

Supplemental Supporting Information for a Finding of Effect

PUBLIC COMMENT DRAFT

Project: Presque Isle 26434.00

Scope: Bridge Replacement

Finding of Effect: No Adverse Effect

This report describes the Maine Department of Transportation's compliance with Section 106 of the National Historic Preservation Act (36 CFR Part 800). It details the finding of effect to historic properties listed in or eligible for listing in the National Register of Historic Places (NRHP) that are located in the subject project's Area of Potential Effect (APE). This report also assesses how the proposed project may directly or indirectly affect and/or diminish those characteristics and aspects of integrity that qualify a historic property for inclusion in the NRHP. This report is specific to the Section 106 assessment of effects, as opposed to general environmental impacts. Consultation with coordinating agencies and the public is ongoing.

Project Scope

The proposed project consists of the replacement of Phair Crossing Bridge (#3259) that carries State Route 10/Easton Road over the Bangor & Aroostook Railroad in Presque Isle, Aroostook County.

Purpose and Need

The purpose of this project is to address the structural deficiency of the Phair Crossing Bridge that carries Route 10/Easton Road in Presque Isle, while also meeting vertical clearance standards over the Bangor and Aroostook Railroad, as set forth in the American Railway Engineering and Maintenance-of-way Associate (AREMA) Manual .

The need for the project is because the Phair Crossing Bridge is in poor condition and does not meet current vertical clearance standards for a railroad grade crossing.

Project Background

The Phair Crossing Bridge was constructed in 1936 and is eligible for listing in the National Register of Historic Places. It consists of three simple spans with painted rolled steel girders, reinforced concrete skeletal abutments, and reinforced concrete multi-column piers. The bridge has no skew, but the railroad underneath passes through at an approximate 12-degree skew. The bridge is in poor condition and was assigned a rating of "4" during an inspection carried out by MaineDOT in 2022.

Route 10 is a Corridor Priority 4 roadway with two 12-foot lanes and 3-foot shoulders on each side at the approaches and tapers down to two 11-foot lanes and 1-foot shoulders at the bridge. There is guardrail at all four quadrants of the bridge that tie into the existing bridge rail, which consists of steel W-beam guardrail mounted to concrete posts on a concrete curb.

The existing embankment slopes do not meet required safety factors based on preliminary subsurface analysis, as they are steeper than recommended, with a maximum ratio of 1.3:1 in some areas without any armoring. Although they have been in place for approximately 90 years with minimal signs of settlement, their substandard condition necessitates rehabilitation wherever impacted by bridge and roadway construction. Additionally, a roadway with 2% normal crown cannot tie in prior to the steepened embankment, further supporting the need for rehabilitation. The design team determined that for any roadway replacement options, a 32-foot roadway width with 12-foot lanes and 4-foot shoulders would be used to improve snowplow operations.

Proposed Action

The proposed action would replace the existing bridge with a 140-foot single span structure with integral abutments and zero skew. The structure would be comprised of five steel girders supporting an 8" cast-in-place composite concrete deck with corrosion resistant reinforcing and a 1" integral concrete deck. It would feature standard 3-bar steel rail and snow fence mounted on concrete brush curb.

The roadway section would consist of two 12-foot lanes with 4-foot shoulders transitioning to match existing conditions at the ends of the project beyond guardrail limits, which is approximately 11-foot lanes and 3-foot shoulders. Approach side slopes would be 2:1 behind MASH compliant guardrail.

The horizontal geometry would match the existing condition which is tangent. The proposed vertical alignment would raise the profile approximately 45 inches over the railroad to provide the recommended 23-foot clearance.

Federal Action

Federal funding.

Definition of Area of Potential Effect (APE)

The proposed project is located in Presque Isle, Aroostook County, Maine. The map below shows the APE.

