Updated 9/6/2024

FEDERAL PROJECT

Effective May 15, 2020
Supersedes April 22, 2020

BIDDING INSTRUCTIONS

FOR ALL PROJECTS:

1. Use pen and ink to complete all paper Bids.
2. As a minimum, the following must be received prior to the time of Bid opening:

For a Paper Bid:

a) a copy of the Notice to Contractors, b) the completed Acknowledgement of Bid Amendments form, c) the completed Schedule of Items, d) two copies of the completed and signed Contract Offer, Agreement & Award form, e) a Bid Guaranty, (if required), and f) any other certifications or Bid requirements listed in the Bid Documents as due by Bid opening.

For an Electronic Bid:

NOTE: Not all projects accept Electronic Bids. Please review the Notice to Contractors and see if it specifically states that Electronic Bids will be accepted.

a) a completed Bid using Expedite® software and submitted via the Bid Express™ web-based service, b) an electronic Bid Guaranty (if required) or a faxed copy of a Bid Bond (with original to be delivered within 72 hours), and c) any other Certifications or Bid requirements listed in the Bid Documents as due by Bid opening.

3. Include prices for all items in the Schedule of Items (excluding non-selected alternates).
4. Bid Guaranty acceptable forms are:
   a) a properly completed and signed Bid Bond on the Department's prescribed form (or on a form that does not contain any significant variations from the Department's form as determined by the Department) for 5% of the Bid Amount or
   b) an Official Bank Check, Cashier's Check, Certified Check, U.S. Postal Money Order or Negotiable Certificate of Deposit in the amount stated in the Notice to Contractors or
   c) an electronic bid bond submitted with an electronic bid.

5. If a paper Bid is to be sent, "FedEx First Overnight" delivery is suggested as the package is delivered directly to the DOT Headquarters Building located at 16 Child Street in Augusta. Other means, such as U.S. Postal Service's Express Mail has proven not to be reliable.

IN ADDITION, FOR FEDERAL AID PROJECTS:

6. Complete the DBE Proposed Utilization form, and submit with your bid. If you are submitting your bid electronically, you must FAX the form to (207) 624-3431. This is a curable defect.

If you need further information regarding Bid preparation, call the DOT Contracts Section at (207) 624-3410.

For complete bidding requirements, refer to Section 102 of the Maine Department of Transportation, Standard Specifications, March 2020 Edition.

April 28, 2017
Supersedes November 05, 2014

NOTICE

The Maine Department of Transportation is attempting to improve the way Bid Amendments/Addendums are handled and allow for an electronic downloading of bid packages from our website, while continuing to maintain an optional plan holders list.

Prospective bidders, subcontractors or suppliers who wish to download a copy of the bid package and receive a courtesy notification of project specific bid amendments must fill out the on-line plan holder registration form and provide an email address to the MDOT Contracts mailbox at: MDOT.contracts@maine.gov. Each bid package will require a separate request.

Additionally, interested parties will be responsible for reviewing and retrieving the Bid Amendments from our web site, and acknowledging receipt and incorporating those Bid Amendments in their bids using the Acknowledgement of Bid Amendment Form.

The downloading of bid packages from the MDOT website is not the same as providing an electronic bid to the Department. Electronic bids must be submitted via http://www.BIDX.com. For information on electronic bidding contact David Oakes at david.oakes@maine.gov, or Guy Berthiaume at guy.berthiaume@maine.gov.

NOTICE

For security and other reasons, all Bid Packages which are mailed, shall be provided in double (one envelope inside the other) envelopes. The *Inner Envelope* shall have the following information provided on it:

Bid Enclosed - Do Not Open
PIN:
City:
Date of Bid Opening:
Name of Contractor with mailing address and telephone number:

In Addition to the usual address information, the *Outer Envelope* should have written or typed on it:

Double Envelope: Bid Enclosed
PIN:
City:
Date of Bid Opening:
Name of Contractor:
This should not be much of a change for those of you who use Federal Express or similar services.

Hand-carried Bids may be in one envelope as before, and should be marked with the following information:

Bid Enclosed: Do Not Open
PIN:
City:
Name of Contractor:

STATE OF MAINE DEPARTMENT OF TRANSPORTATION

Bid Guaranty-Bid Bond Form

KNOW ALL MEN BY THESE PRESENTS THAT_____

_____, of the City/town of _____and State of_____

as Principal, and_____as Surety, a

Corporation duly organized under the laws of the State of_____and having a usual place of

Business in_____and hereby held and firmly bound unto the Treasurer of

the State of Maine in the sum of_____,for payment which Principal and Surety bind

themselves, their heirs, executers, administrators, successors and assigns, jointly and severally.

The condition of this obligation is that the Principal has submitted to the Maine Department of Transportation, hereafter Department, a certain bid, attached hereto and incorporated as a part herein, to enter into a written contract for the construction of _____

_____

_____and if the Department shall accept said bid and the Principal shall execute and deliver a contract in the form attached hereto (properly completed in accordance with said bid) and shall furnish bonds for this faithful performance of said contract, and for the payment of all persons performing labor or furnishing material in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said bid, then this obligation shall be null and void; otherwise it shall remain in full force, and effect.

Signed and sealed this_____day of_____20_____

WITNESS:

_____

_____

_____

PRINCIPAL:

By_____

By:_____

By:_____

WITNESS

_____

_____

_____

SURETY:

By_____

By:_____

Name of Local Agency: _____

SAMPLE

NOTICE

Bidders:

Please use the attached "Request for Information" form when submitting questions concerning specific Contracts that have been advertised for Bid, include additional numbered pages as required. RFI's may be faxed to 207-624-3431, submitted electronically through the Departments web page of advertised projects by selecting the RFI tab on the project details page or via e-mail to RFI-Contracts.MDOT@maine.gov.

These are the only allowable mechanisms for answering Project specific questions. Maine DOT will not be bound to any answers to Project specific questions received during the Bidding phase through other processes.

When submitting RFIs by Email please follow the same guidelines as stated on the "Request for Information" form and include the word "RFI" along with the Project name and Identification number in the subject line.

State of Maine
Department of Transportation

RFI No: _____

REQUEST FOR INFORMATION

Date _____ Time _____

Information Requested for:

WIN(S): _____ Town(s):_____Bid Date: _____

Question(s):_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Request by:

Company Name:_____**Phone:(_____)**_____

Email:_____**Fax: (_____)**_____

Complete this form and fax to 207-624-3431, Attn: Project Manager (name listed on the "Notice to Contractors"), or Email questions to RFI-Contracts.MDOT@maine.gov. Please include the word "RFI" along with the Project Name and Identification Number in the Subject line, or electronically by using the RFI Tab located on the Individual Projects Detail page.

NOTICE

Disadvantaged Business Enterprise Commitment Confirmation

All Bidders must submit the Commitment Confirmation form with their bid.

The Commitment Confirmation form contains information required by USDOT.

The Commitment Confirmation form must be completed by each Prime Contractor.

A copy of the new Commitment Confirmation form and instructions for completing it are attached.

The DBE Directory can be found on the MaineDOT Website at: https://www.maine.gov/mdot/civilrights/dbe/

Questions about the Directory or this form should be sent to the Civil Rights Office at mary.bryant@maine.gov or by calling 207-624-3056.

Revised: 6/2024

INSTRUCTIONS FOR PREPARING THE MAINEDOT BIDDER'S LIST FORM

The Contractor shall extend equal opportunity to MaineDOT certified DBE firms (as listed in MaineDOT's DBE Directory of Certified Businesses) in the selection and utilization of subcontractors and suppliers.

Each prime contractor submitting a bid on a federally funded project must complete each section of the Bidder's List Form in its entirety for itself and each subcontractor on that project.

SPECIFIC INSTRUCTIONS FOR COMPLETING THE FORM:

Section A:

1. Insert Prime Contractor Name
2. Insert WIN for the Federal Project bidding on
3. Insert Bid Date
4. Insert Project Location
5. Insert Email address of Contact Person

Section B:

A. Enter each Contractor's and Sub-Contractor's name and address (including zip code) – Prime Contractor's name should be listed in first box of this section; then each additional line would be proposed subcontractors – DBE and NonDBE
B. Enter each Contractor's and Sub-Contractor's annual gross receipts bracket (see the legend on the form)
C. Enter DBE status (DBE or non-DBE) for each contractor/sub-contractor
D. Enter each Contractor's and Sub-Contractor's NAICS (North Amer. Industry Classification System) code (may be more than one) and Scope of Work
E. For each Contractor and Sub-Contractor enter the Race and Gender of the firm's majority owner
F. Enter the Age of each firm for every Contractor and Sub-Contractor
G. Enter the Proposed amount of payment (Bid amount) for each Contractor/Sub-Contractor.

Maine Department of Transportation

BIDDER'S LIST FORM

Section A. Bidder/Prime Contractor Information.
This section must be completed by the Bidder/Prime Contractor.

1. Prime Contractor Name:		2. Federal Project WIN:		3. Bid Date:	
4. Project Location:		5. Email Address:			

Section B. Commitment Details - Prime Contractor and all Proposed Subcontractor Information is Required in This Section

A. Firm's Name & Address, Including Zip Code Prime must be listed first	B. Annual Gross Receipt Bracket Select 1 to 7*	C. Status DBE or Non-DBE	D. NAICS Code(s) and Scope of Work	E. Race & Gender of each Firm's Majority Owner	F. Age of Each Firm	G. Proposed Amount

***1) Less Than $1M, 2) $1 - $3M, 3) $3 - $6M, 4) $6 - $10M, 5) $10 - $20M, 6) $20 - $50M, 7) Greater Than $50M - More than 5 Subs use a new form**

MaineDOT Use Only:

Form Received: ____/____/____ Verified by: _____

FHWA ☐ FTA ☐ FAA ☐

For a complete list of certified DBE firms please visit: http://www.maine.gov/dot/doing-business/civil-rights/dbe

Note: This information is required pursuant to 49 CFR §26.11 and is used to track data in all federally funded MaineDOT contracts.

DBE GOAL NOTICE

Maine Department of Transportation
Disadvantaged Business Enterprise Program

Notice is hereby given that in accordance with US DOT regulation 49 CFR Part 26, the Maine Department of Transportation (MaineDOT) has established a Disadvantaged Business Enterprise Program (DBE) for disadvantaged business participation in the federal-aid highway and bridge construction programs; MaineDOT contracts covered by the program include consulting, construction, supplies, manufacturing, and service contracts.

Beginning September 1, 2024, MaineDOT has established an annual DBE participation goal of **1.43%** to be achieved through race/gender neutral means. This goal has been approved by the Federal Highway Administration through August 31, 2027. MaineDOT must meet this goal each federal fiscal year. If the goal is not met, MaineDOT must provide a justification for not meeting the goal and provide a plan to ensure the goal is met, which may include contract goals on certain projects that contractors will be required to meet.

MaineDOT asks all contractors, consultants and subcontractors to seek certified DBE firms for projects and to work to meet the determined 1.43% goal without the need to impose contract goals. DBE firms are listed on the MaineDOT website at:

http://www.maine.gov/mdot/disadvantaged-business-enterprises/pdf/directory.pdf

Interested parties may view MaineDOT's DBE goal setting methodology, also posted on this website. If you have questions regarding this goal or the DBE program you may contact Sherry Tompkins at the Maine Department of Transportation, Civil Rights Office by telephone at (207) 624-3066 or by e-mail at: sherry.tompkins@maine.gov

Maine Department of Transportation Civil Rights Office

Directory of Certified Disadvantaged Business Enterprises

Listing can be found at:

https://www.maine.gov/mdot/civilrights/dbe/

For additional information and guidance contact:

Civil Rights Office at (207) 624-3066

It is the responsibility of the Contractor to access the DBE Directory at this site in order to have the most current listing.

September 14, 2007

Vendor Registration

Prospective Bidders must register as a vendor with the Department of Administrative & Financial Services if the vendor is awarded a contract. Vendors will not be able to receive payment without first being registered. Vendors/Contractors will find information and register through the following link –
http://www.maine.gov/purchases/venbid/index.shtml

STATE OF MAINE DEPARTMENT OF TRANSPORTATION
NOTICE TO CONTRACTORS

Sealed Bids addressed to the Maine Department of Transportation, Augusta, Maine 04333 and endorsed on the wrapper "Bids for **Highway Construction & Intelligent Transportation Systems Installation** in the city of **Presque Isle &** the town of **Westfield"** will be received from contractors at the Reception Desk, MaineDOT Building, Capitol Street, Augusta, Maine, until 11:00 o'clock A.M. (prevailing time) on **December 17, 2025**, and at that time and place, publicly opened and read. Bids will be accepted from all bidders. The lowest responsive bidder must have completed, or successfully complete, a **Highway Construction,** or project specific prequalification to be considered for the award of this contract. **We now accept electronic bids for bid packages posted on the bidx.com website. Electronic bids do not have to be accompanied by paper bids. Please note: The Department will accept a facsimile of the bid bond; however, the original bid bond must then be received at the MDOT Contract Section within 72 hours of the bid opening. Until further notice, dual bids (one paper, one electronic) will be accepted, with the paper copy taking precedence**.

Description: Maine Federal Aid Project No. HPP-6462(920) WINs 006462.92 & 029496.00

Location: In Aroostook County, project 006462.92 begins 0.60 of a mile south of the Presque Isle/Westfield town line and extends north 6.17 miles connecting to Conant Road (includes a new 2-lane controlled access (bypass) principal arterial).
Project 029496.00 is in two locations adjacent to Route 1 leading into Presque Isle, one from the north and one from the south.

Outline of Work: Highway construction, ITS installation and other incidental work.

For general information regarding Bidding and Contracting procedures, contact George Macdougall at (207) 624-3410. Our webpage at http://www.maine.gov/mdot/contractors/ contains a copy of the Schedule of Items, Plan Holders List, written portions of bid amendments, drawings, bid results and an electronic form for RFI submittal. For Project-specific information fax all questions to **Laurie Rowe** at (207) 624-3431, use electronic RFI form or email questions to RFI-Contracts.MDOT@maine.gov, project name and identification number should be in the subject line. Questions received after 12:00 noon of Monday (or if that Monday is a state holiday, Friday) prior to bid date will not be answered. Bidders shall not contact any other Departmental staff for clarification of Contract provisions, and the Department will not be responsible for any interpretations so obtained. TTY users call Maine Relay 711.

Bid Documents, specifications and bid forms can be viewed and obtained digitally at no cost at http://www.maine.gov/mdot/contractors/ . They may be purchased from the Department between the hours of 7:00 a.m. to 3:30 p.m. by cash, credit card (Visa/Mastercard) or check payable to Treasurer, State of Maine sent to Maine Department of Transportation, Attn.: Mailroom, 24 Child Street, Augusta, Maine 04333-0016. They also may be purchased by telephone at (207) 624-3536 between the hours of 7:00 a.m. to 3:30 p.m. Full size plans **$750.00 ($765.00** by mail). Half size plans **$375.00 ($381.00** by mail), Bid Book $10 ($13 by mail), Single Sheets $2, payment in advance, all non-refundable.

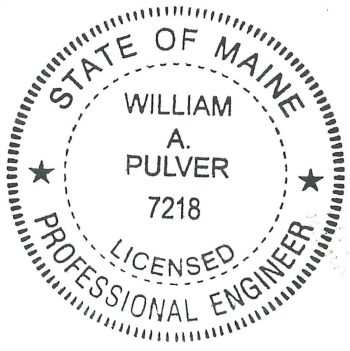
Each Bid must be made upon blank forms provided by the Department and must be accompanied by a bid bond at 5% of the bid amount or an official bank check, cashier's check, certified check, certificate of deposit, or United States postal money order in the amount of 5% of the bid amount, payable to Treasurer, State of Maine as a Bid guarantee. A Contract Performance Surety Bond and a Contract Payment Surety Bond, each in the amount of 100 percent of the Contract price, will be required of the successful Bidder.

This Contract is subject to all applicable Federal Laws. This contract is subject to compliance with the Disadvantaged Business Enterprise program requirements as set forth by the Maine Department of Transportation.

All work shall be governed *by State of Maine, Department of Transportation, Standard Specifications, March 2020 Edition,* price $10 [$15 by mail], and *Standard Details, March 2020 Edition*, price $10 [$15 by mail]. They also may be purchased by telephone at (207) 624-3536 between the hours of 7:00 a.m. to 3:30 p.m. *Standard Detail* updates can be found at http://www.maine.gov/mdot/contractors/publications/ .

The right is hereby reserved to the MaineDOT to reject any or all bids.

Augusta, Maine
November 26, 2025



WILLIAM A. PULVER P. E.
CHIEF ENGINEER

NOTICE

All bids for Federal Projects **shall** be accompanied by the DBE Proposed Utilization form. If you are submitting an electronic bid, the DBE Utilization Form may be faxed to 207-624-3431. Failure to submit the form with the bid will be considered a curable defect.

SPECIAL PROVISION 102.7.3
ACKNOWLEDGMENT OF BID AMENDMENTS

With this form, the Bidder acknowledges its responsibility to check for all Amendments to the Bid Package. For each Project under Advertisement, Amendments are located at http://www.maine.gov/mdot/contractors/ . It is the responsibility of the Bidder to determine if there are Amendments to the Project, to download them, to incorporate them into their Bid Package, and to reference the Amendment number and the date on the form below. The Maine DOT will not post Bid Amendments any later than noon the day before Bid opening without individually notifying all the planholders.

Amendment Number	Date

The Contractor, for itself, its successors and assigns, hereby acknowledges that it has received all of the above referenced Amendments to the Bid Package.

CONTRACTOR

_____ _____
Date Signature of authorized representative

_____
(Name and Title Printed)

Maine Department of Transportation

Proposal Schedule of Items

Proposal ID: 006462.92 **Project(s):** 006462.92, 029496.00

SECTION: 1 INITIAL GROUP

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID / Description	Approximate Quantity and Units	Unit Price Dollars	Unit Price Cents	Bid Amount Dollars	Bid Amount Cents
0010	201.11 CLEARING	63.000 AC				
0020	201.23 REMOVING SINGLE TREE TOP ONLY	27.000 EA				
0030	201.24 REMOVING STUMP	27.000 EA				
0040	202.08 REMOVING BUILDING NO.: STA 7340+50 LT	LUMP SUM	LUMP SUM			
0050	202.15 REMOVING EXISTING MANHOLE OR CATCH BASIN	1.000 EA				
0060	202.19 REMOVING EXISTING BRIDGE US ROUTE 1, STA. 33+10	LUMP SUM	LUMP SUM			
0070	202.202 REMOVING PAVEMENT SURFACE	11,500.000 SY				
0080	202.206 RUMBLE STRIP - EDGELINE AND CENTERLINE	30,700.000 LF				
0090	203.20 COMMON EXCAVATION	586,100.000 CY				
0100	203.21 ROCK EXCAVATION	41,200.000 CY				
0110	203.211 PRESPLITTING ROCK	4,600.000 LF				
0120	203.213 DRILLING AND BLASTING OF SOLID ROCK SUBGRADE	2,200.000 SY				

Proposal ID: 006462.92 **Project(s):** 006462.92, 029496.00

SECTION: 1 INITIAL GROUP

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID / Description	Approximate Quantity and Units	Unit Price Dollars	Unit Price Cents	Bid Amount Dollars	Bid Amount Cents
0130	203.24 COMMON BORROW	95,320.000 CY				
0140	203.241 BORROW - STATE SOURCE	109,000.000 CY				
0150	203.25 GRANULAR BORROW	57,850.000 CY				
0160	203.33 SPECIAL FILL	1,454.000 CY				
0170	203.35 CRUSHED STONE 3/4 INCH	620.000 CY				
0180	203.80 DETENTION BASIN 2 EACH	LUMP SUM	LUMP SUM			
0190	206.061 STRUCTURAL EARTH EXCAVATION - DRAINAGE AND MINOR STRUCTURES, BELOW GRADE	200.000 CY				
0200	206.07 STRUCTURAL ROCK EXCAVATION - DRAINAGE AND MINOR STRUCTURES	30.000 CY				
0210	206.082 STRUCTURAL EARTH EXCAVATION - MAJOR STRUCTURES	7,340.000 CY				
0220	206.092 STRUCTURAL ROCK EXCAVATION - MAJOR STRUCTURES	2,275.000 CY				
0230	304.16 AGGREGATE BASE COURSE - TYPE C	158,140.000 CY				
0240	403.2081 12.5 MM POLYMER MODIFIED HOT MIX ASPHALT	16,573.000 T				

Proposal ID: 006462.92 **Project(s):** 006462.92, 029496.00

SECTION: 1 INITIAL GROUP

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID / Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0250	403.209 HOT MIX ASPHALT 9.5 MM (SIDEWALKS, DRIVES, INCIDENTALS)	56.000 T				
0260	403.211 HOT MIX ASPHALT (SHIMMING)	190.000 T				
0270	403.213 HOT MIX ASPHALT 12.5 MM BASE	25,400.000 T				
0280	403.2131 12.5 MM POLYMER MODIFIED HMA BASE	16,673.000 T				
0290	409.15 BITUMINOUS TACK COAT - APPLIED	19,426.000 G				
0300	410.151 EMULSIFIED ASPHALT SEALCOAT, APPLIED	1,900.000 SY				
0310	411.12 CRUSHED STONE SURFACE	180.000 T				
0320	502.219 STRUCTURAL CONCRETE, ABUTMENTS AND RETAINING WALLS CLARK BROOK BYPASS	LUMP SUM	LUMP SUM			
0330	502.219 STRUCTURAL CONCRETE, ABUTMENTS AND RETAINING WALLS CONANT	LUMP SUM	LUMP SUM			
0340	502.219 STRUCTURAL CONCRETE, ABUTMENTS AND RETAINING WALLS EASTON	LUMP SUM	LUMP SUM			

Proposal ID: 006462.92 **Project(s):** 006462.92, 029496.00

SECTION: 1 INITIAL GROUP

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price Dollars	 Cents	Bid Amount Dollars	 Cents
0350	502.219 STRUCTURAL CONCRETE, ABUTMENTS AND RETAINING WALLS HENDERSON	LUMP SUM	LUMP SUM		_____	. ____
0360	502.219 STRUCTURAL CONCRETE, ABUTMENTS AND RETAINING WALLS MNRR	LUMP SUM	LUMP SUM		_____	. ____
0370	502.219 STRUCTURAL CONCRETE, ABUTMENTS AND RETAINING WALLS STONE FLOWER BRIDGE	LUMP SUM	LUMP SUM		_____	. ____
0380	502.219 STRUCTURAL CONCRETE, ABUTMENTS AND RETAINING WALLS TRIBUTARY TO CLARK BROOK	LUMP SUM	LUMP SUM		_____	. ____
0390	502.219 STRUCTURAL CONCRETE, ABUTMENTS AND RETAINING WALLS TRIBUTARY TO MERRITT BROOK	LUMP SUM	LUMP SUM		_____	. ____
0400	502.219 STRUCTURAL CONCRETE, ABUTMENTS AND RETAINING WALLS TRIBUTARY TO WILLIAMS BROOK	LUMP SUM	LUMP SUM		_____	. ____
0410	502.219 STRUCTURAL CONCRETE, ABUTMENTS AND RETAINING WALLS WILLIAMS BROOK BRIDGE	LUMP SUM	LUMP SUM		_____	. ____
0420	502.26 STRUCTURAL CONCRETE ROADWAY AND SIDEWALK SLABS ON STEEL BRIDGES CONANT	LUMP SUM	LUMP SUM		_____	. ____

Proposal ID: 006462.92 **Project(s):** 006462.92, 029496.00

SECTION: 1 INITIAL GROUP

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID / Description	Approximate Quantity and Units	Unit Price Dollars	Unit Price Cents	Bid Amount Dollars	Bid Amount Cents
0430	502.26 STRUCTURAL CONCRETE ROADWAY AND SIDEWALK SLABS ON STEEL BRIDGES EASTON	LUMP SUM	LUMP SUM		_____	.____
0440	502.26 STRUCTURAL CONCRETE ROADWAY AND SIDEWALK SLABS ON STEEL BRIDGES HENDERSON	LUMP SUM	LUMP SUM		_____	.____
0450	502.26 STRUCTURAL CONCRETE ROADWAY AND SIDEWALK SLABS ON STEEL BRIDGES MNRR	LUMP SUM	LUMP SUM		_____	.____
0460	502.31 STRUCTURAL CONCRETE APPROACH SLABS CONANT	LUMP SUM	LUMP SUM		_____	.____
0470	502.31 STRUCTURAL CONCRETE APPROACH SLABS EASTON	LUMP SUM	LUMP SUM		_____	.____
0480	502.31 STRUCTURAL CONCRETE APPROACH SLABS HENDERSON	LUMP SUM	LUMP SUM		_____	.____
0490	502.31 STRUCTURAL CONCRETE APPROACH SLABS MNRR	LUMP SUM	LUMP SUM		_____	.____
0500	502.341 STRUCTURAL CONCRETE ROADWAY MEDIAN	89.000 CY	_____	.____	_____	.____
0510	502.49 STRUCTURAL CONCRETE CURBS AND SIDEWALKS CONANT	LUMP SUM	LUMP SUM		_____	.____
0520	502.49 STRUCTURAL CONCRETE CURBS AND SIDEWALKS EASTON	LUMP SUM	LUMP SUM		_____	.____

Proposal ID: 006462.92 **Project(s):** 006462.92, 029496.00

SECTION: 1 INITIAL GROUP

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price Dollars	 Cents	Bid Amount Dollars	 Cents
0530	502.49 STRUCTURAL CONCRETE CURBS AND SIDEWALKS HENDERSON	LUMP SUM	LUMP SUM		_____	. ____
0540	502.49 STRUCTURAL CONCRETE CURBS AND SIDEWALKS MNRR	LUMP SUM	LUMP SUM		_____	. ____
0550	502.565 CONCRETE FILL	198.000 CY	_____	. ____	_____	. ____
0560	503.12 REINFORCING STEEL, FABRICATED AND DELIVERED	783,100.000 LB	_____	. ____	_____	. ____
0570	503.13 REINFORCING STEEL, PLACING	783,100.000 LB	_____	. ____	_____	. ____
0580	503.19 LOW-CARBON, CHROMIUM REINFORCEMENT - FABRICATED & DELIVERED	288,900.000 LB	_____	. ____	_____	. ____
0590	503.20 LOW-CARBON, CHROMIUM REINFORCEMENT - PLACING	288,900.000 LB	_____	. ____	_____	. ____
0600	504.702 STRUCTURAL STEEL FABRICATED AND DELIVERED, WELDED CONANT	LUMP SUM	LUMP SUM		_____	. ____
0610	504.702 STRUCTURAL STEEL FABRICATED AND DELIVERED, WELDED EASTON	LUMP SUM	LUMP SUM		_____	. ____
0620	504.702 STRUCTURAL STEEL FABRICATED AND DELIVERED, WELDED HENDERSON	LUMP SUM	LUMP SUM		_____	. ____

Proposal ID: 006462.92 **Project(s):** 006462.92, 029496.00

SECTION: 1 INITIAL GROUP

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price Dollars Cents	Bid Amount Dollars Cents
0630	504.702 STRUCTURAL STEEL FABRICATED AND DELIVERED, WELDED MNRR	LUMP SUM	LUMP SUM	_____.____
0640	504.71 STRUCTURAL STEEL ERECTION CONANT	LUMP SUM	LUMP SUM	_____.____
0650	504.71 STRUCTURAL STEEL ERECTION EASTON	LUMP SUM	LUMP SUM	_____.____
0660	504.71 STRUCTURAL STEEL ERECTION HENDERSON	LUMP SUM	LUMP SUM	_____.____
0670	504.71 STRUCTURAL STEEL ERECTION MNRR	LUMP SUM	LUMP SUM	_____.____
0680	505.08 SHEAR CONNECTORS CONANT	LUMP SUM	LUMP SUM	_____.____
0690	505.08 SHEAR CONNECTORS EASTON	LUMP SUM	LUMP SUM	_____.____
0700	505.08 SHEAR CONNECTORS HENDERSON	LUMP SUM	LUMP SUM	_____.____
0710	505.08 SHEAR CONNECTORS MNRR	LUMP SUM	LUMP SUM	_____.____
0720	506.9104 THERMAL SPRAY COATING - SHOP APPLIED CONANT (280,300 LB)	LUMP SUM	LUMP SUM	_____.____
0730	506.9104 THERMAL SPRAY COATING - SHOP APPLIED EASTON (103,000 LB)	LUMP SUM	LUMP SUM	_____.____

Proposal ID: 006462.92 **Project(s):** 006462.92, 029496.00

SECTION: 1 INITIAL GROUP

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price Dollars Cents	Bid Amount Dollars Cents
0740	506.9104 THERMAL SPRAY COATING - SHOP APPLIED HENDERSON (79,300 LB)	LUMP SUM	LUMP SUM	_____.____
0750	506.9104 THERMAL SPRAY COATING - SHOP APPLIED MNRR (212,000 LB)	LUMP SUM	LUMP SUM	_____.____
0760	507.0821 STEEL BRIDGE RAILING, 3 BAR CONANT	LUMP SUM	LUMP SUM	_____.____
0770	507.0821 STEEL BRIDGE RAILING, 3 BAR EASTON	LUMP SUM	LUMP SUM	_____.____
0780	507.0821 STEEL BRIDGE RAILING, 3 BAR HENDERSON	LUMP SUM	LUMP SUM	_____.____
0790	507.0821 STEEL BRIDGE RAILING, 3 BAR MNRR	LUMP SUM	LUMP SUM	_____.____
0800	507.0822 STEEL APPROACH RAILING, 3-BAR	16.000 EA	_____.____	_____.____
0810	508.13 SHEET WATERPROOFING MEMBRANE CLARK BROOK BYPASS	LUMP SUM	LUMP SUM	_____.____
0820	508.13 SHEET WATERPROOFING MEMBRANE STONE FLOWER BRIDGE	LUMP SUM	LUMP SUM	_____.____
0830	508.13 SHEET WATERPROOFING MEMBRANE TRIBUTARY TO CLARK BROOK	LUMP SUM	LUMP SUM	_____.____

Proposal ID: 006462.92 **Project(s):** 006462.92, 029496.00

SECTION: 1 INITIAL GROUP

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price Dollars Cents	Bid Amount Dollars Cents
0840	508.13 SHEET WATERPROOFING MEMBRANE TRIBUTARY TO MERRITT BROOK	LUMP SUM	LUMP SUM	_____.____
0850	508.13 SHEET WATERPROOFING MEMBRANE TRIBUTARY TO WILLIAMS BROOK	LUMP SUM	LUMP SUM	_____.____
0860	508.13 SHEET WATERPROOFING MEMBRANE WILLIAMS BROOK BRIDGE	LUMP SUM	LUMP SUM	_____.____
0870	508.14 HIGH PERFORMANCE WATERPROOFING MEMBRANE CONANT	LUMP SUM	LUMP SUM	_____.____
0880	508.14 HIGH PERFORMANCE WATERPROOFING MEMBRANE EASTON	LUMP SUM	LUMP SUM	_____.____
0890	508.14 HIGH PERFORMANCE WATERPROOFING MEMBRANE HENDERSON	LUMP SUM	LUMP SUM	_____.____
0900	508.14 HIGH PERFORMANCE WATERPROOFING MEMBRANE MNRR	LUMP SUM	LUMP SUM	_____.____
0910	511.07 COFFERDAM: CLARK BROOK (BOX REMOVAL, DOWNSTREAM) 32+50.00	LUMP SUM	LUMP SUM	_____.____
0920	511.07 COFFERDAM: CLARK BROOK (BOX REMOVAL, UPSTREAM) 32+50.00	LUMP SUM	LUMP SUM	_____.____

Proposal ID: 006462.92 **Project(s):** 006462.92, 029496.00

SECTION: 1 INITIAL GROUP

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price Dollars Cents	Bid Amount Dollars Cents
0930	511.07 COFFERDAM: CLARK BROOK BYPASS DOWNSTREAM	LUMP SUM	LUMP SUM	_____.____
0940	511.07 COFFERDAM: CLARK BROOK BYPASS UPSTREAM	LUMP SUM	LUMP SUM	_____.____
0950	511.07 COFFERDAM: STONE FLOWER BRIDGE DOWNSTREAM	LUMP SUM	LUMP SUM	_____.____
0960	511.07 COFFERDAM: STONE FLOWER BRIDGE UPSTREAM	LUMP SUM	LUMP SUM	_____.____
0970	511.07 COFFERDAM: TRIBUTARY TO CLARK BROOK DOWNSTREAM	LUMP SUM	LUMP SUM	_____.____
0980	511.07 COFFERDAM: TRIBUTARY TO CLARK BROOK UPSTREAM	LUMP SUM	LUMP SUM	_____.____
0990	511.07 COFFERDAM: TRIBUTARY TO MERRITT BROOK DOWNSTREAM	LUMP SUM	LUMP SUM	_____.____
1000	511.07 COFFERDAM: TRIBUTARY TO MERRITT BROOK UPSTREAM	LUMP SUM	LUMP SUM	_____.____
1010	511.07 COFFERDAM: TRIBUTARY TO WILLIAMS BROOK DOWNSTREAM	LUMP SUM	LUMP SUM	_____.____
1020	511.07 COFFERDAM: TRIBUTARY TO WILLIAMS BROOK UPSTREAM	LUMP SUM	LUMP SUM	_____.____
1030	511.07 COFFERDAM: WILLIAMS BROOK BRIDGE DOWNSTREAM	LUMP SUM	LUMP SUM	_____.____

Proposal ID: 006462.92 **Project(s):** 006462.92, 029496.00

SECTION: 1 INITIAL GROUP

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price Dollars Cents	Bid Amount Dollars Cents
1040	511.07 COFFERDAM: WILLIAMS BROOK BRIDGE UPSTREAM	LUMP SUM	LUMP SUM	_____.____
1050	512.081 FRENCH DRAINS CLARK BROOK BYPASS	LUMP SUM	LUMP SUM	_____.____
1060	512.081 FRENCH DRAINS CONANT	LUMP SUM	LUMP SUM	_____.____
1070	512.081 FRENCH DRAINS EASTON	LUMP SUM	LUMP SUM	_____.____
1080	512.081 FRENCH DRAINS HENDERSON	LUMP SUM	LUMP SUM	_____.____
1090	512.081 FRENCH DRAINS MNRR	LUMP SUM	LUMP SUM	_____.____
1100	512.081 FRENCH DRAINS STONE FLOWER BRIDGE	LUMP SUM	LUMP SUM	_____.____
1110	512.081 FRENCH DRAINS TRIBUTARY TO CLARK BROOK	LUMP SUM	LUMP SUM	_____.____
1120	512.081 FRENCH DRAINS TRIBUTARY TO MERRITT BROOK	LUMP SUM	LUMP SUM	_____.____
1130	512.081 FRENCH DRAINS TRIBUTARY TO WILLIAMS BROOK	LUMP SUM	LUMP SUM	_____.____
1140	512.081 FRENCH DRAINS WILLIAMS BROOK BRIDGE	LUMP SUM	LUMP SUM	_____.____

Proposal ID: 006462.92 **Project(s):** 006462.92, 029496.00

SECTION: 1 INITIAL GROUP

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID / Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
1150	513.22 CRUSHED STONE SLOPE PROTECTION	840.000 SY				
1160	515.21 PROTECTIVE COATING FOR CONCRETE SURFACES CLARK BROOK BYPASS	LUMP SUM	LUMP SUM			
1170	515.21 PROTECTIVE COATING FOR CONCRETE SURFACES CONANT	LUMP SUM	LUMP SUM			
1180	515.21 PROTECTIVE COATING FOR CONCRETE SURFACES EASTON	LUMP SUM	LUMP SUM			
1190	515.21 PROTECTIVE COATING FOR CONCRETE SURFACES HENDERSON	LUMP SUM	LUMP SUM			
1200	515.21 PROTECTIVE COATING FOR CONCRETE SURFACES MNRR	LUMP SUM	LUMP SUM			
1210	515.21 PROTECTIVE COATING FOR CONCRETE SURFACES STONE FLOWER BRIDGE	LUMP SUM	LUMP SUM			
1220	515.21 PROTECTIVE COATING FOR CONCRETE SURFACES TRIBUTARY TO CLARK BROOK	LUMP SUM	LUMP SUM			
1230	515.21 PROTECTIVE COATING FOR CONCRETE SURFACES TRIBUTARY TO MERRITT BROOK	LUMP SUM	LUMP SUM			

