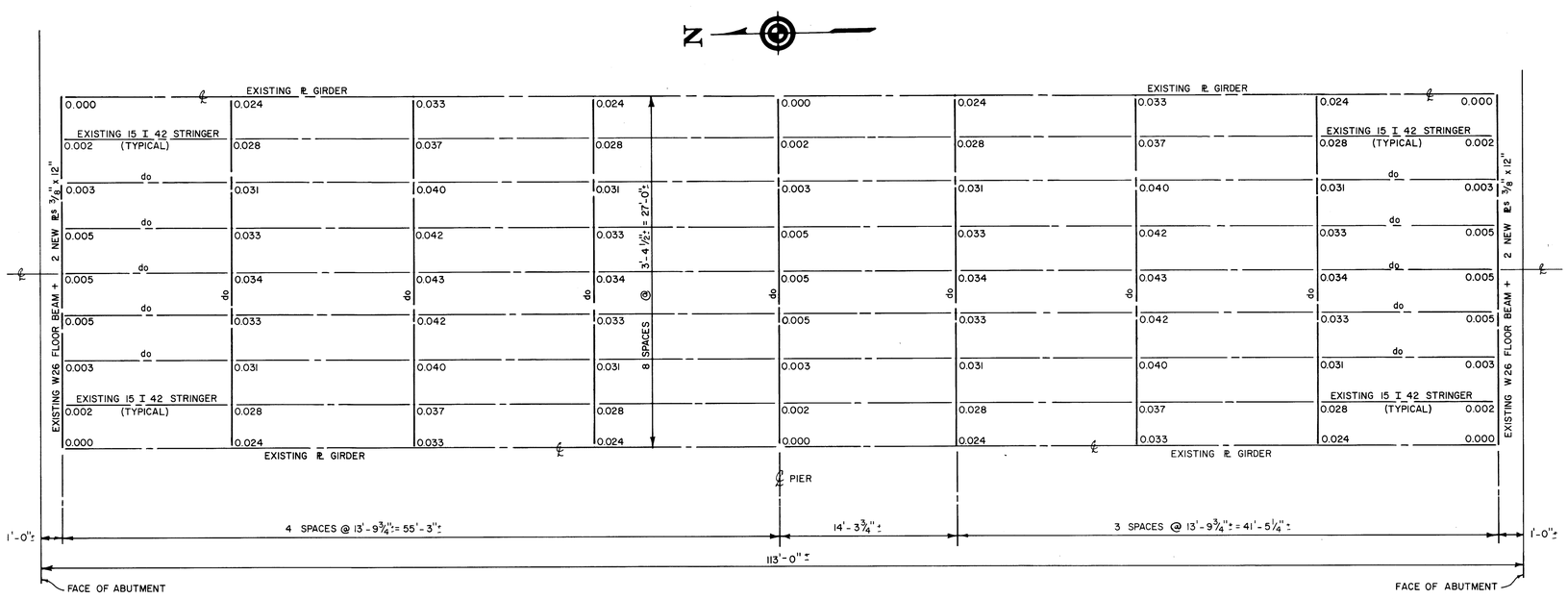
ERIE COUNTY DEPT. OF PUBLIC WORKS DIVISION OF HIGHWAYS 95 FRANKLIN ST. BUFFALO, N. Y.	SHEET No. 15
	DATE APRIL 1980
PROJECT No. RWP BR 41-1-75	SCALE AS SHOWN
STRUCTURAL STEEL REPAIRS	



PLAN - BOTTOM OF 9 1/2" SLAB ELEVATION (FEET)

0.87 % LONGITUDINAL GRADE ON DECK

NOTE: AFTER EXISTING DECK HAS BEEN REMOVED AND EXISTING STEEL HAS BEEN REPAIRED AND/OR REINFORCED, ELEVATIONS OF TOP OF STEEL FLOOR BEAMS, STRINGERS AND PLATE GIRDERS ARE TO BE DETERMINED IN THE FIELD. THEORETICAL HAUNCH HEIGHT AT ANY GIVEN POINT = TABULATED THEORETICAL BOTTOM OF SLAB ELEVATION - SURVEYED TOP OF STEEL ELEVATION + ANTICIPATED DEFLECTION DUE TO CONCRETE DECK LOADING. THIS TABLE OF THEORETICAL BOTTOM OF SLAB ELEVATIONS MAY REQUIRE REVISION AFTER TOP OF STEEL ELEVATIONS HAVE BEEN DETERMINED IN THE FIELD. DECK IS PITCHED AT 1/4"/FT. BETWEEN THE ℄ AND EDGE OF SLAB.