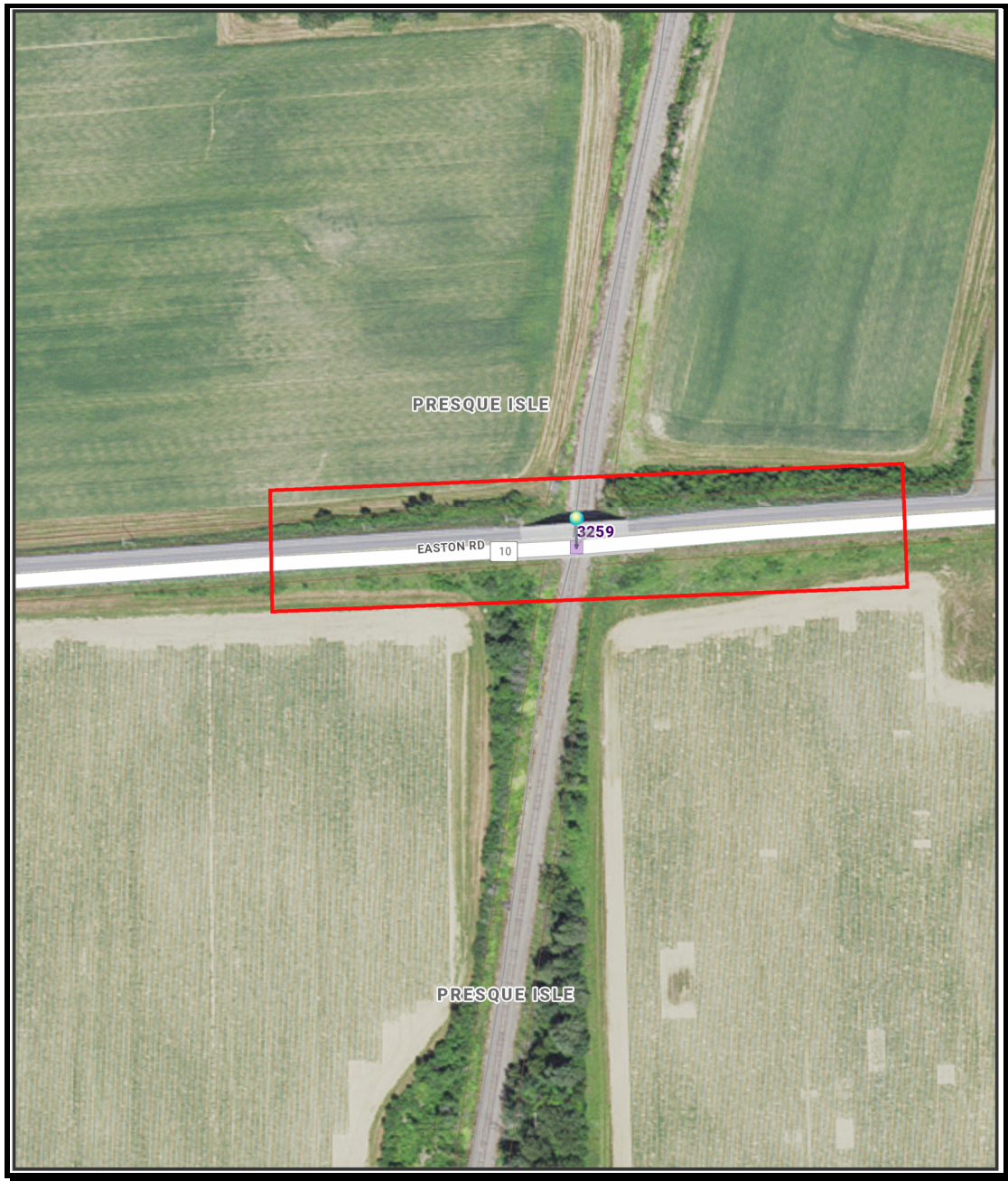


Figure 1. Presque Isle 26434.00 Area of Potential Effect

Historic Properties

The proposed project is located in Presque Isle. The descriptions are based on Maine Historic Preservation Commission (MHPC) forms.

Phair Crossing Bridge (#3259) (Maine Department of Transportation; Sta. 204+00 to Sta. 206+00 Right and Left)

National Register-Eligible

Criterion A, Transportation

The Phair Crossing Bridge is individually eligible for listing in the National Register under Criterion A for its significance under Transportation. The bridge does not hold significance for its particular type, but rather for its role in the transportation system as a grade separation crossing. Its construction was a result of the U.S. Works Program Grade Crossing Project that sought to diminish automobile accidents that occurred at rail crossings. The affordability of automobiles – as well as the promotion of automobile tourism – in the early 20th century resulted in an increase of road traffic. The number of accidents at railroad crossings grew as a result. Grade separations funded through federal aid helped alleviate the growing safety concern.



Figure 2. Phair Crossing Bridge

Bangor and Aroostook Railroad (Maine Department of Transportation; Sta. 205+00 Right and Left)

National Register-Eligible

Criteria A&C, Transportation

The Bangor and Aroostook Railroad Historic District is eligible for listing in the National Register under Criteria A and C for its statewide significance in Industry and Transportation. Survey for the line was completed in 1891 and 1892. In 1893, Albert Burleigh and his investors leased the Bangor and Piscataquis with service to Greenville, Old Town, Bangor, and Katahdin Iron Works. Burleigh soon

looked to connect the extant Brownville Junction to Houlton and points north. The main line of the Bangor and Aroostook Railroad reached Fort Fairfield in 1895 and Van Buren in 1899. The railroad's success is attributed to the need for reliable infrastructure for shipping lumber, paper, and agricultural goods from Aroostook County south.