Proposal ID: 006462.92 **Project(s):** 006462.92, 029496.00

SECTION: 1 INITIAL GROUP

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price Dollars Cents	Bid Amount Dollars Cents
1240	515.21 PROTECTIVE COATING FOR CONCRETE SURFACES TRIBUTARY TO WILLIAMS BROOK	LUMP SUM	LUMP SUM	_____.____
1250	515.21 PROTECTIVE COATING FOR CONCRETE SURFACES WILLIAMS BROOK BRIDGE	LUMP SUM	LUMP SUM	_____.____
1260	523.52 BEARING INSTALLATION	40.000 EA	_____.____	_____.____
1270	523.5402 LAMINATED ELASTOMERIC BEARINGS, EXPANSION	40.000 EA	_____.____	_____.____
1280	524.40 PROTECTIVE SHIELD CONANT (280 SY)	LUMP SUM	LUMP SUM	_____.____
1290	524.40 PROTECTIVE SHIELD EASTON (280 SY)	LUMP SUM	LUMP SUM	_____.____
1300	524.40 PROTECTIVE SHIELD HENDERSON (280 SY)	LUMP SUM	LUMP SUM	_____.____
1310	524.40 PROTECTIVE SHIELD MNRR (390 SY)	LUMP SUM	LUMP SUM	_____.____
1320	534.70 PRECAST STRUCTURAL CONCRETE ARCH CLARK BROOK BYPASS	LUMP SUM	LUMP SUM	_____.____
1330	534.70 PRECAST STRUCTURAL CONCRETE ARCH TRIBUTARY TO CLARK BROOK	LUMP SUM	LUMP SUM	_____.____

Proposal ID: 006462.92 **Project(s):** 006462.92, 029496.00

SECTION: 1 INITIAL GROUP

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price Dollars Cents	Bid Amount Dollars Cents
1340	534.71 PRECAST CONCRETE BOX CULVERT STONE FLOWER BRIDGE	LUMP SUM	LUMP SUM	_____.____
1350	534.71 PRECAST CONCRETE BOX CULVERT TRIBUTARY TO MERRITT BROOK	LUMP SUM	LUMP SUM	_____.____
1360	534.71 PRECAST CONCRETE BOX CULVERT TRIBUTARY TO WILLIAMS BROOK	LUMP SUM	LUMP SUM	_____.____
1370	534.71 PRECAST CONCRETE BOX CULVERT WILLIAMS BROOK BRIDGE	LUMP SUM	LUMP SUM	_____.____
1380	603.169 15 INCH CULVERT PIPE OPTION III	60.000 LF	_____.____	_____.____
1390	603.17 18 INCH CULVERT PIPE OPTION I	530.000 LF	_____.____	_____.____
1400	603.175 18 INCH REINFORCED CONCRETE PIPE CLASS III	1,708.000 LF	_____.____	_____.____
1410	603.179 18 INCH CULVERT PIPE OPTION III	88.000 LF	_____.____	_____.____
1420	603.19 24 INCH CULVERT PIPE OPTION I	110.000 LF	_____.____	_____.____
1430	603.195 24 INCH REINFORCED CONCRETE PIPE CLASS III	330.000 LF	_____.____	_____.____
1440	603.205 30 INCH REINFORCED CONCRETE PIPE CLASS III	690.000 LF	_____.____	_____.____

Proposal ID: 006462.92 **Project(s):** 006462.92, 029496.00

SECTION: 1 INITIAL GROUP

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price Dollars	 Cents	Bid Amount Dollars	 Cents
1450	603.215 36 INCH REINFORCED CONCRETE PIPE CLASS III	1,100.000 LF				
1460	603.216 36 INCH SPECIAL RCP	210.000 LF				
1470	603.225 42 INCH REINFORCED CONCRETE PIPE CLASS III	230.000 LF				
1480	603.55 CONCRETE PIPE TIES	77.000 GP				
1490	604.161 ALTERING CATCH BASIN	1.000 EA				
1500	605.09 6 INCH UNDERDRAIN TYPE B	650.000 LF				
1510	606.1301 31" W-BM GR, MID-WAY SPLICE-SGL FACED	17,600.000 LF				
1520	606.1304 31" W-BM GR, MID-WAY SPLICE-OVER 15' RAD	450.000 LF				
1530	606.1305 31" W-BM GR, MID-WAY SPLICE FLARED TERMINAL	31.000 EA				
1540	606.1721 BRIDGE TRANSITION - TYPE 1	16.000 EA				
1550	606.3511 SNOW POLE	32.000 EA				
1560	606.356 UNDERDRAIN DELINEATOR POST	90.000 EA				

Proposal ID: 006462.92 **Project(s):** 006462.92, 029496.00

SECTION: 1 INITIAL GROUP

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price Dollars	 Cents	Bid Amount Dollars	 Cents
1570	607.09 WOVEN WIRE FENCE - METAL POSTS	67,100.000 LF				
1580	607.093 DEER ESCAPE JUMP OUT	16.000 EA				
1590	607.183 CHAIN LINK SNOW FENCE 33 INCH CONANT	LUMP SUM	LUMP SUM			
1600	607.183 CHAIN LINK SNOW FENCE 33 INCH EASTON	LUMP SUM	LUMP SUM			
1610	607.183 CHAIN LINK SNOW FENCE 33 INCH HENDERSON	LUMP SUM	LUMP SUM			
1620	607.183 CHAIN LINK SNOW FENCE 33 INCH MNRR	LUMP SUM	LUMP SUM			
1630	607.32 BRACING ASSEMBLY TYPE I - METAL POSTS	24.000 EA				
1640	607.33 BRACING ASSEMBLY TYPE II - METAL POSTS	200.000 EA				
1650	609.31 CURB TYPE 3	128.000 LF				
1660	609.34 CURB TYPE 5	170.000 LF				
1670	609.35 CURB TYPE 5 - CIRCULAR	150.000 LF				
1680	610.08 PLAIN RIPRAP	5,428.000 CY				

Proposal ID: 006462.92 **Project(s):** 006462.92, 029496.00

SECTION: 1 INITIAL GROUP

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price Dollars	 Cents	Bid Amount Dollars	 Cents
1690	610.18 STONE DITCH PROTECTION	969.000 CY				
1700	610.212 STREAMBED ROCK FEATURES	270.000 CY				
1710	610.213 VOID FILLED RIPRAP	2,510.000 CY				
1720	610.214 VOID-FILLED HEAVY RIPRAP	1,470.000 CY				
1730	611.01 STREAM RESTORATION - ROOT WADS	35.000 UN				
1740	611.02 STREAM RESTORATION - LOG VANES	13.000 UN				
1750	613.319 EROSION CONTROL BLANKET	87,600.000 SY				
1760	614.10 COIR FIBER ROLL	660.000 LF				
1770	615.07 LOAM	20.000 CY				
1780	615.081 COMPOST BLANKET	5,900.000 CY				
1790	615.09 TOPSOIL SALVAGE	270.000 CY				
1800	615.10 DIRTY BORROW	23,400.000 CY				
1810	615.27 UNDERDRAIN SOIL FILTER 10 EACH	LUMP SUM	LUMP SUM			

Proposal ID: 006462.92 **Project(s):** 006462.92, 029496.00

SECTION: 1 INITIAL GROUP

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price Dollars	 Cents	Bid Amount Dollars	 Cents
1820	618.13 SEEDING METHOD NUMBER 1	764.000 UN				
1830	618.14 SEEDING METHOD NUMBER 2	3,100.000 UN				
1840	618.143 SPECIAL SEED MIX: A - STREAM BUFFER	21.000 UN				
1850	618.146 HGM BIOTIC SOIL HYDROMULCH MEDIA	61.000 UN				
1860	619.12 MULCH	3,804.000 UN				
1870	620.56 DRAINAGE GEOTEXTILE	2,968.000 SY				
1880	620.58 EROSION CONTROL GEOTEXTILE	15,890.000 SY				
1890	621.014 EVERGREEN TREES (18 INCH - 24 INCH) GROUP A	10.000 EA				
1900	621.015 EVERGREEN TREES (18 INCH - 24 INCH) GROUP B	20.000 EA				
1910	621.02 EVERGREEN TREES (2 FOOT - 3 FOOT) GROUP B	20.000 EA				
1920	621.026 EVERGREEN TREES (3 FOOT - 4 FOOT) GROUP B	20.000 EA				
1930	621.1012 WOODY PLANT PLUG 2 INCH DEEP POT	100.000 EA				

Proposal ID: 006462.92 **Project(s):** 006462.92, 029496.00

SECTION: 1 INITIAL GROUP

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price Dollars	 Cents	Bid Amount Dollars	 Cents
1940	621.110 SMALL DECIDUOUS TREES (3 FOOT - 4 FOOT) GROUP A	25.000 EA				
1950	621.111 SMALL DECIDUOUS TREE (3 FOOT - 4 FOOT) GROUP B	10.000 EA				
1960	621.178 MEDIUM DECIDUOUS TREES (6 FOOT - 8 FOOT) GROUP A	15.000 EA				
1970	621.179 MEDIUM DECIDUOUS TREES (6 FOOT - 8 FOOT) GROUP B	5.000 EA				
1980	621.184 MEDIUM DECIDUOUS TREES (8 FOOT - 10 FOOT) GROUP A	10.000 EA				
1990	621.185 MEDIUM DECIDUOUS TREES (8 FOOT - 10 FOOT) GROUP B	5.000 EA				
2000	621.267 LARGE DECIDUOUS TREE (1.75 INCH - 2 INCH CALIPER) GROUP A	10.000 EA				
2010	621.268 LARGE DECIDUOUS TREE (1.75 INCH - 2 INCH CALIPER) GROUP B	6.000 EA				
2020	621.269 LARGE DECIDUOUS TREE (1.75 INCH - 2 INCH CALIPER) GROUP C	6.000 EA				
2030	621.5312 DECIDUOUS SHRUBS 10" - 12"	252.000 EA				
2040	621.535 DECIDUOUS SHRUBS (12 INCH - 18 INCH) GROUP A	180.000 EA				

Proposal ID: 006462.92 **Project(s):** 006462.92, 029496.00

SECTION: 1 INITIAL GROUP

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price Dollars	 Cents	Bid Amount Dollars	 Cents
2050	621.5351 DECIDUOUS SHRUBS (15 INCH - 18 INCH) GROUP A	60.000 EA				
2060	621.54 DECIDUOUS SHRUBS (18 INCH - 24 INCH) GROUP A	60.000 EA				
2070	621.541 DECIDUOUS SHRUBS (18 INCH - 24 INCH) GROUP B	10.000 EA				
2080	621.703 HERBACEOUS PLANT PLUG 2 INCH POT	150.000 EA				
2090	621.706 HERBACEOUS PLANT PLUG 3 INCH DEEP POT	700.000 EA				
2100	626.11 PRECAST CONCRETE JUNCTION BOX	67.000 EA				
2110	626.21 METALLIC CONDUIT	30.000 LF				
2120	626.22 NON-METALLIC CONDUIT	7,850.000 LF				
2130	626.221 NON-METALLIC CONDUIT CONCRETE ENCASED	190.000 LF				
2140	626.36 REMOVE OR MODIFY CONCRETE FOUNDATION	2.000 EA				
2150	626.421 24 INCH DIAMETER FOUNDATION	63.000 LF				

Proposal ID: 006462.92 **Project(s):** 006462.92, 029496.00

SECTION: 1 INITIAL GROUP

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID / Description	Approximate Quantity and Units	Unit Price Dollars	Unit Price Cents	Bid Amount Dollars	Bid Amount Cents
2160	626.44 36 INCH DIAMETER FOUNDATION	8.000 LF				
2170	627.733 4" WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE	133,000.000 LF				
2180	627.75 WHITE OR YELLOW PAVEMENT & CURB MARKING	610.000 SF				
2190	629.05 HAND LABOR, STRAIGHT TIME	100.000 HR				
2200	631.12 ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR)	170.000 HR				
2210	631.172 TRUCK - LARGE (INCLUDING OPERATOR)	170.000 HR				
2220	634.16 HIGHWAY LIGHTING	 LUMP SUM	LUMP SUM			
2230	634.2042 LED LUMINARIES	63.000 EA				
2240	634.210 CONVENTIONAL LIGHT STANDARD	63.000 EA				
2250	634.25 SERVICE POLE COMPLETE WITH CABINET AND CONTROLS	2.000 EA				
2260	639.18 FIELD OFFICE TYPE A	1.000 EA				
2270	643.66 RESIDENTIAL DRIVEWAY TEMPORARY SIGNAL	2.000 EA				

Proposal ID: 006462.92 **Project(s):** 006462.92, 029496.00

SECTION: 1 INITIAL GROUP

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price Dollars	 Cents	Bid Amount Dollars	 Cents
2280	643.72 TEMPORARY TRAFFIC SIGNAL	LUMP SUM	LUMP SUM			
2290	645.103 DEMOUNT GUIDE SIGN	7.000 EA				
2300	645.106 DEMOUNT REGULATORY, WARNING, CONFIRMATION AND ROUTE MARKER ASSEMBLY SIGN	38.000 EA				
2310	645.113 REINSTALL GUIDE SIGN	4.000 EA				
2320	645.116 REINSTALL REGULATORY, WARNING, CONFIRMATION AND ROUTE MARKER ASSEMBLY SIGN	6.000 EA				
2330	645.251 ROADSIDE GUIDE SIGNS, TYPE I	710.000 SF				
2340	645.271 REGULATORY, WARNING, CONFIRMATION AND ROUTE MARKER ASSEMBLY SIGNS, TYPE I	885.000 SF				
2350	652.312 TYPE III BARRICADE	15.000 EA				
2360	652.33 DRUM	50.000 EA				
2370	652.34 CONE	130.000 EA				
2380	652.35 CONSTRUCTION SIGNS	2,130.000 SF				

Proposal ID: 006462.92 **Project(s):** 006462.92, 029496.00

SECTION: 1 INITIAL GROUP

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID / Description	Approximate Quantity and Units	Unit Price Dollars	Unit Price Cents	Bid Amount Dollars	Bid Amount Cents
2390	652.36 MAINTENANCE OF TRAFFIC CONTROL DEVICES	1,310.000 CD				
2400	652.38 FLAGGER	3,560.000 HR				
2410	652.41 PORTABLE CHANGEABLE MESSAGE SIGN	4.000 EA				
2420	652.61 STAGED CONSTRUCTION AND TRAFFIC CONTROL	LUMP SUM	LUMP SUM			
2430	653.24 4 INCH POLYSTYRENE PLASTIC INSULATION	129.000 SY				
2440	654.223 SEMI-PERMANENT PAD-MOUNTED VARIABLE MESSAGE SIGN	2.000 EA				
2450	654.51 ELECTRICAL SERVICE CONNECTION PRESQUE ISLE	LUMP SUM	LUMP SUM			
2460	654.51 ELECTRICAL SERVICE CONNECTION WESTFIELD	LUMP SUM	LUMP SUM			
2470	654.53 ROAD WEATHER INFORMATION STATION	1.000 LS				
2480	656.75 TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL	LUMP SUM	LUMP SUM			
2490	658.20 ACRYLIC LATEX COLOR FINISH, GREEN	400.000 SY				

Maine Department of Transportation

Proposal Schedule of Items

Proposal ID: 006462.92 **Project(s):** 006462.92, 029496.00

SECTION: 1 INITIAL GROUP

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID / Description	Approximate Quantity and Units	Unit Price Dollars	Unit Price Cents	Bid Amount Dollars	Bid Amount Cents
2500	659.10 MOBILIZATION	LUMP SUM	LUMP SUM			
2510	660.21 ON-THE-JOB TRAINING (BID)	3,000.000 HR				
	Section: 1		**Total:**			
			Total Bid:			

CONTRACT AGREEMENT, OFFER & AWARD

AGREEMENT made on the date last signed below, by and between the State of Maine, acting through and by its Department of Transportation (Department), an agency of state government with its principal administrative offices located at Child Street, Augusta, Maine, with a mailing address at 16 State House Station, Augusta, Maine 04333-0016, and

_____

a corporation or other legal entity organized under the laws of the State of _____, with its principal place of business located at _____

_____

The Department and the Contractor, in consideration of the mutual promises set forth in this Agreement (the "Contract"), hereby agree as follows:

A. The Work.

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract, **WIN 006462.92** for **Highway Construction** in the city of **Presque Isle** County of **Aroostook, Maine**. The Work includes construction, maintenance during construction, warranty as provided in the Contract, and other incidental work.

The Contractor shall be responsible for furnishing all supervision, labor, equipment, tools supplies, permanent materials and temporary materials required to perform the Work; performing construction quality control including inspection, testing and documentation; providing all required documentation at the conclusion of the project; warrantying its work; and performing all other work indicated in the Contract.

The Department shall have the right to alter the nature and extent of the Work as provided in the Contract. Payment shall be made as provided in the same.

B. Time.

The Contractor agrees to complete all Work, except warranty work, on or before **July 20, 2029.** Further, the Department may deduct from moneys otherwise due the Contractor, not as a penalty, but as Liquidated Damages in accordance with Sections 107.7 and 107.8 of the *State of Maine Department of Transportation Standard Specifications, March 2020 Edition* and related Special Provisions.

C. Price.

The quantities given in the Schedule of Items of the Bid Package will be used as the basis for determining the original Contract amount and for determining the amounts of the required Performance Surety Bond and Payment Surety Bond, and that the amount of this offer is _____

_____

$_____ Performance Bond and Payment Bond each being 100% of the amount of this Contract.

D. Contract.

This Contract, which may be amended, modified, or supplemented in writing only, consists of the Contract documents as defined in the Plans, *Standard Specifications, March 2020 Edition, Standard Details March 2020 Edition* as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds. It is agreed and understood that this Contract will be governed by the documents listed above.

E. Certifications.

By signing below, the Contractor hereby certifies that to the best of the Contractor's knowledge and belief:

1. All of the statements, representations, covenants, and/or certifications required or set forth in the Bid and the Bid Documents, including those in the Federal Contract Provisions Supplement, and the Contract are still complete and accurate as of the date of this Agreement.

2. The Contractor knows of no legal, contractual, or financial impediment to entering into this Contract.

3. The person signing below is legally authorized by the Contractor to sign this Contract on behalf of the Contractor and to legally bind the Contractor to the terms of the Contract.

F. Offer.

The undersigned, having carefully examined the site of work, the Plans, *Standard Specifications March 2020 Edition, Standard Details March 2020 Edition* as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of:

WIN 006462.92 - Highway Construction - in the city of Presque Isle

State of Maine, on which bids will be received until the time specified in the "Notice to Contractors" do(es) hereby bid and offer to enter into this contract to supply all the materials, tools, equipment and labor to construct the whole of the Work in strict accordance with the terms and conditions of this Contract at the unit prices in the attached "Schedule of Items."

The Offeror agrees to perform the work required at the price specified above and in accordance with the bids provided in the attached "Schedule of Items" in strict accordance with the terms of this solicitation, and to provide the appropriate insurance and bonds if this offer is accepted by the Government in writing.

As Offeror also agrees:

First: To do any extra work, not covered by the attached "Schedule of Items," which may be ordered by the Resident, and to accept as full compensation the amount determined upon a "Force Account" basis as provided in the *Standard Specifications, March 2020 Edition*, and as addressed in the contract documents.

Second: That the bid bond at 5% of the bid amount or the official bank check, cashier's check, certificate of deposit or U. S. Postal Money Order in the amount given in the "Notice to Contractors", payable to the Treasurer of the State of Maine and accompanying this bid, shall be forfeited, as liquidated damages, if in case this bid is accepted, and the undersigned shall fail to abide by the terms and conditions of the offer and fail to furnish satisfactory insurance and Contract bonds under the conditions stipulated in the Specifications within 15 days of notice of intent to award the contract.

Third: To begin the Work as stated in Section 107.2 of the *Standard Specifications March 2020 Edition* and complete the Work within the time limits given in the Special Provisions of this Contract.

Fourth: The Contractor will be bound to the Disadvantaged Business Enterprise (DBE) Requirements contained in the attached Notice (Additional Instructions to Bidders) and submit a completed Contractor's Disadvantaged Business Enterprise Utilization Plan with their bid.

Fifth: That this offer shall remain open for 30 calendar days after the date of opening of bids.

Sixth: The Bidder hereby certifies, to the best of its knowledge and belief that: the Bidder has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of competitive bidding in connection with its bid, and its subsequent contract with the Department.

IN WITNESS WHEREOF, the Contractor, for itself, its successors and assigns, hereby execute two duplicate originals of this Agreement and thereby binds itself to all covenants, terms, and obligations contained in the Contract Documents.

CONTRACTOR

_____	_____
Date	(Signature of Legally Authorized Representative of the Contractor)
_____	_____
Witness	(Name and Title Printed)

G. Award.

Your offer is hereby accepted. This award consummates the Contract, and the documents referenced herein.

MAINE DEPARTMENT OF TRANSPORTATION

_____	_____
Date	By: Dale F. Doughty, Acting Commissioner
_____	
Witness	

CONTRACT AGREEMENT, OFFER & AWARD

AGREEMENT made on the date last signed below, by and between the State of Maine, acting through and by its Department of Transportation (Department), an agency of state government with its principal administrative offices located at Child Street, Augusta, Maine, with a mailing address at 16 State House Station, Augusta, Maine 04333-0016, and

_____

a corporation or other legal entity organized under the laws of the State of _____, with its principal place of business located at _____

_____

The Department and the Contractor, in consideration of the mutual promises set forth in this Agreement (the "Contract"), hereby agree as follows:

A. The Work.

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract, **WIN 006462.92** for **Highway Construction** in the city of **Presque Isle** County of **Aroostook, Maine**. The Work includes construction, maintenance during construction, warranty as provided in the Contract, and other incidental work.

The Contractor shall be responsible for furnishing all supervision, labor, equipment, tools supplies, permanent materials and temporary materials required to perform the Work; performing construction quality control including inspection, testing and documentation; providing all required documentation at the conclusion of the project; warrantying its work; and performing all other work indicated in the Contract.

The Department shall have the right to alter the nature and extent of the Work as provided in the Contract. Payment shall be made as provided in the same.

B. Time.

The Contractor agrees to complete all Work, except warranty work, on or before **July 20, 2029.** Further, the Department may deduct from moneys otherwise due the Contractor, not as a penalty, but as Liquidated Damages in accordance with Sections 107.7 and 107.8 of the *State of Maine Department of Transportation Standard Specifications, March 2020 Edition* and related Special Provisions.

C. Price.

The quantities given in the Schedule of Items of the Bid Package will be used as the basis for determining the original Contract amount and for determining the amounts of the required Performance Surety Bond and Payment Surety Bond, and that the amount of this offer is _____

_____

$_____ Performance Bond and Payment Bond each being 100% of the amount of this Contract.

D. Contract.

This Contract, which may be amended, modified, or supplemented in writing only, consists of the Contract documents as defined in the Plans, *Standard Specifications, March 2020 Edition, Standard Details March 2020 Edition* as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds. It is agreed and understood that this Contract will be governed by the documents listed above.

E. Certifications.

By signing below, the Contractor hereby certifies that to the best of the Contractor's knowledge and belief:

1. All of the statements, representations, covenants, and/or certifications required or set forth in the Bid and the Bid Documents, including those in the Federal Contract Provisions Supplement, and the Contract are still complete and accurate as of the date of this Agreement.

2. The Contractor knows of no legal, contractual, or financial impediment to entering into this Contract.

3. The person signing below is legally authorized by the Contractor to sign this Contract on behalf of the Contractor and to legally bind the Contractor to the terms of the Contract.

F. Offer.

The undersigned, having carefully examined the site of work, the Plans, *Standard Specifications March 2020 Edition, Standard Details March 2020 Edition* as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of:

WIN 006462.92 - Highway Construction - in the city of Presque Isle

State of Maine, on which bids will be received until the time specified in the "Notice to Contractors" do(es) hereby bid and offer to enter into this contract to supply all the materials, tools, equipment and labor to construct the whole of the Work in strict accordance with the terms and conditions of this Contract at the unit prices in the attached "Schedule of Items."

The Offeror agrees to perform the work required at the price specified above and in accordance with the bids provided in the attached "Schedule of Items" in strict accordance with the terms of this solicitation, and to provide the appropriate insurance and bonds if this offer is accepted by the Government in writing.

As Offeror also agrees:

First: To do any extra work, not covered by the attached "Schedule of Items," which may be ordered by the Resident, and to accept as full compensation the amount determined upon a "Force Account" basis as provided in the *Standard Specifications, March 2020 Edition*, and as addressed in the contract documents.

Second: That the bid bond at 5% of the bid amount or the official bank check, cashier's check, certificate of deposit or U. S. Postal Money Order in the amount given in the "Notice to Contractors", payable to the Treasurer of the State of Maine and accompanying this bid, shall be forfeited, as liquidated damages, if in case this bid is accepted, and the undersigned shall fail to abide by the terms and conditions of the offer and fail to furnish satisfactory insurance and Contract bonds under the conditions stipulated in the Specifications within 15 days of notice of intent to award the contract.

Third: To begin the Work as stated in Section 107.2 of the *Standard Specifications March 2020 Edition* and complete the Work within the time limits given in the Special Provisions of this Contract.

Fourth: The Contractor will be bound to the Disadvantaged Business Enterprise (DBE) Requirements contained in the attached Notice (Additional Instructions to Bidders) and submit a completed Contractor's Disadvantaged Business Enterprise Utilization Plan with their bid.

Fifth: That this offer shall remain open for 30 calendar days after the date of opening of bids.

Sixth: The Bidder hereby certifies, to the best of its knowledge and belief that: the Bidder has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of competitive bidding in connection with its bid, and its subsequent contract with the Department.

IN WITNESS WHEREOF, the Contractor, for itself, its successors and assigns, hereby execute two duplicate originals of this Agreement and thereby binds itself to all covenants, terms, and obligations contained in the Contract Documents.

CONTRACTOR

_____	_____
Date	(Signature of Legally Authorized Representative of the Contractor)
_____	_____
Witness	(Name and Title Printed)

G. Award.

Your offer is hereby accepted. This award consummates the Contract, and the documents referenced herein.

MAINE DEPARTMENT OF TRANSPORTATION

_____	_____
Date	By: Dale F. Doughty, Acting Commissioner
_____	
Witness	

CONTRACT AGREEMENT, OFFER & AWARD

AGREEMENT made on the date last signed below, by and between the State of Maine, acting through and by its Department of Transportation (Department), an agency of state government with its principal administrative offices located at Child Street Augusta, Maine, with a mailing address at 16 State House Station, Augusta, Maine 04333-0016, and **(Name of the firm bidding the job)** a corporation or other legal entity organized under the laws of the State of Maine, with its principal place of business located at **(address of the firm bidding the job)**

The Department and the Contractor, in consideration of the mutual promises set forth in this Agreement (the "Contract"), hereby agree as follows:

SAMPLE

A. The Work.

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract, PIN No.01**12345.00**, for the **Hot Mix Asphalt Overlay** in the town/city of **South Nowhere,** County of **Washington**, Maine. The Work includes construction, maintenance during construction, warranty as provided in the Contract, and other incidental work.

The Contractor shall be responsible for furnishing all supervision, labor, equipment, tools supplies, permanent materials and temporary materials required to perform the Work including construction quality control including inspection, testing and documentation, all required documentation at the conclusion of the project, warranting its work and performing all other work indicated in the Contract.

The Department shall have the right to alter the nature and extent of the Work as provided in the Contract; payment to be made as provided in the same.

B. Time.

The Contractor agrees to complete all Work, except warranty work, on or before **November 15, 2006.** Further, the Department may deduct from moneys otherwise due the Contractor, not as a penalty, but as Liquidated Damages in accordance with Sections 107.7 and 107.8 of the *State of Maine Department of Transportation Standard Specifications, March 2020 Edition* and related Special Provisions.

C. Price.

The quantities given in the Schedule of Items of the Bid Package will be used as the basis for determining the original Contract amount and for determining the amounts of the required Performance Surety Bond and Payment Surety Bond, and that the amount of this offer is **(Place bid here in alphabetical form such as One Hundred and Two dollars and 10 cents)** **$ (repeat bid here in numerical terms, such as $102.10)** Performance Bond and Payment Bond each being 100% of the amount of this Contract.

D. Contract.

This Contract, which may be amended, modified, or supplemented in writing only, consists of the Contract documents as defined in the Plans, *Standard Specifications, March 2020 Edition, Standard Details March 2020 Edition*, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds. It is agreed and understood that this Contract will be governed by the documents listed above.

E. Certifications.

By signing below, the Contractor hereby certifies that to the best of the Contractor's knowledge and belief:

1. All of the statements, representations, covenants, and/or certifications required or set forth in the Bid and the Bid Documents, including those in Appendix A to Division 100 of the *Standard Specifications March 2020 Edition* (Federal Contract Provisions Supplement), and the Contract are still complete and accurate as of the date of this Agreement.

2. The Contractor knows of no legal, contractual, or financial impediment to entering into this Contract.

3. The person signing below is legally authorized by the Contractor to sign this Contract on behalf of the Contractor and to legally bind the Contractor to the terms of the Contract.

SAMPLE

F. Offer.

The undersigned, having carefully examined the site of work, the Plans, *Standard Specifications, March 2020 Edition, Standard Details March 2020 Edition*, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of:

PIN 012345.00 South Nowhere, Hot Mix Asphalt Overlay ,

State of Maine, on which bids will be received until the time specified in the "Notice to Contractors" do(es) hereby bid and offer to enter into this contract to supply all the materials, tools, equipment and labor to construct the whole of the Work in strict accordance with the terms and conditions of this Contract at the unit prices in the attached "Schedule of Items."

The Offeror agrees to perform the work required at the price specified above and in accordance with the bids provided in the attached "Schedule of Items" in strict accordance with the terms of this solicitation, and to provide the appropriate insurance and bonds if this offer is accepted by the Government in writing.

SAMPLE

As Offeror also agrees:

First: To do any extra work, not covered by the attached "Schedule of Items," which may be ordered by the Resident, and to accept as full compensation the amount determined upon a "Force Account" basis as provided in the *Standard Specifications, March 2020 Edition*, and as addressed in the contract documents.

Second: That the bid bond at 5% of the bid amount or the official bank check, cashier's check, certificate of deposit or U. S. Postal Money Order in the amount given in the "Notice to Contractors", payable to the Treasurer of the State of Maine and accompanying this bid, shall be forfeited, as liquidated damages, if in case this bid is accepted, and the undersigned shall fail to abide by the terms and conditions of the offer and fail to furnish satisfactory insurance and Contract bonds under the conditions stipulated in the Specifications within 15 days of notice of intent to award the contract.

Third: To begin the Work as stated in Section 107.2 of the *Standard Specifications March 2020 Edition* and complete the Work within the time limits given in the Special Provisions of this Contract.

Fourth: The Contractor will be bound to the Disadvantaged Business Enterprise (DBE) Requirements contained in the attached Notice (Additional Instructions to Bidders) and submit a completed Contractor's Disadvantaged Business Enterprise Utilization Plan with their bid.

Fifth: That this offer shall remain open for 30 calendar days after the date of opening of bids.

Sixth: The Bidder hereby certifies, to the best of its knowledge and belief that: the Bidder has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of competitive bidding in connection with its bid, and its subsequent contract with the Department.

IN WITNESS WHEREOF, the Contractor, for itself, its successors and assigns, hereby execute two duplicate originals of this Agreement and thereby binds itself to all covenants, terms, and obligations contained in the Contract Documents.

CONTRACTOR

_____	**(Sign Here)**
Date	(Signature of Legally Authorized Representative of the Contractor)
(Witness Sign Here)	**(Print Name Here)**
Witness	(Name and Title Printed)

SAMPLE

G. Award.

Your offer is hereby accepted. This award consummates the Contract, and the documents referenced herein.

MAINE DEPARTMENT OF TRANSPORTATION

_____	_____
Date	By: Dale F. Doughty, Acting Commissioner
_____	
(Witness)	

BOND # _____

CONTRACT PERFORMANCE BOND
(Surety Company Form)

KNOW ALL MEN BY THESE PRESENTS: That _____ **_____ in the State of _____**, as principal, and…….....,
a corporation duly organized under the laws of the State of ..... and having a usual place of business ....,
as Surety, are held and firmly bound unto the Treasurer of the State of Maine in the sum of **_____ and 00/100 Dollars ($)**, to be paid said Treasurer of the State of Maine or his successors in office, for which payment well and truly to be made, Principal and Surety bind themselves, their heirs, executors and administrators, successors and assigns, jointly and severally by these presents.

The condition of this obligation is such that if the Principal designated as Contractor in the Contract to construct Project Number _____ in the Municipality of _____ promptly and faithfully performs the Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

The Surety hereby waives notice of any alteration or extension of time made by the State of Maine.

Signed and sealed this ..... day of ....., 20…. .

WITNESSES:	SIGNATURES: CONTRACTOR:
Signature.....	.....….....
Print Name Legibly	Print Name Legibly ...……..... SURETY:
Signature	....……..... Print Name Legibly .....
Print Name Legibly	
SURETY ADDRESS:	NAME OF LOCAL AGENCY:
.....	ADDRESS .....
.....	..……..... .....……..... .....……..... SAMPLE
.....	
TELEPHONE.....	

BOND # _____

CONTRACT PAYMENT BOND
(Surety Company Form)

KNOW ALL MEN BY THESE PRESENTS: That _____ _____ **in the State of** _____, as principal, and.....…..... a corporation duly organized under the laws of the State of ..... and having a usual place of business in .....……., as Surety, are held and firmly bound unto the Treasurer of the State of Maine for the use and benefit of claimants as herein below defined, in the sum of _____ **and 00/100 Dollars ($)** for the payment whereof Principal and Surety bind themselves, their heirs, executors and administrators, successors and assigns, jointly and severally by these presents.

The condition of this obligation is such that if the Principal designated as Contractor in the Contract to construct Project Number _____ in the Municipality of _____ promptly satisfies all claims and demands incurred for all labor and material, used or required by him in connection with the work contemplated by said Contract, and fully reimburses the obligee for all outlay and expense which the obligee may incur in making good any default of said Principal, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

A claimant is defined as one having a direct contract with the Principal or with a Subcontractor of the Principal for labor, material or both, used or reasonably required for use in the performance of the contract.

Signed and sealed this ..... day of ...……......, 20 ... .

WITNESS:	SIGNATURES:
	CONTRACTOR:
Signature…….....	.....….....
Print Name Legibly .....……..	Print Name Legibly ….....
	SURETY:
Signature.....	...….....
Print Name Legibly	Print Name Legibly ….....
SURETY ADDRESS:	NAME OF LOCAL AGENCY:
...….....	ADDRESS ….....
.....	…….....
TELEPHONE	…….....

SAMPLE

"General Decision Number: ME20250034 06/06/2025

Superseded General Decision Number: ME20240034

State: Maine

Construction Type: Highway

County: Aroostook County in Maine.

HIGHWAY CONSTRUCTION PROJECTS

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	. Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least $17.75 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2025.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	. Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least $13.30 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2025.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at http://www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/03/2025
1	06/06/2025

* ENGI0004-005 04/01/2025

	Rates	Fringes
POWER EQUIPMENT OPERATOR: Grader/Blade, Milling Machine, Paver (Asphalt, Aggregate, and Concrete), Roller Asphalt	$ 30.17	13.80

---

* SUME2014-029 06/23/2017

	Rates	Fringes
CARPENTER, Includes Form Work	$ 18.34	2.84
HIGHWAY/PARKING LOT STRIPING: Laborer	$ 14.29 **	1.89
IRONWORKER, REINFORCING	$ 16.27 **	0.00
LABORER: Asphalt, Includes Raker, Shoveler, Spreader and Distributor	$ 14.32 **	3.17
LABORER: Common or General	$ 13.23 **	1.22
LABORER: Wheelman	$ 15.40 **	3.01
OPERATOR: Backhoe/Excavator/Trackhoe	$ 17.63 **	2.28
OPERATOR: Bobcat/Skid Steer/Skid Loader	$ 20.36	5.06
OPERATOR: Broom/Sweeper	$ 16.52 **	6.38
OPERATOR: Bulldozer	$ 16.58 **	2.89
OPERATOR: Loader	$ 16.21 **	3.23
OPERATOR: Mechanic	$ 22.30	8.71
OPERATOR: Screed	$ 18.82	4.75
OPERATOR: Roller (Earth)	$ 15.55 **	5.83
TRAFFIC CONTROL: Flagger	$ 9.00 **	0.00
TRAFFIC CONTROL: Laborer-Cones/ Barricades/Barrels - Setter/Mover/Sweeper	$ 17.48 **	5.37
TRUCK DRIVER: Dump Truck	$ 14.40 **	7.04
TRUCK DRIVER: TackTruck	$ 18.82	8.29

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

==========

** Workers in this classification may be entitled to a higher

minimum wage under Executive Order 14026 ($17.75) or 13658 ($13.30). Please see the Note at the top of the wage determination for more information. Please also note that the minimum wage requirements of Executive Order 14026 are not currently being enforced as to any contract or subcontract to which the states of Texas, Louisiana, or Mississippi, including their agencies, are a party.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at https://www.dol.gov/agencies/whd/government-contracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

a) a survey underlying a wage determination
b) an existing published wage determination
c) an initial WHD letter setting forth a position on a wage determination matter
d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

Branch of Wage Surveys
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

==========

END OF GENERAL DECISION"

December 17, 2010
Supersedes December 30, 2009

SPECIAL PROVISION
SECTION 104
GENERAL RIGHTS AND RESPONSIBILITIES
(Electronic Payroll Submission)
(Payment Tracking)

104.3.8.1 Electronic Payroll Submission The prime contractor and all subcontractors and lower-tier subcontractors will submit their certified payrolls electronically on this contract utilizing the Elation System web based reporting. There is no charge to the contracting community for the use of this service. The submission of paper payrolls will not be allowed or accepted. Additional information can be found at http://www.maine.gov/mdot/contractors/ under the first "Notice".