PLAN - ANTICIPATED DEFLECTIONS DUE TO CONCRETE DECK LOADING (FEET)

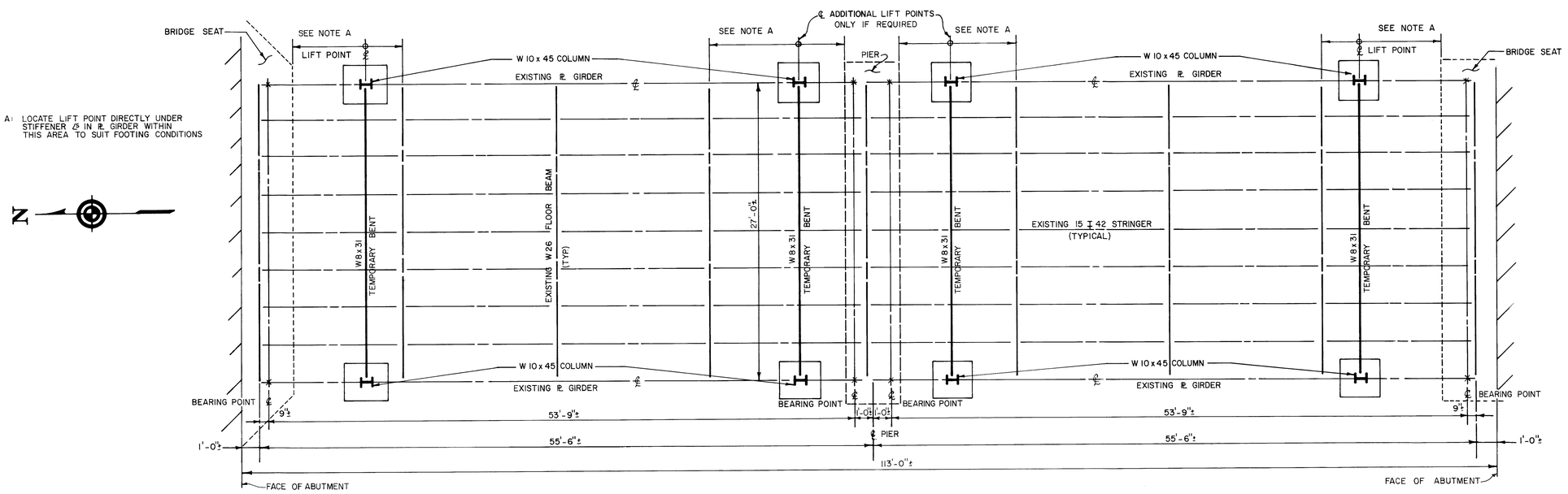
NOTE: THIS TABLE LISTS THEORETICAL DEFLECTIONS IN STEEL DUE TO WEIGHT OF NEW CONCRETE DECK ONLY.

MADE BY F.M.D.
TRACED BY M.J.S.
CHECKED BY K.M.P.

URS MOHLER, SMITH, ROSENSTEIN, ENGINEERS P.C. Subsidiary of URS/Madigan-Prager, Inc. Albany, N.Y. Hempstead, N.Y.

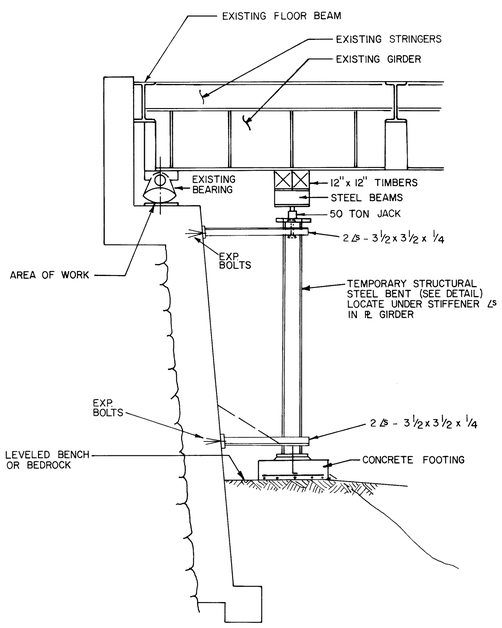
ERIE COUNTY DEPT. OF PUBLIC WORKS DIVISION OF HIGHWAYS 95 FRANKLIN ST. BUFFALO, N. Y.	SHEET No. 16 DATE APRIL 1980
PROJECT Nº. RWP BR 41-1-75	SCALE AS SHOWN
SLAB BOTTOM ELEVATIONS & ANTICIPATED DEFLECTIONS	

NOTE A: LOCATE LIFT POINT DIRECTLY UNDER STIFFENER ∠s IN ℞ GIRDER WITHIN THIS AREA TO SUIT FOOTING CONDITIONS



PLAN

SCALE: 3/16" = 1'-0"