Figure 3. Bangor and Aroostook Railroad

Archaeological Resources

There are no archaeological resources in the project area.

Impacts to Property

The following addresses potential impacts to properties as a result of the proposed action.

Phair Crossing Bridge (#3259) (Maine Department of Transportation; Sta. 204+00 to Sta. 206+00 Right and Left)

National Register-Eligible Criterion A, Transportation

The proposed action would result in **No Adverse Effect** to the Phair Crossing Bridge. The proposed action would replace the structure on its current alignment with a 140-foot single span structure with integral abutments. The addition of 3-bar steel bridge railing presents a nominal change, as steel guardrail is found within the project area, nor does the addition of 45" at the vertical alignment. Although the introduction of a new crossing presents a change in design and workmanship at the project location, the existing bridge is not significant for its design type, materials, or workmanship; rather, it holds significance for its role in the transportation system as a grade separation crossing. Although the proposed action would replace the existing structure, the replacement bridge would continue to maintain the passage of vehicles over the railroad and the overall historic function of the

crossing. Furthermore, the action would not significantly diminish the integrity of setting and location, as the proposed bridge would be built at the same location as the existing.

Bangor and Aroostook Railroad (Maine Department of Transportation; Sta. 205+00 Right and Left)
National Register-Eligible

Criteria A&C, Transportation

The proposed action would result in **No Adverse Effect** to the Bangor and Aroostook Railroad. The proposed action would avoid physical impacts to the railroad features and would not significantly alter the setting of the property, as a grade crossing already exists at the location. The replacement bridge would not adversely affect the historic property, as the replacement structure will continue to convey the historic function of the crossing over the railroad.

Archaeological Resources

There are no archaeological resources in the project area.

Avoidance and Minimization Efforts

The MaineDOT has minimized adverse effects by building a new grade crossing at the same location as the existing, thus avoiding major impacts to previously undisturbed areas and potential physical impacts to the historic railroad.

Dismissed Alternatives

Two additional alternatives were analyzed as part of the preliminary engineering of this project:

No Build: The No Build Alternative does not address the deteriorating structural condition of the Phair Crossing Bridge and therefore does not meet the purpose and need. Additionally, the existing vertical alignment stands at 22' and does not meet current standards for grade crossings. For these reasons, this alternative does not meet the purpose and need and was dismissed from further consideration.

Bridge Rehabilitation: The Bridge Rehabilitation Alternative would leave the existing three-span structure in place and address specific deficiencies of the bridge. The general rehabilitation scope would include re-decking the bridge, painting the girders, and addressing the crumbling substructure concrete. Substructure rehabilitation carries high risk as it is unknown how much sound concrete is in the pier caps and columns without obtaining and testing concrete cores. Rehabilitation carries significant cost risk, longevity risk, does not address the embankments and vertical clearance, and results in an undesirable roadway width for plowing. The expected service life depends on several factors, most importantly whether the existing pier concrete can be refaced. For these reasons, this alternative does not meet the purpose and need and was dismissed from further consideration.

Public Involvement

MaineDOT contacted the four federally recognized tribes in Maine about this project. The Mi'kmaq Nation and the Penobscot Nation replied with no concerns about the undertaking. The Passamaquoddy Tribe and Houlton Band of Maliseet Indians did not respond.

The City of Presque Isle, the Presque Isle Historical Society, and Maine Preservation were contacted via email and asked to comment on knowledge of, or concerns with, historic properties in the area. No comments or consulting party requests were received.

A public meeting was held via virtual public involvement in January 2025. No questions or concerns related to the Section 106 review were received.

The public involvement process is ongoing.

Proposed Materials

Hot mix asphalt, concrete, steel, steel bridge rail and guardrail, loam and seed.

Plans

Presque Isle, Aroostook County, Phair Crossing Bridge over Maine Northern Railway, State Route 10/Easton Road, Federal Aid Project Number 2643400, November 26, 2024

Attachments

J. N. Leith Smith, MHPC, to Julie Senk, MaineDOT, October 5, 2022

Kirk Mohney, MHPC, to Julie Senk, MaineDOT, November 11, 2023

STATE OF MAINE
Memorandum

Date: October 5, 2022

To: Julie Senk, Historic Preservation Coordinator, Maine DOT/ENV

From: J. N. Leith Smith, MHPC

Subject: Initial Archaeology Review

Project: MHPC #1652-22, WIN 26434: Presque Isle
Replacement of Phair Crossing Bridge carrying Route 10 over B&A Railroad, located 0.68 of a mile east of Egypt Road.