104.3.8.2 Payment Tracking The prime contractor and all subcontractors and lower-tier subcontractors will track and confirm the delivery and receipt of all payments through the Elation System

SPECIAL PROVISIONS
SECTION 104
Utilities

UTILITY COORDINATION

The contractor has primary responsibility for coordinating their work with utilities after contract award. The contractor shall communicate directly with the utilities regarding any utility work necessary to maintain the contractor's schedule and prevent project construction delays. The contractor shall notify the resident of any issues.

THE CONTRACTOR SHALL PLAN AND CONDUCT WORK ACCORDINGLY.

MEETING

A pre-utility meeting, as defined in Subsection 104.4.6 of the Standard Specifications, **is** required.

GENERAL INFORMATION

These Special Provisions outline the arrangements that have been made by the Department for utility/ railroad work to be undertaken in conjunction with this project. The following table identifies all known utilities/railroads having facilities presently located within the limits of this project or intending to install facilities during project construction.

Utilities/Railroad have been notified and shall be furnished with a project booklet and plan set electronically.

Utility Overview & Contact Information					
Utility	**Aerial**	**Subsurface**	**Railroad**	**Contact Person**	**Contact Phone**
Consolidated Communications of Northern New England Company	X	X		Dave Paradis	956-1788
Versant Power	X	X		Phil Rockford	551-9015
Spectrum-Charter Communications	X	X		Patrick Hardgrove	478-7711
FristLight Fiber	X			Jarrod Smith	603-396-1100
Pioneer Broadband	X	X		Mike Atwater	557-1591
Maine Northern Railways			X	Todd Collier	694-3876
MaineDOT Electrical	X			Harold Tower	592-0763

Temporary utility adjustments **are not** anticipated as part of this project. If any unexpected utility relocations become necessary after the contract award, they shall be scheduled in compliance with Section 104 of the Standard Specifications and shall be performed by the appropriate utility company in conjunction with the work by the Contractor. Should the contractor choose to have any poles temporarily relocated, over and above the temporary work already coordinated, this work shall be done at the Contractor's request and expense with no additional cost or schedule impacts to the Department.

All adjustments are to be made by the respective utilities unless otherwise specified herein.

All clearing and tree removal in areas where utilities are involved must be completed before the utilities are able to relocate their facilities.

Unless otherwise specified, any underground utility facilities shown on the project plans represent approximate locations gathered from available information. The Department cannot certify the level of accuracy of this data. Underground facilities indicated on the topographic sheets (plan views) have been collected from historical records and/or on-site designations provided by the respective utility companies. Underground facilities indicated on the cross-sections have been carried over from the plan view data and may also include further approximations of the elevations (depths) based upon straight-line interpolation from the nearest manholes, gate valves, or test pits.

Utility working days are Monday through Friday. Times are estimated based on a single crew for each utility. Any times and dates mentioned are **estimates only** and are dependent upon favorable weather, working conditions, and freedom from emergencies.

The contractor shall notify all utility/railroads companies **ten (10) working days** prior to beginning any work on this project.

Specific information regarding the line voltage can be obtained from Versant Power

AERIAL/SUBSURFACE

Aerial/Subsurface utility adjustments **are** anticipated as part of this project. If any unexpected utility relocations become necessary, they shall be scheduled in compliance with Section 104 of the Standard Specifications and shall be done by the utilities in conjunction with the work by the Contractor.

Attention needs to be made to existing aerial service lines crossing the highway corridor at intermediate locations. Each of the existing service lines provides a source of power and/or communication to the surrounding residents.

If the work activities within the project limits show cause-of-a-risk to any of the surrounding power lines, the contractor shall contact the Versant representative to coordinate/oversee/install/remove line safety materials.

The contractor shall coordinate with a Versant representative and a Consolidated representative for horizontal alignment/offset of the new pole set locations along the intermediate corridors. The contractor and the aerial representatives shall document changes to the new pole set locations from the below pole list and discuss changes with the MaineDOT resident prior to proceeding.

The contractor is responsible for providing acceptable access (structural gravel pads), if necessary, to the new pole set locations. These access areas shall be configured to allow appropriate surfaces for augur utility trucks to maneuver. The contractor shall perform the necessary cut/fill work (plus/minus 2 feet) and provide a schedule for sequencing the installation for the new pole sets. This schedule/sequencing information needs to be provided prior to the pre-utility meeting.

Summary - Aerial:

Utility	Work Summary				Estimated Working Days
	Pole Set	New Wires/ Cables	Trans. Wires/ Cables	Remove Poles	
Consolidated Communication of Northern New England Company	X	X	X	X	23
Versant Power	X	X	X	X	50
Spectrum-Charter Communications	-----	X	X	-------	8
FirstLight Fiber	-----	X	--------	-------	10
Pioneer Broadband	-----	X	X	-------	2

Summary - Subsurface:

Utility	Summary of Work	Estimated Working Days
Consolidated Communications of Northern New England Company	installing duct-bank, pulling communication line(s), & splicing	35
Versant Power	installing duct-banks, pulling new power line(s), & splicing	20
Spectrum-Charter Communications	pulling communication line(s) & splicing	4
Pioneer Broadband	pulling communication line & splicing	3

Utility Specific Information:

Consolidated Communications of Northern New England Company:

Consolidated Communications of Northern New England Company has existing aerial communication lines at the project start in Westfield, and along the corridors of Henderson, Easton and Conant Roads. Consolidated shall be permanently transferring existing and attaching new aerial lines to new pole sets at all four (4) corridor locations; and into new duct-banks along the Henderson, Easton and Conant corridors. Surrounding the new Conant Road overpass (approximately station 7630+50), Consolidated shall permanently install new pole sets (7 total) and a duct-bank (PVC-conduit quantity TBD), pull new cable(s), and splice back into existing aerial lines. Now the duct-bank is being permanently installed to eliminate the existing aerial communication lines surrounding where the new overpass shall be located. The intent is to locate the duct-bank along the north-side (station left) of the Conant corridor from station 319+50 to station 322+50. Consolidated shall coordinate/self-perform work activities for installation of the new duct-bank. The contractor is responsible for coordinating with the Consolidated representative an acceptable distance from the face of the new concrete abutment to the new duct-bank location. The coordination of this acceptable distance is to allow the contractor to obtain enough space to utilize appropriate means/methods for the construction of the concrete abutment.

Additionally, along the Conant Road corridor, a new box culvert (12' span x 14' radius x 92' length) shall be installed at approximately station 328+00. The contractor is responsible for coordinating with the Consolidated representative whether existing aerial line(s) needs to be adjusted to allow for a suitable culvert installation under their aerial line(s).

Now along Henderson and Easton corridors, Consolidated shall eliminate existing aerial lines and pull new cable(s) through new duct-banks installed by Versant Power. Back at the project start in Westfield, Consolidated shall self-perform aerial line transfers and install new aerial lines, abandoning the aerial communication lines existing through the wooded area along the adjacent properties. Consolidated shall require **ten (10) working days** prior notice to schedule their aerial/subsurface involvements. See the above tables for the estimated working days.

Versant Power:
Versant Power has existing aerial single-phase distribution power lines at the project start in Westfield, and along the corridors of Henderson, Easton and Conant Roads. These existing aerial power lines shall be permanently transferred to new pole sets along all four (4) corridors and into new duct-backs along the Henderson and Easton corridors. Surrounding the new overpasses for Henderson Road (approximately station 7431+00) and Easton Road (approximately station 7551+50), Versant shall permanently install new pole sets and new duct-banks (4 PVC conduits), pull new cables, and splice back into existing aerial lines. The intent is to locate the new duct-banks on the Henderson corridor on the south-side (approximately along station 7430+70 left/right) and on the Easton corridor on the north-side (approximately along station 7551+75 left/right). The contractor is responsible for coordinating with the Versant representative an acceptable distance from the face of the new concrete abutments to the new duct-bank locations. The coordination of this acceptable distance is to allow the contractor enough space to utilize appropriate means/methods for the construction of the new concrete abutments. Versant shall require **ten (10) working days** prior notice to schedule their involvement. See the above tables for the estimated working days.

Associated with the area in Westfield, the existing pole #08013/909 is being removed with a new pole set occurring at station 7329+30, 93' left. Prior to this new pole set being installed, the contractor is responsible for coordinating with the Versant representative the sequence/schedule for terminating traffic flow along the existing Route #1 corridor. This new pole set is being pushed to the west-side of the existing Route #1 with anticipation of the installation of this pole set occurring prior to the termination of traffic flow.

At the new Southern Connector/PI Bypass intersection, Versant shall extend single-phase power to service the new lumination lighting surrounding this intersection. This single-phase power shall be extended (approximately 1200') from the project start side in Westfield and terminate at the new pole set (station 103+88, right) along the Southern Connector. As well, Versant shall be providing power service connects along the Conant Road corridor for new lumination lighting; and along the existing Route #1 corridor for pad-mounted variable message signs (2 locations) at the project start in Westfield and approximately 6400' north of the Aroostook River in Presque Isle.

See the pole list table below for specific stationing and offset locations of the existing/new pole sets. Versant shall be self-performing new pole sets (26 total), removal of existing poles (39 total) and install of new duct-banks (2 corridors).

NOTE: Versant Power termination points for the single-phase power for this project:

- Westfield (project start) – Southern Connector new pole set (station 103+88, right)
- Route #1 (existing) - Southern Connector new pole set (station 116+26, right)
- Henderson Road – continuous through (no termination)
- Easton Road – continuous through (no termination)
- Conant Road – new pole set (station 314+29, left) & new pole set (station 333+37, left)

Spectrum-Charter Communications:
Spectrum-Charter Communications has one existing aerial communication line at the project start in Westfield, and along the corridor on Easton Road. Now along the corridor in Westfield, Spectrum shall be permanently transferring existing and installing a new aerial line to new pole sets through the new Southern Connector and connecting back on the Route #1 corridor in both Westfield and Presque Isle; and along the Easton corridor pulling new cable through the new duct-bank installed by Versant Power. Spectrum shall require **ten (10) working days** prior notice to schedule their involvement. See the above tables for the estimated working days.

FirstLight Fiber:
FirstLight Fiber has one existing aerial communication line at the project start in Westfield. Now along the corridor in Westfield, FirstLight shall be permanently transferring existing and installing a new aerial line to new pole sets through the new Southern Connector and connecting back on the Route #1 corridor in both Westfield and Presque Isle. FirstLight shall require **ten (10) working days** prior notice to schedule their involvement. See the above tables for the estimated working days.

Pioneer Broadband:
Pioneer Broadband has one aerial line existing along the Conant Road corridor. Now along this corridor, Pioneer shall be permanently transferring existing and pulling a new line through the new duct-bank installed by Consolidated. Pioneer shall require **ten (10) working days** prior notice to schedule their involvement. See the above tables for the estimated working days.

Additionally, along the Conant Road corridor, a new box culvert (12’ span x 14’ radius x 92’ length) shall be installed at approximately station 328+00. The contractor is responsible for coordinating with the Pioneer Broadband representative whether existing aerial line(s) need to be adjusted to allow for a suitable culvert installation under their aerial line(s).

MaineDOT Electric/Communication:
When new service accounts are required for this MaineDOT project, the contractor shall contact Harold Tower (MaineDOT representative) to establish these new accounts with the appropriate power/ communications company. The contractor shall provide the following information for the new account: electrician name performing the work; the voltage and amperage; the municipality (town/city), street name and existing pole set number; the distance from the existing pole to the new control cabinet; and the existing meter number (if applicable). The contractor shall allow twenty-eight (28) day minimum duration for the establishment of new accounts.

Now aerial utilities (power/communications), associated with these new accounts, do exist along the highway corridors adjacent to site locations receiving new equipment/structure and where new service connections need to be established. These new service connections are typically assigned/facilitated through field representatives after the new accounts are established by MaineDOT. These field representatives are different from the ones listed above.

NOTE: In the pole list below, the Southern Connector and Conant Road segments both have their own centerline stationing whereas all other stationing represents the PI Bypass centerline.

Pole List:

	Existing/New Pole Description	New Pole Centerline Station	Left/ Right		Existing Offset from Centerline (ft)	New Pole Centerline Station	Left/ Right		New Offset from Centerline (ft)	Cut /Fill (ft)	Comments
			L T	R T			L T	R T			
Pole List Starts											
1	405/904	7310+21		X	23.4					0	remove pole/line transfers
2	283422	7310+25		X	24.4					0	ok
3	08026/904.5S	7312+10	X		40.5					0	ok
4	08025/405/905.5	7312+30		X	22.4					0	ok
Route #1/Cambridge Road intersection (station right)											
5	182169/905S	7314+63	X		41.8					0	ok
6	08023/905	7314+69		X	32.2					0	ok
7	08022/906	7317+16		X	35.4					0	ok
8	74811/08020/907	7319+96		X	37.4					0	ok
New PI Bypass (station 7320+00/project start) matching into the existing Route #1 centerline alignment											
9	08019/908	7322+75		X	40.8	7322+80		X	45	-1	new pole #1 (versant)
Pole List Continues Next Page											
10	08015/909	7325+50		X	34.5	7325+50		X	45	-4	new pole #2 (versant)
11	08016	7325+63	X		53.2						remove pole (versant)
12	08014/909.5	7326+96	X		77.3	7327+05	X		57	0	new pole #3 (versant)
13	08013/909	7328+03		X	11.5	7329+30	X		93	0	new pole #4 (versant) (DISCUSS UTILITY MEETING)
14	no description	7330+29		X	70.1						previously removed 2022
15	08011/910	7330+54	X		27.4	7331+75	X		69	0	new pole #5 (versant)
16	08010/911D	7332+63		X	71.1						ok (field/service pole)
17	283432	7333+06	X		48						remove pole (versant)
18	08005/911	7333+09	X		50.7						remove pole/line transfers
19	08007/911X (woods)	7333+70	X		119.5						remove pole (versant)
20	TBD					7333+75	X		60	0	new pole #6 (versant)
21	08009/911D1	7334+07	X		244.1						ok (field/service pole)
22	08008 (woods)	7334+55	X		130.1						remove pole (versant)
Pole List Continues Next Page											

23	08004/911.5(woods)	7335+63	X		88						remove pole (versant)
24	TBD					7336+00	X		62	0	new pole #7 (versant)
25	08003/912 (woods)	7337+95	X		138						remove pole (versant)
26	TBD					7338+50	X		50	+15	new pole #8 (versant)
27	08001/912.5(woods)	7340+37	X		192.9						remove pole (versant)
28	TBD					7341+00	X		51	+18	new pole #9 (versant)
29	08002/912.5D(woods)	7341+10	X		168.1						remove pole (versant)
30	913 (woods)	7341+94	X		240.2						remove pole (consolidated)
31	TBD					7343+50	X		51	+25	new pole #10 (versant)
32	TBD					7345+95	X		72	+25	new pole #11 (versant)
33	TBD					7345+95		X	40	+25	new pole #12 (versant)
Southern Connector corridor from station 7345+00, left to the existing Route #1 corridor (station 114+50)											
34	TBD					103+88		X	50	-11	new pole #13 (versant) (power termination)
35	913 ½ (woods)	104+79	X		204.8						remove pole (consolidated)
36	TBD					106+20		X	53	-16	new pole #14 (versant)
37	914 (woods)	106+83	X		103.8						remove pole (consolidated)
38	914 ½ (woods)	108+42	X		25.4						remove pole (consolidated)
39	TBD					108+50		X	57	-18	new pole #15 (versant)
40	915 (woods)	110+83		X	72.3						remove pole (consolidated)
41	TBD					110+83		X	45	-9	new pole #16 (versant)
42	TBD					113+17	X		50	0	new pole #17 (versant)
43	915 ½ (woods)	113+73		X	81.7						remove pole (consolidated)
44	TBD					114+82	X		40	0	new pole #18 (versant)
45	07344/916S	115+84	X		50.8						ok (service pole)
46	07343/916	116+29		X	40.2	116+26		X	40	0	new pole #19 (versant) (power termination)
Henderson Road at New Overpass (station 7431+00)											
47	07171/29	7430+75	X		306.2						ok
48	07170/30	7430+61	X		67.2	7430+61	X		170	0	new pole #20 (versant)
Henderson Road duct-bank											
49	07169/31	7430+49		X	169	7430+49		X	100	0	new pole #21 (versant)
50	32	7430+28		X	396.8						ok
Easton Road (Route #10) at New Overpass (station 7451+50)											
51	03940	7551+50	X		451.2						ok
52	03934	7551+67	X		279						ok
53	03933	7551+86	X		59.3	7551+86	X		110	0	new pole #22 (versant)
Easton Road duct-bank											
54	71.5					7552+10		X	100	0	new pole #23 (versant)
55	03932/71	7552+10		X	189.7						ok
56	03931	7552+26		X	440.5						ok
57	03929	7552+40		X	652.5						ok
Conant Road at New Overpass (station 7630+50) & two (2) intersection spurs											
58	43	302+13	X		26						ok
59	43D	302+57		X	34.9						ok
60	44	304+64	X		25.9						ok
61	45/408A	307+19	X		26.4						ok
62	46X	309+38		X	24.3						ok
63	46	309+73	X		26.2						ok
64	47	312+22	X		26.3						ok
65	47S					312+23		X	30	0	new pole #24 (versant)
66	04956/48	314+73	X		28.4	314+29	X		37	-1	new pole #25 (power terminates)
67	exist. light pole	315+02	X		44.4						remove pole
68	exist. light pole	316+17	X		50.3						remove pole
69	49					316+90	X		42	-1	new pole #26 (consolidated)
70	no description	317+20	X		30.1						remove pole (versant)
71	no description	317+28		X	22.4						remove pole (versant)

Pole List Continues Next Page

72	50					319+51	X		42	0	new pole #27 (consolidated)
73	no description	319+54	X		34.4						remove pole (versant)
Conant Road duct-bank (between station 319+50 to 322+25)											
74	no description	321+75	X		34.6						remove pole (versant)
75	50 ½					322+24	X		41	-1	new pole #28 (consolidated)
76	51					323+50	X		40	0	new pole #29 (consolidated)
77	no description	323+99	X		32.8						remove pole (versant)
78	no description	326+28	X		27.8						remove pole (versant)
79	51 ½					326+32	X		34	+3.5	new pole #30 (consolidated) (push-brace required)
80	no description	326+27		X	26.8						remove pole (versant)
81	no description	328+73	X		29.6						remove pole (versant)
82	52					328+74	X		35	+5	new pole #31 (consolidated)
83	no description	331+17	X		28.8						remove pole (versant)
84	53					331+22	X		32	0	new pole #32 (consolidated)
85	54	333+60	X		26	333+37	X		28	0	new pole #33 (power terminates)
86	54X	332+46		X	30.5						remove pole (versant)
87	54X	333+37		X	27.8						ok
88	55	335+83	X		26.5						ok
Pole List Ends											

RAILROAD

Maine Northern Railways (MNR):

Maine Northern Railways is the operator along the Fort Fairfield Sub railroad there through Presque Isle. MNR needs to be notified **thirty (30) working days** prior to working within 50' of this railroad location. This notification is to ensure that acceptable communication is occurring when working within the limits of the railroad right-of-way, and to allow for proper scheduling of track protection personnel and/or track safety items. This railroad has active trains at intermediate times throughout the week.

Along the new PI Bypass corridor, at approximately station 7466+00, a structural bridge shall be constructed to allow vehicular traffic to travel over this railroad. A railroad scope is included in this project where three (3) new RCP pipes (see sheet 15) are to be installed at two (2) different locations. MNR has agreed to partner with MaineDOT to remove the existing track and re-install the new tracks (80' section) when the installation of the three (3) new RCP pipes (see sheet 15) occurs.

The contractor shall be responsible for requirements as stated in the special provision entitled "Protection of Railroad Traffic and Structures (PRTS)" dated 04/04/25. This document is enclosed within this project booklet after this "utility 104 special provisions".

Summary:

Railroad	Summary of Work	Estimated Working Days
Maine Northern Railways	removing existing/install new tracks	3
Maine Northern Railways	straight-time track protection personal and/or track safety items	204

MaineDOT Railroad:

MaineDOT Railroad is the owner of the Fort Fairfield Sub railroad there through Presque Isle.

MAINTAINING UTILITY LOCATION MARKNIGS

The Contractor will be responsible for maintaining the buried utility location markings following the initial locating by the appropriate utility or their designated representative.

UTILITY SIGNING

Any utility working within the construction limits of this project shall ensure that the traveling public is adequately protected at all times. All work areas shall be signed, lighted, and traffic flaggers employed as determined by field conditions. All traffic controls shall be in accordance with the latest edition of the Manual on Uniform Traffic Control Devices for Streets and Highways, as issued by the Federal Highway Administration.

Docusign Envelope ID: BD8C7919-F1D7-4792-9BF3-1C37CAEF18CA

PROTECTION OF RAILROAD TRAFFIC AND STRUCTURES
SPECIAL PROVISIONS

1. GENERAL REQUIREMENTS

Part of the work required by the Contract will be performed within a railroad right of way and/or adjacent to the tracks, telephone, telegraph, signal and electric supply lines of a railroad or railroads. The Contractor agrees to perform all such work in compliance with all of the terms of this Special Provision and all safety rules, regulations, or standards applicable to the Railroad. The Contractor shall be fully responsible for all damages arising from his failure to comply with the requirements of this Special Provision. The Contractor shall be deemed to have included all costs in the unit prices of the Schedule of Prices and the Proposal.

2. AMOUNT OF RAILROAD WORK

The estimated amount of work to be done within zero feet of the track for the Fort Fairfield Subdivision is less-than 10% of the contract.

3. NUMBER OF TRAINS AND TRAIN SPEED

The Contractor is notified that a maximum speed of 25 mph will be considered as prevailing for the operation of trains at this new highway overpass crossing (46.631716/-67.959722) and that the approximate number of trains per day are two (2) per week (specific to Friday through Sunday).

4. PRIORITY OF RAILROAD OPERATIONS

The train movements of the Railroad, and its lessees, and licensees shall have absolute priority over the performance of the Construction Project within the railroad right of way. The Contractor hereby agrees that the hours and times of work within the Railroad right of way must be coordinated through the Railroad and that such hours and times are subject to change without prior notice to the Contractor, unless other prior arrangements have been made through the Railroad.

5. AUTHORITY OF RAILROAD TO STOP WORK

If the Contractor fails to comply with the safety terms of this Special Provision, or if the Chief Engineer of the Railroad determines that the Contractor is using unsafe practices that threaten the safety of rail traffic, rail workers, or the general public, the Railroad shall have the right to immediately order the Contractor to cease work and vacate the Railroad's property. The Railroad agrees to confirm any cessation of work in writing by delivering to the Department's Construction Manager a completed Stop Work Order form attached as Exhibit A within 24 hours of giving any such order.

Docusign Envelope ID: BD8C7919-F1D7-4792-9BF3-1C37CAEF18CA

6. ENTRY UPON RAILROAD PROPERTY

The Railroad hereby agrees to permit the Contractor, together with their subcontractors, suppliers, consultants and engineers (the "Contractor"), to enter upon the Railroad property for the purpose of performing the Construction Project, PROVIDED THAT the Contractor complies with all of the terms of this Special Provision and all safety requirements and directions of the Chief Engineer of the Railroad, or his authorized representative (the "Railroad's Chief Engineer").

7. NOTICE REQUIRED BEFORE ENTRY

The Contractor shall give written notice to the Railroad's Chief Engineer at least sixty (60) calendar days in advance of the time it proposes to do work within the limits of the Railroad right-of-way or perform operations that may create a Hazard as specified by this Special Provision. The Contractor shall give such notice regardless of whether the work may also be within the limits of a public highway.

8. HAZARDS

The Contractor shall assess to its own satisfaction hazards which may be caused by its operations. At a minimum, the Contractor agrees that the following shall constitute Hazards.

An operating track shall be considered fouled and subject to hazard when any object is brought nearer than twenty-five (25) feet to the gauge line of the near rail of the track.

A signal line or communication line shall be considered fouled and subject to hazard when any object is brought nearer than fifteen (15) feet to any wire or cable.

An electric supply line shall be considered fouled and subject to hazard when any object is brought nearer than fifteen (15) feet to any wire of the line.

Cranes, trucks, power shovels or any other equipment shall be considered as fouling and subjecting to hazard a track, signal line, communication or electric supply line when working in such position that failure of equipment, with or without load, could foul the track, signal line, communication or electric supply line.

Railroad operation will be considered subject to hazard when explosives are used in the vicinity of railroad premises, or during the driving or pulling of sheeting for any footing adjacent to a track, or when erecting structural steel adjacent to a track, or when performing work under, across or adjacent to a track, or when operations involve swinging booms or chutes that could in any way come nearer then twenty (20) feet to the gauge line of the near rail of the track, or when erection or removal of staging, false work or forms fouls a track or wire line. None of the operations specified as a Hazard shall be carried on during the approach or passing of a train or without permission from the Railroad's Chief Engineer and the presence of a railroad inspector/flagman, unless other prior arrangements have been made through the Railroad.

Docusign Envelope ID: BD8C7919-F1D7-4792-9BF3-1C37CAEF18CA

9. MINIMUM CLEARANCES

During the construction of staging, false work or forms, the Contractor shall at all times maintain a minimum vertical clearance of twenty-three (23) feet above the top of high rail and a minimum side clearance of twenty-five (25) feet from the gauge line of the near rail where track is tangent. Additional side clearance must be maintained where track is on a curve.

10. WORK PLAN SUBMITTAL AND APPROVAL

The Contractor shall submit in writing to the Railroad's Chief Engineer or duly authorized representative, and the Department's Railroad Property Manager or his appointed representative, at least sixty (60) calendar days in advance of the start of the project, an outline of his plan for work within the Railroad right of way including contemplated method(s) of construction. This plan must meet with the approval of the Railroad's Chief Engineer and the Department's Railroad Property Manager in every respect. If the Contractor contemplates the use of "on the track equipment", it should so state and obtain from the Railroad the conditions pertaining to such operations. All Railroad costs included in this operation will be borne by the Contractor. In a like manner, any of the Contractor's equipment or material on cars for this project shall be handled in conformance with existing traffic rules with all costs borne by the Contractor.

Prior to submitting their Proposal, the Contractor shall have ascertained from the Railroad and from the Department's Railroad Property Manager or his appointed representative, all information relating to its requirements and regulations and all costs in connection with compliance thereto.

11. EXCAVATIONS

Before excavation for footings adjacent to tracks and/or within the Railroad's right-of-way may commence, whether or not also within the limits of a public highway, plans and calculations for such excavations, prepared by a Professional Engineer authorized to practice in Maine, shall be submitted to the Railroad's Chief Engineer for review and approval. Unless other prior arrangements have been made, the Railroad's Chief Engineer shall have thirty (30) days to perform such review and approval and issue a written permission to proceed with the excavation. No excavation shall proceed without such permission.

At a minimum, excavations must utilize proper bracing, shoring, sheeting or other support as determined by the Railroad's Chief Engineer, to support the tracks with railroad traffic. Open excavation shall be suitably planked over when construction

operations are not in progress. No excavation work shall be performed by the Contractor within the limits of the Railroad right of way, whether or not also within the limits of a public highway, until the Contractor has ascertained from the Chief Engineer of the Railroad the location of any wires, conduits, pipes, cables or other railroad facilities below the surface of the ground. Damage to any such facilities caused by the failure of the Contractor to ascertain the location of such facilities or by failure to use due care to avoid injury to such facilities shall be at the expense of the Contractor.

Docusign Envelope ID: BD8C7919-F1D7-4792-9BF3-1C37CAEF18CA

12. EQUIPMENT

Equipment of the Contractor shall be in such condition to prevent failure that would cause delay in the operation of trains or damage to railroad facilities. Equipment shall not be placed or put in operation adjacent to a track without first obtaining permission of the Railroad. The Railroad agrees that such permission shall not be unreasonably withheld.

13. RAILROAD SERVICES - GENERALLY

When work is to be performed within the Railroad's right-of-way, the Railroad shall provide the services, equipment and materials provided in this Special Provision including, but not limited to, engineering, flagging, inspection, signal protection and/or relocation, and restoration or replacement of the Railroad's track structure or ballast. Further, if the Railroad's Chief Engineer determines that the Contractor's operations do not comply with all of the safety requirements of this Special Provision and all safety requirements and directions of said Chief Engineer, the Railroad will employ the necessary qualified employees to protect its trains and other facilities. The Contractor shall pay to the Railroad the cost for performing all Railroad Services unless said costs are to be paid by the Department as specified in this Special Provision.

14. INSPECTION/FLAGGING

The Railroad shall furnish and assign all inspectors / flaggers for general inspection purposes of general protection of railroad property and operations during construction as the Railroad's Chief Engineer determines are necessary to preserve safety.

(a) Responsibility for Cost. The Department will bear the cost of flagging or inspection (including travel time) or any combination thereof up to two-hundred four (204) man days (including over-time/initial-post inspections) of said flagging or inspection. If, in the opinion of the Railroad's Chief Engineer, further services of a flagger or inspector will be required due to the operations of the Contractor, the services will be furnished and the cost thereof (salary, expenses, insurance, taxes and vacation allowance, etc.) shall be paid to the Railroad by the Department and will be recovered by the Department from the Contractor.

(b) Terms. The minimum hours per day for the Railroad employees engaged in inspection flagging services shall be eight (8) hours. Time at rates for straight time, overtime or for deadheading starts in accordance with established practices in effect in the territory in which the project is located. Information as to these practices should be obtained from the Railroad's Chief Engineer.

The Contractor shall notify the Railroad's Chief Engineer and the Department in writing thirty (30) calendar days before beginning, resuming or suspending work within twenty (20) feet of the track, so that an inspector may be provided or removed in accordance with the requirements of this Special Provision. An inspector may be removed upon seven (7) calendar days notice. Failure to give notice of intent to suspend work shall be cause of charge to the Contractor the cost of inspection during the period when work is suspended.

Docusign Envelope ID: BD8C7919-F1D7-4792-9BF3-1C37CAEF18CA

(c) Estimated Cost. The following is an estimate of the cost per day of inspection/flagging necessary for this project. The rates shown include all overhead charges, travel time, deadheading and personal expenses.

Date of estimate 05/22/25:

Estimated maximin daily rate for ten (10) consecutive hours Monday-Friday (straight time): $1364.04

Estimated maximin rate per hour worked over ten (10) hours in any one day: $204.62/hour

Rates charged will be those in effect at the time of the performing the inspection/flagging which may be different than the rates used at the date of the Estimate. The Railroad agrees to notify the Department if rates used to calculate the above estimates change before the date of bids are received for this Contract.

(d) Definitions.

Man day (M.D.) - ten (10) consecutive hours or any portion thereof.

Overtime - Each additional hour or fraction thereof consecutive to and beyond the standard man day will count as 3/16 of a man day.

Standard Man day - ten (10) consecutive hour, Monday - Friday between the hours of 7:00 am to 5:00 p.m. unless otherwise noted and agreed to by all parties.

Travel Time - Time required by flagger and/or inspector to commute between his or her point of headquarters to the project site. This time shall not be charged in determining available man days.

15. OTHER CONTRACTOR RESPONSIBILITIES

The restoring and resurfacing of tracks, if disturbed due to Contractor's operations, shall be at the expense of the Contractor.

Any other changes made or services furnished by the Railroad as a result of the Contractor will be at the Contractor's expense.

16. EXTRA-CONTRACT SERVICES

Temporary and permanent changes of tracks and telephone, signal and electric supply lines made necessary by or to clear the permanent work of the Contractor as shown on the construction plans and included in the Railroad force account as recollect from the State will be made or caused to be made by the Railroad without expense to the Contractor.

Docusign Envelope ID: BD8C7919-F1D7-4792-9BF3-1C37CAEF18CA

17. INDEMNIFICATION

Where work is being performed over, under, across or adjacent to Railroad premises, the Contractor shall defend, indemnify and save harmless the Railroad and the Maine Department of Transportation from and against any and all loss, cost, damage, claims, suits, demands, or liability for damages for personal injury including death and for damage to property, which may arise from or out of the operations conducted under his contract, occurring by reason of any act or omission of the Contractor, his agents, servants or employees, or by reason of any act or omission of any subcontractor, his agents, servants or employees.

18. INSURANCE

In addition to any other forms of insurance or bonds required under the terms of the Contract, the Contractor will be required to procure and maintain, at its sole cost and expense, the following insurance coverages naming the Railroad as an insured.

(a) Railroad Protective Liability Insurance with limits not less than $5,000,000 per single occurrence and $5,000,000 per aggregate total occurrences.

(b) Comprehensive General Liability Insurance protecting against liability from bodily injury or property damage arising out of the Construction Project with limits of not less than $10,000,000 per single occurrence and $10,000,000 per aggregate total occurrences.

(c) Workers Compensation and Occupational Disease Insurance, as required by law.

(d) Automobile Liability Insurance covering all motor vehicles used about or in connection with the Construction Project.

If any part of the work is sublet, these insurance coverages shall be provided by or on behalf of the subcontractors to cover their operations

Each policy shall carry an endorsement covering the “save harmless” clause in favor of the Railroad and the Maine Department of Transportation, as set forth in the paragraph, “Responsibility for Damage Claims”.

If blasting is to be done in the vicinity of the Railroad, the insurance policies shall include such coverage.

The policies shall be in force before any work is done on the project and shall remain in effect until all work required to be performed under the terms of the contract is satisfactorily completed as evidenced by the formal acceptance by the State and the Railroad.

Docusign Envelope ID: BD8C7919-F1D7-4792-9BF3-1C37CAEF18CA

Before any work is done on the project, the Department of Transportation and the Railroad's Chief Engineer shall be furnished certificates of each policy. Further, the original policy of the Comprehensive General Liability Insurance and the Railroad Protective Liability Insurance shall be furnished to the Railroad's Chief Engineer and a duplicate shall be furnished to the Department of Transportation.

The policy or policies of the Railroad's protective public liability and property damage liability shall be written by a Company authorized to do business in the State of Maine, and shall be signed by the President and Secretary of the Insurance Company and shall be countersigned by an authorized representative of the Company.

19. **ROADWAY WORKER SAFETY REGULATION**

Notice to all Contractors/Subcontractors and individuals must be aware of the Federal Roadway Worker Safety Regulation, CFR 49, Part 214(c). They may be required to comply with this regulation. Any requirements for them to comply will be discussed at the pre-construction utility meeting.

Docusign Envelope ID: BD8C7919-F1D7-4792-9BF3-1C37CAEF18CA

EXHIBIT A
ORIGINAL TO CONTRACTOR

MDOT/RAILROAD STOP WORK ORDER

Section A - Contractor	Town
	DOT Railroad Project #
Railroad Name	Location
	Notice #
DESCRIPTION OF SAFETY HAZARD/REASON FOR ORDER	
Standard Violated	RAC (Risk Assessment Code) **N/R**
Railroad Official (Flagger/Inspector) Name Signature	Date
SECTION B - ACTION TAKEN:	

cc: MDOT - R.E. or Inspector
MDOT - Utility Section
MDOT - Construction Division
Railroad - Chief Engineer

Docusign Envelope ID: BD8C7919-F1D7-4792-9BF3-1C37CAEF18CA

1. Risk Assessment. Each identified/validated hazard shall be assigned a Risk Assessment Code (RAC) by the Safety Office. The RAC represents the degree of risk associated with the deficiency and combines the elements of hazard severity and mishap probability. The RAC is derived as follows:

a. Hazard Severity. The hazard severity is an assessment of the worst potential consequence: Defined by degree of injury, occupational illness, or property damage, which is likely to occur as a result of a deficiency. Hazard severity categories shall be assigned by roman numeral according to the following criteria.

(1) Category I - Catastrophic: The hazard may cause death or loss of a facility.

(2) Category II - Critical: May cause severe injury, severe occupational illness, or major property damage.

(3) Category III - Marginal: May cause minor injury, minor occupational illness, or minor property damage.