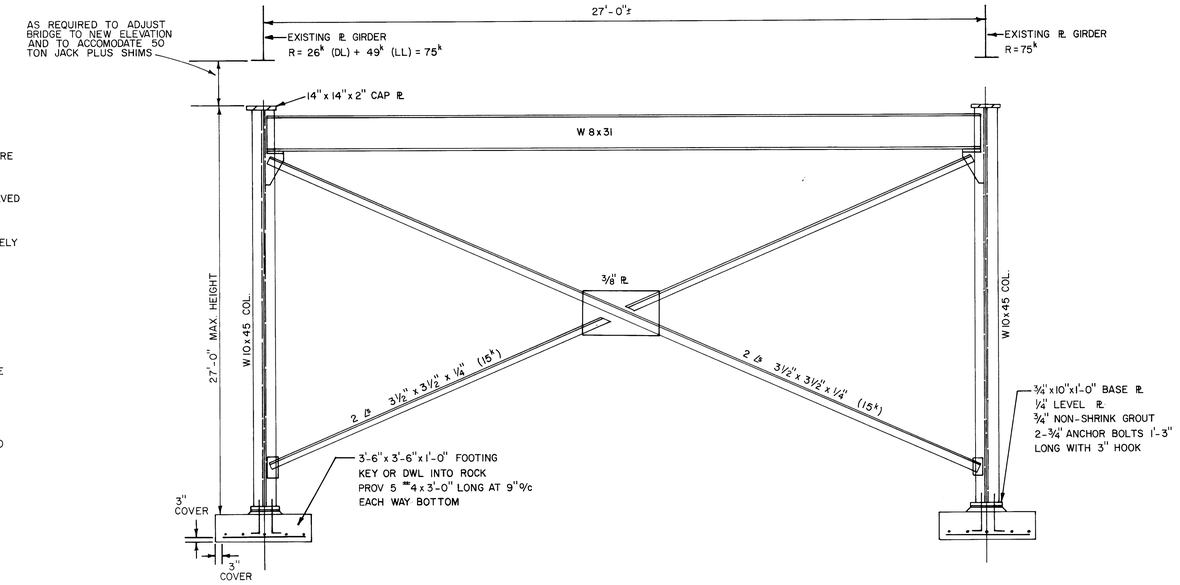


JACKING TOWER

SCALE: 1/4" = 1'-0"

PROCEDURE

1. THE CONTRACTOR IS REFERRED TO SPECIFICATION 585.01 STRUCTURAL LIFTING OPERATIONS
2. ALL EXISTING CONCRETE SHALL BE COMPLETELY REMOVED FROM THE STEEL SUPERSTRUCTURE PRIOR TO OPERATION.
3. STEEL SUPERSTRUCTURE SHALL BE RAISED A DISTANCE THAT WILL ALLOW ALL WORK INVOLVED WITH PIERS AND BRIDGE BEARINGS TO BE COMPLETED.
4. AFTER THE STEEL SUPERSTRUCTURE HAS BEEN RAISED AND SHIMMED, IT SHALL BE POSITIVELY SECURED IN A LONGITUDINAL DIRECTION TO THE EXISTING NORTH AND SOUTH ABUTMENTS. A SUITABLE MARKING SYSTEM SHALL BE ESTABLISHED TO MONITOR ANY MOVEMENT OF THE STEEL SUPERSTRUCTURE IN ITS RAISED POSITION.
5. NO WORK SHALL BE DONE ON THE RAISED STEEL SUPERSTRUCTURE WITHOUT WRITTEN PERMISSION OF THE ENGINEER.
6. UPON COMPLETION OF THE WORK ON THE BRIDGE BEARINGS AND THE PIERS, THE STEEL SUPERSTRUCTURE SHALL BE LOWERED TO ITS FINAL POSITION. DURING ALL PHASES OF THE OPERATION, THE DIFFERENTIAL LIFT BETWEEN ALL EIGHT BEARINGS SHALL NOT EXCEED ONE-HALF INCH.
7. THE MAXIMUM LIFT PERMITTED AT ABUTMENTS IS ONE-HALF INCH WITHOUT WRITTEN PERMISSION OF THE ENGINEER. IF A GREATER LIFT IS REQUIRED, IT MAY BE NECESSARY TO ALSO LIFT THE GIRDERS AT THE CENTER PIER.



SUGGESTED TEMPORARY BENT DETAIL

SCALE: 3/8" = 1'-0"

NOTE: ℞ GIRDER REACTIONS SHOWN ARE BASED ON WEIGHT OF STEEL PLUS A 100 PSF CONSTRUCTION LIVE LOAD

MADE BY F.M.D.
TRACED BY M.J.S.
CHECKED BY K.M.P.

URS McNEIL, SMITH, ROSENSTEIN ENGINEERS P.C. Subsidiary of URS/Madigan-Praeger, Inc. Buffalo, N.Y.