Dear Julie,

After reviewing our archaeological survey records and maps, including historic maps and surficial geology maps, and comparing this information with a predictive model of archaeological site locations, we find that no archaeological fieldwork is necessary for the project listed above, based on the project location and general project description information provided September 13, 2022. It is extremely unlikely that an archaeological site would be affected by this project, in our opinion.

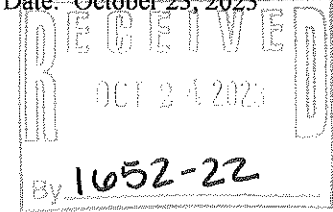
In following the procedures specified in the Federal Highway/MHPC/MDOT programmatic agreement, we **recommend a finding that there will be no archaeological properties affected by the proposed undertaking.**

STATE OF MAINE

Memorandum

To: Kirk F. Mohny, MHPC
From: Julie Senk, Maine DOT/ENV
Subject: Section 106 request for concurrence
Project: Presque Isle 26434.00; MHPC #1652-22
Scope: Bridge Improvements

Date: October 23, 2023



The Maine DOT has reviewed this project pursuant to the Maine Programmatic Agreement (PA) and Section 106 of the National Historic Preservation Act of 1966, as amended.

The proposed project is bridge improvements to Phair Crossing Bridge #3259 carrying Route 10 over the Bangor and Aroostook Railroad in Presque Isle.

In accordance with 36 CFR Part 800.4, the following identification efforts of historic properties were made:

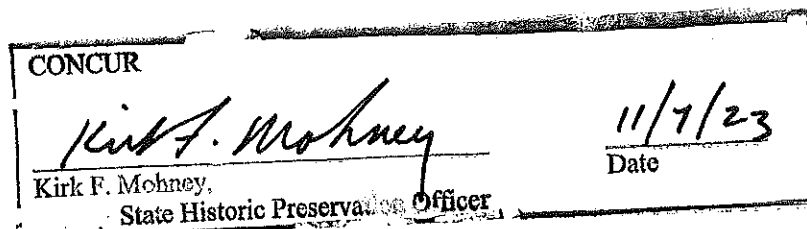
- 800.4(a) (1) – The Area of Potential Effect (APE) includes properties/structures adjacent to the bridge and within the project limits. The project limits are defined by the bridge and the immediately adjacent area. Properties/structures adjacent to this project limit are considered to be within the APE. The APE is shown as a red polygon on the attached map.
- 800.4(a) (2) – Review of existing information consisted of researching the National Register and MHPC survey databases. The Maine Historic Preservation Commission staff have reviewed the undertaking.
- 800.4(a) (3) – The City of Presque Isle, along with applicable historical societies, were contacted via email and asked to comment on knowledge of, or concerns with, historic properties in the area, and any issues with the undertaking's effect on historic properties. The Town was also requested to provide information regarding local historic societies or groups. No replies were received.
- 800.4(a) (4) – Emails outlining project location and scope were sent to the 4 federally recognized Tribes in Maine. The Mi'kmaq Nation replied with no concern.
- 800.4(c) – The Maine DOT conducted historic architectural surveys within the APE to determine if properties met National Register criteria. Maine Historic Preservation Commission Archaeological staff has reviewed the undertaking and recommended "a finding that there will be no archaeological properties affected by the proposed undertaking." **The MaineDOT has determined that two architectural properties are eligible for listing in the National Register of Historic Places.**

In accordance with the PA and 36 CFR Part 800, please reply with your concurrence or objection to the determination of eligibility for listing in the National Register of Historic Places within 30 days. If more information is deemed necessary, please supply a list of the specific resources in question.

Please contact me at Julie.Senk@maine.gov or 592-3486 if you have any questions. Thank you.

cc: CPD e-file

enc: Architectural survey package; J. N. Leith Smith, MHPC, to Julie Senk, Maine DOT, October 5, 2022



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION



SPECIFICATIONS

Design: Load and Resistance Factor Design per AASHTO LRFD Bridge Design Specifications, Ninth Edition 2020.

DESIGN LOADING

Live Load HL - 93 Modified for Strength I

TRAFFIC DATA

Current (2023) AADT 1,290
Future (2043) AADT 1,420
DHV - % of AADT 13%
Design Hour Volume 185
Heavy Trucks (% of AADT) 9%
Heavy Trucks (% of DHV) 7%
Directional Distribution (% of DHV) 66%
18 kip Equivalent P 2.0 61
18 kip Equivalent P 2.5 58
Design Speed (mph) 45

MATERIALS

Concrete:
Curbs Class "LP"
All Other Class "A"

Reinforcing:
Plain Reinforcing Steel ASTM A615, Grade 60
Glass Fiber Reinforcing Polymer (GFRP) ASTM D7957
Low-Carbon Chromium Steel: ASTM A1035, Type CS, Grade 100