(4) Category IV - Negligible: Probably would not affect personnel safety or health, but is nevertheless in violation of a NAVOSH standard.

b. Mishap Probability. The mishap probability is the probability that a hazard will result in a mishap, based on an assessment of such factors as location, exposure in terms of cycles or hours of operation, and affected population. Mishap probability shall be assigned an Arabic letter according to the following criteria:

(1) Sub-category A - Likely to occur immediately or within a short period of time.

(2) Sub-category B - Probably will occur in time.

(3) Sub-category C - May occur in time.

(4) Sub-category D - Unlikely to occur.

c. Risk Assessment Code. The RAC is an expression of risk which combines the elements of hazard severity and mishap probability. Using the matrix shown below, the RAC is expressed as a single Arabic number that can be used to help determine hazard abatement priorities.

	Mishap Probability					RAC
		A	B	C	D	1 - Critical
Hazard Severity	I	1	1	2	3	2 - Serious
	II	1	2	3	4	3 - Moderate
	III	2	3	4	5	4 - Minor
	IV	3	4	5	5	5 - Negligible

SPECIAL PROVISION 105
CONSTRUCTION AREA

Construction Areas located in the City of Presque Isle have been established by the Maine Department of Transportation (MDOT) in accordance with provisions of 29-A § 2382 Maine Revised Statutes Annotated (MRSA).

The sections of highway under construction in Aroostook County:

Project 006462.92 *is located in the city of Presque Isle, beginning 0.60 of a mile south of the Presque Isle/Westfield town line and extending north 6.17 miles connecting to Conant Road (includes a new 2-lane controlled access (bypass) principal arterial).*
Project 029496.00 *is in two locations adjacent to Route 1 leading into Presque Isle, one from the north and one from the south.*

Per 29-A § 2382 (7) MRSA, the MDOT may "*issue permits for stated periods of time for loads and equipment employed on public way construction projects, United States Government projects or construction of private ways, when within construction areas established by the Department of Transportation. The permit:*

A. Must be procured from the municipal officers for a construction area within that municipality;

B. May require the contractor to be responsible for damage to ways used in the construction areas and may provide for:

(1) Withholding by the agency contracting the work of final payment under contract; or

(2) The furnishing of a bond by the contractor to guarantee suitable repair or payment of damages.

The suitability of repairs or the amount of damage is to be determined by the Department of Transportation on state-maintained ways and bridges, otherwise by the municipal officers;

C. May be granted by the Department of Transportation or by the state engineer in charge of the construction contract; and

D. For construction areas, carries no fee and does not come within the scope of this section."

The Municipal Officers for the City of Presque Isle agreed that an Overlimit Permit will be issued to the Contractor for the purpose of using loads and equipment on municipal ways in excess of the limits as specified in 29-A MRSA, on the municipal ways as described in the "Construction Area."

As noted above, a bond may be required by the municipality, the exact amount of said bond to be determined prior to use of any municipal way. The MDOT will assist in determining the bond amount if requested by the municipality.

The maximum speed limits for trucks on any city way will be 25 mph (40 km per hour) unless a higher legal limit is specifically agreed upon in writing by the Municipal Officers concerned.

SPECIAL PROVISION SECTION 105
GENERAL SCOPE OF WORK
(Environmental Requirements)

I. Work within wetlands require permits and special conditions to minimize impacts. Wetlands are defined as: Areas 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 adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas. The following special conditions shall apply to the wetland impact locations shown in the Corps permit #NAE-2008-02480.

A. Special conditions related to temporary impacts in wetland areas:

1. Temporary fill storage areas shall be located within upland areas not subject to flooding during the rainy season (March – July) or when flooding is likely or probable at the time of placement unless approved by the Resident.
2. Temporary fill in wetlands may be in place for one growing season. The temporary fill in the wetland area must removed and the site must be stabilized prior to the start of the second growing season.
   a) Equipment in these areas after the first growing season may then operate on timber mats or frozen ground.
3. All temporarily disturbed areas created from construction activities shall be revegetated following MaineDOT BMPs for Erosion and Sedimentation Control.
   a) Permanent revegetation shall occur after sections are completed and shall be done in compliance with Standard Specification 618 Seeding and with Standard Specification 621 Landscaping.
4. Temporary access roads and staging areas shall comply with all conservation measures and applicable SEWPCP BMPs.
5. Vegetation shall be grubbed only from areas with permanent impact.
6. All disturbed areas that retain pervious soil conditions (e.g., temporary staging areas and access areas) shall be restored to pre-construction conditions and replanted for permanent soil stabilization.
7. Existing roads shall be used to the greatest extents practicable.

B. Special conditions related to minimizing the spread of invasive species:

1. To minimize the spread of invasive species, straw mulch shall be utilized in disturbed wetland areas for soil stabilization (hay mulch may be utilized in other areas).

2. Prior to being on site, the Contractor shall inspect and remove seeds, plant material, soil, mud, insects, and other invertebrates on all equipment; including construction mats, to be used on the project site. At a minimum the following shall be inspected and cleaned on terrestrial vehicles where applicable: vehicle tires, vehicle tracks, vehicle interiors.

C. Special conditions related to construction impacts and work area.

1. Construction impacts shall be confined to the minimum area necessary to complete the project.
2. The project limits shall be visually marked using flagging or signage prior to clearing activities. Clearing beyond these limits is not allowed and shall follow the provisions of Section III, tree clearing restrictions.

II. Work within streams ("In Stream Work," see MaineDOT Standard Specifications 101.2 Definitions) requires special conditions to minimize impacts. The following special conditions shall apply to this project:

A. In Stream Work applies to the following locations and work shall not be allowed outside of the window shown in table 1.

Table 1. In Stream Work Windows

Stations	Coordinates	Stream Name	Impact Type	In water work window
7343+60 to 7345+20	46.599727, -67.965124	Clark Brook	New crossing	July 15 – September 30
7362+00 to 7363+50	46.604427, -67.962536	Tributary to Clark Brook	New crossing	
7396+25 to 7396+50	46.613077, -67.957899	Tributary to Williams Brook	New crossing	
7397+60 to 7397+60	46.613415, -67.957768	Tributary to Williams Brook	New crossing	
7472+60 to 7473+00	46.633611, -67.960576	Williams Brook	New crossing	
7613+00 to 7620+50	46.672131, -67.967226	Tributary to Merritt Brook	New crossing, relocation	
325+00 to 328+15	46.674873, -67.968554	Tributary to Merritt Brook	Replacement crossing (existing 30" RCP)	
32+50	46.599624, -67.968072	Clark Brook	Culvert removal	

B. Special Conditions for presence of standing or flowing water at the In Stream Work locations listed in Table 1.

1. If standing or flowing water is present at the above-identified In Stream pipe culvert, In Stream Work shall be conducted within a cofferdam in adherence with the Contractor's approved "Soil Erosion and Water Pollution Control Plan" for this project.
2. No work shall be allowed that completely blocks a river, stream, or brook without providing downstream flow.
3. Bypass pumping systems shall be sized to accommodate the predicted peak flow rate during construction. Predicted peak flows are provided to the contractor in the bid documents.
4. To prevent entrainment of fish related to water diversion, screening with square or round face screen openings not to exceed ½ inch on a diagonal shall be used on all pump intakes for the duration of In Stream Work.
5. Stabilization techniques (such as placing sheets of poly at the bypass outlet) shall be used to protect the stream from scour caused by the high water velocities associated with bypass pumping activities.
6. The contractor shall fully remove all cofferdams from the stream immediately following completion of in-stream work using techniques to minimize turbidity releases. The contractor shall restore all areas of temporary stream bottom disturbance to their original contour and character upon completion of the project.
7. All pumps and generators required for in-stream work shall be cleaned of external oil, grease, dirt, and mud such that turbid water does not drain to any wetland or stream. Any leaks of this equipment shall be fixed prior to entering streams or areas that drain directly to streams or wetlands. Operation shall follow the specifications of the SPCC Plan
8. Pile removal (including sheet piles, if used) by pulling from erodible substrate shall be completed using techniques or tools to minimize turbidity.

C. Special conditions related to ground work (e.g., excavation, rip rap placement, machinery use) and access.

1. All in-water excavation, including excavation to place rip rap shall be conducted within a sealed cofferdam.
2. Sheet pile driving (if utilized) shall be completed using a vibratory hammer.
3. Permanent rip-rap placed in a stream below the bank full elevation (Q1) shall be covered by coarse streambed material (CSM, Special Fill).

4. All rip-rap placed outside of a cofferdam shall be cleaned prior to installation.
5. Heavy machinery used for installation of rip rap and other materials shall be operated from the stream banks or road side slopes, or outside the wetted perimeter where practicable; unless within a dewatered cofferdam.
6. Temporary roads within 150 feet of streams shall avoid, minimize, and mitigate soil disturbance and compaction by clearing vegetation to ground level, placing clean gravel over geotextile fabric. No grubbing shall occur outside areas to be permanently altered. Existing roads and trails shall be used to the greatest extents practicable.
7. Temporary access roads and staging areas shall comply with all conservation measures and applicable SEWPCP BMPs.
8. All disturbed areas that retain pervious soil conditions (e.g. temporary staging areas and access roads) shall be restored to pre-construction conditions and replanted for permanent soil stabilization.

III. Trees greater than 3-inches DBH and structures are considered suitable roosting habitat for state-listed endangered bat species. Tree clearing consists of vegetation clearing within the areas denoted by "CLL" in the plans. To minimize effects to state-endangered bat species, this project includes a time of year restriction for tree clearing and structure removal.

A. Tree removal for temporary work areas in upland areas will be minimized to the greatest extents practicable.

B. Tree clearing shall not be allowed between May 15 and August 15.

1. Tree clearing is allowed between August 16 – May 14 in any year.

C. The contractor shall coordinate with MaineDOT Environmental Office for structure assessment if structure removal during this window is not feasible.

IV. The contractor shall hold a pre-construction meeting with appropriate MaineDOT Environmental Office staff, other MaineDOT staff, and the Contractor(s) to review all procedures and requirements for avoiding and minimizing effects to protected species. The following individuals/agencies shall be invited: USFWS- Sarah Rubenstein (sarah_rubenstein@fws.gov); USACE, Rachel Antieau (rachel.h.antieau@usace.army.mil); MDIFW Jaimey Reitmeyer (jamey.l.reitmeyer@maine.gov), MDEP Keegan Feero (keegan.feero@maine.gov)

V. Approvals:

A. Soil Erosion and Water Pollution Control Plan (SEWPCP)

B. Permitted Resource Impacts, see Maine Department of Environmental Protection Individual Permit #L-26876-TH-B-N and Army Corps of Engineers Individual Permit NAE-2008-02480 for locations:

1. Authorized wetland and stream impacts (acres):

	Permanent	**Conversion**	**Temporary**
Wetland	19.49	2.42	4.46
Stream	1.11	-	0.50

2. If work in wetlands or streams is not expected to be complete by September 30, 2030 the Contractor must notify the MaineDOT Environmental Office by August 1, 2030 to coordinate additional authorized time to complete.

NOTE: Regulatory Review and Approval shall be required to modify the existing In Stream Work window. Requests for work window extensions shall be submitted to the MaineDOT Environmental Office. Approval of request for work window extensions shall not be guaranteed and may result in delays in construction schedule that shall be the sole responsibility of the contractor.

Presque Isle Bypass
Phase 2 Section 1
Bypass Bridge #6581 Over Maine Northern Railway
WIN: 6462.92

GENERAL NOTE

As the construction of Presque Isle Bypass Bridge #6581 (MaineDOT Station 7466+00) involves earthwork near an active rail line of the Maine Northern Railway, coal ash may be present on this portion of the project. Coal ash is characteristically identified as being fine grained black material. Coal ash, if encountered, shall be reused on-site as fill material. If encountered coal ash cannot be reused on site, the Contractor is responsible for obtaining all approvals or permits, and any required analytical results for proper disposal at a licensed Maine Department of Environmental Protection (MDEP) facility.

Also, during the duration of the project, the Contractor is responsible for proper disposal of any railroad ties encountered and which cannot be reused on site. The Contractor is responsible for having unused ties disposed of as demolition waste at a landfill approved to accept demolition waste/debris. If the Contractor encounters other potential demolition debris and is not sure of proper disposal procedures, the Contractor shall notify the Resident. The Resident shall contact the Senior Geologist in Maine Department of Transportation Environmental Office (MaineDOT-ENV) at 207-624-3000 for clarification.

Further, if the Contractor encounters evidence of soil or groundwater contamination, the Contractor shall stop work in the contaminated area, secure the excavation, and immediately notify the Resident. The Resident shall contact the Senior Geologist in MaineDOT-ENV at 207-624-3000 and the MDEP at 800-482-0777. Work may only continue with authorization from the Resident.

SPECIAL PROVISION
SECTION 105
CONTROL OF WORK
(Cooperation Between Contractors- -Periodic Progress Coordination Meeting)

It is hereby brought to the Contractor's attention that the Department has awarded and/or plans to award other contracts near the limits of this contract, which may be in progress simultaneously.

The Contractor shall attend periodic meetings for the projects in the Presque Isle area. The projects in the Presque Isle area may include the following project(s):

Presque Isle, Phair Crossing Bridge #3259, WIN 026434.00 (Route 10 over B&A RR)

Project Manager: Michael Wight, MaineDOT Bridge Program
(207) 592-2543
michael.wight@maine.gov

The periodic meetings will be held in the Presque Isle area. The intent of these meetings is to ensure the traffic control measures for the different projects are well coordinated and incidents are coordinated between the above referenced projects in accordance with incident management plan/emergency plan that is being developed for the projects.

The Contractor shall cooperate with other Contractors at all times and provide project access as necessary and as directed by the Resident.

SPECIAL PROVISION
SECTION 105
GENERAL SCOPE OF WORK
(LIMITATIONS OF OPERATIONS)

1. Only one paving operation will be allowed, excluding hand placed paving and milling, unless otherwise approved by the Resident.

2. Absences must be requested at least 72 hours in advance and are subject to Department approval based on existing roadway conditions, paving deadlines, adherence to schedule, traffic restrictions, detours, etc. The Contractor must assure that the roadway surface and signage are maintained for safe passage of the traveling public during any approved absences. The Contract Completion Date will not be modified due to approved absences.

3. The side roads under bridges including Conant Road, Henderson Road and Easton Road shall maintain one 11-foot-wide lane, minimum, in each direction, or one 14-foot wide lane for alternating two-way traffic (with flaggers). Complete closures are allowed between 9pm and 6am for 15 minutes at a time.

4. Conant Road shall maintain one 14-foot wide lane for alternating two-way traffic with a temporary traffic signal for the grading to raise the roadway profile and during construction of the culvert.

December 5, 2011
Supersedes December 1, 2010

SPECIAL PROVISION
SECTION 105
GENERAL SCOPE OF WORK
(Buy America Certification)

105.11 Federal Requirements Add the following as the third and subsequent paragraphs:

"Prior to payment by the Department, the Contractor shall provide a certification from the producer of steel or iron, or any product containing steel or iron as a component, stating that all steel or iron furnished or incorporated into the furnished product was manufactured in the United States in accordance with the requirements of the Buy America provisions of 23 CFR 635.410, as amended. Such certification shall also include (1) a statement that the iron or steel product or component was produced entirely within the United States, or (2) a statement that the iron or steel product or component was produced within the United States except for minimal quantities of foreign steel and iron valued at $ (actual value).

All manufacturing processes must take place domestically. Manufacturing begins with the initial melting and mixing, and continues through the coating stage. Any process which modifies the chemical content, the physical size and shape, or the final finish is considered a manufacturing process. These processes include rolling, extruding, machining, bending, grinding, drilling, and coating. "Coating" includes epoxy coating, galvanizing, painting, or any other coating that protects or enhances the value of the material.

A Buy America Certification is required from each manufacturer, fabricator, supplier, subcontractor, etc. that meets the "manufacturing" definition above.

Buy America does not apply to raw materials (iron ore and alloys), scrap, pig iron, or processed, pelletized, and reduced iron ore."

SPECIAL PROVISION
SECTION 105
GENERAL SCOPE OF WORK
(Build America, Buy America)

105.11 Other Federal Requirements Amend this section by adding the following:

This special provision was created for the Build America, Buy America Act (BABA) to expand the list of construction materials required to be manufactured in the United States beyond what is currently only required for steel/iron products. The Infrastructure Investment and Jobs Act (IIJA), Public Law No. 117-58 includes the Build America, Buy America Act. The Office of Management and Budget issued memorandum M-22-11 to provide guidance on the law which can be found here:

https://www.whitehouse.gov/wp-content/uploads/2022/04/M-22-11.pdf

All iron/steel, including the iron/steel in construction materials and manufactured products, must satisfy Buy America 23 CFR 635.410 requirements.

All construction materials, as defined in the following, that are permanently incorporated into federal-aid projects shall meet Build America, Buy America requirements.

For the purpose of this Specification, construction materials shall include an article, material, or supply that is or consists primarily of the following.

- Non-ferrous metals,
- Plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables),
- Glass (including optic glass),
- Lumber, or
- Drywall.

All manufacturing processes for construction materials shall occur within the United States. The category of construction materials excludes cement and cementitious materials, aggregates such as stone, sand, or gravel, or aggregate binding agents or additives.

Due to a nationwide waiver, BABA requirements do not apply to manufactured products for FHWA funded projects. Manufactured products are items that consist of two or more of the listed construction materials that have been combined through a manufacturing process, and items that include at least one of the listed materials combined with a material that is not listed (including steel/iron) through a manufacturing process.

The Contractor shall certify in writing that all permanently incorporated Construction Materials for this contract meet the BABA requirements.

MaineDOT DBE Project Attainment Target (PAT)

for this Project is **0**%

The MaineDOT seeks to meet the specified annual Disadvantaged Business Enterprise (DBE) usage goal set out by 49 CFR 26.45 through the efforts of contractors seeking to employ qualified DBE subcontractors. We seek to meet this goal by race neutral means and do not, at this time, use contract specific requirements for each project. We do however, understand the capacity of Maine's DBE community and the unique characteristics a project may have that would differ from the broad annual goal.

Taking this into consideration, the MaineDOT will review each project and develop an anticipated attainment or Project Attainment Target (PAT) based on several factors that are project specific. Those factors include:

- ☐ Scope of Work
- ☐ DBE availability according to Specification Item
- ☐ Geographic location
- ☐ DBE capacity

This PAT is developed to assist contractors to better understand the DBE participation that the MaineDOT can reasonably expect for a specific project. The PAT is NOT a mandate but an assessment of the DBE opportunities that this project could meet or exceed. MaineDOT anticipates that each contractor will make the best effort to reach or exceed the PAT for this project.

SPECIAL PROVISION
SECTION 107
TIME
(Contract Time)

1. The Contractor shall be allowed to commence Work provided that the Contract has been awarded, all required plans/submittals have been received and determined to be acceptable by the Department, and a preconstruction meeting has been held.

2. The specified Contract Completion Date is **July 20, 2029**. The Contractor shall complete all work on or before this date.

SPECIAL PROVISION
SECTION 202
REMOVAL OF STRUCTURES AND OBSTRUCTIONS
(Building Removal)

Description

This work shall consist of removing wholly and satisfactory, including disposing of all designated buildings, structures and other obstructions identified below. Plywood panels, hasps, padlocks and other materials used to secure the buildings will remain the property of the Maine Department of Transportation (MaineDOT). Panels, padlocks, and other materials will be transported to an agreed upon location - to be determined by the Resident.

All debris and unusable materials shall be removed to a Maine Department of Environmental Protection (MDEP) approved transfer station or landfill. Under no circumstances shall any material or debris be disposed of by burning on the premises and/or at an off-premises location. For a related provision, see MDEP - Maine Solid Waste Management Rules, 06-096 CMR Ch. 401, Landfill Siting, Design and Operation. Fill material used for foundation cavities shall meet the Standard Specification requirements for Common Borrow, Section 703.18.

Demolition of the structure (Building 1) shall be conducted entirely at the unit location. At no time will demolition vehicles or equipment encroach within the existing Route 1 highway right-of-way. The Contractor shall provide and maintain, as necessary, all temporary barricades, signs or other appropriate safety measures to complete the work. The Contractor shall obtain all permits or licenses necessary for the performance of the work and shall conform to all Federal, State and local laws, regulations or ordinances applicable to the work.

Buildings to be removed under Special Provision, Section 202 – Removal of Structures and Obstructions of the contract will be made available to the Contractor as follows:

Building 1: Station 7340+50 LT

No items are reserved to the property owner.

Failure by MaineDOT to meet dates of availability may entitle the Contractor to time extension if requested by the Contractor, in writing, such request indicating delays in construction, if any, caused by changes in availability dates.

The Contractor shall not remove a building until the Contractor has certified it to be free of rodents.Should rodent control measures be required, the Contractor shall procure extermination services as soon as possible. The cost of extermination services will be paid for under Section 109.3.7.5 – Force Account until the building is determined to be rodent free.

The Contractor will re-inspect the building within 7 days after the extermination services are performed. All subsequent inspection costs and extermination services necessary to assure that the building is rodent free at time of removal will be at the expense of the Contractor.

Each building shall be removed promptly after certification that it is free of rodents.

If necessary, the Contractor shall remove all utility service connections prior to demolition of Building 1. The Contractor shall coordinate disconnection of overhead utilities with the appropriate utility companies. Electrical service within portions of any building to be removed shall be disconnected or otherwise shut off by a licensed electrician.

The Contractor shall remove and dispose of all buildings indicated in the bid documents. Cavities remaining because of foundation or structure removal shall be filled to the level of the surrounding ground and/or final grade as determined by project plans. All excavations will be compacted using vibratory equipment in one-foot layers to the surrounding existing grade levels. In this process, contour and grades of the abutting land are to be followed. Erosion control including loaming, seeding and mulch shall be done, and will be considered incidental to the contract.

Upon availability, ownership of the building and all the equipment, fixtures and materials therein shall be transferred from the State to the Contractor who then shall proceed with the work required. The building shall not be used or occupied for any purpose and shall be removed as soon as possible after the date available. All equipment belonging to a utility is excepted from transfer from the State to the Contractor.

Hazardous Materials:

Prior to any demolition of Building 1, the Contractor shall conduct a Hazardous Materials Survey, interior and exterior. Specifically, the Hazardous Materials Survey should include assessments of the structure for Asbestos Containing Materials (ACM), Lead-Based Paint (LBP)/lead-containing surface coatings, and an inventory of potential Universal and/or Hazardous Wastes or materials. Considering this, the Contractor shall retain an MDEP certified Asbestos/Lead Abatement Contractor for proper identification and potential removal, handling, transport, and disposal of asbestos and lead material at an MDEP approved disposal facility.

If asbestos and/or lead is found to be present, the Contractor shall be responsible for proper management of these materials, including any laboratory testing in accordance with General Regulations of MDEP Chapter 425 – Asbestos Management Rules, MDEP Chapter 424 – Lead Management Regulations.

If ACM, lead-containing materials, and/or Universal or Hazardous Wastes are identified and require removal and disposal, the Department will bear all expenses incurred in abatement of these materials as detailed in Standard Specification 109.7.5 – Force Account. Any questions can be directed to the Office of Legal Service (624-3030).

The Contractor shall follow the best management practices for Universal and/or Hazardous Wastes - identification, removal/handling and proper disposal in accordance with applicable state, and municipal codes, regulations, and standards.

Dug Well/Concrete Tile(s):
The Contractor is responsible for the demolition and removal of the dug well concrete tile(s) from the site. The area shall then be backfilled with gravel as required under the provisions regarding excavations above.

Septic Tank/System:
If present, the septic tank shall be pumped out to remove waste material and shall be broken up and removed from the site. It shall then be backfilled with gravel as required under the provisions regarding excavations above.

Method of Measurement:
Removing buildings will be measured by the lump sum payment.

Basis of Payment:
All work will be paid for at the contract Lump Sum price, which shall be full compensation for all materials, labor and equipment necessary for the work described above and as shown in the Plans and/or as directed by the Resident.

Payment will be made under:

Pay Item		Pay Unit
202.08	Removing Building #1 – 7340+50 LT	Lump Sum

SPECIAL PROVISIONS
SECTION 202
REMOVING STRUCTURES AND OBSTRUCTIONS
(Removing Pavement Surface)

The March 2020 Revision of the Standard Specifications, Section 202-Removing Structures and Obstructions, subsection 202.061-Removing Pavement Surface, has been removed and replaced in its entirety by the following:

202.061 - Removing Pavement Surface The equipment for removing the bituminous surface shall be a power operated milling machine or grinder capable of removing bituminous concrete pavement to the required depth, transverse cross slope, and profile grade using an automated grade and slope control system. The controls shall automatically increase or decrease the pavement removal depth as required, and readily maintain desired cross slope, to compensate for surface irregularities in the existing pavement course. The equipment shall be capable of accurately establishing profile grades by referencing from a fixed reference such as a 30 foot minimum contact ski (floating beam), 24 foot non-contact ski (floating beam) with 3 or more sensors; or 3 non-contact sensors directly affixed at the fore, mid, and aft points of the milling machine. Systems designed to incorporate a contact sensor located at the mid-point of the milling machine in lieu of the non-contact sensor will be permitted. Grade control sensors shall all be located on the same side. A single sensor, contact or otherwise, shall not be permitted unless otherwise approved by the Department.

The rotary drum shall be a minimum of 7 feet in width and utilize carbide tip tools at a minimum triple wrap configuration. The difference in height from the top of any ridge to the bottom of the groove adjacent to that ridge shall not exceed ¼ inch. The forward speed of the milling machine shall be adjusted to produce a milled surface meeting the groove spacing, groove depth, and surface tolerance requirements of this specification. The tools on the revolving cutting drum must be continually maintained and shall be replaced as warranted to provide a uniform pavement texture. The Department may evaluate the texture of the milled surface for information purposes by performing the Sand Patch test according to ASTM E 965.

The Contractor shall locate and remove all objects in the pavement through the work area that would be detrimental to the milling or grinding machine. Any structures or obstructions left within the travel lane or shoulders shall have tapers installed according to Standard Detail 202(01). The finished milled surface will be inspected before being accepted, and any deviations in the profile exceeding ½ inch under a 16 foot string line or straightedge placed parallel to the centerline will be corrected. Any deviations in the cross-slope that exceed $^{3}/_{8}$ inch under a 10 foot string line or straightedge placed transversely to centerline will be corrected. All corrections will be made with approved methods and materials. Any areas that require corrective measures will be subject to the same acceptance tolerances. Excess material that becomes bonded to the milled surface will be removed to the Resident's satisfaction before the area is accepted.

On roadways with adjoining lanes carrying traffic, the Contractor shall remove the pavement surface in each lane per the conditions in Table 1, unless otherwise noted by the Department in Special Provision, Section 105 – Limitations of Operations.

TABLE 1: MILLING CONDITIONS FOR ADJOINING LANES

Depth (At Centerline)	Milling Conditions
Vertical Longitudinal Joint	
2” and less	The Contractor may remove the pavement on a single travel lane width for each production day and will be required to mill the adjacent section of travel lane before the end of the following calendar day.
Greater than 2”	The Contractor shall remove the pavement over the full width of the traveled way section being paved that day.
12:1 Tapered Centerline Joint	
1 ½” to 2”	The Contractor may remove the pavement on a single travel lane width for each production day and will be required to mill the adjacent section of travel lane before weekend or holiday suspension. A maximum unmatched centerline joint length of 0.5 miles will be permitted over the weekend.
Greater than 2”	The Contractor shall remove the pavement on a single travel lane width for each production day and will be required to mill the adjacent section of travel lane before the end of the following calendar day.

The Contractor will be required to remove the pavement over the full width of the mainline traveled way, regardless of highway type, cut depth, or longitudinal joint type prior to Memorial Day, July 4th, Labor Day, suspensions exceeding three days, or other dates as specified by Special Provision, Section 105 – Limitations of Operations.

The Contractor will also be responsible for installing additional warning signage that clearly defines the centerline elevation differential hazard. Unless otherwise addressed in the contract, the Contractor shall install additional centerline delineation such as a double RPM application, or temporary painted line. The Traffic Control Plan shall be amended to include this option and the additional requirements. All signs and traffic control devices will conform to Section 719.01, and Section 652, and will be installed prior to the work, at a maximum spacing of 0.50 mile for the entire length of effected roadway section. If this option is utilized, all additional signing, labor, traffic control devices, or incidentals will not be paid for directly, will be considered incidental to the appropriate 652 items.

On roadways with immediately adjacent shoulders, the Contractor shall remove the pavement surface in each lane per the conditions in Table 2, unless otherwise noted by the Department in Special Provision, Section 105 – Limitations of Operations.

TABLE 2: MILLING CONDITIONS FOR THE EDGE OF TRAVELED WAY

Depth (At Edge of Traveled Way)	Conditions
2” and less	The Contractor may leave a vertical edge joint exposed for up to **21 days** after milling is performed. The Contractor shall treat vertical edge joints exposed beyond 21 days per the criteria below.
Greater than 2”	The Contractor shall treat vertical edge joints exposed per the criteria below.

When required by Table 2, the Contractor shall treat vertical edge joints through one of the options below:

1. The vertical edge shall be tapered to a zero edge by means of milling a 12:1 transition from the edge of traveled way onto the shoulder before opening the lane to traffic. Tapers shall be removed to form a vertical edge prior to the placement of the new pavement course. No additional payment will be made for tapers, or taper removal.
2. An additional 2 feet of pavement shall be removed from the shoulder to eliminate the vertical edge at the edge of travelway before opening the lane to traffic. Unless otherwise authorized by the Department, no additional payment will be made for the additional milling.
3. A pavement layer shall be placed to reduce the vertical edge to 1 inch or less before opening the lane to traffic.

As a minimum, the use of temporary painted line, or RPMs placed along the edge of traveled way at 200 foot intervals is required for all elevation differentials. When pavement milling is extended into the shoulder (including milled tapers), appropriate channelization devices shall be placed 2 feet outside the edge of the vertical face at intervals not exceeding 600 feet, and RPMs shall be placed on the remaining pavement surface along the vertical edge at 200 foot intervals. Uneven pavement signs shall be placed at a maximum spacing of ½ mile when any pavement milling operations leaves an exposed uneven pavement surface.

Weepers shall be ground across the full width sections adjacent shoulders or remaining pavement surface matching the milled travel way or shoulder milled depth to minimize water ponding in any lanes carrying traffic. Weepers shall typically be 18 - 24” inches in width, installed along each lane, at a frequency of approximately one per half mile at locations as directed by the Resident or in areas that will provide drainage for the milled areas. Installation of weepers will not be paid for directly but will be considered incidental to the contracts pavement removal item. The replacement of mix in the weeper locations shall be performed concurrently within the pavement placement operation closure using the appropriate HMA item produced for the Contract or a MaineDOT approved 9.5mm HMA. There will be no separate payment for repaving the weeper locations as they are considered incidental to the square yard price of the contracts pavement removal item.

The milled surface shall be cleaned of all material resulting from the pavement removal operation. Loaders, skid steers, motorized side cast brooms, sweeper pick up brooms, vacuum pick up machines and hand labor may be used in any number or sequence as determined by the Contractor in order to clean the milled surfaces to the satisfaction of the Department before acceptance and opening the area up to traffic. The use of compressed air may be required to loosen any bonded materials from the surface to aid in cleaning.

Any areas of concern, such as de-lamination or pot-holing shall be identified on a continuous basis as milling progresses. Proper corrective action will be determined by the Resident and paid for under the appropriate contract items, and if required, completed prior to opening lane to traffic. Any issues that arise up to 7 calendar days after being milled will be the responsibility of the MaineDOT unless otherwise noted in Special Provision Section 105 – Limitations Of Operations.

Contractor Quality Control

Quality Control The Contractor shall develop and submit a Quality Control Plan (QCP) that addresses the methods to be used, equipment to be used, work accomplished (quantity measurements and tracking) as well as methods of cleaning and protection of the work as it is completed. The Contractor shall control the work and operate in accordance with the approved QCP in order to complete work meeting the contract requirements. The Contractor shall not begin pavement removal operations until the Department approves the QCP in writing.

Quality Control The QCP shall meet the requirements of Section 106.6 – Acceptance and this Section. The QCP shall address any items that affect the quality of the operation, and shall include the following personnel meeting these minimum requirements:

a. QCP Administrator – The QCP Administrator must be a full-time employee of or a consultant engaged by the prime contractor or pavement removal subcontractor. The QCP Administrator shall have full authority to institute any and all actions necessary for the successful implementation of the QCP. The QCP Administrator (or their designee in the QCP Administrator's absence) may not be required to be onsite during all work activities but shall be available to communicate with the Department as needed.

b. Onsite Representative - The Onsite Representative (OR) shall be onsite and work directly with the crew as needed. The OR shall perform quality control inspections or measurements at the job site to assure that layout, pavement removal depth, width, profile and final surface tolerance meet the requirements of the contract.

The QCP shall detail the coordination of the activities of the Plan Administrator, and the OR. The Superintendent shall be named in the QCP if different than the OR, and the responsibilities for successful implementation of the QCP within the companies' activities shall be outlined.

The QCP shall address any items that may impact the quality of pavement removal activities and final milled pavement surface including, but not limited to, the following:

a. General Requirements:

- Name of QCP Administrator
- Description of corrective action processes
- Remediation of defective work

b. Quality Control Plan requirements

- Name of Onsite Representative(s)
- Equipment make and model (including product sheet)
- Width of cutting drum
- Automation make, model and series (including product sheet)

- Describe automation set up, including methods to ensure pavement removal operations meet the requirements of the contract using control points, reference points, and cut points as well as any slope or cut depth transitions.
- Describe project layout, including centerline and any edge cut control, any off-set control layout to maintain or recreate centerline or edge cut control, cross slope transitions, or variable depth transitions required to perform the work
- Procedures to remove pavement surface to the required depth, width and profile
- Procedures to monitor pavement removal activities to ensure the final milled surfaces meet surface tolerance and texture requirements
- General cleaning operation activities including equipment to be used to sweep, vacuum and prepare surfaces for traffic use
- Procedures to ensure that traffic can transition from the milled to non-milled surfaces safely.
- Procedures to protect the milled surfaces from deterioration from construction activities, traffic or weather impacts

A summary of the day's results including a quantity report, equipment used, and environmental conditions will be recorded and signed by the OR and presented to the Department's representative by 1 PM the following working day.

Failure to adhere to the QCP, replace or repair defective or non-conforming equipment, or adjust material or installation procedures in an effort to produce work that meets the contract requirements will result in a notification of a quality control violation resulting in monetary penalties.

A letter describing the violation shall be provided to the Contractor which will result in a mandatory work suspension and a reduction in payment as shown in Table 106.4A below. The Contractor shall submit a letter to the Department that details the corrective action made to address the violation(s) in its Quality Control Plan. Work may resume when the Department is satisfied the corrective action will result in adherence to the Quality Control Plan.

Table 106.4 A - Quality Control Pay Reduction

Quality Control Plan Value*		Pay Reduction		
From More Than	To and Including	1st	2nd	3rd & Subsequent
$0	$500,000	$1,000	$2,000	$4,000
$500,000	$1,000,000	$2,000	$4,000	$8,000
$1,000,000	$3,000,000	$5,000	$10,000	$20,000
$3,000,000	and more	$10,000	$20,000	$40,000

* The Quality Control Plan Value is the total Bid value of all items covered by a Quality Control Plan, as detailed in the applicable specification or Special Provision.

Pay reductions for failure to comply with the approved QCP are cumulative, and the Department will deduct any pay reductions from amounts otherwise due the Contractor. These pay reductions are intended to encourage the Contractor to comply with its approved QCP, and are not necessarily related to the quality of the work provided.

Basis of Payment

The square yard or hourly rental contract price will be full compensation for development and submittal of the QCP, mobilizing to the site, de-mobilizing from the site, labor, supervision, cleaning of the milled surface, management of the items covered by the QCP, and all other incidentals required to complete the work. Hauling and stockpiling of the material will not be paid for directly, but will be considered incidental to the milling items.

Square Yard: Payment will be made at the contract unit price for the number of square yards removed.

Hourly: Payment will be made at the contract unit price for the number of hours of operation removing pavement surface as directed by the Resident. The equipment used for pavement removal shall be operated at the minimum speed of 50 fpm, unless the Resident directs otherwise for milled surface quality reasons, or traffic control limitations impact pavement removal operations, or site conditions make operations at the prescribed rate unreasonable. Trimming to create a vertical face along curb line, guardrail, or around structures will be considered incidental to the 202.202 items. Additional trimming beyond the incidental work described will be paid under the appropriate rental items as listed in the Contract.