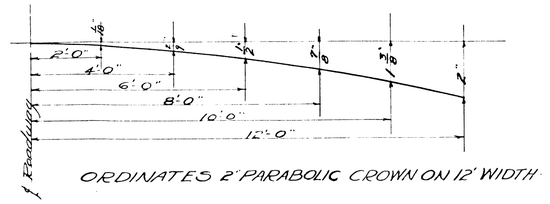
ERIE COUNTY DEPT. OF PUBLIC WORKS DIVISION OF HIGHWAYS 95 FRANKLIN ST. BUFFALO, N. Y.	SHEET No. 17 DATE APRIL 1980
PROJECT No. RWP BR 41-1-75	SCALE AS SHOWN
BRIDGE LIFTING PLAN	

2 Plate Girder Spans Required
Length C to C of Bearings 53'-9"
Length Overall 55'-3"
Four (4) Panels Required as Show on Floor Plan

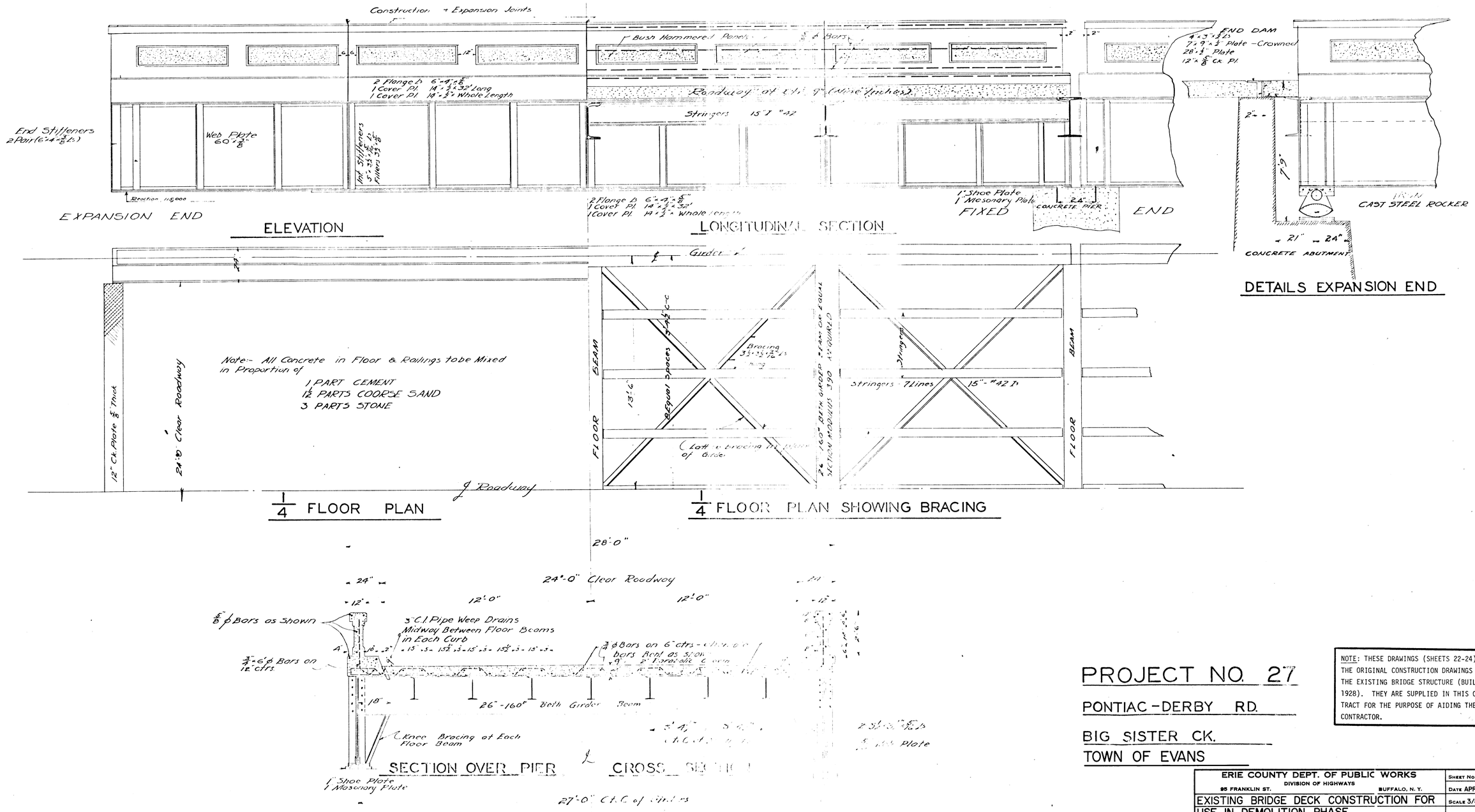
Depth B to B of Flange Angles 5'-0"
Width C-C of Girders 21'-0"
Clear Width of Roadway 24'-0"
Clear Span About 50'-0"

Floor Beam Connections to Girders 2-6"×6"×⅜" Ls 1'-8½" Long
Stringer Connections to Floor Beams 2-4"×4"×⅜" Ls 12" Long
All Steel Shapes & Plates to be of Medium open Hearth Steel
Rivets ¾" Dia.

SUPER—STRUCTURE DETAILS & SECTIONS



ORDINATES 2" PARABOLIC CROWN ON 12' WIDTH



PROJECT NO. 27

PONTIAC-DERBY RD.