Structural Steel:
All Material (except as noted) ASTM A709, Grade 50W (unpainted)
High Strength Bolts ASTM F3125, Grade A325, Type 3

BASIC DESIGN STRESSES

Concrete:
Class "A" f 'c = 4,000 psi
Class "LP" f 'c = 5,000 psi

Reinforcing:
Plain Reinforcing Steel f y = 60,000 psi
Glass Fiber Reinforced Polymer
#5 Bar f fu = 100,000 psi
#6 Bar f fu = 100,000 psi
#7 Bar f fu = 100,000 psi
#8 Bar f fu = 100,000 psi
Minimum Elastic Modulus E f = 8,700,000 psi
Minimum Nominal Design Tensile Strain e fu = 1.1%
Low-Carbon Chromium Steel: f y = 100,000 psi

Structural Steel:
ASTM A709, Grade 50W F y = 50,000 psi
ASTM F3125, Grade A325 F μ = 120,000 psi

LIST OF DRAWINGS

Title Sheet 1
General Plan 2-3
Profile 4-5
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PRESQUE ISLE
AROOSTOOK COUNTY
PHAIR CROSSING BRIDGE
OVER
MAINE NORTHERN RAILWAY
STATE ROUTE 10/EASTON ROAD
FEDERAL AID PROJECT NO. 2608300
BRIDGE NUM: 3529
PROJECT LENGTH 0.19 mi.

Final PDR
November 26, 2024

UTILITIES

Charter Communications
Consolidated Communications
Versant Power
Maine Northern Railway