Pay Item	Pay Unit
202.202 Removing Pavement Surface	S.Y.
202.20201 Removing Pavement Surface (Hourly)	Hour

Special Provision

Section 202
Removing Structures and Obstructions
(Rumble Strip)

Description: This work shall consist of milling the required rumble strip pattern onto highway shoulders and centerline at the spacing, offset, width and depth shown on the plans and must be completed in a continuous single pass operation. Rumble strips shall not be placed in areas where the centerline or edge line is broken for a side road, commercial entrance, or any other areas identified by the Department as not receiving a rumble strip.

Construction Requirements

Removing Material: The bituminous material shall be removed by a cold milling machine capable of removing the pavement to the required depth and width. The machine must be adjustable to grind or plane on various cross-slopes. Bituminous material removed shall become property of the Contractor. The pavement shall be removed such that crisp edges are provided.

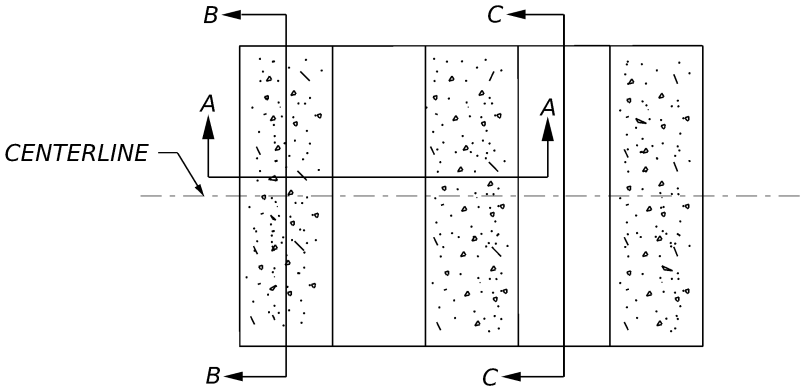
Method of Measurement: Rumble strips will be measured by the linear foot longitudinally along the edge of travel way for shoulder rumble strips and down the center of travel way for centerline rumble strips from start to end of each section.

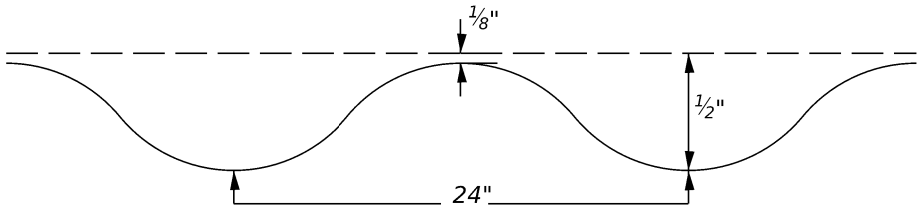
Basis of Payment: The accepted quantity of rumble strips will be paid for at the unit price bid per linear foot which price will be full compensation for removing and salvaging the bituminous material and for any labor, equipment, and incidentals required to complete this work.

Payment will be made under:

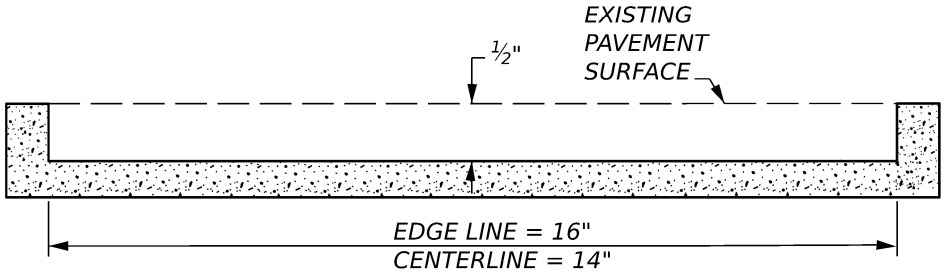
Pay Item		Pay Unit
202.206	Rumble Strip – Edge Line and Centerline	Linear Foot

RUMBLE STRIPS - SINUSOIDAL
DIMENSIONS

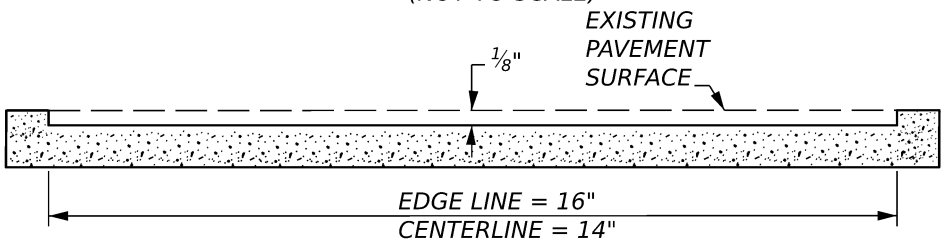




SECTION A-A
(NOT TO SCALE)



SECTION B-B
(NOT TO SCALE)



SECTION C-C
(NOT TO SCALE

NOTES:

1. ALL RUMBLE STRIPS SHALL BE MILLED

2. RUMBLE STRIPS SHOULD NOT BE PLACED ON BRIDGES

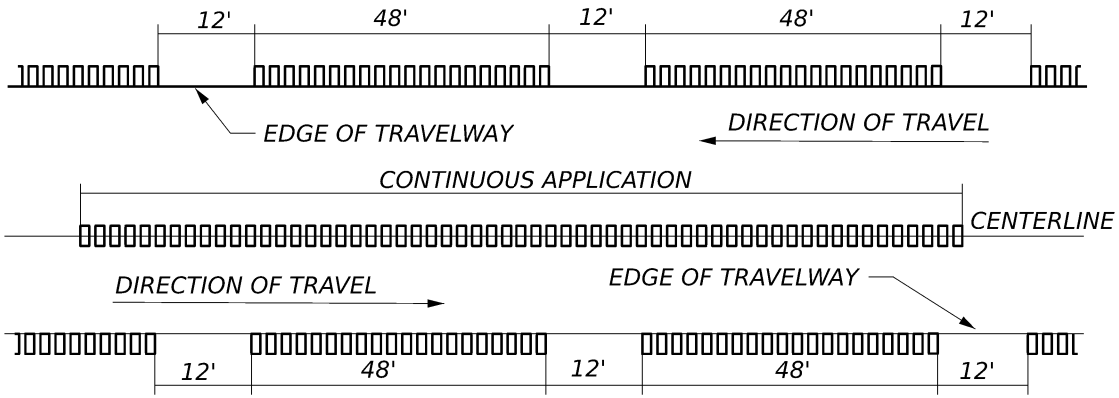
3. EMULSIFIED ASPHALT SEAL COAT SHALL BE APPLIED OVER RUMBLE STRIPS AND PAID UNDER THE APPROPRIATE ITEM. SEAL COAT SHALL BE APPLIED 3" WIDER THAN THE RUMBLE STRIP IN BOTH DIRECTIONS.

4. EMULSIFIED ASPHALT SEAL COAT SHALL BE PLACED STRAIGHT THROUGH PASSING ZONES.

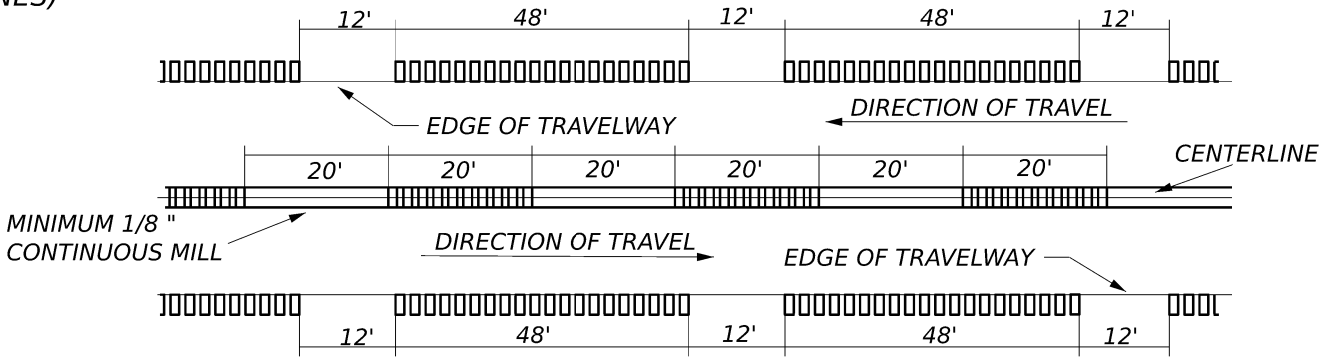
NOT TO SCALE

02 PRESQUE ISLE PRESQUE ISLE BYPASS		STATE OF MAINE DEPARTMENT OF TRANSPORTATION	SHEET NUMBER
TYPICAL SECTIONS	WIN 6462.92	646292 HIGHWAY PLANS	2 OF 4

RUMBLE STRIP - PLACEMENT ON UNDIVIDED HIGHWAYS



STANDARD PATTERN
(NO PASSING ZONES)



THIS PATTERN IS APPLICABLE IN SITUATIONS WHERE PASSING MOVEMENTS ARE ALLOWED IN EITHER DIRECTION OR IN BOTH DIRECTIONS.

STANDARD PATTERN
(PASSING ZONES)

NOTES:

1. ALL RUMBLE STRIPS SHALL BE MILLED

2. RUMBLE STRIPS SHOULD NOT BE PLACED ON BRIDGES

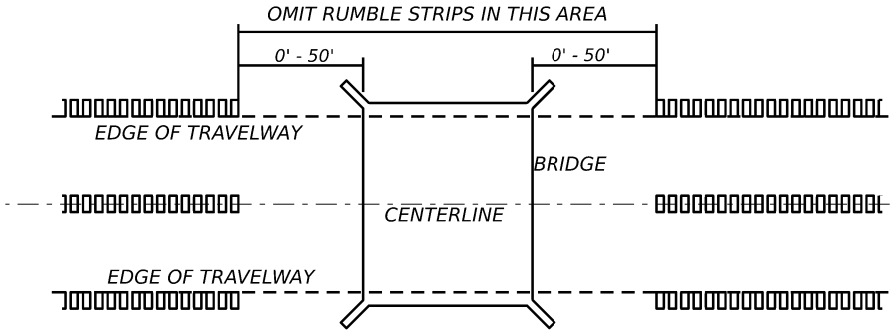
3. EMULSIFIED ASPHALT SEAL COAT SHALL BE APPLIED OVER RUMBLE STRIPS AND PAID UNDER THE APPROPRIATE ITEM. SEAL COAT SHALL BE APPLIED 3" WIDER THAN THE RUMBLE STRIP IN BOTH DIRECTIONS.

4. EMULSIFIED ASPHALT SEAL COAT SHALL BE PLACED STRAIGHT THROUGH PASSING ZONES.

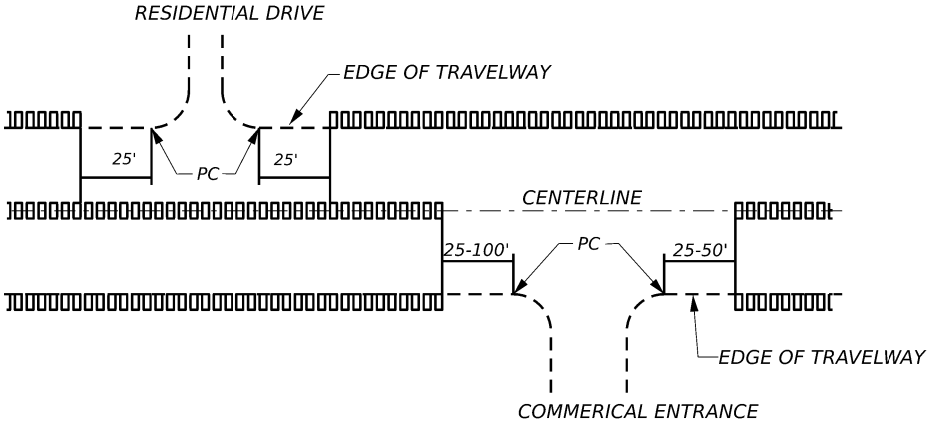
NOT TO SCALE

03 PRESQUE ISLE PRESQUE ISLE BYPASS		STATE OF MAINE DEPARTMENT OF TRANSPORTATION	SHEET NUMBER 3 OF 4
TYPICAL SECTIONS	WIN 6462.92	646292 HIGHWAY PLANS	

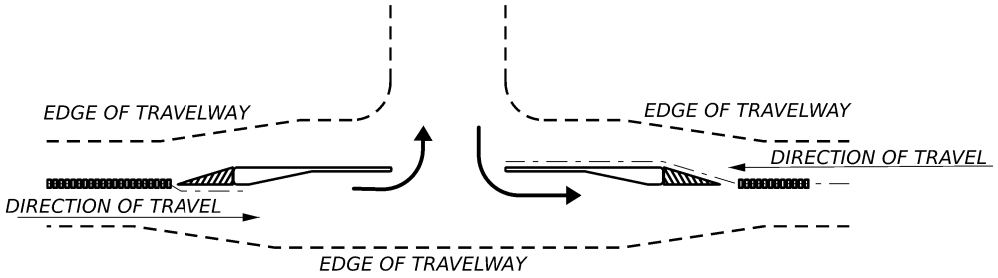
RUMBLE STRIPS - SPECIAL SITUATIONS



BRIDGE/RAILROAD CROSSINGS



DRIVES & ENTRANCES



LEFT TURN LANE

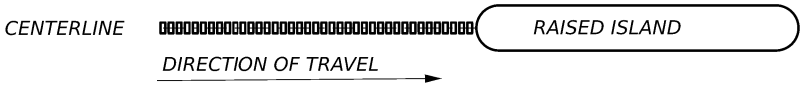
NOTES:

1. ALL RUMBLE STRIPS SHALL BE MILLED

2. RUMBLE STRIPS SHOULD NOT BE PLACED ON BRIDGES

3. EMULSIFIED ASPHALT SEAL COAT SHALL BE APPLIED OVER RUMBLE STRIPS AND PAID UNDER THE APPROPRIATE ITEM. SEAL COAT SHALL BE APPLIED 3" WIDER THAN THE RUMBLE STRIP IN BOTH DIRECTIONS.

4. EMULSIFIED ASPHALT SEAL COAT SHALL BE PLACED STRAIGHT THROUGH PASSING ZONES.



RAISED ISLAND

NOT TO SCALE

04 PRESQUE ISLE PRESQUE ISLE BYPASS		STATE OF MAINE DEPARTMENT OF TRANSPORTATION	SHEET NUMBER 4 OF 4
TYPICAL SECTIONS	WIN 6462.92	646292 HIGHWAY PLANS	

Presque Isle
Bypass – Phase 2 Section 1
WIN: 6462.92
August 13, 2025

SPECIAL PROVISION
SECTION 203
EXCAVATION AND EMBANKMENT
(CONTAMINATED SOIL AND GROUNDWATER MANAGEMENT)

General: The work under this specification shall be performed in conformance with all the procedures and requirements described herein for the following activities: contaminated soil handling, storage, and reuse. This specification also addresses contaminated soil location, identification, and classification. The intent of this specification is to ensure that contaminated soil encountered during construction will be managed in a manner that protects worker health and safety, public welfare, and the environment.

Environmental Site Conditions: The Maine Department of Transportation Environmental Office (MaineDOT-ENV) conducted a series of assessments related to the Presque Isle Bypass Phase 2 Section 1 Project including an initial Phase I Environmental Assessment. The Phase I Assessment included a review of relevant Maine Department of Environmental Protection (MDEP) and Environmental Protection Agency (EPA) databases and field reconnaissance of the project area to obtain a general understanding of environmental conditions within and adjacent to the project corridor/alignment and to determine whether a Phase II Contamination Assessment was required for the project. Results of the Phase I assessment did not indicate that a Phase II Contamination Assessment was warranted. However, information obtained during the Phase I Environmental Assessment identified MDEP records indicating that an agricultural farm field (identified as the Sunset Holdings Site – 95 Conant Road – Tax Map/Sheet 011-321-095) partially within the project right-of-way, was previously a Sewage Sludge Utilization Site licensed by MDEP. Records indicate that these fields are impacted by Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS).

Analytical data of soil samples collected from these fields in 2024 indicates PFAS concentrations are below MDEP Remedial Action Guidelines (RAGs) established for Construction workers; however, some areas may exceed MDEP Beneficial Use thresholds, indicating that material must be managed and remain on site. MDEP human health risk-based RAGs provide direction on protective levels of exposure to environmental contaminants in soils. PFAS concentrations in the project area are well below relevant and applicable thresholds. Data garnered from this assessment was used to generate this Special Provision. Information from the Phase I assessment is available for review from the Senior Geologist at MaineDOT-ENV in Augusta (207-624-3000).

Identified Zone of Contamination: The MaineDOT-ENV Environmental Assessment identified a zone of PFAS affected/impacted soil associated with this project initiative. Specifically, PFAS impacted soil is identified as being present between Station 7597+35 and Station 7602+85 – right and left of centerline, from the ground surface to 2.0' Below Ground Surface (BGS). For reference, the impacted soil zone is identified as **Zone A –** the ground surface to 2.0' BGS between Station 7597+35 and Station 7602+85. Soil material excavated below the 2.0' BGS datum is clean fill material and is not characterized as being impacted with PFAS.

Soil impacts associated with **Zone A** are related to historical sewage sludge spreading activities on the Sunset Holdings Property.

Identifying Contaminated Soil: During excavation operations, **Zone A** soil will be identified and classified by the Resident (or MaineDOT-ENV representative) based on profile leveling methods and/or more accurate method(s).

Soil excavated from within the project limits – Station 7597+35 through Station 7602+85 – right and left of centerline shall be classified as Group 1 or Group 2.

> **Group 1** soil shall be those soils excavated from the ground surface through 2.0' BGS, from Station 7597+35 through Station 7602+85 – right and left of centerline.
>
> **Group 2** soil shall be encountered and excavated from below the 2.0' BGS datum. Group 2 soil shall be considered as clean/inert material.

Handling and Disposition of Soil Materials: Soil material excavated from within **Zone A** shall be handled and managed as follows:

> **Group 1** soils are considered as contaminated. Thus, special handling is required for Group 1 soils. Group 1 soils shall not be excavated without prior approval by the Resident. Following excavation, Group 1 soils must be placed into a properly constructed Temporary Secured Stockpile Area that is immediately adjacent to **Zone A** and wholly within the right-of-way (Refer to Temporary Secured Stockpile Area below).
>
> Group 1 soil shall be placed back into the excavation of origin, **Zone A**, at the discretion of the Resident/proper engineering use – fill, road base material, berm material, or utilized in any means deemed appropriate by the Resident. Group 1 soil shall not be transported from the project site for any purpose.
>
> **Group 2** soils are considered as clean fill/inert material. Thus, special handling and management are not required for Group 2 soil.

Secured Stockpile Area: The Temporary Secured Stockpile Area must be constructed as defined herein and must be approved by the Resident prior to its use. Should the Contractor utilize a Temporary Secured Stockpile Area, they shall install a continuous 0.3-meter-high compacted soil berm around the Secured Stockpile. The Secured Stockpile shall be placed on a liner of 20-mil polyethylene and securely covered with 20-mil polyethylene. The polyethylene liner and cover shall be placed over the soil berm and be installed to ensure that precipitation water drains directly to the outside of the berm perimeter while leachate from the contaminated soil is retained within the stockpile. The Secured Stockpile and soil berm shall be enclosed within a perimeter of concrete Jersey barriers or wooden barricades. The area within the Jersey barriers (or wooden barricades) shall be identified as a "restricted area" to prevent unauthorized access to the contaminated soil.

Secured Stockpile Area - Materials

A. Polyethylene. Polyethylene used for liner in the Secured Stockpile Area shall have a minimum of 20-mil thickness and shall meet the requirements of ASTM D3020.

B. Common Borrow. Fill used in the construction of the Temporary Secured Stockpile Area soil berm shall consist of Common Borrow and meet the requirements of Section 703.18

C. Concrete Barriers or Wooden Barricades. Concrete barriers or Wooden Barricades to form the sides of the Temporary Secured Stockpile Area shall meet the requirements of Section 526 or 652.05.

Health and Safety/Right-to-Know: Contractors and subcontractors are required to notify their workers of the history of the site and contaminants in **Zone A** soil. As mentioned previously, analytical data indicates **Zone A** soil is below relevant and applicable MDEP RAG Construction Worker Exposure Scenario thresholds. However, it is advised the Contractor review the site data, and if deemed appropriate, develop procedures based on their internal health and safety protocols. The Contractor shall notify the Resident **at least three business days** prior to commencing any excavation in **Zone A**.

MaineDOT is voluntarily ameliorating impacted soils in **Area A**. Remedial efforts defined herein have been reviewed and approved by MDEP.

Dust Control: The Contractor shall employ dust control measures to minimize the creation of airborne dust during the construction process in potentially contaminated areas. As a minimum, standard dust control techniques shall be employed where heavy equipment and the public will be traveling. These may include techniques such as watering-down the site or spreading hygroscopic salts.

Unanticipated Contamination: If the Contractor encounters previously undiscovered contamination or potentially hazardous conditions related to contamination, the Contractor shall immediately suspend work and secure the area. The Contractor shall notify the Resident immediately. These potentially hazardous conditions include, but are not limited to, buried containers, drums, tanks, "oil saturated soils", strong odors, or the presence of petroleum sufficient to cause a sheen on groundwater. The area of potential hazard shall be secured to minimize health risks to workers and the public and to prevent the release of contaminants into the environment. The source of any suspected contamination shall be evaluated by the Resident (or MaineDOT-ENV representative). As appropriate, the Resident will notify MDEP Response Services Unit in Presque Isle (Northern Maine Regional Office) and MaineDOT-ENV. The Presque Isle Fire Department must also be notified prior to removal of buried storage tanks and associated piping. The Contractor will evaluate the impact of the hazard on construction, and with the Resident's approval, resume work in accordance with the procedures of this Special Provision.

Method of Measurement: There will be no measurement for identification and handling of contaminated soil material in **Zone A** (this will be done by the Resident or MaineDOT-ENV representative).

There will be no measurement for construction of a Temporary Secured Stockpile Area. Construction of a Temporary Secured Stockpile Area is considered incidental to project construction. There will be no measurement for hauling Group 1 material to the Temporary Secure Stockpile Area. All hauling and any subsequent management/placement of contaminated soils back into **Area A** are considered incidental to project construction.

Basis of Payment: There will be no payment for the identification and isolation of contaminated soil material (this will be done by the Resident or MaineDOT-ENV representative).

There will be no payment for the construction of a Temporary Secured Stockpile Area or hauling/management/placement of contaminated soils to the Temporary Secured Stockpile Area or the hauling/management/placement of Group 1 soils back to **Area A**. Construction of a Temporary Secured Stockpile Area is considered incidental to project construction. The Temporary Secured Stockpile Area shall be considered incidental to project construction.

Presque Isle Bypass – Phase 2 Section 1
WIN 6462.92
New Drainage Structures
Class B Waterbodies
October 21, 2025

SPECIAL PROVISION
SECTION 203
EXCAVATION AND EMBANKMENT
(Dredge Materials)

Description: Dredge Material (See MaineDOT Standard Specifications § 101.2 Definitions) is regulated as a Special Waste.

Work associated with Phase 2 of the Presque Isle Bypass Construction Project will require excavation of select Dredge Material from Clark Brook, a tributary to Clark Brook, and tributaries to Williams Brook and Merritt Brook – River Class B Waterbodies. It is estimated that a project total of approximately 2,560 cubic yards of dredge will be excavated at specific locations along the project alignment. There is onsite Beneficial Use for all Dredge Material.

- MaineDOT Station 10+90 to Station 11+25 – 60 Cubic Yards (CY) – Clark Brook
- MaineDOT Station 7337+00 to Station 7334+00 – 380 CY – Clark Brook
- MaineDOT Station 7344+47 – 380 CY – Clark Brook
- MaineDOT Station 7362+51 – 100 CY – Tributary to Clark Brook
- MaineDOT Station 7473+16 – 350 CY – Tributary to Williams Brook
- MaineDOT Station 708+62 to Station 717+88 – 1,288 CY – Tributary to Merritt Brook

It is acknowledged that excavation of Dredge for this work may include some boulders. The Maine Department of Environmental Protection (MDEP) has determined that sound boulders (rock 12-inches or more in diameter), that are free of adhering sediment or other contaminants, shall be deemed to be Inert Fill material and shall not be included in Dredge Material Quantities.

CONSTRUCTION REQUIREMENTS

Management: The Contractor shall Beneficially Use all Dredge Material excavated at the Presque Isle Bypass Construction Project in areas adjacent to the specific dredged waterbody. Although Code of Maine Rules (CMR) 418 permits only 500 CY or less of Dredge Material to be Beneficially Used in area(s) adjacent to and draining into the dredged waterbody, and is exempt from Beneficial Use Permits, MDEP has granted a one-time approval and allowance for exceedance of the projected volume of dredge material (1,288 CY) between MaineDOT Station 708+62 and MaineDOT Station 717+88 based on stream reconstruction design elements and other MDEP approvals.

Method of Measurement: Excavation of Dredge Material will be measured for payment under related Contract items.

Basis of Payment: Payment for the Beneficial Use of Dredge Material will be paid as Pay Item 203.20 Common Excavation.

Payment shall be full compensation for dewatering, managing, transporting, and placement of Dredge Materials.

SPECIAL PROVISION
SECTION 203
EXCAVATION AND EMBANKMENT
(Borrow – State Source)

203.01 Description: This section shall be amended with the addition of the following:

The following definitions shall apply to this section:

Borrow – State Source shall consist of material previously stockpiled within the proposed Conant Road Ramp infields and shall be used for the construction of embankments or other portions of the work as designated by the Department.

203.19 Basis of Payment: This section shall be amended with the addition of the following:

Payment will be made under:

Pay Item		Pay Unit
203.241	Borrow – State Source	Cubic Yard

SPECIAL PROVISION
SECTION 203
EXCAVATION AND EMBANKMENT
(Special Fill – Streambed Material)

Description This work shall consist of furnishing and placing stone and granular material to form a nature-like streambed. The mixture is referred to as Special Fill. Specifically, this work applies to streambed areas shown on the plans for restoration of Clark Brook and Tributary to Merritt Brook and at the following large culvert stream crossings:

Bridge No. 6584 – Clark Brook
Bridge No. 6585 – Tributary to Clark Brook
Bridge No. 6586 – Tributary to Williams Brook
Bridge No. 6734 – Williams Brook
Bridge No. 6583 – Tributary to Merritt Brook (PI Bypass)
Bridge No. 6585 – Tributary to Merritt Brook (Conant Rd)

Materials

Special Fill shall be obtained from material excavated on-site within the limits of the stream channel in accordance with Special Provision Section 203, Excavation and Embankment - Dredge Materials. Special Fill for each stream shall be limited to material excavated from the same stream and same stream reach.

If needed to supplement earth borrow pits and may be available from existing stockpile or may require a blend of screenings (tailings) and other aggregates. Unwashed stone and stone with naturally fractured faces may be used. The final material shall be a dense well-graded mix of bank run materials that meet the requirements listed below. Additional borrow material from material used on-site may be used as filler material with the approval of the Resident

Materials for imported special fill shall conform to the following requirements:

a. 9-inch Boulders and Cobbles - shall be a well graded mix of subangular to subrounded stones with a maximum size of 9 inches average dimension. Approximately 15 percent of the stones by volume shall have an average dimension greater than 6 inches, 50 percent greater than 3 inches, and 85 percent greater than ¾ inches.

b. Streambed Gravel - shall be well graded bank run or screened gravel similar to a Type D gravel (section 703.06), except that the part that passes a 3-inch sieve shall meet the grading requirements of the following table:

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves
½ inch	35 – 80
¼ inch	25 – 65
No. 40	5.0 – 30
No. 200	2.0 – 8

c. Filler material - the purpose of Filler Material is to fill and seal the voids so that water ponds on the surface of the streambed. Filler Material shall consist of Streambed Gravel, dredge material, or other suitable material approved by the Resident.

d. Mix Proportions – Imported special fill shall be mixed in the approximate proportions to meet the gradations listed in the following table:

Stream	9-inch minus boulders and cobbles	Streambed Gravel	D50 (average) particle size	D100 (maximum) particle size
Clark Brook	5 parts	2 parts	5.5 in	10.2 in
Tributary to Clark Brook	4 parts	1 parts	4.6 in	10.8 in
Tributary to Williams Brook	2 parts	1 part	2.6 in	12.2 in
Williams Brook	2 parts	1 part	2.6 in	12.2 in
Tributary to Merritt Brook	1 part	2 parts	1.1 in	8.7 in

e. Testing and Inspection - At least 10 working days prior to the start of stream channel construction the Contractor shall identify the source and proposed materials to be used for imported special fill for inspection and shall furnish to the Resident a copy of gradation test results from a certified laboratory for the streambed gravel portion of the mix. The Department will obtain samples of the streambed gravel for Process Control prior to placement.

The grading of stone shall be determined by the Resident in accordance with the Standard Specifications, Section 610.032(d) Inspection.

Acceptance will be based on the test results and visual inspection by the Resident.

Construction Requirements

1. Construct a channel with a streambed surface and rock features as shown on the plans and in accordance with other Specials Provisions as called for (610 – Streambed Rock Features and 610 – Void-Filled Riprap). The Contractor shall construct a test section beginning at the downstream end of the culvert for review by the Resident.
2. Streambed Rock Features and Void-Filled Riprap shall be placed before the first streambed lift. See Special Provisions 610 for Streambed Rock Features (Rock Riffle Crests, J-Hooks, Rock Vanes, and Void-Filled Riprap).
3. Place special fill in two lifts, without pockets of either fine or coarse material. The rock features and the second lift of special fill shall not be placed until the first lift of special fill has been approved by the Resident.
4. Special fill shall be placed by machine or by hand as necessary to achieve the specified shape and thickness. Larger stones may protrude above the average surface but shall be firmly embedded in the mix.
5. Special fill shall be machine tamped and thoroughly washed-in with water immediately after placement of each lift. After the initial washing-in, place additional special fill on soft areas of the streambed, tamp and wash-in until firm. Place filler material as needed to fill remaining voids. Wash-in until water remains on the surface with minimal infiltration. After washing-in and compaction, the final elevation of the special fill shall be as called for on the plans with an allowable surcharge of up 3 inches above the design grade.
6. Mechanical methods of compaction may be used with the approval of the Resident. If the Contractor uses mechanical methods the void-filling and washing-in requirements shall still apply.
7. Prior to cofferdam removal and exposure to natural flow conditions the streambed shall be thoroughly wetted and compacted with voids filled, and the surface reviewed and approved by the Resident.

Method of Measurement Special fill will be measured in place by the cubic yard.

Basis of Payment The accepted quantity of special fill will be paid for at the contract price per cubic yard complete in place accepted by the Resident. Payment shall be full compensation for furnishing all materials, equipment, and labor and washing-in with water. Additional washing-in material and water added to fill and seal voids shall be considered incidental to the work.

Pay Item	Pay Unit
203.33 Special Fill	Cubic Yard

SPECIAL PROVISION
SECTION 203
DETENTION BASIN

Amend Standard Specifications 203 – Excavation and Embankment to include the following:

203.01 Description. This work shall consist of constructing Detention Basins to provide stormwater quality treatment. The Detention Basins are centered at approximately Sta. 7433+00, 7446+50. All work beyond that edge shall generally be considered part of the Detention Basin pay item. The layout, grading, drainage, seeding and related details for the Detention Basins are indicated on the Contract Drawings.

203.02 Materials. Materials for the Detention Basin shall meet the requirements of the following sections of the Standard Specifications except as provided below:

Low Permeability Fill - Clay	203.52
Aggregate Base Course – Type C	304.16
Seeding (Method 2)	618.01
Loam	203.02
Erosion Control Geotextile	620.58
Granular Borrow	703.19
Plain Riprap	703.26
Detention Basin Outlet	See Below
Concrete Keyway	See Below
Impervious Liner	See Below

Seeding –The Detention Basin side slopes, bottom, maintenance access roads and berms as shown on Contract Plans, shall be seeded using Method #2 – Roadside Mixture #2. All seeding shall be completed between April 1st and June 15th or between August 15th and September 15th to ensure adequate time for establishment.

Granular Borrow – Modified to have 100% passing the 6” sieve.

Detention Basin Outlet – A detention basin outlet comprised of a Type B1 Catch Basin and Option-1 18” pipe shall be constructed as indicated on the Contract Drawings. This work shall be in accordance with Section 603 and 604.

Concrete Keyway – A concrete keyway shall be constructed in the riprap emergency spillway as indicated on the Contract Drawings. This work shall be in accordance with Section 502.

Low Permeability Fill - Clay – Low permeability fill shall be natural, inorganic soil that is free from foreign matter such as construction debris, trash, wood, roots, leaves, and other organic matter.

An example of soil that may be considered acceptable for low permeability fill is a well graded, granular soil with high silt content. Low permeability fill shall be as follows when tested in accordance with AASHTO T 27:

Sieve Size	Percentage by Weight Passing

3 in	(75 mm)	100
No. 4	(4.75 mm)	80 - 100
No. 40	(0.425 mm)	60 – 90
No. 100	(0.150 mm)	40 – 60
No. 200	(0.075 mm) in total	25 – 45

For a preliminary determination of compliance with the specification for grading and for determination of the maximum dry density, the Contractor shall submit to the Engineer samples of materials to be used for low permeability fill prior to its placement. Samples may be taken from the pit or from stockpiles. Sampling and testing shall conform to AASHTO T 27, R 13, and T 99. Materials not meeting these specifications shall not be placed.

203.04 Construction Requirements. The Detention Basins shall be constructed according to the location, layout, grading, drainage, and seeding indicated on the Contract Drawings. The Contractor shall have a preconstruction site walk with the Resident and a representative from the MaineDOT Environmental Office Surface Water Resources Unit to review the proposed locations and to answer questions regarding layout and construction. Any modifications to the elevation, location, and components of the Detention Basins shall be at the direction of and approved by the Resident.

The footprint for embankment shall be cleared of trash/debris and any rocks greater than 6 inches, be free of any standing water, be graded to be no steeper than 1:1, be scarified prior to embankment fill placement, and be inspected and approved by the Resident before fill placement. Compact fill to 95% of Modified Proctor.

The following sequence of phases shall be observed during the construction of a Detention Basin

All water, excluding direct precipitation, shall be diverted from the Detention Basin and remain diverted until the basin and contributing drainage area reaches final stabilization (90% vegetation cover or paved).

Elevations in the Detention Basin Contract Plans shall be surveyed as-built and recorded by the Resident.

After basin and spillway excavation and grading, the Impervious Liner shall be installed on Detention Basin sides and bottom as shown in the Contract Drawings. The Impervious Liner shall not be placed during the presence of excessive winds as directed by the Resident. The Impervious Liner shall be laid in one continuous piece with all components internal to the Detention Basin placed on top of the liner. Unplanned punctures in the Impervious Liner shall be repaired in accordance with the manufacturer's specifications and approved by the Resident. Punctures in the Impervious Liner that are necessary according to the Contract Drawings shall be sealed to minimize the infiltration of water into the Detention Basin according to manufacturer's specifications and approved by the Resident. The Impervious Liner shall be anchored to the sidewalls of the excavation using a method approved by the Resident. The method of anchoring and relevant as-built elevations shall be submitted to the Environmental Office.

Install the 6-inch granular borrow (703.19) layer in a single lift and compact to between 90% and 92% standard proctor (AASHTO T180). A layer of non-woven drainage geotextile (722.02) shall be placed over the compacted gravel layer before Soil Filter Media is placed.

Install the 18-inch layer of Soil Filter Media in 6-inch lifts to prevent pockets of loose media. Compact to between 90 and 92% standard proctor (AASHTO T180). Over-compaction of the Soil Filter Media shall be avoided. Once compacted, relevant as-built elevations, as appear in the Contract Plans, shall be recorded by the resident prior to seeding.
Low permeability fill shall be placed in 6 in maximum lifts and shall be compacted to at least 95 percent of the maximum dry density. During compaction, the moisture content of the low permeability fill shall be between 1 percent below and 3 percent above the optimum moisture content. The maximum dry density and the optimum moisture content shall be as determined by AASHTO T 99 (Standard Proctor Test).

Once seeded, Erosion Control Blanket (717.061) shall be installed prior to the end of that Working Day.

203.041 General. Inspection and documentation of the Detention Basins shall be provided for each phase of construction by the Resident and/or Third-Party Inspector. Documentation shall be provided upon request to the MaineDOT Environmental Office Surface Water Resources Unit.

203.042 Submittals. The following submittals are required:

- Submittals in accordance with individual material requirements set forth within the Standard Specifications.
- Method for anchoring of the impervious liner to the excavation walls.
- Records of surveyed as-built elevations for all pipe inverts, berms, outfalls, spillways, or other features as per those listed in the Detention Basin Contract Plans.