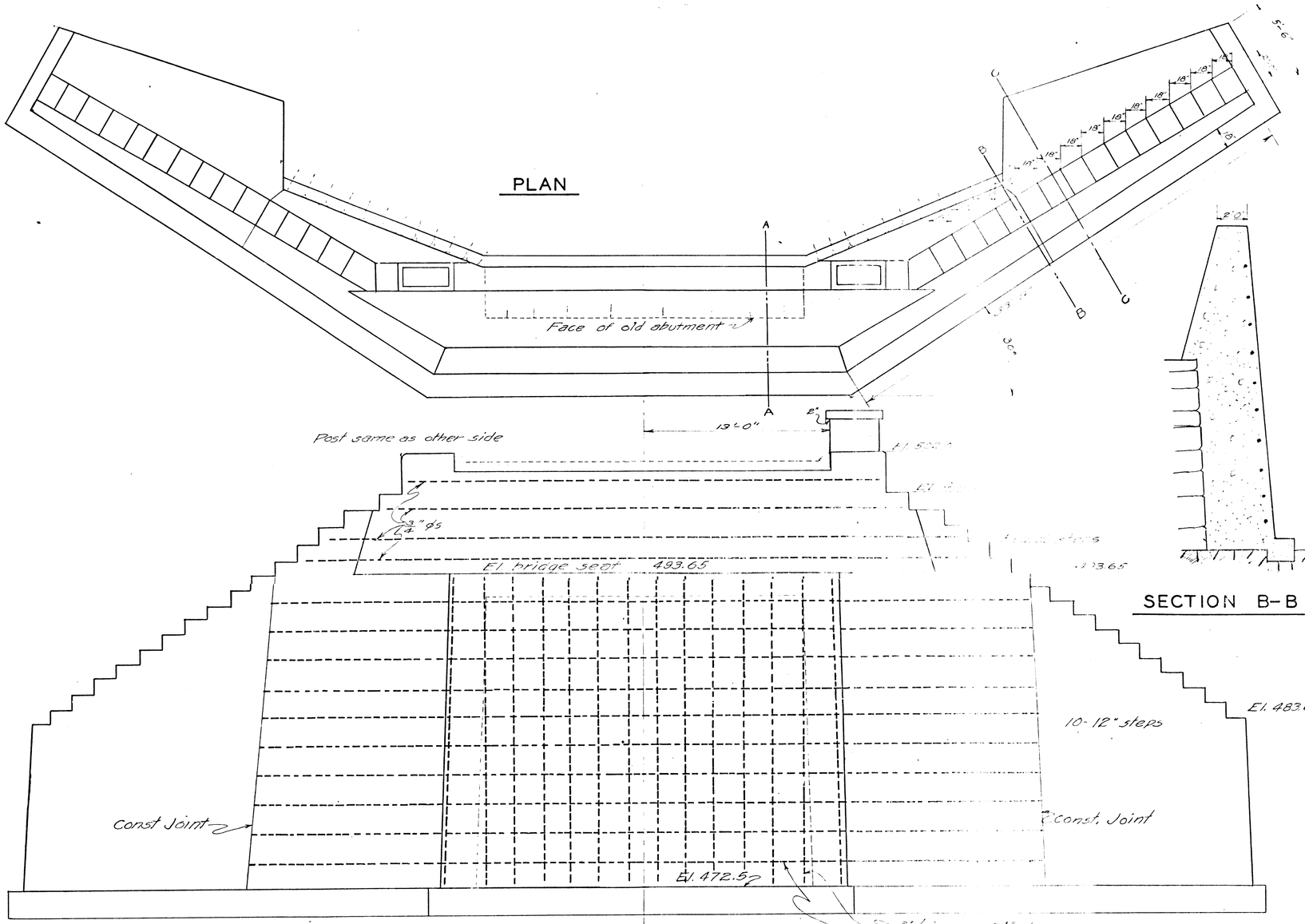
BIG SISTER CK.

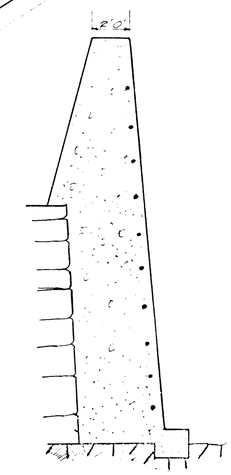
TOWN OF EVANS

NOTE: THESE DRAWINGS (SHEETS 22-24) ARE THE ORIGINAL CONSTRUCTION DRAWINGS FOR THE EXISTING BRIDGE STRUCTURE (BUILT 1928). THEY ARE SUPPLIED IN THIS CONTRACT FOR THE PURPOSE OF AIDING THE CONTRACTOR.