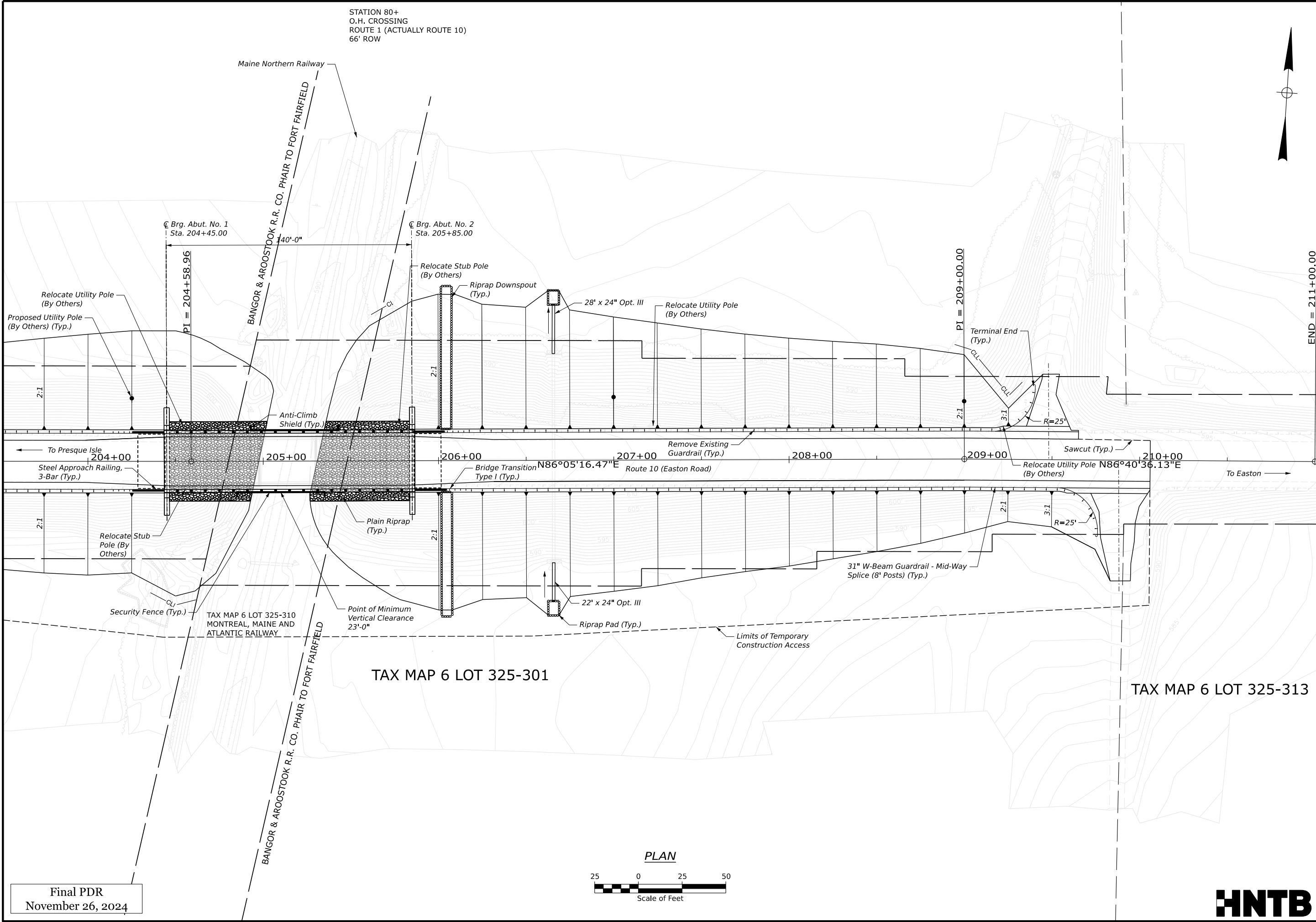
MAINTENANCE OF TRAFFIC

Bridge closure with off-site detour

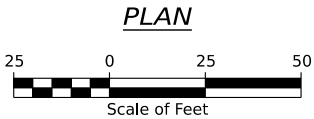


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| PROJECT LOCATION | Phair Crossing Bridge #3259 in Presque Isle carrying State Route 10 over Maine Northern Railway located 0.68 of mile east of Egypt Road. Lat. 46°38'32" N Long. 67°56'16" W |
| OUTLINE OF WORK | Replacement of Phair Crossing Bridge #3259 in Presque Isle with associated approach work. |

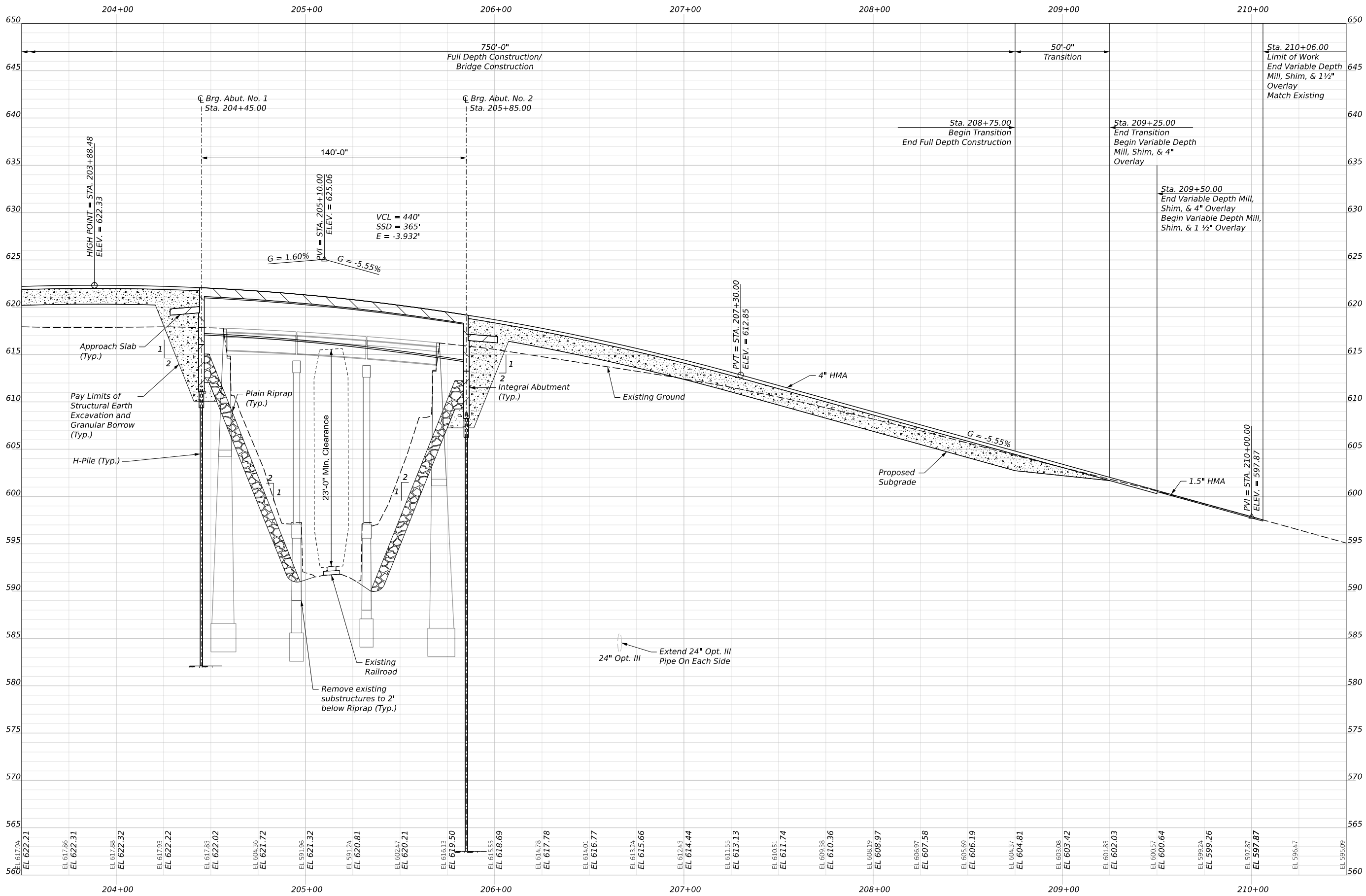
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| PRESQUE ISLE PHAIR CROSSING BRIDGE | | PROJ. MANAGER | MICHAEL WIGHT | BY | DATE | STATE OF MAINE DEPARTMENT OF TRANSPORTATION | | | |
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| TITLE SHEET | | CHECKED-REVIEWED | | | | SIGNATURE | | | |
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| | | DESIGN-DETAILED3 | | | | P.E. NUMBER | | | |
| | | REVISIONS 1 | | | | | | | |
| | | REVISIONS 2 | | | | | | | |
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| | | REVISIONS 4 | | | | | | | |
| | | FIELD CHANGES | | | | | | | |
| SHEET NUMBER | | | | | | BRIDGE NO. 3259 | WIN | 026434.00 | BRIDGE PLANS |
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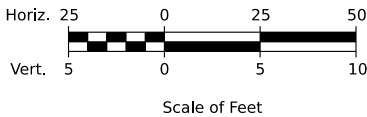
Final PDR
November 26, 2024