203.05 Method of Measurement. Detention Basin will be measured for payment by the Lump Sum.

203.06 Basis of Payment. Detention Basin will be paid for at the contract unit price as specified complete, in place, and accepted. The following are included in the Detention Basin lump sum payment:

All construction materials, labor, and incidentals required for grading and construction of access roads, berms, spillways, Detention Basin with its internal components, and final stabilization as indicated in the Contract Drawings.

The following items will be measured for payment separately in accordance with the appliable specifications: Clearing (Section 201), Removal of Existing Catch Basins (Section 202), Guardrail (Section 606), Fencing (Section 607), Removal of Concrete Foundations (Section 626) and Lighting items (Section 634).

Payment will be made under:

Pay Item		Pay Unit
203.80	Detention Basin	Lump Sum

SECTION 401 - HOT MIX ASPHALT PAVEMENT

401.01 Description The Contractor shall furnish a uniformly blended, homogeneous mixture placed as one or more courses of Hot Mix Asphalt Pavement (HMA) on an approved base in accordance with the contract documents and in reasonably close conformity with the lines, grades, thickness, and typical cross sections shown on the plans or established by the Resident. The Department will accept this work under Quality Assurance provisions, in accordance with these specifications and the requirements of Section 106 – Quality, the provisions of AASHTO M 323 except where otherwise noted in sections 401 and 703 of these specifications, and the MaineDOT Policies and Procedures for HMA Sampling and Testing.

401.02 Materials Materials shall meet the requirements specified in Section 700 - Materials:

Asphalt Cement	702.01
Aggregates for HMA Pavement	703.07
RAP for HMA Pavement	703.08
HMA Mixture Composition	703.09

401.03 Composition of Mixtures The Contractor shall compose the Hot Mix Asphalt Pavement with aggregate, Performance Graded Asphalt Binder (PGAB), approved antistrip, warm mix additive, and/or mineral filler if required. HMA shall be designed and tested according to AASHTO R 35 and the volumetric criteria in Table 1. The Contractor shall size, uniformly grade, and combine the aggregate fractions in proportions that provide a mixture meeting the grading requirements of the Job Mix Formula (JMF). Unless otherwise noted in Special Provision 403 - Hot Mix Asphalt Pavement, the design, verification, Quality Control, and Acceptance tests for this mix will be performed at 65 gyrations.

TABLE 1: VOLUMETRIC DESIGN CRITERIA

Design ESAL's (Millions)	**Required Density (Percent of G_{mm})**			**Voids in the Mineral Aggregate (VMA) (Minimum Percent)**					**Voids Filled with Binder (VFB) (Minimum %)**	**Fines/Eff. Binder Ratio**
				Nominal Maximum Aggregate Size (mm)						
	$N_{initial}$	**N_{design}**	**N_{max}**	**25.0**	**19.0**	**12.5**	**9.5**	**4.75**		
< 3.0	≤90.5	96.0	≤98.0	13.0	14.0	15.0	16.0	16.0	65-80*	0.6-1.2
3 to <10	≤89.0									
≥ 10										

*For 9.5 mm nominal maximum aggregate size mixtures, the maximum VFB is 82. For 4.75 mm nominal maximum aggregate size mixtures, the maximum VFB is 84.

The Contractor shall submit a JMF to the Department for each mixture to be supplied. The JMF will be approved by the Department in accordance with the MaineDOT HMA Policies and Procedures for HMA Sampling and Testing Manual. At the time of JMF submittal, the Contractor shall identify and make available the stockpiles of all proposed aggregates at the plant site. There must be a minimum of 150 ton for coarse aggregate stockpiles and 75 ton for fine aggregate stockpiles before the JMF may be submitted. The Contractor shall provide aggregate samples to the Department unless otherwise required. The Contractor shall also make available to the Department the PGAB proposed for use in the mix in sufficient quantity to test the properties of the asphalt and to produce

samples for testing of the mixture. The first day's production shall be monitored, and the approval may be withdrawn if the mixture exhibits undesirable characteristics such as checking, shoving or displacement. The Contractor shall be allowed to submit aim changes for a JMF as outlined in the MaineDOT HMA Policies and Procedures for HMA Sampling and Testing Manual: Mix Design Approval Section.

The Contractor shall submit a new JMF for approval each time a change in material source or materials properties is proposed. The same approval process shall be followed. The cold feed percentage of any aggregate may be adjusted up to 10 percentage points from the amount listed on the JMF, however no aggregate listed on the JMF shall be eliminated. The cold feed percentage for RAP may be reduced up to 10 percentage points from the amount listed on the JMF and shall not exceed the percentage of RAP approved in the JMF or for the specific application under any circumstances.

401.031 Warm Mix Technology The Contractor may place Hot Mix Asphalt Pavement produced with an accepted WMA technology if approved by the Department. Methods or technologies shall generally be at the Contractors option, but will be limited to proven, Agency and Industry accepted practice. Mixture production, placement and volumetric testing details, including temperatures, shall be included in the project specific QCP, and submitted to the Department for approval prior to any work.

401.04 Temperature Requirements The temperature of the mixture shall conform to the tolerances in Table 2 as measured at the truck at the mixing plant and at the paver unless otherwise authorized by the Department.

TABLE 2: ALLOWABLE TEMPERATURE RANGES

PGAB Grade(s)	**Temperature Range (°F)**
PG58-28 / PG64-28	275-325
PG64E-28 / PG70E-28	285-335

401.05 Performance Graded Asphalt Binder The Contractor shall utilize either a PG58-28, PG64-28, PG64E-28, PG70E-28, or other grade as specified in the 403 Special Provision. The Contractor shall utilize a PG64-28 if no liquid grade is specified within the 403 Special Provision.

401.06 Weather and Seasonal Limitations The State is divided into two paving zones as follows:

a. Zone 1 Areas north of US Route 2 from Gilead to Bangor and north of Route 9 from Bangor to Calais.
b. Zone 2 Areas south of Zone 1 including the US Route 2 and Route 9 boundaries.

TABLE 3: SEASONAL AND TEMPERATURE LIMITATIONS

Use	Minimum Ambient Air Temperature	Zone 1 Allowable Placement Dates	Zone 2 Allowable Placement Dates
Surface course (travelway & adjacent shoulders*) less than 1 in. thick placed during conditions defined as "night work"	50°F	June 1 to Saturday following September 1	
Surface course (travelway & adjacent shoulders*) less than 1 in. thick	50°F	May 15 to Saturday following September 15	
Travelway surface course greater than or equal to 1 in. thick	50°F	May 1 to Saturday following October 1	April 15 to Saturday following October 15
HMA for surface course on bridge decks	50°F	May 1 to Saturday following October 1	April 15 to Saturday following October 15
HMA for base or shim course on bridge decks	50°F	April 15 to November 15	
HMA for use other than travelway surface course	40°F	April 15 to November 15	
HMA for curb, driveways, sidewalks, islands, or other incidentals	40°F	N/A	N/A
HMA produced with an approved WMA technology for base or shim course	35°F	April 15 to November 15	
*Adjacent shoulders shall be considered shoulders paved in the same operation as the travelway.			

The ambient air temperature shall be determined by an approved thermometer placed in the shade at the paving location. Unless otherwise specified, the Contractor shall not place Hot Mix Asphalt Pavement on a wet or frozen surface regardless of the ambient air temperature. The Hot Mix Asphalt Pavement produced with an approved WMA technology shall meet the requirements of section 401.04 - Temperature Requirements, unless otherwise approved by the Department. For the purposes of this Section, the traveled way includes truck lanes, ramps, approach roads and auxiliary lanes.

401.07 Hot Mix Asphalt Plant

401.071 General Requirements HMA plants shall conform to AASHTO M 156, Standard Specification for Requirements for Mixing Plants for Hot-Mixed, Hot-Laid Bituminous Paving Mixtures with exception of Section 4.2.1, 4.2.2, 4.3.4, 4.3.5, and 4.12.2.

All HMA plants will be inspected annually by the Department prior to producing HMA for Department projects. The Contractor shall provide the Department at least 72 hours' notice that the plant is ready for inspection. The Contractor shall equip the plant with ladders and platforms that are accessible and safe to obtain samples of PGAB, aggregate and mix from the relevant tanks, collector belts and haul units. Silo storage time of mixtures shall not exceed 36 hours.

401.072 Stockpiles The Contractor shall provide sufficient space for stockpiles and maintain a minimum of supply for 2 days production of all aggregate products used in MaineDOT approved mix designs currently under production. A minimum stockpile supply of 100 ton (70 yards) shall be

maintained at all times. The Contractor shall construct stockpiles to prevent intermingling and to minimize segregation. All stockpiles used in MaineDOT mixes shall be identified with weatherproof signs at least 12" high and 24" wide, with reflective lettering at least 2" high.

401.073 Cold Feeds Cold Feed Bins will have bin dividers to keep aggregate products separated. Adequate means must be provided for obtaining samples of the combined flow of all Cold feed bins.

401.074 Dryer Dryer shall be capable of heating aggregate to required mixing temperature and shall be in good operation and condition. Dryer shall be subject to annual inspection prior to start-up. The Contractor shall dry and heat the aggregates for the HMA to the required temperature, adjusting flames to avoid damaging the aggregates. The Contractor shall provide the Department a minimum period of 72 hours to inspect the dryer and provide at least 24 hours' notice that the dryer is ready for inspection.

401.075 Asphalt Binder The plant shall include a heating system and insulation to maintain the asphalt binder at a uniform temperature for proper mixing and compaction. A thermometer shall be provided in the asphalt binder line. No direct flame may come in contact with tank. A sampling valve shall be provided in the circulation line downstream of any binder additive used unless otherwise approved by the Department. The Contractor shall drain down the asphalt as low as safely possible in any tank that will be switched to a new source or grade prior to adding the new PGAB.

401.076 Additives Additives (WMA, anti-strip, etc.) introduced into the binder at the HMA plant shall be introduced per the supplier's recommendations and shall be approved by the Department. The system for introducing additives shall be interlocked with the aggregate feed or weigh system to maintain correct proportions for all production rates and batch sizes. Additive introduction systems shall be controlled by a proportioning device to the amount required on the JMF plus or minus 0.1% of the target. Additive introduction systems shall
be interlocked with the plant and the recordation (batch tickets or drum recordation) shall display the additive and the weight and percentage added. A means for sampling the PG binder with additive introduced will be provided. The sampling point shall be after the additive is mixed with the PGAB before entering the drum or mixer unit.

401.077 Batch Plants

Hot Bins Hot bins shall provide uniform continuous operation and be in good working condition. The plant shall be able to provide samples of hot bins upon request. Overflow shall be provided for each hot bin. Hot bin gates shall close without leaking. Bin walls must prevent intermingling between bins. Each hot bin shall have low level indicators which will alert the operator when the bin is empty.

Mixer Unit Clearance between blades and liner shall be 1" maximum, unless the aggregate exceeds 1 ¼" then the clearance shall be 1 ½". The spray bar length shall be at least 75% of the mixer length. The mixer unit shall be a twin pug mill-type mixer capable of mixing continuously for at least 45 seconds after all materials have been introduced into the mixer. The blades in the mixer shall be capable of producing a homogenous mixture. If the mixer is not enclosed, it shall be equipped with an adjustable hood to prevent loss of dust by dispersion. The mixer unit shall be subject to annual inspection prior to removal of safety features and being readied for service. The Contractor shall provide the Department the opportunity to inspect the mixer unit prior to the

annual inspection. The Contractor shall provide the Department a minimum period of 72 hours to inspect the mixer unit and provide at least 24 hours' notice that the mixer unit is ready for inspection.

Mineral Filler Mineral filler and fiber shall utilize separate bins and feed systems to store and proportion the required quantity into the mixture. The feed systems shall be accurate to no more than 10% of the required weight with a convenient and accurate means of calibration. Mineral filler and fiber shall be introduced in the weigh hopper and uniformly distributed prior to the injection of the asphalt binder.

Automation The HMA batch plant shall automatically batch, mix and discharges mixes. The batch plant shall accurately proportion the various materials in the proper order by weight. The entire batching and mixing cycle shall be continuous and shall not require any manual operations. The batch plant shall use auxiliary interlock circuits to trigger an audible alarm whenever an error exceeding the acceptable tolerance occurs. Along with the alarm, the printer shall print an asterisk on the delivery slip in the same row containing the out-of-tolerance weight. The automatic proportioning system shall be capable of consistently delivering material within the full range of batch sizes. When RAP is being used, the plant must be capable of automatically compensating for the moisture content of the RAP.

The HMA batch plant shall be operated within the following tolerances:

Each aggregate component	+/- 1.5% cumulative, per bin
Mineral Filler	+/- 0.5%
Bituminous Material	+/- 0.1%
Zero return (aggregate)	+/- 0.5%
Zero Return (AC)	+/- 0.1%
Additives	+/- 0.1%

Recordation All plants shall be equipped with an approved digital recording device. The printer shall mark any weight on the ticket that exceeds tolerance. The delivery slip shall contain information required under Section 108.1.3 - Provisions Relating to Certain Measurements, Mass and paragraphs a, b, and c of Section 401.078.

401.078 Drum Plants

Cold Feeds and Delivery System A scalper screen shall be used to remove oversize material. The accuracy of the belt scale shall be within +/- 1.0% of the actual weight being measured. The plant shall be capable of correcting for aggregate moisture. Mineral filler and fiber shall utilize separate bin(s) and feeder systems to store and proportion the required quantity into the mixture. The feed systems shall be accurate to no more than +/- 10% of the required weight with a convenient and accurate means of calibration. The plant shall be equipped with a single control to change all feed rates. Mineral filler and fiber shall be introduced such that dry mixing is accomplished no less than 18 inches prior to the injection of the asphalt binder. The Contractor shall ensure that the mineral filler does not become entrained in the exhaust stream of the dryer.

Binder System The flow of asphalt binder shall adjust automatically with dry aggregate weights. The Department will conduct an asphalt flow meter check annually and after each change of plant location. The flow meter check must be performed prior to producing mix for Department projects. The plant must be configured to provide a convenient means to check accuracy of the flow meter. The flow meter will be considered accurate if the measured weight is within 1% of actual weight.

Drum Mixer The plant shall be equipped with a diversion system where mix can be diverted at startup/shutdown and any time. The drum mixer shall be subject to annual inspection prior to removal of safety features and being readied for service. The Contractor shall provide the Department a minimum period of 72 hours to inspect the drum mixer while providing at least 72 hours' notice that the drum mixer is ready for inspection.

Recordation An approved automatic ticket printer system shall be used to print delivery slips. The requirements for delivery slips for payment of materials measured by weight, as given in the following Sections, shall be waived: 108.1.3 a., 108.1.3 b., 108.1.3 c., and 108.1.3 d. The automatic printed ticket will be considered as the Weight Certificate. The dry aggregate weights and binder flow shall be recorded as well as mineral filler and all binder additives. The recordation of materials shall be printed a minimum of every ten minutes while in production.

The requirements of Section 108.1.3 f. - Delivery Slips, shall be met by the delivery slip printed by the automatic system, which accompanies each truckload, except for the following changes:

a. The quantity information required shall be individual weights of each batch or total net weigh of each truckload.
b. Signatures (legible initials acceptable) of Weighmaster (required only in the event of a malfunction as described in 401.074 c.).
c. The MaineDOT designation for the JMF.

401.079 Scales and Weight Checks Scales shall meeting the requirements of Section 108 - Payment. The scales shall be inspected and sealed by the State Sealer (or approved alternative) as often as the Department deems necessary to verify their accuracy. Plant scales shall be checked prior to the start of the paving season, and each time a plant is moved to a new location. Subsequent checks will be made as determined by the Resident. The Contractor will have at least ten 50 pound masses for scale testing at batch plants. At Contractor's option, the Contractor can use one single test weight that has been checked on sealed scales. This weight shall be 1,000 lbs. or greater. At least twice during each 5 days of production either of the following checks will be performed:

a. A loaded truck may be intercepted and weighed on a platform scale that has been sealed by the State Sealer of Weights and Measures within the past 12 months. The inspector will notify the producer to take corrective action on any discrepancy over 1.0%. The producer may continue to operate for 48 hours under the following conditions.
    1. If the discrepancy does not exceed 1.5%; payment will still be governed by the printed ticket.
    2. If the discrepancy exceeds 1.5%, the plant will be allowed to operate as long as payment is determined by truck platform scale net weight.

    If, after 48 hours the discrepancy has not been addressed and reduced below 1.0%, then plant operations will cease. Plant operation may resume after the discrepancy has been brought within 1.0%.
b. Where platform scales are not readily available, a check will be made to verify the accuracy and sensitivity of each scale within the normal weighing range and to assure that the interlocking devices and automatic printer system are functioning properly. If platform scales are not readily available, a weight with a known mass-verified and sealed annually by a licensed scale company, may be used by hanging weight from silo or surge hopper, at lower middle and upper third levels upon request to verify scale accuracy.
c. In the event of a malfunction of the automatic printer system, production may be continued without the use of platform truck scales for a period not to exceed the next two working

days, providing total weights of each batch are recorded on weight tickets and certified by a Licensed Public Weighmaster.

401.08 Hauling Equipment Units hauling HMA shall have tight, clean, and smooth metal bodies, which have been thinly coated with a small amount of approved release agent to prevent the mixture from adhering to the bodies. Release agents that dissolve or strip asphalts, including diesel fuel, will not be allowed.

All mix haul units shall have a cover of water repellent material capable of heat retention, which completely covers the mixture. The cover shall be securely fastened on the truck, unless unloading. Haul units shall have an opening on both sides near the midpoint of the body, at least 12 in above the bed, which will accommodate a thermometer stem.

401.09 Pavers The Contractor shall use pavers meeting the requirements of this section unless otherwise authorized by the Department. Pavers shall meet the requirements of Table 4: Paver Requirements.

TABLE 4: PAVER REQUIREMENTS

Use	Paver Requirement
Traveled Way & Auxiliary Lanes	Equipped with a 10 ft minimum main screed with activated extensions. The minimum tractor weight shall be 30,000 pounds.
	Equipped with automatic grade and slope controls that automatically adjust the screed and increase or decrease the layer thickness to compensate for irregularities in the preceding course. The controls shall maintain the proper transverse slope and be readily adjustable so that transitions and superelevated curves can be properly paved. The controls shall operate from a fixed or moving reference such as a grade wire or ski type device (floating beam) with a minimum length of 30 ft, a non-contact grade control with a minimum span of 24 ft, except that a 40 ft reference shall be used on interstate and divided highway projects.
All HMA Placement	Self-contained, self-propelled units of sufficient class and size to place Hot Mix Asphalt Pavement in full lane widths specified in the contract on the main line, shoulder, or similar construction.
	Equipped with a free-floating activated heated main screed with activated extensions. Pavers with extendible screeds shall have auger extensions and tunnel extenders as per the manufacturer's recommendations, a copy of which shall be available if requested.
	Equipped with a receiving hopper with sufficient capacity for a uniform spreading operation and a distribution system to place the mixture uniformly, without segregation in front of the screed.
	Operated in such a manner as to produce a visually uniform surface texture and a thickness within the requirements of Section 401.11 - Surface Tolerances. The screed assembly shall produce a finished surface of the required evenness and texture without tearing, shoving, or gouging the mixture.

The Contractor shall have the paver at the project site sufficiently before the start of paving operations to be inspected and approved by the Department. The Contractor shall repair or replace any paver found worn or defective, either before or during placement, to the satisfaction of the Department. Pavers that produce an unevenly textured or non-uniform mat will be repaired or replaced before continuing to place HMA on MaineDOT projects. On a daily basis, the Contractor shall perform density testing across that mat as detailed in Section 401.191 Quality Control - Method A, B & C.

401.10 Rollers Rollers shall be static steel, pneumatic tire, oscillatory, or approved vibrator type. Rollers shall be in good mechanical condition, capable of starting and stopping smoothly, and be free from backlash when reversing direction. Rollers shall be equipped and operated in such a way as to prevent the picking up of hot mixed material by the roller drums or tires. Crushing of the aggregate or displacement of the HMA during rolling will not be permitted. Any HMA Pavement that becomes loose, broken, contaminated, shows an excess or deficiency of PGAB, or is in any other way defective shall be removed and replaced at no additional cost with fresh material which shall be immediately compacted to conform to the adjacent area.

The Contractor shall repair or replace any roller found to be worn or defective, either before or during placement, to the satisfaction of the Department. Rollers that produce grooved, unevenly textured or non-uniform mat will be repaired or replaced before continuing to place HMA. The type of rollers to be used and their relative position in the compaction sequence shall generally be the Contractor's option unless otherwise specified in the contract, provided specified density is attained and with the following requirements:

a. On variable-depth courses, the first lift of pavement over gravel, reclaimed pavement, on irregular or milled surfaces, or on bridges, at least one roller shall be 16 ton pneumatic-tired. Pneumatic-tired rollers shall be equipped with skirting to minimize the pickup of HMA materials from the paved surface. When required by the Resident, the roller shall be ballasted to 20 ton.
b. Compaction with a vibratory or steel wheel roller shall precede pneumatic-tired rolling, unless otherwise authorized by the Department.
c. Vibratory rollers shall not be operated in the vibratory mode on bridge decks.
d. Any method, which results in cracking or checking of the mat, will be discontinued and corrective action taken.
e. The use of an oscillating steel roller shall be required to compact all mixtures placed on bridge decks.

The maximum operating speed for a steel wheel or pneumatic roller shall not exceed the manufacturer's recommendations, a copy of which shall be available if requested.

401.11 Surface Tolerances The Department will check the following surface tolerances:

a. Longitudinally: The pavement surface profile shall be free of deviations in excess of +/- ¼ inches from the required pavement surface profile grade. To verify the surface tolerance a straight plane shall be established using 16 foot straight edge or a taught string line placed parallel to the direction of travel and checked continuously across the width of the lane.
b. Transversely: The pavement surface profile shall be free of deviations in excess of 0 inches below and ¼ inches above the required cross-sectional profile grade. To verify the surface tolerance a straight plane shall be established using a 10 foot straight edge or taught string line placed perpendicular to the direction of travel and checked continuously along the length of the lane.

The Contractor shall correct defective areas by removing defective work and replacing it with new material as directed by the Department. The Contractor shall furnish a 10 foot straightedge for the Department's use.

401.12 Preparation of Existing Surface The Contractor shall thoroughly clean the surface upon which Hot Mix Asphalt Pavement is to be placed of all objectionable material. When the surface of the existing base or pavement is irregular, the Contractor shall bring it to uniform grade and cross section. All surfaces shall have a tack coat applied prior to placing any new HMA course. Tack coat shall conform to the requirements of Section 409 – Bituminous Tack Coat, Section 702 – Bituminous Material, and all applicable sections of the contract.

401.13 Spreading and Finishing On areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing equipment impracticable, the Contractor shall spread, rake, and lute the HMA with hand tools to provide the required compacted thickness. Release agents that dissolve or strip asphalts, including diesel fuel, will not be allowed. On roadways with adjoining lanes carrying traffic, the Contractor shall place each course per the conditions in Table 5, unless otherwise noted by the Department in Section 403 - Hot Mix Asphalt Pavement.

TABLE 5: PLACEMENT CONDITIONS FOR ADJOINING LANES

Depth (at centerline)	**Placement Conditions**
Vertical Longitudinal Joint	
¾" and less (incl. shim)	The Contractor may place the HMA course over the full single travel lane width for each production day.
1" to 1 ¼"	The Contractor may place the HMA course over the full single travel lane width for each production day and will be required to place a matching course of HMA over the adjacent section of travel lane before weekend or holiday suspension.
1 ½" to 2"	The Contractor may place the HMA course over the full single travel lane width for each production day and will be required to place a matching course of HMA over the adjacent section of travel lane before the end of the following calendar day.
Greater than 2"	The Contractor shall place each course over the full width of the traveled way section being paved that day.
Notched-Wedge Longitudinal Joint	
1 ½" to 2"	The Contractor may place the HMA course over the full single travel lane width for each production day and will be required to place a matching course of HMA over the adjacent section of travel lane before weekend or holiday suspension. A maximum unmatched centerline joint length of 0.5 miles will be permitted over the weekend.
Greater than 2"	The Contractor may place the HMA course over the full single travel lane width for each production day and will be required to place a matching course of HMA over the adjacent section of travel lane before the end of the following calendar day.

The Contractor shall place the specified course over the full width of the mainline traveled way being paved, regardless of use, depth, or longitudinal joint type prior to Memorial Day, July 4th, Labor Day, paving suspensions exceeding three days, or other dates as specified by special provision.

The Contractor shall install additional warning signage that clearly defines the centerline elevation differential hazard. Unless otherwise addressed in the contract, the Contractor shall install additional centerline delineation such as a double application of raised pavement markers at 100 foot intervals, or temporary painted line. For any exposed vertical edge between the shoulder and traveled way, at a minimum, the use of temporary painted line, or RPMs placed along the edge of traveled way at 200 foot intervals is required. The Traffic Control Plan shall be amended to include this option and the additional requirements. All signs and traffic control devices will conform to Section 719.01, and Section 652, and will be installed prior to the work, at a maximum spacing of

0.50 mile for the entire length of effected roadway section. If this option is utilized, all additional signing, labor, traffic control devices, or incidentals will not be paid for directly, will be considered incidental to the appropriate 652 items.

401.14 Hot Mix Asphalt Placement on Bridge Decks Hot mix asphalt pavement placed on bridges shall also conform to Section 508.04 and the following requirements.

a. The minimum production and placement temperature for the Hot Mix Asphalt placed over membrane shall conform to the manufacturer's recommendations.
b. The bottom course shall be placed with an approved rubber mounted paver of such type and operated in such a manner that the membrane waterproofing will not be damaged in any way.
c. The top course shall not be placed until the bottom course has cooled sufficiently to provide stability.
d. The Contractor will not be required to cut sample cores from the compacted pavement on the bridge deck, unless otherwise directed by Special Provision.
e. After the top course has been placed, the shoulder areas shall be sealed 3 ft wide with two applications of an emulsified bituminous sealer meeting the requirements of Section 612.03 - Sealing and Section 702.12 - Emulsified Bituminous Sealing Compound. The first application shall be pre-mixed with fine, sharp sand, similar to mortar sand, as needed to fill all voids in the mix in the area being sealed. The second application may be applied without sand. The sealer shall be carried to the curb at the gutter line in sufficient quantity to leave a bead or fillet of material at the face of the curb. The area to be sealed shall be clean, dry and the surface shall be at ambient temperature. The furnishing and applying of the required quantity of sealer for the bridge shoulder areas shall be incidental to placing the hot mix asphalt pavement.
f. The area between the edge of the membrane and the vertical surface shall be completely sealed with hot-applied rubberized asphalt material, meeting the requirements of Type 4 crack seal; shall be applied to form a complete seal between the membrane and the vertical surface and shall extend up the vertical surface to within ½ inch of the top of the HMA wearing surface. This work shall be considered incidental to the contract pavement items unless 508 membrane items are included in the contract.

401.15 Compaction Immediately after the Hot Mix Asphalt Pavement has been spread, struck off, and any surface irregularities adjusted, the Contractor shall thoroughly and uniformly compact the HMA by rolling.

The Contractor shall roll the surface when the mixture is in the proper condition and when the rolling does not cause undue displacement, cracking, or shoving. The Contractor shall prevent adhesion of the HMA to the rollers or vibrating compactors without the use of fuel oil or other petroleum-based release agents. Solvents designed to strip asphalt binders from aggregates will not be permitted as release agents on equipment, tools, or pavement surfaces.

The Contractor shall immediately correct any displacement occurring as a result of the reversing of the direction of a roller or from other causes to the satisfaction of the Department. Any operation other than placement of variable depth shim course that results in breakdown of the aggregate shall be discontinued. Any new pavement that shows obvious cracking, checking, or displacement shall be removed and replaced for the full lane width as directed by the Resident at no cost to the Department.

Along forms, curbs, headers, walls, and other places not accessible to the rollers, the Contractor shall thoroughly compact the HMA with mechanical vibrating compactors. The Contractor shall only use hand tamping in areas inaccessible to all other compaction equipment. On depressed areas, the Contractor may use a trench roller or cleated compression strips under a roller to transmit compression to the depressed area.

Any HMA that becomes unacceptable due to cooling, cracking, checking, segregation or deformation as a result of an interruption in mix delivery shall be removed and replaced with material that meets contract specifications at no cost to the Department.

For all items requiring pavement density testing, the Contractor shall cut 6-inch diameter cores at no additional cost to the Department by the end of the working day following paving. Cores shall be cut such that the nearest edge at least 9 inches from any joint. Pre-testing of the cores will not be allowed. If the Contractor and the Department mutually determine that a core is damaged, the Contractor shall cut new core(s) at the same offset and within 3 ft of the initial sample. The Contractor and the Department will mutually determine if underlying material is adhered to the core and if so will mark the core at the point where sawing is needed. The Department will place the cores in a secure container and the Contractor shall transport the cores to the designated MaineDOT lab. The cores will be saw cut by the Department to remove underlying layers. No recuts are allowed at a test location after the core has been tested.

On all sections of overlay with wearing courses designed to be 1 in or less in thickness, there shall be no pay adjustment for density otherwise noted in Section 403 - Hot Mix Asphalt Pavement. For overlays designed to be 1 in or less in thickness, density shall be obtained by the same rolling train and methods as used on mainline travelway surface courses with a pay adjustment for density, unless otherwise directed by the Department.

There shall be no pay adjustment for density on shoulders unless otherwise noted in Section 403 - Hot Mix Asphalt Pavement. Density for shoulders shall be obtained by the same rolling train and methods as used on mainline travelway, unless otherwise directed by the Department. Efforts to obtain optimum compaction will not be waived by the Department unless it is apparent during construction that local conditions make densification to this point detrimental to the finished pavement surface course.

401.16 Joints The Contractor shall construct wearing course transverse and longitudinal joints in such a manner that minimum tolerances shown in Section 401.11 - Surface Tolerances are met when measured with a straightedge. The paver screed shall maintain a uniform head of HMA during transverse and longitudinal joint construction. The HMA shall be free of segregation and meet temperature requirements outlined in Section 401.04. Transverse joints of the wearing course shall be straight and neatly trimmed. The Contractor may form a vertical face exposing the full depth of the course by inserting a header, by breaking the bond with the underlying course, or by cutting back with hand tools. The Contractor shall apply a coating of emulsified asphalt immediately before paving all joints to the vertical face and 3 in of the adjacent portion of any pavement being overlaid except those formed by pavers operating in echelon. The Contractor shall use an approved spray apparatus designed for covering a narrow surface. The Department may approve application by a brush for small surfaces, or in the event of a malfunction of the spray apparatus, but for a period of not more than one working day.

Where pavement under this contract joins an existing pavement, or when the Department directs, the Contractor shall cut the existing pavement along a smooth line, producing a neat, even, vertical joint. The Department will not permit broken or raveled edges. The cost of all work necessary for the preparation of joints is incidental to related contract pay items. Longitudinal joints shall be generally straight to the line of travel and constructed in a manner that best ensure joint integrity. Methods or activities that prove detrimental to the construction of straight, sound longitudinal joints will be discontinued.

The Contractor may utilize an approved notched wedge joint device on all HMA layers 1 ½ inches in depth or greater. A notched wedge joint shall be constructed as shown in Figure 1 using a device that is attached to the paver screed and is capable of independently adjusting the top and bottom vertical notches.

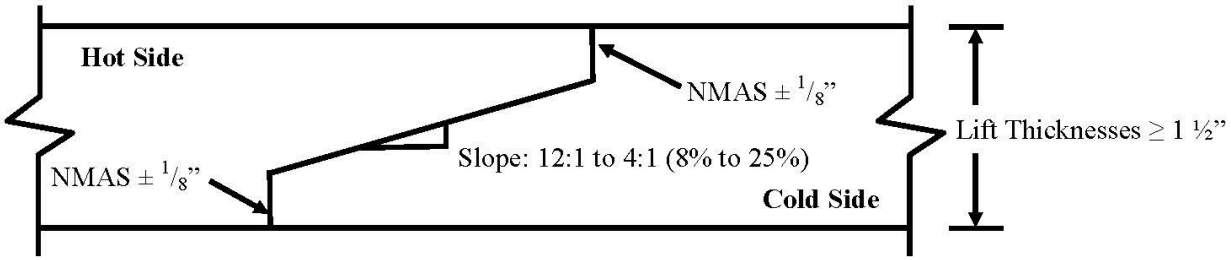


FIGURE 1: Notched Wedge Joint

Notes
1. An emulsified tack coat shall be applied to the vertical edges and the wedge surface so that the total rate is 0.05 G/SY plus the normal specified rate prior to placing the adjacent layer. The Contractor may elect to apply the emulsified tack coat in one or multiple passes.
2. Dimensions shown are compacted depths (after rolling is complete).

The Department reserves the right to have centerline cores cut by the Contractor's QC personnel for informational purposes to monitor the density along the joint. Informational cores at the centerline joint will be taken centered over the tapered part of the wedge joint.

Any notched wedge joint constructed areas that become cracked or broken shall be trimmed back to the limits affected prior to placing the adjoining lane. Any materials that become unbound or separated from the wedge or tapered joint section, or contaminated by materials determined by the Department as being detrimental to the construction of a sound construction joint, shall be removed by sweeping, compressed air and lance, or by hand tools as required. This work, if necessary, will not be paid for directly, but shall be considered incidental to the related contract items.

The Contractor shall apply a coating of emulsified asphalt on the vertical and tapered surface of the longitudinal centerline joint immediately before paving if the notched wedge joint device is used.

The total rate of application shall be 0.050 G/SY plus the normal specified tack coat rate. The Contractor shall use an approved spray apparatus designed for covering a narrow surface. The Department may approve application by a brush for small surfaces.

401.17 Hot Mix Asphalt Documentation The Contractor and the Department shall agree on the amount of Hot Mix Asphalt Pavement that has been placed each day. All delivery slips shall conform to the requirements of 401.078.

401.18 Prepave Meeting Prior to placing any mix, the Department and the Contractor shall hold a Pre-paving conference to discuss the paving schedule, source of mix, type and amount of equipment to be used, sequence of paving pattern, rate of mix supply, random sampling, project lots and sublots and traffic control. A copy of the density QC random numbers to be used on the project shall be provided to the Resident. The Departments' random numbers for Acceptance testing shall be generated and on file with the Resident and the Project Manager. All personnel of the Department and the Contractor who have significant information relevant to the paving items shall attend, including the responsible onsite paving supervisor for the Contractor. The Resident will prepare minutes of the conference and distribute them to all attendees. Any requests to revise the minutes must be made to the Resident within 7 Days of Receipt. These minutes will constitute the final record of the Pre-paving conference. On the first day of paving and whenever there is a change in the onsite paving foreman or paving inspector, the Department and the Contractor shall hold an informal onsite meeting to review the minutes of the Pre-paving conference, Project Specific QCP, Plans, Typicals, Special Provisions and communication process. This meeting shall be held prior to placing any mix and, at minimum, shall occur yearly for multi-year contracts. The onsite paving supervisor, QCT, Superintendent, Resident and/or paving inspector shall attend.

401.19 Contractor Quality Control – Method A, B, C & D
The Contractor shall operate in accordance with the approved Quality Control Plan (QCP) to assure a product meeting the contract requirements. The Contractor shall not begin paving operations until the Department approves the QCP in writing.

401.191 Quality Control The QCP shall meet the requirements of Section 106.6 – Acceptance and this Section. The QCP shall address any items that affect the quality of the Hot Mix Asphalt Pavement, and shall include the following personnel meeting these minimum requirements:

a. QCP Administrator – The QCP Administrator must be a full-time employee of or a consultant engaged by the Contractor or paving subcontractor. The QCP Administrator shall have full authority to institute any and all actions necessary for the successful operation of the QCP. The QCP Administrator (or their designee in the QCP Administrator's absence) shall be available to communicate with the Department at all times.
    - For items accepted under Methods A and B, the QCP Administrator shall be certified as a Quality Assurance Technologist (QAT) by NETTCP.
    - For items accepted under Methods C and D, the QCP Administrator shall be certified by NETTCP as a Quality Assurance Technologist (QAT), Plant Technician, or Paving Inspector.
b. Process Control Technician(s) (PCT) shall utilize test results and other quality control practices to assure the quality of aggregates and other mix components and control proportioning to meet the JMF(s). The PCT shall inspect all equipment used in mixing to assure it is operating properly and that mixing conforms to the mix design(s) and other Contract requirements, and that delivery slips and plant recordation accurately reflects the mix being produced with all the required information. The QCP shall detail how these duties and responsibilities are to be accomplished and documented, and whether more than one PCT is required. The Plan shall include the criteria to be utilized by the PCT to correct or reject unsatisfactory materials. The PCT shall be certified as a Plant Technician by the NETTCP.
c. Quality Control Technician(s) (QCT) shall perform and utilize quality control tests at the job site to assure that delivered materials meet the requirements of the JMF(s). The QCT

shall inspect all equipment utilized in transporting, laydown, and compacting to assure it is operating properly and that all laydown and compaction conform to the Contract requirements. The QCP shall detail how these duties and responsibilities are to be accomplished and documented, and whether more than one QCT is required. The QCP shall include the criteria utilized by the QCT to correct or reject unsatisfactory materials. The QCT shall be certified as a Paving Inspector by the NETTCP.