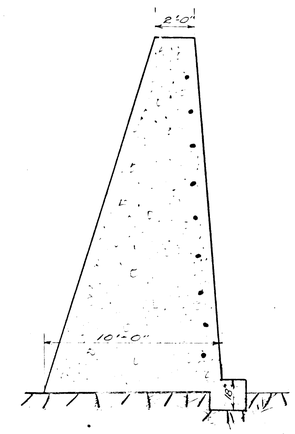
ERIE COUNTY DEPT. OF PUBLIC WORKS DIVISION OF HIGHWAYS 95 FRANKLIN ST. BUFFALO, N. Y.	SHEET No. 18
	DATE APRIL 1980
EXISTING BRIDGE DECK CONSTRUCTION FOR USE IN DEMOLITION PHASE	SCALE 3/8" = 1'-0"

URS GRAPHICS, SMITH, ROSENSTEIN, ENGINEERS P.C. SUBSIDIARY OF URS CORPORATION, INC. Buffalo, N.Y.

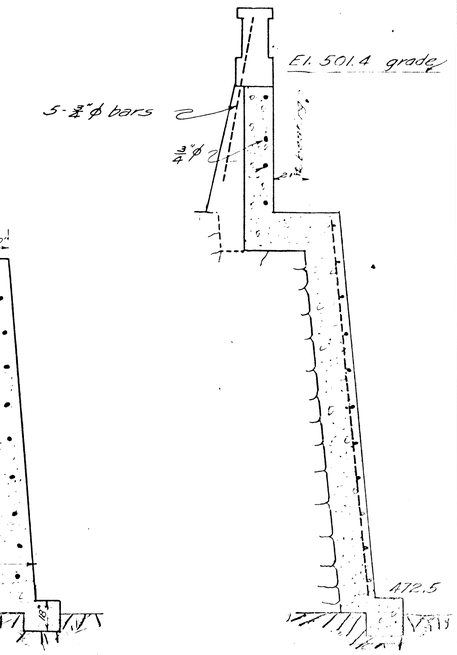




SECTION B-B



SECTION C-C



SECTION A-A

NOTE: THESE DRAWINGS (SHEETS 22-24) ARE THE ORIGINAL CONSTRUCTION DRAWINGS FOR THE EXISTING BRIDGE STRUCTURE (BUILT 1928). THEY ARE SUPPLIED IN THIS CONTRACT FOR THE PURPOSE OF AIDING THE CONTRACTOR.