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| STATE OF MAINE DEPARTMENT OF TRANSPORTATION | | 2643400 | | BRIDGE NO. 3259 | | 026434.00 | | BRIDGE PLANS | |
| PROJECT MANAGER | | DESIGN-REVIEWED | | CHECKED-REVIEWED | | DESIGN-REVIEWED | | SIGNATURE | |
| MICHAEL WIGHT | | C. TOLIN | | E. BEAUDOIN | | S. GREER | | P.E. NUMBER | |
| DATE | | 12/24 | | 12/24 | | 12/24 | | DATE | |
| GENERAL PLAN 2 | | SHEET NUMBER | | 3 | | OF | | 6 | |



Final PDR
November 26, 2024



HNTB

PRESQUE ISLE
PHAIR CROSSING BRIDGE
PROFILE 2

SHEET NUMBER

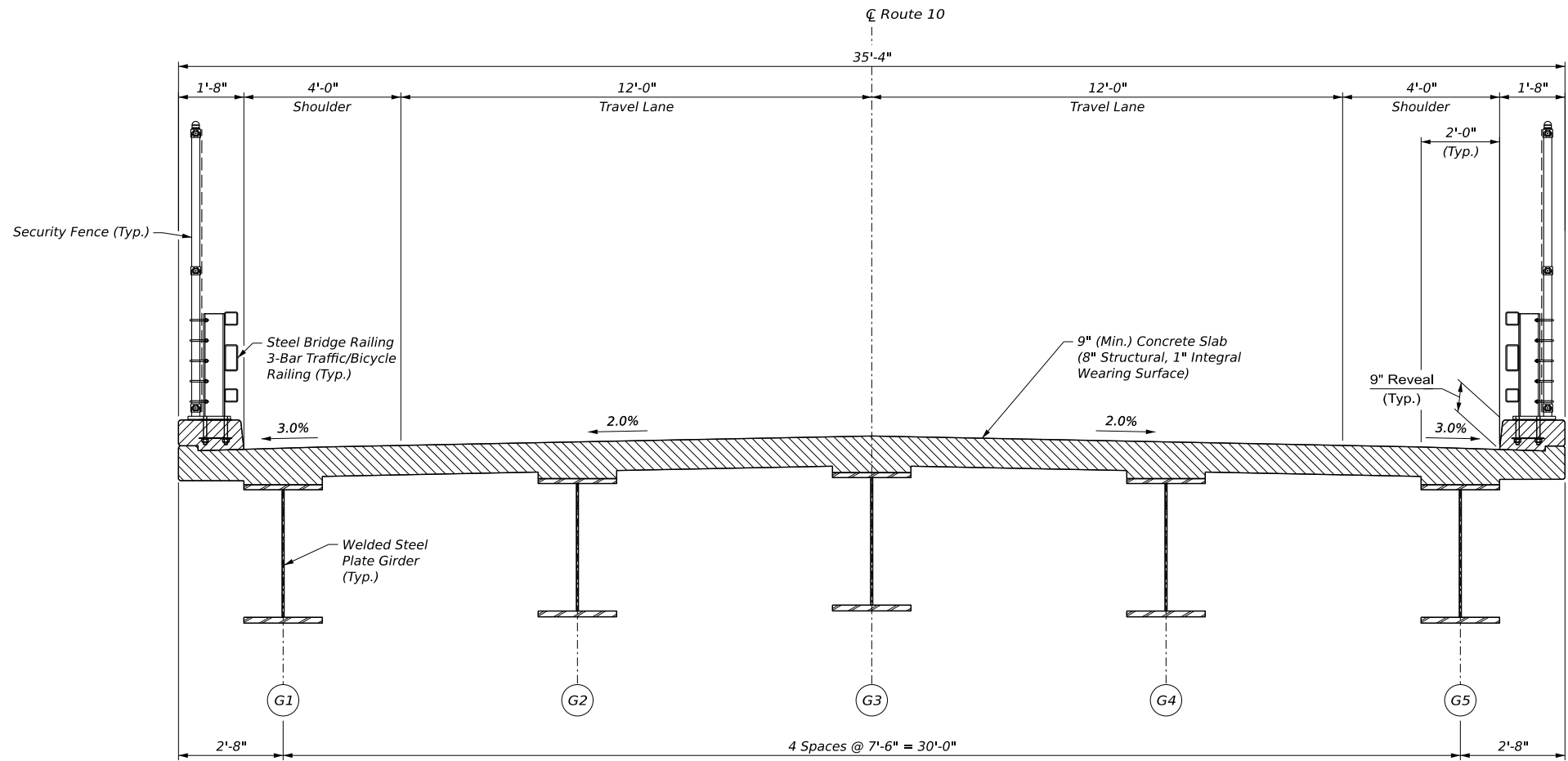
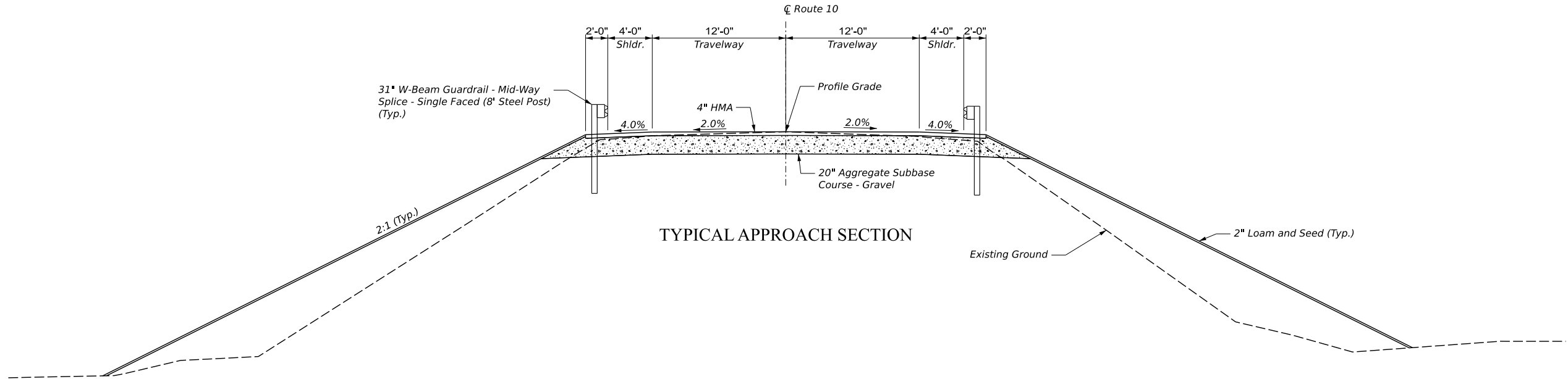
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OF 6

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
2643400
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BRIDGE NO. 3259
BRIDGE PLANS

| PROJ. MANAGER | Michael Wright | BY | DATE |
|------------------|----------------|------------|-------|
| DESIGN-DETAILED | C. Tolin | E. Beaudet | 12/24 |
| CHECKED-REVIEWED | L. Dineen | B. Greener | 12/24 |
| DESIGN-DETAILED | | | |
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SIGNATURE
P.E. NUMBER
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PROPOSED TRANSVERSE SECTION

TYPICAL APPROACH SECTION

| | |
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| STATE OF MAINE | |
| DEPARTMENT OF TRANSPORTATION | |
| 2643400 | |
| WIN | 026434.00 |
| BRIDGE NO. 3259 | BRIDGE PLANS |

| PROJ. MANAGER | Michael Wright | BY | DATE |
|------------------|----------------|-------------|-------|
| DESIGN-REVIEWED | C. Tobin | E. Beaulieu | 12/24 |
| CHECKED-REVIEWED | L. Prescott | B. Greener | 12/24 |
| DESIGN-REVIEWED | | | |
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