The QCP shall detail the coordination of the activities of the Plan Administrator, the PCT and the QCT. The Project Superintendent shall be named in the QCP, and the responsibilities for successful implementation of the QCP shall be outlined.

The QCP shall address any items that affect the quality of the Hot Mix Asphalt Pavement including, but not limited to, the following:

a. General Requirements:
    - Job Mix Formulas (JMFs)
    - Name of QCP Administrator, and certification number
    - Description of corrective action process
    - Disposition of defective material
    - A procedure to take immediate possession of acceptance samples once released by MaineDOT and deliver said samples to the designated acceptance laboratory.
b. Process Control Requirements: Each Hot Mix Asphalt plant shall have a Plant Specific Process Control Plan. At minimum the plan shall include:
    - Name of Plant Specific Process Control Technician(s) and certification number(s)
    - Hot mix asphalt plant details
    - Stockpile Management
    - Mixing & transportation
    - Silo management and details
    - A detailed description of RAP processing, stockpiling and introduction into the plant
    - PG Binder management:
        - Tanks and storage (including polymer modified binders if applicable)
        - Binder temperature
        - Sample points
        - Method to ensure mixture contains the specified binder grade
        - Additive introduction details if introduced at the plant
    - Testing and inspection plan for control of aggregates and RAP
    - Mix Testing and inspection plan
c. Quality Control Requirements – Method A & B:
    - Name of Quality Control Technicians(s) and certification number(s)
    - Laydown operations
    - Longitudinal joint construction including the tacking of all joints.
    - Procedures for avoiding paving in inclement weather
    - Compaction of shoulders
    - Methods to ensure that segregation is minimized
    - Procedures to determine the maximum rolling and paving speeds based on best engineering practices and past experience in achieving acceptable pavement smoothness.

- Sequence for paving around drainage structures, under guard rail, around curb, at bridges, intersections, drives and minor approaches to ensure proper compaction, finish, and drainage.
- Type of release agent to be used on haul units, tools and rollers.

d. Quality Control Requirements – Method C and D:
   - Name of QCP Administrator and certification number(s) as specified in Section 401.19.
   - Name of Process Control Technicians(s) and certification number(s).
   - Name of Quality Control Technicians(s) and certification number(s).
   - Anticipated Compaction Temperature Zones for each roller pass during placement.
   - Mix TMD to be used for density gauge setting for method spec density work
   - Procedures for avoiding paving in inclement weather.
   - Type of release agent to be used on haul units, tools and rollers.
   - A note stating that the use of petroleum-based fuel oils, such as diesel or kerosene, or asphalt stripping solvents will not be permitted.

The Contractor shall also supply a Laydown Operation Plan that addresses sequence of work, layout of work, longitudinal joint construction, compaction of shoulders, methods to minimize segregation, and procedures to achieve acceptable pavement smoothness.

For each production day, a summary of each day's results, including a daily paving report, summarizing the mixture type, mixture temperature, equipment used, environmental conditions, and the number of roller passes, shall be recorded and signed by the QCT and presented to the Department's representative by 1 PM the following working day.

Unless otherwise noted in Section 403 – Hot Mix Asphalt Pavement, the Contractor shall submit a modified QC Plan every year detailing, how the mix is to be placed, what equipment is to be used, and what HMA plant is to be used for Items covered under the Plan. All mix designs (JMF) shall be approved and verified by MaineDOT prior to use.

A QCP, certified QC personnel, and a Prepave Meeting shall not be required for Item 403.209 - Hot Mix Asphalt, 9.5 mm Nominal Maximum Size (sidewalks, drives, islands & incidentals) accepted under visual or Method D. An approved JMF shall be provided to the Resident prior to placement.

The Contractor shall certify the mix and the test results for each item by a Certificate of Compliance.

The Contractor shall have a testing lab at the plant site, equipped with all testing equipment necessary to complete the tests in Table 6. The Contractor shall generate QC sampling random numbers for each approved mix design every year. A copy of the random numbers shall be emailed to the QC.mainedot@maine.gov email address and remain on-file (in print) and be available for inspection at the QC laboratory. The Contractor shall sample, test, and evaluate Hot Mix Asphalt Pavement in accordance with the minimum frequencies per each approved mix design.

TABLE 6: MINIMUM QUALITY CONTROL FREQUENCIES

Test or Action	Frequency	Test Method
Temperature of mix	6 per day at street and plant	-
Temperature of mat	4 per day	-
%TMD (In-Place Density - Surface)	1 per 125 ton	AASHTO T 355 or AASHTO T 343
%TMD (In-Place Density - Base)	1 per 250 ton	AASHTO T 355 or AASHTO T 343
Fines / Effective Binder	1 per 500 ton	AASHTO T 312*
Gradation	1 per 500 ton	AASHTO T 30
PGAB Content	1 per 500 ton	AASHTO T 164 or AASHTO T 308
Voids at N_{design}	1 per 500 ton	AASHTO T 312*
VMA at N_{design}	1 per 500 ton	AASHTO T 312*
Rice Specific Gravity	1 per 500 ton	AASHTO T 209
Percent Fractured Particles	1 per 5,000 ton	AASHTO T 335
Flat and Elongated Particles	1 Per 5,000 ton	ASTM D4791
Fine Aggregate Angularity	1 Per 5,000 ton	AASHTO T 304

*Method A and B only

The Contractor shall monitor plant production on each approved mix design using running average of three control charts as specified in Section 106 - Quality. Control limits shall be as noted in Table 7 below. The UCL and LCL, shall not exceed the allowable gradation control points for the particular type of mixture as outlined in Table 1 of Section 703.09.

TABLE 7: CONTROL LIMITS

Property	UCL and LCL
Percent Passing 4.75 mm and larger sieves	Target +/- 4.0
Percent Passing 2.36 mm sieve	Target +/- 2.5
Percent Passing 0.075 mm sieve	Target +/- 1.0
PGAB Content	Target +/- 0.25
VMA at N_{design}	LCL = LSL + 0.2
Voids at N_{design}	JMF Target +/- 1.2
Theoretical Maximum Specific Gravity	JMF Target +/- 0.020

The Contractor shall submit all QC test and inspection reports and updated control charts to the Resident and QC.mainedot@maine.gov by email. The reports and updated control charts shall be signed by the appropriate technician and be submitted to the Department by 1:00 P.M. on the next working day, except when otherwise noted in the QCP and approved by the Department.

The Contractor shall also retain splits of the previous 5 QC tests, with QC results enclosed for random selection and testing by the Department. Test results of splits that do not meet the Dispute Resolution

Variance Limits in Table 18 shall trigger an investigation by the MaineDOT Independent Assurance Unit and may result in that lab losing NETTCP certification and the ability to request a dispute [Section 401.50 - Process for Dispute Resolution].

The Contractor shall make density test results, including randomly sampled densities, available to the Department onsite. Summaries of each day's results, including a daily paving report summarizing the mixture type, mixture temperature, equipment used, environmental conditions, and the number of

roller passes, shall be recorded and signed by the QCT and provided to the QC.mainedot@maine.gov email address and Resident in writing by 1:00 p.m. the next working day. The Contractor shall fill all holes in the pavement resulting from cutting cores by the Contractor or the Department with a properly compacted, acceptable mixture no later than the following working day. Before filling, the Contractor shall carefully clean the holes and apply a coating of emulsified asphalt. The Contractor may only cut additional cores for verification of the densometer, at a rate not to exceed 3 per day or 2 per 1000 ton placed.

If the Contractor's control chart shows the process for a given mix design to be out of control (defined as a single point outside of the control limits on the running average of three chart) on any property listed in Table 7: Control Limits, the Contractor shall notify the Resident of all affected projects in writing of the corrective action by 1:00 PM the next working day. The written description shall detail what action is being taken by the Contractor to bring the property in question back within control limits. Subsequent quality control results are expected to demonstrate an improvement and regression towards the aim. The Department reserves the right to take action, to include cessation of production, in the case of repeated results outside the Table 7 control chart control limits.

On a daily basis, or whenever equipment type or sequence is modified, the Contractor shall perform density testing across the mat being placed, prior to being compacted by equipment at 12 in intervals. If the density values vary by more than 2.0% from the mean, the Contractor shall make adjustments to the screed until the inconsistencies are remedied. Failure to replace or repair defective placement equipment may result in a letter of suspension of work and notification of a quality control violation resulting in possible monetary penalties as governed by Section 106 – Quality.

The Contractor shall cease paving operations whenever one of the following occurs:

a. The quality level for density using all quality control tests for the current Lot is less than 60 PWL.
b. The Coarse Aggregate Angularity or Fine Aggregate Angularity value falls below the requirements of Section 703.07, Table 3: Aggregate Consensus Properties Criteria for the design traffic level.
c. The Flat and Elongated Particles value exceeds 10% by ASTM D4791.
d. There is any visible damage to the aggregate due to over-densification other than on variable depth shim courses.
e. The Contractor fails to follow the approved QCP.

The Contractor shall notify the Resident in writing as to the reason for shutdown, as well as the corrective action, by the end of the workday. Failure to do so will be treated as a second incident under 106.4.6 QCP Non-compliance. The Department will only allow the continuation of paving operations when it is satisfied the corrective action will result in an improvement in results. The Department may require the submittal of a passing verification sample to allow further production. The Department

retains the exclusive right, with the exception of the first day's production of a new JMF, to determine whether the resumption of production involves a significant change to the production process. If the Department so determines, then the current lot will be terminated, a pay factor established, and a new lot will begin.

The Contractor may utilize innovative equipment or techniques not addressed by the Contract documents to produce or monitor the production of the mix, subject to approval by the Department.

401.192 Quality Control for Method D, (sidewalks, drives, islands & incidentals) and visual acceptance items A QCP, certified QC personnel, or Prepave Meeting shall not be required for Item 403.209 - Hot Mix Asphalt, 9.5 mm Nominal Maximum Size (sidewalks, drives, islands & incidentals) accepted under visual or Method D. An approved JMF shall be provided to the Resident prior to placement.

401.20 Acceptance Method A & C These methods utilize Quality Level Analysis and pay factor specifications. For Hot Mix Asphalt Pavement designated for acceptance under Quality Assurance provisions, the Department will sample once per sublot on a statistically random basis, test, and evaluate in accordance with the Acceptance Properties as outlined in Table 8:

TABLE 8: ACCEPTANCE PROPERTIES – METHOD A & C

Properties	**Point of Sampling**	**Test Method**
Gradation	Paver Hopper	AASHTO T 30
PGAB Content	Paver Hopper	AASHTO T 308
% TMD (In-Place Density)	Mat behind all Rollers	AASHTO T 269
Voids at N_{design}	Paver Hopper	AASHTO T 312
VMA at N_{design}	Paver Hopper	AASHTO T 312
Fines to Effective Binder	Paver Hopper	AASHTO T 312
VFB	Paver Hopper	AASHTO T 312

The Department will obtain samples of Hot Mix Asphalt Pavement in conformance with AASHTO R 97, Sampling Asphalt Mixtures, and the MaineDOT Policies and Procedures for HMA Sampling and Testing. The Contractor shall transport the samples in containers provided by the Department to the designated MaineDOT Laboratory within 48 hours except when otherwise noted in the project specific QCP or as directed by the Resident. Failure to deliver an acceptance sample to the designated acceptance laboratory will be considered the second incident under 106.4.6–QCP Non-Compliance.

Target values shall be as specified in the JMF. The Department will withhold reporting of the test results for the Acceptance sample until 7:00 AM, on the second working day of receipt of the sample, or after receipt of the Contractors results of the Acceptance sample split. Upon conclusion of each lot being evaluated under quality level analysis, where there is a minimum of four sublots, results shall be examined for statistical outliers, as stated in Section 106.7.2 - Statistical Outliers.

Lot sizes and sublot sizes shall be determined as outlined in Table 9.

TABLE 9: LOT AND SUBLOT SIZES – METHOD A & C

Lot Size*	Entire production per item per contract per year up to 6000 ton
Maximum Sublot Size – Mix	750 ton
Maximum Sublot Size – Density	Surface Layers – 250 ton Base / Intermediate Layers – 500 ton
Minimum Number of Samples – Mix	Four
Minimum Number of Samples – Density	Five

*General – Lot and Sublot size may be adjusted to accommodate the work scope and schedule, or as otherwise agreed upon at the Prepave Meeting

If there is less than one-half of a sublot remaining at the end of production for the year, then it shall be combined with the previous sublot. If there is more than one-half sublot remaining at the end of production for the year, then it shall constitute the last sublot and shall be represented by test results. If it becomes apparent partway through a Lot that, due to an underrun, there will be insufficient mix quantity to obtain the minimum number of sublots needed, the Resident may adjust the size of the remaining sublots and select new sample locations based on the estimated quantity of material remaining in the Lot. Unanticipated over-runs of up to 1500 ton shall be rolled into the last lot. Cases where the lot is terminated prior to reaching completion shall be handled in accordance with Section 106.7.3 Early Termination of Lots. In cases where density incentive/disincentive provision apply, additional cores shall be taken to attain a minimum of three for the Lot.

Isolated Areas During the course of inspection, should it appear that there is an isolated area that is not representative of the lot based on a lack of observed compactive effort, excessive segregation, a change in process or any other questionable practice, that area may be isolated and tested separately. An area so isolated that has a calculated pay factor below 0.80 for Method A, based on three random tests shall be removed and replaced at the expense of the Contractor for the full lane width and a length not to be less than 150 ft.

TABLE 10: ACCEPTANCE LIMITS – METHOD A & C

Property	**USL and LSL**	
	Method A	**Method C**
Percent Passing 4.75 mm and larger sieves	Target +/- 7%	Target +/- 7%
Percent Passing 2.36 mm to 1.18 mm sieves	Target +/- 4%	Target +/- 5%
Percent Passing 0.60 mm sieve	Target +/- 3%	Target +/- 4%
Percent Passing 0.30 mm to 0.075 mm sieve	Target +/- 2%	Target +/- 2%
PGAB Content	Target +/- 0.4%	Target +/- 0.4%
Voids at N_{design}	4.0% +/- 1.5%	N/A
Fines to Effective Binder	0.9 +/- 0.3	N/A
VMA at N_{design}	LSL from Table 1	N/A
VFB	Table 1 plus a 4% production tolerance for USL	N/A
% TMD (In-place Density)	94.5% +/- 2.5%	94.5% +/- 2.5%

Cease Production The Contractor shall cease paving operations whenever one of the following occurs on a lot in progress:

TABLE 11: CEASE PRODUCTION – METHOD A & C

Property	Percent Within Limits (PWL)	
	Method A	**Method C**
Percent Passing NMAS sieve*	<60 PWL	<60 PWL
Percent Passing 2.36 mm sieve*		
Percent Passing 0.30 mm sieve*		
Percent Passing 0.075 mm sieve*		
PGAB Content		
Voids at N_{design}		N/A
Fines to Effective Binder*		
VMA at N_{design}		
VFB		
% TMD (In-place Density)		<60 PWL

*Paving operations shall not be required to cease if the mean test value is equal to the LSL or USL and s = 0.

In cases where the Contractor is to cease paving operations based upon an Acceptance result or payfactor, the Contractor will submit a corrective action plan to the Department. The Department will only allow the continuation of paving operations when it is satisfied the corrective action will result in an improvement in results. The Department may require the submittal of a passing verification sample to allow further production.

401.201 Pay Adjustment - Method A & C The Department will use the following criteria for pay adjustment at the completion of the Lot using the pay adjustment factors under Section 106.7 - Quality Level Analysis.

Density Upon conclusion of each lot, density results shall be examined for statistical outliers as stated in Section 106.7.2. If the pay factor for Density falls below 0.80, all of the cores will be randomly re-cut by Sublot. A new pay factor will be calculated that combines all initial and retest results. If the resulting pay factor is below 0.80 , the entire Lot shall be removed and replaced with material meeting the specifications at no additional cost to the Department, except that the Department may, when it appears that there is a distinct pattern of defective material, isolate any defective material by investigating each mix sample sublot and require removal of defective mix sample sublots only, leaving any acceptable material in place if it is found to be free of defective material. Pay factors equal to or greater than the reject level will be paid accordingly.

Mix Properties The Department will determine a pay factor (PF) using the applicable Acceptance Limits. If all three pay factors for PGAB Content, VMA at N_{design}, and Voids at N_{design} fall below 0.80 for Method A, then the composite pay factor for PGAB Content, VMA at N_{design}, and Voids at N_{design} shall be 0.50.

The following variables will be used for pay adjustment:

PA = Pay Adjustment
Q = Quantity represented by PF in ton
P = Contract price per ton
PF = Pay Factor

The Department will determine a pay adjustment using Table 12: Pay Adjustment Calculations as follows:

TABLE 12: PAY ADJUSTMENT CALCULATIONS – METHOD A & C

Acceptance Method	Mix Properties / Gradation	Density
Method A	PA = (Voids @ N_d PF - 1.0)(Q)(P)x0.20 + (VMA @ N_d -1.0)(Q)(P)x0.20 + (PGAB Content PF- 1.0)(Q)(P)x0.10	PA = (density PF-1.0)(Q)(P)x0.50
Method C	PA = (% Passing Nom. Max PF-1.0)(Q)(P)x0.05+(% passing 2.36 mm PF-1.0)(Q)(P)x0.05+(%passing 0.30 mm PF-1.0)(Q)(P)x0.05+(%passing 0.075 mm PF-1.0)(Q)(P)x0.10+(PGAB Content PF-1.0)(Q)(P)x0.25	PA = (density PF-1.0)(Q)(P)x0.50

In addition, for 9.5 mm NMAS mixtures the following pay adjustment shall also apply:

The average percent passing for the 0.075 mm sieve shall be evaluated for each Lot. If the average is greater than 6.5%, a pay adjustment according to Table 13 below shall apply in addition to the other pay adjustments for the given method of testing.

TABLE 13: 0.075 MM SIEVE PAY ADJUSTMENT

Average Percent Passing 0.075 mm Sieve	Pay Adjustment
6.6% - 7.0%	-5%
> 7.0%	-10%

The Department shall notify the Contractor whenever the average of at least three samples in a given Lot is greater than 6.5%.

401.21 Acceptance Method B & D Unless otherwise stated in the 403 special provision, the Lot shall be the entire mix quantity per item per contract per year. The Department will sample once per sublot per pay item on a statistically random basis, test, and evaluate in accordance with the Acceptance Properties in Table 14. The Department will obtain samples of Hot Mix Asphalt Pavement in conformance with AASHTO R 97, Sampling Asphalt Mixtures, and the MaineDOT Policies and Procedures for HMA Sampling and Testing. The Contractor shall transport the samples in containers provided by the Department to the designated MaineDOT Laboratory within 48 hours except when otherwise noted in the project specific QCP or as directed by the Resident. Failure to deliver an acceptance sample to the designated acceptance laboratory will be considered the second incident under 106.4.6–QCP Non-Compliance. Target values shall be as specified in the JMF. The Department will withhold reporting of the test results for the Acceptance sample until 7:00 AM, on the second working day of receipt of the sample, or after receipt of the Contractors results of the Acceptance sample split.

TABLE 14: ACCEPTANCE PROPERTIES – METHOD B & D

Properties	Point of Sampling		Test Method
	Method B	Method D	
Gradation	Paver Hopper	Paver Hopper or Truck	AASHTO T 30
PGAB Content	Paver Hopper	Paver Hopper or Truck	AASHTO T 308
% TMD (In-Place Density)	Mat behind all Rollers	Mat behind all Rollers	AASHTO T 269
Voids at N_{design}	Paver Hopper	N/A	AASHTO T 312
VMA at N_{design}	Paver Hopper	N/A	AASHTO T 312
Fines to Effective Binder	Paver Hopper	N/A	AASHTO T 312
VFB	Paver Hopper	N/A	AASHTO T 312

TABLE 15: LOT AND SUBLOT SIZES – METHOD B & D

Lot Size*	Entire mix quantity per item per contract per year	
Maximum Sublot Size – Mix	(Lot size ≤ 1000 tons)	(Lot size > 1000 tons)
	250 ton	750 ton
Sublot Size – Density	125 ton (Max 5 Sublots)	250 ton

*General – Lot and Sublot size may be adjusted to accommodate the work scope and schedule, or as otherwise agreed upon at the Prepave Meeting

If there is less than one-half of a sublot remaining at the end of production for the year, then it shall be combined with the previous sublot. If there is more than one-half sublot remaining at the end of production for the year, then it shall constitute the last sublot.

TABLE 16: ACCEPTANCE LIMITS – METHOD B & D

Property	USL and LSL	
	Method B	Method D
Percent Passing 4.75 mm and larger	Target +/- 7%	Target +/- 7%
Percent Passing 2.36 mm sieve	Target +/- 5%	Target +/- 7%
Percent Passing 1.18 mm sieve	Target +/- 5%	Target +/- 5%
Percent Passing 0.60 mm sieve	Target +/- 4%	Target +/- 4%
Percent Passing 0.30 mm sieve	Target +/- 3%	Target +/- 3%
Percent Passing 0.075 mm sieve	Target +/- 3%	Target +/- 3%
PGAB Content	Target +/- 0.5%	Target +/- 0.5%
Voids at N_{design}	4.0% +/- 2.0%	N/A
Fines to Effective Binder	0.9 +/- 0.3	N/A
VMA at N_{design}	LSL from Table 1	N/A
VFB	Table 1 plus a 4% production tolerance for USL	N/A
% TMD (In-place Density)	94.5% +/- 2.5%	LSL of 92.0%

The Contractor shall cease paving operations whenever two consecutive Method B or D tests fall outside specification limits on the same property. The Contractor will submit a corrective action plan to the Department. The Department will only allow the continuation of paving operations when it is satisfied the corrective action will result in an improvement in results. The Department may require the submittal of a passing verification sample to allow further production.

401.211 Pay Adjustment - Method B & D For items accepted under Method B or D, if the mix is within the tolerances listed in Table 16, the Department will pay the contract unit price, otherwise pay adjustments as shown in Table 17 shall be applied to the quantity of mix represented by the test. The Contractor shall cut one 6 in core per sublot unless otherwise noted in Section 403 - Hot Mix Asphalt Pavement. If the density result is not within the specified limits the disincentive shall apply. If the sublot density is less than 88.5 percent or greater than 99.0 percent of the sublot TMD, two additional cores shall be cut at random locations determined by the Department. If either of the additional cores has a density less than 88.5 percent or greater than 99.0 percent of the sublot TMD, the sublot shall be removed and replaced at no cost to the Department; otherwise, the average of the three cores will be used to determine the sublot pay adjustment.

TABLE 17: PAY ADJUSTMENTS – METHOD B & D

Property	**Method B**		**Method D**	
Percent Passing 2.36 mm sieve	N/A		-2.0%	
Percent Passing 0.30 mm sieve	N/A		-1.0%	
Percent Passing 0.075 mm sieve	-2.0%		-2.0%	
PGAB Content	-5.0%		-5.0%	
Voids at N_{design}	-3.0%		N/A	
% TMD (In-place Density)	91.5% - 91.9% or 97.1% - 97.5%	-5.0%	91.5% - 91.9%	-5.0%
	90.5% - 91.4% or 97.6% - 98.5%	-10.0%	90.5% - 91.4%	-10.0%
	89.5% - 90.4% or 98.6% - 99.0%	-20.0%	89.5% - 90.4%	-20.0%
	88.5% - 89.4%	-30.0%	88.5% - 89.4%	-30.0%
	<88.5% or >99.0%	Reject	<88.5% or >99.0%	Reject

401.30 Method of Measurement The Department will measure Hot Mix Asphalt Pavement by the ton in accordance with Section 108.1 - Measurement of Quantities for Payment.

401.40 Basis of Payment The Department will pay for the work, in place and accepted, in accordance with the applicable sections of this Section, for each type of HMA specified.

The Department will pay for the work specified in Section 401.12, for the HMA used, except that cleaning objectionable material from the pavement and furnishing and applying bituminous material to joints and contact surfaces is incidental.-Payment for this work under the appropriate pay items shall be full compensation for all labor, equipment, materials, and incidentals necessary to meet all related contract requirements, including design of the JMF, implementation of the QCP, obtaining core samples, transporting cores and samples, filling core holes, applying emulsified asphalt to joints, and providing testing facilities and equipment. The Department will make a pay adjustment for quality as specified in Section 401.20 Acceptance Method A & B or 401.21 Acceptance Method C & D.

401.50 Process for Dispute Resolution At the time of Hot-Mix Asphalt sampling, the Department will obtain a split sample of each Acceptance test random sample for possible dispute resolution testing. The Contractor shall also obtain a split sample of the HMA at this same time. If the

Contractor wishes to retain the option of requesting dispute testing of the initial Acceptance sample, the Contractor will test their split of the Acceptance sample in accordance with applicable AASHTO procedure and accepted supplemental practice as described in the Department's HMA Sampling and Testing Policies and Procedures manual. The Contractor shall report their results to the Resident, with a copy to Contractor.mainedot@maine.gov by 7:00 AM, on the second working day from time of QA sampling, otherwise dispute resolution will not be initiated. The Department's dispute resolution split sample will be properly labeled and stored for a period of at least two weeks after it has been reported, or until the sample is tested. The properties eligible for dispute and the respective variances are shown in Table 18.

The Contractor may dispute the Department's Acceptance results and request that the dispute resolution split sample be tested by notifying the Department's Resident and QA Engineer in writing within two working days after the results of the Acceptance test are reported. The following shall be provided in the request:

- Acceptance sample reference number
- The specific test result(s) or property(ies) being disputed, and
- The complete, signed report of the Contractor's testing (In a lab certified by the NETTCP and MaineDOT) of their split of the Acceptance sample indicating that the variances in Table 18 for the specific test result(s) or property(ies) were exceeded.

TABLE 18: DISPUTE RESOLUTION VARIANCE LIMITS

Property	**Method A & B**	**Method C & D***	**Variance Limits**
PGAB Content	Yes	Yes	+/- 0.4%
G_{mb}	Yes	No	+/- 0.030
G_{mm}	Yes	Only if referenced to a Core	+/- 0.020
Voids at N_{design}	Only if G_{mb} or G_{mm} is not disputable	No	+/- 0.8%
VMA at N_{design}	Only if G_{mb} or G_{mm} is not disputable	No	+/- 0.8%
Percent Passing 4.75 mm and larger sieves	No	Yes^	+/- 4.0%
Percent Passing 2.36 mm to 0.60 mm sieves	No	Yes^	+/- 3.0%
Percent Passing 0.30 mm to 0.15 mm sieves	No	Yes^	+/- 2.0 %
0.075 mm sieve	Only for 9.5 mm NMAS mixes	Yes	+/- 0.8%

*****Disputes will not be allowed on Item 403.209

^Disputes will only be allowed on Sieve Sizes used for pay adjustment calculations

The value of any disputed result or property reported for the initial Acceptance sample shall stand if the value reported for the dispute resolution sample is not closer to the value the Contractor reported for their split sample than to the value reported for the initial Acceptance sample. If the value reported for the dispute resolution falls precisely half-way between the other two values the value reported for the dispute resolution will replace the original acceptance value. Otherwise, the

value reported for the dispute resolution sample will replace the value reported for the initial Acceptance sample and will be used to re-calculate any other affected results or properties.

SECTION 402 - PAVEMENT SMOOTHNESS

402.00 Smoothness Projects Projects to have their pavement smoothness analyzed in accordance with this Specification will be so noted in Special Provision 403 - Hot Mix Asphalt Pavement.

402.01 Pavement Smoothness The final pavement surface shall be evaluated for smoothness using a Class I or Class II profiler as defined by ASTM E950 (94). Smoothness measurements will be expressed in terms of the International Roughness Index (IRI) as defined by the World Bank, in units of inches/mile.

402.02 Lot Size Lot size for smoothness will be 3000 lane-feet. A sublot will consist of 50 lane-feet. Partial lots will be included in the previous lot if less than one-half the size of a normal lot. If equal to or greater than one-half the normal lot size, it will be tested as a separate lot.

402.03 Acceptance Testing The Department will conduct Acceptance testing following completion of the surface course. Sections to be excluded from testing include the following:

- Bridge decks and joints (no smoothness measurements will be taken within 100 ft of bridge joints)
- Acceleration and deceleration lanes
- Shoulders and ramps
- Side streets and roads
- Within 100 ft of transverse joints at the beginning and end of the project
- Within 100 ft of railroad crossings
- Urban areas with speed limits of 30 mph or lower

Each lot shall have 2 measurements made in each wheel path. The average of the 4 measurements will determine the smoothness for that lot. The smoothness measurements will be statistically evaluated for pay factors as described in Subsection 106.7 - Quality Level Analysis, using the specification limits shown below.

TABLE 1: ACCEPTANCE LIMITS

Level	USL
I	55 in/mile
II	65 in/mile
III	75 in/mile

Computation of Smoothness Pay Adjustment:

PA = (PF-1.0)(Q)(P) where:
Q = Quantity of surface course in the Lot (excluding shoulders, side streets, bridge decks, ramps, acceleration and deceleration lanes)
PF = smoothness pay factor for the Lot
P = Contract unit price for surface pavement
PA = pay adjustment

402.04 Unacceptable Work In the event that any Lot is found to have a pay factor less than 0.80, the Contractor shall take whatever remedial action is required to correct the pavement surface in that Lot at no additional expense to the Department. Such remedial action may include but is not limited to removal and replacement of the unacceptable pavement. In the event remedial action is necessary, the Contractor shall submit a written plan to the Resident outlining the scope of the remedial work. The Resident must approve this plan before the remedial work can begin. Following remedial work, the Lot shall be retested, and will be subject to the specification limits listed above. The resulting pay factor, if within the acceptable range, will be used in the final pay adjustment. The Contractor shall pay the cost of retesting the pavement following corrective action.

Localized surface tolerance defects will be subject to the provisions outlined in Section 401.11 Surface Tolerances.

Payment will be made under:

Pay Item	Pay Unit
402.10 Incentive/Disincentive - Pavement Smoothness	Lump Sum

SECTION 403 - HOT MIX ASPHALT PAVEMENT

403.01 Description This work shall consist of constructing one or more courses of Hot Mix Asphalt pavement on an approved base in accordance with these specifications, and in reasonably close conformity with the lines, grades, thickness and typical cross sections shown on the plans or established. The HMA pavement shall be composed of a mixture of aggregate, filler if required, and asphalt material.

403.02 General The materials and their use shall conform to the requirements of Section 401 - Hot Mix Asphalt Pavement.

403.03 Construction The construction requirements shall be as specified in Section 401 - Hot Mix Asphalt Pavement.

403.04 Method of Measurement Hot mix asphalt pavement will be measured as specified in Section 401.21- Method of Measurement.

403.05 Basis of Payment The accepted quantities of hot mix asphalt pavement will be paid for at the contract unit price per ton for the mixtures, including hot mix asphalt material complete in place. Method A, Method B, Method C and Method D shall be used for acceptance as specified in Section 401 - Hot Mix Asphalt Pavements. (See Complementary Notes, Section 403 - Hot Mix Asphalt Pavement, for Method location).

Payment will be made under:

Pay Item		Pay Unit
403.102	Hot Mix Asphalt Pavement for Special Areas	Ton
403.206	Hot Mix Asphalt, 25 mm Nominal Maximum Size	Ton
403.207	Hot Mix Asphalt, 19.0 mm Nominal Maximum Size	Ton
403.2071	Hot Mix Asphalt, 19.0 mm Nominal Maximum Size (Polymer Modified)	Ton
403.2072	Asphalt Rich Hot Mix Asphalt, 19.0 mm Nominal Maximum Size (Asphalt Rich Base and Intermediate course)	Ton
403.208	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size	Ton
403.2081	Hot Mix Asphalt - 12.5 mm Nominal Maximum Size (Polymer Modified)	Ton
403.209	Hot Mix Asphalt, 9.5 mm Nominal Maximum Size (Sidewalks, Drives, Islands & Incidentals)	Ton
403.210	Hot Mix Asphalt, 9.5 mm Nominal Maximum Size	Ton
403.2101	Hot Mix Asphalt, 9.5 mm Nominal Maximum Size (Polymer Modified)	Ton
403.2104	Hot Mix Asphalt, 9.5 mm Nominal Maximum Size (Thin Lift Surface Treatment)	Ton
403.211	Hot Mix Asphalt, 9.5 mm Nominal Maximum Size (Shimming)	Ton
403.2111	Hot Mix Asphalt, 9.5 mm Nominal Maximum Size (Shimming, Polymer Modified))	Ton
403.212	Hot Mix Asphalt, 4.75 mm Nominal Maximum Size	Ton
403.213	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size (Base and Intermediate Base course)	Ton
403.2131	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size (Base and Intermediate Base course, Polymer Modified)	Ton
403.2132	Asphalt Rich Hot Mix Asphalt, 12.5 mm Nominal Maximum Size (Base and Intermediate Base course)	Ton
403.214	Hot Mix Asphalt, 4.75 Nominal Maximum Size (5/8” Surface Treatment)	Ton

SECTION 400
HOT MIX ASPHALT PAVEMENT
(Weather and Seasonal Limitations)

The following section of Special Provision Section 400 – Weather and Seasonal Limitations Table3: SEASONAL AND TEMPERATURE LIMITATIONS has been replaced by the following Table 3: SEASONAL AND TEMPERATURE LIMITATIONS. All other requirements not amended or replaced by Table3 by this special provision shall be considered unchanged.

401.06 Weather and Seasonal Limitations The State is divided into two paving zones as follows:

a. Zone 1 Areas north of US Route 2 from Gilead to Bangor and north of Route 9 from Bangor to Calais.
b. Zone 2 Areas south of Zone 1 including the US Route 2 and Route 9 boundaries.

TABLE 3: SEASONAL AND TEMPERATURE LIMITATIONS

Description	**Zone 1 Allowable Placement Dates**	**Zone 2 Allowable Placement Dates**	**Minimum Ambient Air Temperature**
HMA Surface Course greater than or equal to 1” (Travelway)	May 1 to Saturday following October 1	April 15 to Saturday following October 15	50°F
HMA Surface Course less than 1” (Travelway)	May 15 to Saturday following September 15	May 15 to Saturday following October 1	
HMA Surface Course less than 1” considered to be “**Night Work**” (Travelway)	June 1 to the Saturday following September 1		
HMA Surface Course less than 1” (Shoulders)	May 15 to the Saturday following October 15		
HMA for Surface Course on **Bridge Decks**	May 1 to Saturday following October 1	April 15 to Saturday following October 15	
HMA for Base or Shim Course on **Bridge Decks**	April 15 to November 15		
HMA for use other than Travelway Surface Course (Shoulders greater than or equal to 1”, Intermediate, Base, Shim)	April 15 to November 15		40°F
HMA for curb, driveways, sidewalks, islands, or other incidentals	N/A		

With Use of Approved Warm Mix Technology as Compaction Aid (Surface Course Ambient Air Temperature Allowances)			
HMA Surface Course greater than or equal to 1” (Travelway)	May 1 to Saturday following October 1	April 15 to Saturday following October 15	Begin at 50°F and pave **down to** 45°F
HMA Surface Course less than 1” (Travelway)	May 15 to Saturday following October 1	May 15 to Saturday following October 15	
HMA Surface Course less than 1” considered to be “**Night Work**” (Travelway)	June 1 to the Saturday following September 15		
HMA Surface Course less than 1” (Shoulders)	May 15 to the Saturday following October 15		
With Use of Approved Warm Mix Technology as Compaction Aid (Seasonal Limitation Extensions)			
HMA Surface Course greater than or equal to 1” (Travelway)	Saturday following October 1 to Saturday following October 15	Saturday following October 15 to Saturday following October 29	50°F
HMA Surface Course less than 1” (Shoulders)	Saturday following October 15 to Saturday following October 29		50°F
HMA for use other than Travelway Surface Course (Shoulders greater than or equal to 1”, Intermediate, Base, Shim)	April 15 to Saturday following November 15		35°F

1. Shoulders paved with the travelway pass shall meet travelway ambient air temperatures
2. Refer to the 461 SP for UTBWC for seasonal and temperature requirements.

The ambient air temperature shall be determined by an approved thermometer placed in the shade at the paving location. Unless otherwise specified, the Contractor shall not place Hot Mix Asphalt Pavement on a wet or frozen surface regardless of the ambient air temperature. The Hot Mix Asphalt Pavement produced with an approved WMA technology shall meet the requirements of section 401.04 - Temperature Requirements, unless otherwise approved by the Department. For the purposes of this Section, the traveled way includes truck lanes, ramps, approach roads and auxiliary lanes.