PROJECT NO. 27

PONTIAC DERBY ROAD

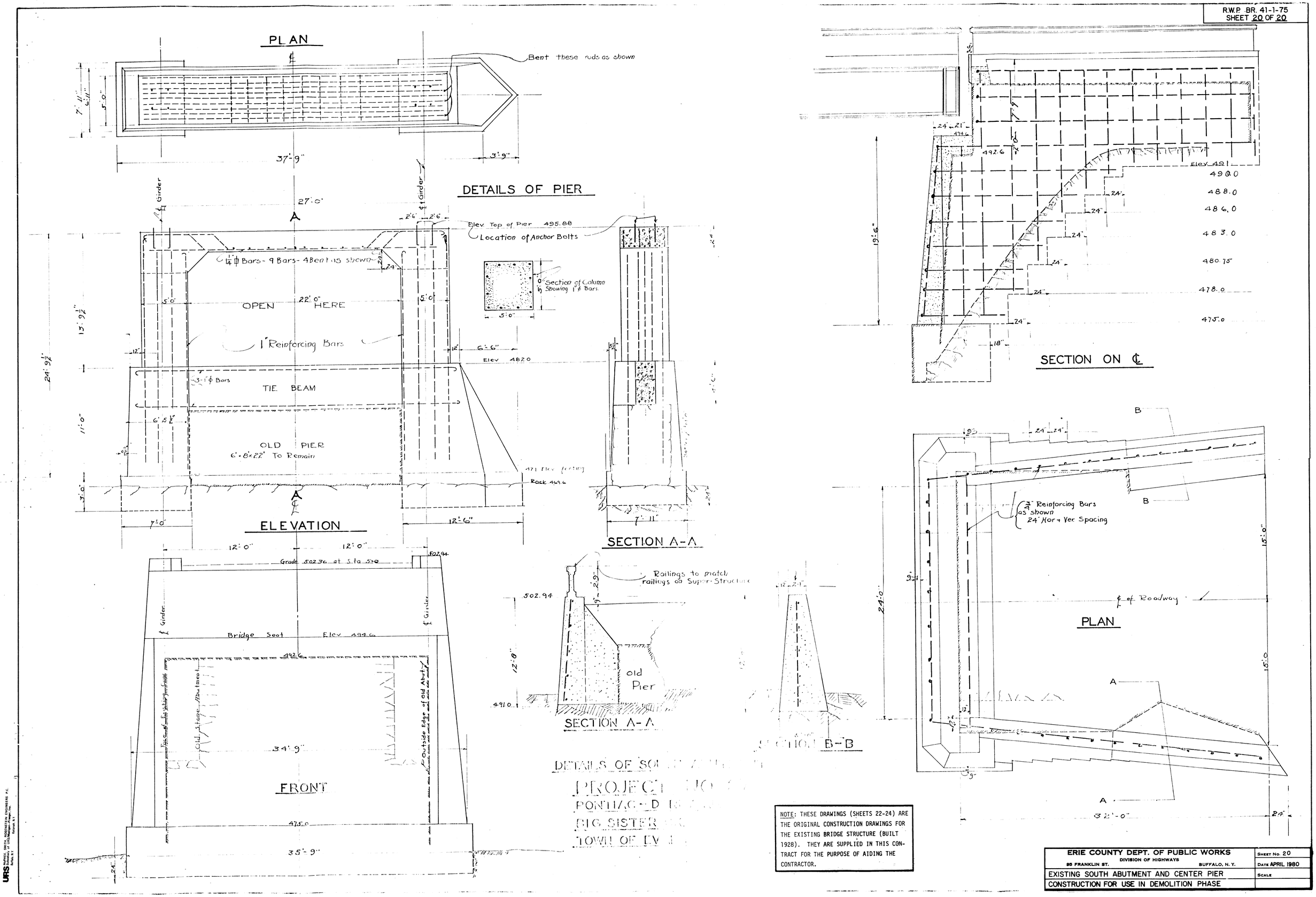
BIG SISTER CREEK

TOWN OF EVANS

NORTH ABUTMENT

ERIE COUNTY DEPT. OF PUBLIC WORKS DIVISION OF HIGHWAYS 95 FRANKLIN ST. BUFFALO, N. Y.	SHEET No. 19 DATE APRIL 1980
EXISTING NORTH ABUTMENT CONSTRUCTION FOR USE IN DEMOLITION PHASE	SCALE 1/4"= 1'-0"

URS MAPHES SMITH ROSENSTEIN ENGINEERS P.C.
"Serving Engineering Needs"
Buffalo, N.Y.



NOTE: THESE DRAWINGS (SHEETS 22-24) ARE THE ORIGINAL CONSTRUCTION DRAWINGS FOR THE EXISTING BRIDGE STRUCTURE (BUILT 1928). THEY ARE SUPPLIED IN THIS CONTRACT FOR THE PURPOSE OF AIDING THE CONTRACTOR.

ERIE COUNTY DEPT. OF PUBLIC WORKS DIVISION OF HIGHWAYS 95 FRANKLIN ST. BUFFALO, N. Y.	SHEET No. 20 DATE APRIL 1980
EXISTING SOUTH ABUTMENT AND CENTER PIER	SCALE
CONSTRUCTION FOR USE IN DEMOLITION PHASE	

URS SMITH, SMITH, ROSENSTEIN ENGINEERS P.C.
Successor to URS/Madigan-Praeger, Inc.
Buffalo, N.Y.

APPENDIX E

Public Involvement

APPENDIX F

Risk Management

Risk Management

This appendix identifies the risks to on-time, on-budget delivery and completion of the project. It also covers the likelihood of the risk causing an impact, the costs that could be incurred, the strategies evaluated to mitigate the risk, the costs of the mitigation measures, and the actions being taken. As part of the quality control plan, an independent constructability and cost estimate review will be performed during final design.

		Impact Severity				
		Low 1	Medium Low 2	Medium 3	Medium High 4	High 5
Likelihood	Low 1	Low 1	Low 2	Low 3	Low 4	Medium Low 5
	Medium Low 2	Low 2	Low 4	Medium Low 6	Medium Low 8	Medium 10
	Medium 3	Low 3	Medium Low 6	Medium Low 9	Medium 12	Medium High 15
	Medium High 4	Low 4	Medium Low 8	Medium 12	Medium High 16	High 20
	High 5	Medium Low 5	Medium 10	Medium High 15	High 20	High 25

Rating Definitions		
Level	**Likelihood**	**Impact Severity (1)**
1	Chance of <20% of occurring	Incurred costs increase by less than 5% and, No foreseeable delay in project schedule
2	Chance of 20% to 40% of occurring	Incurred costs increase by 5% but less than 15% or, Incurred costs exceed $ 25 Million but less than $ 50 Million or, Project letting delayed by less than 1 month
3	Chance of 40% to 60% of occurring	Incurred costs increase by 15% and less than 30% or, Incurred costs exceed $ 50 Million and less than $ 75 Million or, Project letting delayed by 1 month but less then 2 months or, Project completion delayed by 1 months
4	Chance of 60% to 80% of occurring	Incurred costs increase by 30% or less than 50% or, Incurred costs exceed $ 75 Million but less than $ 100 Million or, Project letting delayed by 2 month but stays in fiscal year or, Project letting falls outside of fiscal quarter or, Project completion delayed by 2 months but less then 3 months
5	Chance of >80% of occurring	Incurred costs increase by 50% or more or, Incurred costs exceed $ 100 Million or, Project letting date falls outside fiscal year or, Project completion delayed by 3 months

NOTES:

(1) Costs include construction, inflation, crash, user and other costs.

Risk Assessment

#	Identified Risk	LIKELIHOOD	Potential Consequence of the Risk	IMPACT SEVERITY	RISK SCORE	Mitigation	Effects of Mitigation
1	Unexpected concrete condition when repairs are performed at substructures	4	Delay in schedule due to new repair needed and additional cost to perform repair.	2	8	Contingency is added to estimate to take into account additional repair area.	Repairs will be based on in-situ data.
2	Drilling and grouting anchors can expose poor conditions behind existing abutments	3	Delay schedule and additional cost if strata is poor.	2	6	Pullout tests are performed to confirm adequacy of capacity during construction.	Ensure anchors are installed to design capacity.
3	Existing structures to remain are accidentally damaged during demolition	2	Depends on severity of damage but likely to not be major.	1	2	The plan set will make clear what is to remain and be demolished. The plan set will also make clear the contractor is responsible for any damage to existing structures to remain.	No monetary effect will be induced, rather a slight delay for contractor to fix repair.
4	Unidentified utilities encountered	1	Delay in schedule to first identify utility and then coordinate with utility company for solution.	2	2	Survey personnel have performed survey stakeout of the project area.	Reduces likelihood an unidentified utility is encountered.
5	Utility Coordination	1	Delay in schedule if utility coordination is not performed and enough lead time is given	2	2	A utility coordination meeting will be held with the owners during final design to review the scope of work, develop a plan to address the conflicts and finalize any necessary agreements.	Utility companies are aware of work being performed in the vicinity of their utilities and will have time to perform any relocations if necessary.
6	Increase in material cost due to market forces	4	Cost escalation and likely a delay to ensure additional funding is available for increased cost.	2	8	If material is vital for project, obtain price quote from additional sources. If alternative options are available for task, evaluate cost of alternative option.	Ensures best value and honest pricing is obtained.

#	Identified Risk	LIKELIHOOD	Potential Consequence of the Risk	IMPACT SEVERITY	RISK SCORE	Mitigation	Effects of Mitigation
7	Insufficient ROW available for all operations	**1**	Increased cost to acquire ROW and delay schedule due to ROW acquisition process.	**2**	**2**	Evaluated existing ROW and determined repairs can be performed within ROW.	Ensures necessary construction clearances can be achieved.
8	Schedule Overrun	**2**	BridgeNY Program allows 24 months for design and 30 months for construction	**4**	**8**	Ensure responsible parties are aware of schedule timelines. Set milestones for responsible parties to achieve to keep them on schedule.	Ensures timelines set by BridgeNY are met.

Major Findings and Observations

The risks identified that would cause substantial delay or cost overruns and are more likely to occur during the construction stage involve exposing unknown concrete conditions once demolition and substructure repairs begin, drilling and grouting of anchors encountering poor conditions behind existing abutments, schedule overrun of the timeline set by BridgeNY, and the increase in material costs due to market forces.

At the preliminary design phase of the project, the current foreseeable risks include the potential for unidentified utilities to be encountered, the need for utility coordination, the possibility of accidental damage to existing structures to remain during demolition, and insufficient right-of-way (ROW) for all operations. Survey personnel have already performed a survey stakeout of the project area to help reduce the likelihood of encountering an unidentified utility, and existing ROW has been evaluated and determined sufficient for the proposed repairs to be performed within it.

To mitigate these potential risks, actions to be taken during final design include holding a utility coordination meeting with the utility owners to review the scope of work, develop a plan to address any conflicts, and finalize necessary agreements with sufficient lead time before construction. The plan set will also clearly identify which existing structures are to remain versus be demolished, and will make clear that the contractor is responsible for any damage to structures designated to remain.

Schedule and cost impacts due to the mitigation of these risks are summarized below:

<u>Material Cost Escalation</u>

Market volatility in construction materials pricing represents the highest-scored risk to the project, with the potential for cost escalation and a likely delay to ensure additional funding is available should costs increase. To mitigate this risk, price quotes for any material identified as vital to the project will be obtained from additional sources to help ensure competitive and honest pricing is obtained. Where alternative options are available for a given task, the cost of the alternative will be evaluated against the specified material to identify the best value for the project.

<u>Schedule Overrun</u>

The BridgeNY Program allows 24 months for design and 30 months for construction. To mitigate this risk, all responsible parties will be made aware of the schedule timelines established by BridgeNY, and milestones will be set for responsible parties to achieve throughout design and construction to help keep the project on schedule.

<u>Concrete Conditions and Anchor Installation</u>

Repairs to existing substructures and the installation of drilled and grouted anchors carry the risk of exposing unexpected concrete conditions or poor strata behind existing abutments once work begins. A contingency has been added to the estimate to account for additional repair area, and repairs will be based on in-situ conditions encountered during construction rather than assumptions made during design. For anchor installation, pullout tests will be performed during construction to confirm anchors are installed to their design capacity, reducing the risk of a rework or schedule delay associated with inadequate anchor performance.