SPECIAL PROVISION
SECTION 401
HOT MIX ASPHALT PAVEMENT

401 HOT MIX ASPHALT LONGITUDINAL JOINT DENSITY

401.30 Description The Department will measure the pavement density of longitudinal joints constructed between adjoining travel lanes; turn lanes, truck (climbing) lanes, and passing lanes will be considered travel lanes for longitudinal join density testing unless otherwise noted in Section 403 – Hot Mix Asphalt Pavement. Core samples shall be tested according to AASHTO T-166. The Contractor shall cut 6-inch diameter cores at no additional cost to the Department by the end of the working day following paving. Pre-testing of the acceptance cores will not be allowed. If the Contractor and the Department mutually determine that a core is damaged, the Contractor shall cut new core(s) at the same offset and within 3 ft of the initial sample. The Contractor and the Department will mutually determine if underlying material is adhered to the core and if so will mark the core at the point where sawing is needed. The Department will place the cores in a secure container and the Contractor shall transport the cores to the designated MaineDOT lab. The cores will be saw cut by the Department to remove underlying layers. No recuts are allowed at a test location after the core has been tested.

For vertical longitudinal joints, cores shall be taken directly centered over the construction joint. For notch-wedge longitudinal joints , the cores shall be cut directly over the center of the tapered portion of the wedge.

As part of the project specific QCP, the Contractor shall include details as to methods of construction, rolling and compaction efforts, and action plan to adjust methods or equipment should the Quality level fall below 50 percent within limits. The Contractor shall be required to measure the joint density at randomly selected locations with a minimum frequency of one measurement per 750 linear feet. The Contractor shall have the option to cut calibration/verification cores at a rate not to exceed 1 per day.

If the Quality level for density falls below 50 percent within limits, the Contractor shall cease placement operations and submit a corrective action letter to the Department before proceeding with the Lot or before starting a new Lot. The Department will respond and either accept or reject the Contractor's proposed corrective action. If the Department accepts the corrective action, three stratified verification cores will be taken from the first 1500 foot section of longitudinal joint constructed for the purpose of evaluating the corrective action. These cores will be in addition to any Acceptance cores that may be designated in this area. The results from these cores shall be combined with the cores from the Lot in progress. Should the combined Quality level for density show an improvement, the Department will accept the corrective action and normal Acceptance sampling frequency shall resume. If an improvement has not been made to the combined Quality level for density, the Contractor shall cease production and submit an additional corrective action letter for consideration.

401.31 Acceptance This method utilizes Quality Level Analysis and pay factor specifications as described in Section 106. For Hot Mix Asphalt Pavement designated for acceptance under

Quality Assurance provisions, the Department will sample once per sublot on a statistically random basis, test, and evaluate in accordance with the following Acceptance Properties:

Lot size will be the entire length of longitudinal joint for the given HMA layer for the project, or equal Lots of a size agreed upon at the Pre-paving conference. The maximum sublot size shall be 2000 linear feet of longitudinal joint for density and the minimum number of sublots for any Lot shall be five. The Lot will be divided up into sublots of equal length. There shall be a separate Lot for each lift of HMA pavement, and Lots shall not be comprised of results from more than one HMA layer.

The Department will determine a pay factor using acceptance limits from Table 1.

TABLE 1: LONGITUDNAL JOINT DENSITY ACCEPTANCE LIMITS

PROPERTY	LSL
% TMD (In-Place Density)*	91.0%

* The Theoretical Maximum Density will be determined from the average of the G_{mm} values used to determine the percent compaction of the nearest acceptance cores on either side of the Longitudinal Joint Core from each adjacent mat.

The Department will calculate the Pay Adjustment for Longitudinal Joint Density as follows:

PA = (joint density PF- 1.0)(Q)(P) x0.40

Where

PA = Pay Adjustment
Q = Quantity of traveled way pavement represented by PF in tons
P = Contract price per ton
PF = Pay Factor

If the joint density Pay Factor is less than 0.88, the Pay Adjustment shall be:

PA = (-0.05)(Q)(P)

SPECIAL PROVISION
DIVISION 400
PAVEMENTS

SECTION 401 - HOT MIX ASPHALT PAVEMENT
(HMA Hamburg Wheel Tracker Specification)

401.03 Composition of Mixtures The Contractor shall compose the Hot Mix Asphalt Pavement with aggregate, Performance Graded Asphalt Binder (PGAB), and mineral filler if required. HMA shall be designed and tested according to AASHTO R35 and the volumetric criteria in Table 1. The Contractor shall size, uniformly grade, and combine the aggregate fractions in proportions that provide a mixture meeting the grading requirements of the Job Mix Formula (JMF). Unless otherwise noted in Special Provision 403 - Hot Mix Asphalt Pavement, the design, verification, Quality Control, and Acceptance tests for this mix will be performed at 65 gyrations.

TABLE 1: VOLUMETRIC DESIGN CRITERIA

Design ESAL's (Millions)	Required Density (Percent of G_{mm})			Voids in the Mineral Aggregate (VMA)(Minimum Percent) Nominal Maximum Aggregate Size (mm)					Voids Filled with Binder (VFB) (Minimum %)	Fines/Eff. Binder Ratio
	$N_{initial}$	N_{design}	N_{max}	25	19	12.5	9.5	4.75		
<3	≤90.5	96.0	≤98.0	13.0	14.0	15.0	16.0	16.0	65-80*	0.6-1.2
3 to <10	≤89.0									
≥ 10										

*For 9.5 mm nominal maximum aggregate size mixtures, the maximum VFB is 82.
*For 4.75 mm nominal maximum aggregate size mixtures, the maximum VFB is 84.

The Contractor shall submit for Department approval a JMF to the Asphalt Pavement Engineer for each mixture to be supplied. The JMF will be approved by the Department in accordance with the MaineDOT HMA Policies and Procedures for HMA Sampling and Testing Manual. If the Contractor is submitting a new JMF, the Contractor shall identify and make available the stockpiles of all proposed aggregates at the plant site at the time of JMF submittal. There must be a minimum of 150 ton for coarse aggregate stockpiles and 75 ton for fine aggregate stockpiles before the JMF may be submitted. The Contractor shall provide aggregate samples to the Department unless otherwise required. The Contractor shall also make available to the Department the PGAB proposed for use in the mix in sufficient quantity to test the properties of the asphalt and to produce samples for testing of the mixture. If the Contractor is submitting a new JMF the first day's production shall be monitored, and approval may be withdrawn if the mixture exhibits undesirable characteristics such as checking, shoving or displacement. The Contractor shall be allowed to submit aim changes for a JMF as outlined in the MaineDOT HMA Policies and Procedures for HMA Sampling and Testing Manual: Mix Design Approval Section.

The Contractor shall submit a new JMF for approval each time a change in material source or materials properties is proposed. The same approval process shall be followed. The cold feed percentage of any aggregate may be adjusted up to 10 percentage points from the amount listed on the JMF, however no aggregate listed on the JMF shall be eliminated. The cold feed percentage for RAP may be reduced up to 10 percentage points from the amount listed on the

JMF and shall not exceed the percentage of RAP approved in the JMF or for the specific application under any circumstances.

If submitting a new JMF, the Contractor shall provide the Department with eight boxes of plant produced HMA before the start of paving. The Contractor shall test its split of the sample and determine if the results meet the requirements of the Department's written policy for mix design verification (See MaineDOT Policies and Procedures for HMA Sampling and Testing). If the results are found to be acceptable, the Contractor will forward their results to the Department's Lab, which will test the Department's split of the sample. The results of the two split samples will be compared and shared between the Department and the Contractor. If the HMA meets the requirements for mix design verification, the mixture will be tested for rutting and moisture sensitivity in the Hamburg Wheel Tracker according to AASHTO T324, "Hamburg Wheel-Track Testing of Hot Mix Asphalt (HMA)." The sample will be required to meet the applicable requirements of Table 1A below for approval, depending on the PG binder grade required by the 403 Special Provision. If the sample meets the requirements of Table 1A, an approved JMF will be forwarded to the Contractor and paving may commence. The Department will have five business days from receipt of the sample at the Central Laboratory to process, test, and report the Hamburg Wheel Tracker sample. The first day's production shall be monitored, and the approval may be withdrawn if the mixture exhibits undesirable characteristics such as checking, shoving or displacement.

TABLE 1A: HAMBURG WHEEL TRACKER REQUIREMENTS

Specified PG Binder Grade	Test Temperature (°C)	Maximum Rut Depth (mm)	Minimum Number of Passes	Minimum Allowable SIP*
PG 64-28	45	12.5	20,000	15,000
PG 64E-28	48	12.5	20,000	15,000
PG 70E-28	50	12.5	20,000	15,000

* As calculated by the most recently published version of the MaineDOT HWT worksheet, which is available online at http://www.maine.gov/mdot/contractors/publications/

401.19 Contractor Quality Control - Method A, B, C & D The following language has been added to Section 401.19:

The project specific QCP shall address the sampling, transport, and testing of Hamburg Wheel Tracker QC samples and what potential steps will be taken if QC samples do not meet the requirements in Table 1A. The project-specific QCP shall also contain a sample Hamburg Wheel Tracker test report for approval. The Contractor shall sample and test HMA Pavement in the Hamburg Wheel Tracker according to AASHTO T324 in accordance with the following minimum frequencies:

TABLE 2A: MINIMUM QUALITY CONTROL FREQUENCIES

Test or Action	Frequency	Test Method
Hamburg Wheel Tracker	1 per 4,000 ton and at least once per Acceptance Lot	AASHTO T 324

If the Contractor is submitting a new JMF the Contractor shall sample the HMA on the first day of production and test the sample in the Hamburg Wheel Tracker according to AASHTO T324. This sample will not count towards the minimum quality control frequency specified in Table 2A.

A first day production sample will not be required if the Contractor utilizes a previously approved JMF that has met HWT requirements listed in Table 1A during production. The Department will only allow the use of the design if the Contractor can provide data to show that the JMF has successfully met HWT requirements during production within the calendar year of paving. Prior to approval, the QCP will be updated to include passing production results including a minimum of three passing HWT Department issued acceptance results within the past year of production with a minimum of one of the results reported within the current calendar year (unless otherwise approved by the Department).

The Contractor shall submit all Hamburg Wheel Tracker test reports in writing, signed by the appropriate technician and present them to the Department within ten working days of initial sampling, except when otherwise noted in the project specific QCP due to local restrictions. The Contractor shall make the raw Hamburg Wheel Tracker data from QC samples available to the Department upon request. If a QC sample fails to meet the criteria in Table 1A, the Contractor will be required to submit a corrective action letter to the Resident, Materials Engineer, Pavement Quality Manager, and Pavement Quality Engineer by the end of the following working day with the proposed changes to bring the mixture back into compliance. The Department will respond and either accept or reject the Contractor's proposed corrective action by the end of the following working day from when the letter was received.

401.20 & 401.21 Acceptance Method(s) A, B, C & D The following language has been added to Section(s) 401.20 & 401.21

The Department will sample the HMA on the first day of production. This sample will not count towards the minimum acceptance frequencies specified in Table 3. A first day acceptance sample will not be required if the Contractor can provide a minimum of three passing HWT Department issued results within the past year of production with a minimum of one of the results reported within the current calendar year (unless otherwise approved by the Department).

The Department will sample at the acceptance frequencies specified in Table 3 to verify the compliance with the Hamburg Wheel Tracker Requirements. If an acceptance sample fails to meet the criteria in Table 1A, the Contractor shall cease paving operations and submit a corrective action letter to the Resident, Materials Engineer, Pavement Quality Manager, and Pavement Quality Engineer by the end of the work day with the proposed changes to bring the mixture back into compliance. Failure to do so will be treated as a second incident under 106.4.6 QCP Non-compliance. The Department will only allow the continuation of paving operations when it is satisfied that the corrective action will result in an improvement in results. The Department may require the submittal of a passing verification sample to allow further production.

TABLE 3: MINIMUM ACCEPTANCE FREQUENCIES

Test or Action	Frequency
Hamburg Wheel Tracker	1 per 4,000 ton or at least once per Acceptance Lot

The Department may take additional informational samples and test the HMA to verify compliance with the Hamburg Wheel Tracker Requirements. If an informational sample fails to meet the criteria in Table 1A, the Contractor will be required to submit a corrective action letter to the Resident, Asphalt Pavement Engineer, Pavement Quality Manager, and Pavement Quality Engineer by the end of the following working day with the proposed changes to bring the mixture back into compliance. The Department will respond and either accept or reject the Contractor's proposed corrective action by the end of the following working day from when the letter was received.

401.201 & 401.211 Pay Adjustments Method(s) A, B, C & D The following language has been added to Section(s) 401.201 & 401.211

For items accepted under Method(s) A, B, C &D, if the mix is within the tolerances listed in Table 1A, the Department will pay the contract unit price, otherwise pay adjustments as shown in Table 4 shall be applied to the quantity of mix represented by the test.

TABLE 4: HWT PAY ADJUSTMENT

Number of Passes	Pay Adjustment
< 20,000	-1.0% for every 1000 passes below target

A pay adjustment will not be applied to the acceptance sample taken on the first day of production per JMF.

SPECIAL PROVISION
SECTION 401 - HOT MIX ASPHALT PAVEMENT
(HMA with Fine Micro-Deval Requirement)

The following subsections of the most current version of Specification 401 – Hot Mix Asphalt Pavements have been revised and amended by the following:

401.01 Description The Contractor shall compose Hot Mix Asphalt (HMA) Pavement with aggregate, Performance Graded Asphalt Binder (PGAB), and mineral filler if required. If denoted in Special Provision 403 - Hot Mix Asphalt Pavement, the mixtures shall meet the additional aggregate requirements of this special provision.

401.02 Materials Materials shall meet the requirements specified in Section 700 – Materials, unless otherwise revised in this special provision:

Aggregates for HMA Pavement	703.07
HMA Mixture Composition	703.09

The HMA blend, minus any RAP used, shall have a Fine Micro-Deval value of 15.0 or less as determined by weighted average of individual fine aggregate source values determined through ASTM D7428.

SPECIAL PROVISION
SECTION 401
HOT MIX ASPHALT PAVEMENT
(Material Transfer Vehicle Option)

Description The Contractor may elect to use a material transfer vehicle at their option to transfer hot mix asphalt to the paver on mainline travelways, shoulders, and ramps as denoted in Special Provision 403 - Hot Mix Asphalt Pavement.

Material transfer vehicles shall operate as an independent unit not attached to the paver. It shall be a commercially manufactured unit specifically designed to transfer the hot mix from haul trucks to the paver without depositing the mix on the roadway. A separate hopper with a capacity of 14 ton shall be inserted into the regular paver hopper. The material transfer vehicle or the hopper insert shall be designed so that the mix receives additional internal mixing action either in the material transfer vehicle or the paver hopper.

Method of Measurement Hot mix asphalt pavement transferred by the material transfer vehicle and hopper insert will be measured by the ton.

Basis of Payment The accepted quantities of hot mix asphalt pavement transferred by the material transfer vehicle and hopper insert will be paid for at a price of $2.00 per ton.

Payments will be made under:

Pay Item:		Pay Unit:
403.40	Material Transfer Vehicle (MTV)	Ton

SPECIAL PROVISION
SECTION 403
HOT MIX ASPHALT

Desc. Of Course	Grad Design.	Item Number	Total Thick	No. Of Layers	Comp. Notes
7" HMA - Presque Isle Bypass Construction					
7" HMA - Southern Connector, Slip Lane & On/Off Ramps Construction					
Travelway, Median Lane, Left Turn Lane, Truck Lane, Accel Lane, Decel Lane,					
Gore Area, & Shoulders (As Indicated)					
Wearing	12.5 mm	403.2081	1 ½"	1	2,5,7,22,23,24,25,26,41,43
Intermediate	12.5 mm	403.2131	1 ½"	1	2,5,7,22,23,24,25,41,43
Intermediate	12.5 mm	403.213	1 ½"	1	4,7,22,23,24,25,41,43
Base	12.5 mm	403.213	2 ½"	1	4,7,23,24,25,35,41,43
1 ½" HMA Overlay w/ Variable Depth Shim					
Presque Isle Bypass Construction (Sta. 7646+50 to Sta. 7654+10)					
SB Off Ramp (Sta. 902+50 to Sta. 906+50)					
Travelway, Truck Lane, Accel/Decel Lane & Shoulders (As Indicated)					
Wearing	12.5 mm	403.2081	1 ½"	1	2,4,7,22,23,24,25,26
Shim	9.5 mm	403.211	variable	1	4,8,30
4" HMA - Conant Road & South Drive Reconstruction					
Travelway, Left Turn Lane & Shoulders (As Indicated)					
Wearing	12.5 mm	403.2081	1 ½"	1	2,4,7,24,43
Base	12.5 mm	403.2131	2 ½"	1	2,4,7,43
3" HMA - Presque Isle Bypass & Southern Connector Construction					
Shoulders Only (As Indicated)					
Wearing	12.5 mm	403.2081	1 ½"	1	2,4,7,23,24,25,30,43
Base	12.5 mm	403.2131	1 ½"	1	2,4,7,23,24,30,43
Spot Shim (As Directed)					
Shim	9.5 mm	403.211	variable	1	4,8,30
Drives, Islands, Misc.					
Wearing	9.5 mm	403.209	2" - 3"	2/more	3,20,30

COMPLEMENTARY NOTES

2. The required PGAB shall be a storage-stable, homogeneous, polymer modified asphalt binder that meets **PG 64E-28** grading requirements in AASHTO M 332. All polymer modified asphalt grades utilized on the Project shall be treated with an approved liquid anti-strip. PG binders shall be treated either at the asphalt source terminal with the required dose rate on the delivery documentation, or at the hot mix asphalt plant utilizing a system integrated with the plants controls that will introduce a minimum 0.50 percent anti-strip by weight of asphalt binder used unless a rate is otherwise recommended by the anti-strip manufacturer. The PGAB and anti-strip blend shall meet the **PG 64E-28** requirements. The Contractor shall provide supporting test data showing the PGAB and anti-strip blend meet the required criteria.
3. The aggregate qualities shall meet the design traffic level of <3 million ESALS for mix placed under this contract. The design, verification, Quality Control, and Acceptance tests for this mix will be performed at **65 gyrations**.

4. The aggregate qualities shall meet the design traffic level of 3 to <10 million ESALS for mix placed under this contract. The design, verification, Quality Control, and Acceptance tests for this mix will be performed at **65 gyrations**.
5. The aggregate qualities shall meet the design traffic level of >10 million ESALS for mix placed under this contract. The design, verification, Quality Control, and Acceptance tests for this mix will be performed at **65 gyrations**.
7. Section 106.6 Acceptance, (1) **Method A** as specified Section 401.20 - Quality Assurance Methods A and C.
8. Section 106.6 Acceptance, (2) **Method B** as specified Section 401.21 - Quality Assurance Methods B and D.
22. Longitudinal joint density testing shall be applied to the specified HMA layer. See Special Provision 401 – Hot Mix Asphalt Longitudinal Joint Density for project specifics.
23. The mixture shall meet the minimum requirements of Special Provision 401 - HMA Hamburg Wheel Tracker Specification.
24. See Special Provision 401 – HMA with Fine Micro-Deval Requirement for project specifics.
25. The Contractor may, at their option, use a Material Transfer Vehicle (MTV) for **all mainline travelway and adjacent shoulders surface course** if paved in the same operation. See Special Provision 401 – Material Transfer Vehicle for specifics.
26. The final pavement surface on the **Presque Isle Bypass travelway (Sta. 7320+50 to Sta. 7654+10)** shall be evaluated for smoothness in accordance with the most current 400 Special Provision section 402 – Pavement Smoothness. Acceptance limits shall be as outlined under the **Level II** classification.
30. The incentive/disincentive provisions for density shall not apply. Rollers shall meet the requirements of this special provision. The use of an oscillating steel roller shall be required to compact all mixtures pavements placed on bridge decks.
35. A notch wedge apparatus shall be required as per section 401.16 Joints.
41. The lower lifts of base and intermediate HMA pavement (consisting of 5.5 inches) shall be completed before winter suspension. Any surface or base HMA placed after the seasonal limitations shall be considered temporary and removed and replaced the following construction season. The Department will not be responsible for costs or time related to the placement, removal or replacement of temporary pavement.
43. The contractor shall mill a stepped butt joint into the existing pavement at both the beginning and end joints for each pavement layer excluding the bottom base layer. For each layer, the stepped joint shall be cut to the depth and width of the pavement layer being placed and extend 5 feet beyond the immediate underlying layer**.** The **butt joint** for the overlying layer shall be **completed prior** to placing the adjacent layer**.** The Resident may extend this length as determined by the condition of the match point. No additional payment will be made for the milling of the butt joints but will instead be considered incidental to associated paving items.

Tack Coat

A tack coat of emulsified asphalt, RS-1 or RS-1h, Item 409.15 shall be applied to any existing pavement at a rate of approximately 0.030 gal/yd², and on milled pavement approximately 0.05 gal/yd² prior to placing a new course. A fog coat of emulsified asphalt shall be applied between shim /base courses and surface course as well as to any bridge membrane prior to the placement of HMA layers at a rate not to exceed 0.030 gal/yd². Tack used will be paid for at the contract unit price for Item 409.15 Bituminous Tack Coat.

SPECIAL PROVISION
SECTION 400
Pavements
(Emulsified Asphalt Seal Coat with/without Cover Coat)

Description This work consists of furnishing and applying one or more applications of emulsified asphalt sealcoat, with or without cover coat material as described in the contract, on an approved surface in accordance with these specifications and in reasonably close conformity with the contract.

Materials The emulsified bituminous asphalt sealant shall meet the applicable requirements of Section 702 – Bituminous Materials. Liquid asphalt grades for the fog coat treatment shall meet the requirements for CSS-1, CSS-1h, CRS-2h, or CRS-2P. The emulsion type selected shall be used for the entire fog seal application areas unless otherwise approved by the Department.

The emulsified asphalt shall be produced with an approved, certified emulsion product, diluted, and thoroughly mixed into a homogenous liquid at the emulsion manufacturing facility. Each load shall be accompanied by a loading invoice listing the material supplier, emulsion type, dilution rate, total quantity loaded, and copy of the undiluted emulsified asphalt product certification. The diluted emulsion shall meet the requirements listed in Table 1 of this specification.

Table 1 – Diluted Asphalt Emulsion for Seal Coat

Test requirements for diluted material	Range
Sieve test %	0 – 0.10
Residue by distillation, %	28 - 40
Penetration	40 - 90
Application Temperature	100 - 180°F

Cover coat material, if required by the contract, shall be black or dark brown in color. Cover coat materials shall be dried and free from moisture, and be of similar type and size as aluminum oxide or silicon carbide abrasive sandblasting grit meeting the “fine” or “extra fine” gradation requirements (ref: Black Beauty abrasive or similar product).

Equipment Emulsified asphalt sealcoat material application equipment shall meet the requirements specified in Section 409 – Bituminous Tack Coat, subsection 409.05 – Equipment with the addition of the following:

The asphalt distributor shall contain suitable mechanical circulating and heating mechanisms to provide a uniform approved temperature of the entire mass of material. The distributor shall be equipped with a radar type sensor used to measure ground speed, and feed a Digital Volumetric Accumulator capable of measuring gallons applied and distance traveled.

The asphalt distributor be capable of applying asphalt material in accurately measured quantities at any rate between 0.01 to 2.0 gallons per square yard, of roadway surface, at any length of spray bar up to 16 feet. The distributor shall be capable of maintaining a uniform rate of distribution of asphalt material regardless of change in grade, width or direction of the road. It shall be equipped with an electronic control for setting asphalt pump discharge rate and on/off switching of spray for nozzles in one (1) foot, increments which shall be located in the truck cab. The spray nozzles and pressure system shall provide a sufficient and uniform fan-shaped spray of asphalt material throughout the entire length of the spray bar at all times while operating. The spray shall completely cover the roadway surface receiving the treatment.

If cover coat material is required by the contract it shall be applied by means of mechanical aggregate spreader. The aggregate spreader shall be mounted on the asphalt distributor. The spreader shall have a hopper with a minimum capacity of 2000 lbs, and shall be equipped with vibratory agitation to facilitate material flow. Aggregate spinners shall be variable speed, capable of distributing cover aggregate consistently over variable roadway widths in a single pass. All controls shall be cab-mounted and capable of being operated during the application of the asphalt emulsion by the distributor operator.

CONSTRUCTION PROCEDURES

Weather Limitations Emulsified asphalt sealcoat material with or without aggregate cover shall not to be applied when the atmospheric temperature is below 50°F, or pavement surface temperature below 50°F.

Emulsified asphalt sealcoat with or without aggregate cover shall not be applied in wet conditions, or when wet weather conditions are forecasted within a 6 hour period after application.

Preparation of Surface Before application of the emulsion seal coat material with or without aggregate cover the surface shall be thoroughly cleaned of all loose and objectionable material. Preparation of the surface shall be considered incidental to the contract. The Contractor shall be responsible for covering all utility irons just prior to application of emulsion and uncovering utilities after application.

Immediately before applying an emulsified asphalt seal coat, the pavement surface must be cleaned with a road sweeper, power broom to remove dust, dirt, and debris. The pavement surface must be clean and dry before applying the emulsified asphalt sealcoat.

Application Emulsified asphalt seal coat materials with or without aggregate cover shall be applied by a pressure distributer in a uniform, continuous spread over the area to be treated. The target application rate shall be 0.12 gallons per square yard. Emulsion application rates may be adjusted within the range of 0.10 to 0.14 gallons per square yard, as determined by the test section and as directed by the Department. No additional payment consideration or adjustment shall be made unless the required application rate varies from the rate as specified above.

The cover coat aggregate shall be applied immediately after the emulsion, prior to the emulsion break or cure, and simultaneously with the pressure distributors pass.

Equipment or traffic will not be allowed on the emulsion treated surface until the emulsion has fully cured. Emulsion materials will be applied within the temperature range specified in Section 702.05 – Application Temperatures, or as otherwise listed in this specification. No moisture shall be present on the roadway surface.

The Contractor shall provide dry cover material meeting the requirements of this specification and at a spread rate of 0.35 to 0.75 lbs./ s.y. as determined by the control section. The Contractor shall be required to apply additional cover material above the prescribed rate in the event that excessive emulsion materials are applied. Use of cover material shall be paid for by the pound, by means of verified bagged quantity, or by scaled weight of actual materials applied.

A test section shall be established to verify emulsion and cover coat material target application rates. The section shall be of sufficient length to verify the approximate emulsion use at the prescribed rate. Generally, the length of test section shall be approximately 200-500 linear feet. During emulsion seal material application, adequate provisions shall be made to prevent marring and discoloration of adjacent pavements, structures, vehicles, foliage or personal property. The use of skirting or end panels may be required to control application widths, and limit overspray.

Areas found to lack the proper emulsified asphalt seal coat application rate will require a re-application of emulsion material to meet the required rate. Areas requiring re-application will not be paid for directly bur shall be considered incidental to the emulsified asphalt seal coat pay item,

In the event that excessive emulsion materials are applied, the use of cover coat material shall be used to reduce the risk of bleeding and tracking by traffic. Additional aggregate cover material, if required, will be considered incidental to the emulsified asphalt seal coat pay item.

Traffic Control The Contractor may be allowed a limited lane closure lengths if outlined in the contract. If allowed in the contract, traffic volumes shall be monitored to determine peak traffic levels, and lane closures shall be allowed outside peak traffic level times. The Traffic Control Plan will be amended to address traffic control at intersections, businesses, or other high traffic areas. Additional signage shall be used to at .5 mile intervals to warn motorists to stay out of the closed lane and off the sealant. When mainline travelway sealing work is required adequate quantity and properly spaced cones for travelway delineation along with cones or barricades shall be required. Whether treating travelway or shoulders, cones or barricades shall be placed across the treated area every 500 ft immediately after the emulsion and aggregate application to prevent vehicles from traveling through the sealant during the cure period.

All traffic shall be kept off the emulsified asphalt seal coat areas for a minimum of 4 hours or until curing is complete. The emulsified asphalt seal coat surface will be considered cured when the emulsion or cover coat material does not track off the treated surface, and no visible uncured emulsion remains on the surface. The Contractor may elect to use a polymer modified emulsion to further reduce cure time. No additional payment will be made should a polymer modified emulsion be used.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Method of Measurement The Department will measure the emulsified asphalt seal coat with or without aggregate cover (grit) by the square yard. Payment will be for the actual number of square yards applied in accordance with the contract or as directed by the Department.

Basis of Payment The Department will pay for the work, in place and accepted, in accordance with the applicable sections of the Special Provisions at the contract unit price per square yard of seal coat applied, with or without cover coat, as outlined in the contract or as directed by the Department.

Payment will be made under:

Pay Item	Pay Unit
410.151 Emulsified Asphalt Seal Coat, Applied	Square Yard
410.153 Emulsified Asphalt Seal Coat with Grit, Applied	Square Yard

SPECIAL PROVISION
SECTION 502
STRUCTURAL CONCRETE
(Roadway Median)

Description. This work shall consist of furnishing and placing a Portland Cement Concrete Pavement and incidental construction as shown on the plans and as directed by the Resident. Except as otherwise specified in this Special Provision, all work shall be in conformity with the applicable provisions of Section 502, Structural Concrete; Section 503, Reinforcing Steel; and Section 515, Protective Coating for Concrete Surfaces.

MATERIALS

Concrete. Concrete shall be Class A.

Reinforcement. Reinforcement shall be Grade 60 and conform to Section 503 Reinforcing Steel and be epoxy coated or galvanized.

Epoxy coated reinforcing steel shall meet the requirements of Section 503 – Reinforcing Steel.

Galvanized reinforcing steel shall be hot-dipped galvanized with Class I coating in accordance with ASTM 767. Nickel and aluminum shall be allowed in the galvanizing bath, but zinc content shall not be less than 98 percent by mass. The Contractor shall furnish a written certification that the coating and coated bars meet the requirement of ASTM 767.

Welded Steel Wire Fabric shall meet the requirements of 709.02 Welded Steel Wire Fabric.

Joint Sealant shall meet the requirements of 714.04 – Sealant.

CONSTRUCTION REQUIREMENTS

Preparation of Foundation. The foundation bed shall be well graded and compacted, as directed by the Resident, to provide the thickness of concrete indicated on the plans.

Prior to the concrete placement, the foundation bed shall be thoroughly and uniformly saturated with water. The bed shall be free of puddles and excessive surface water.

Placement of Concrete. Concrete shall be placed in a continuous placement operation. Construction joints shall not be allowed. Control joints shall be 2” deep saw cuts and shall be spaced according to the plans or as directed by the Resident.

Joints sealant shall be applied at the top surface of the concrete median only at preformed expansion joints as shown on the provided details.

The surface of the concrete shall receive a float finish in accordance with Subsection 502.13(A) – Float Finish. Immediately following the float finish, the surface shall be textured at right angles to the roadway using an approved open-pile, stiff bristle broom or mat.

The curing period for the concrete shall be four days and shall meet the requirements of Standard Specifications Section 502.14 – Curing Concrete. The finished surface of the concrete shall receive a protective coating in accordance with Section 515 – Protective Coating for Concrete.

Method of Measurement. Structural Concrete, Roadway Median, satisfactorily placed and accepted, will be measured for payment by the cubic yard, in accordance with the dimensions shown on the plans or authorized by the Resident.

Basis of Payment. The accepted quantity of Structural Concrete, Roadway Median will be paid for at the contract unit price per cubic yard, which payment will be full compensation for all labor, materials, equipment and incidentals necessary to complete the work, including the fabrication, delivery and placement of reinforcement; the furnishing and application of protective coating; construction of control joints and placement of sealant.

Excavation for the placement of Structural Concrete, Roadway Median will be paid under the appropriate contract item, Section 203 – Excavation and Embankments.

Payment will be made under:

Pay Item		Pay Unit
502.341	Structural Concrete, Roadway Median	Cubic Yard

SPECIAL PROVISION
SECTION 502
STRUCTURAL CONCRETE
(QC/QA Acceptance Methods)

CLASS OF CONCRETE	ITEM NUMBER	DESCRIPTION	P	METHOD
A	502.219	Structural Concrete, Abutments and Retaining Walls	$400	A
A	502.26	Structural Concrete Roadway and Sidewalk Slab on Steel Bridges	$400	A
A	502.31	Structural Concrete Approach Slab	N/A	C
A	502.341	Structural Concrete, Roadway Median	N/A	C
A	502.49	Structural Concrete Curbs and Sidewalks	N/A	C

P values listed above reflect the price per cubic yard (CY) for all pay adjustment purposes.

The quantity used for Pay Adjustment purposes shall be the actual quantity of cast in place concrete placed and accepted. This quantity shall be computed by the Contractor and submitted to the Resident for approval.

SPECIAL PROVISION
SECTION 507
RAILINGS
(Steel Approach Railing)

Description

This work consists of furnishing and installing steel approach railing and its attachment to a steel bridge railing system and guardrail transition.

Materials

All materials shall conform to the requirements of the Standard Specifications, Standard Details, and Contract Plans as applicable.

Construction Requirements

All components shall be fabricated and installed in accordance with the Standard Specifications, Standard Details, and Contract Plans at locations shown on the Plans or as directed by the Resident. The steel approach railing shall be positioned so as to provide a neat and smooth transition from the bridge railing to the highway guardrail, without kinks or abrupt change in orientation.

Embankment material around the rail posts shall be thoroughly compacted. Curbing shall be set flush with the face of the bridge curb.

On 4-bar approach railing installations, the bottom tube rail that extends past the approach railing under the bridge transition guardrail will be considered part of this work. HSS spacer blocks and all hardware to attach bottom rail to guardrail posts will also be considered part of this work.

Method of Measurement

Each installation will be measured for payment as one unit, complete in place and accepted.

Basis of Payment

Steel Approach Railing will be paid for at the Contract unit price for each installation. Such payment includes fabrication and installation of the railing components and attachment to the bridge railing system, bottom tube rail for 4-bar approach railing, and any related connection hardware in accordance with the Plans, Specifications, and Standard Details.

Payment will be made under:

Pay Item		Pay Unit
507.0822	Steel Approach Railing, 3-Bar	Each

SPECIAL PROVISION
SECTION 524
TEMPORARY STRUCTURAL SUPPORTS
(Protective Shield)

524.01 Description The following paragraph is added:

This work shall also consist of furnishing all labor, equipment and materials required to provide protection for the public during demolition and construction. This protection shall include, but not necessarily be limited to, protective shielding of existing structures during demolition work, concrete removal and installation of temporary deck support over railways, roadway lanes and shoulders on all existing and new bridge structures.

The following Subsections are added:

524.031 Protective Shield Design

Prior to the start of work, the Contractor shall submit plans for review and comment indicating the sizes and dimensions of protective shielding. The proposed methods of protective shielding, including connections and fasteners, shall be in accordance with the following criteria:

The protective shield shall be designed for safely supporting all construction and dead loads, but not less than 100 pounds per square foot with a load duration of 7 days. Protective shield shall be stiff enough to limit deflection to 1/2 inch under maximum loads and to be tightly sealed at all joints. The protective shield shall be placed on the tops of the bottom flanges of the steel girders, with edges and laps made tight to protect the motorists underneath from dust, debris, water, slurry and falling objects. The protective shield shall be designed by a Licensed Professional Engineer of the State of Maine.

The Protective shield shall be designed to safely support all anticipated loads from small pieces of concrete falling from the existing deck during saw cutting or initial handling operations while the existing deck is being removed, and to protect against small tools falling onto traffic below.

524.041 Protective Shield Erection and Removal

No portion of the protective shield installed over a roadway shall project below a plane connecting the bottoms of the bottom flanges of the steel girders. During demolition operations and constructing/placing the new deck, the protective shield shall be covered with sheet plastic made tight at edges and laps to prevent water used in the saw cutting operation or placement of concrete from falling onto the facilities under the bridge.

The protective shield on existing and new structures shall extend horizontally 3 feet beyond the fascia lines and vertically to a point 1 foot minimum above the top of new rail or parapet. Shielding shall extend 10 feet beyond the edge of pavement on the roadway below or as approved by the Resident. Shielding over railways shall extend 25 feet beyond the center of the track below or as approved by the Resident.

Shielding shall be approved and installed prior to the start of any demolition work and shall remain in position during all demolition work. Shielding shall also be approved and installed prior to the start of any deck forming for the new bridge and shall remain in position during all deck work. The protective shield shall be covered with sheet plastic made tight at edges and laps to prevent leakage from new concrete or from water used for water curing from falling onto the facilities under the bridge. The protective shielding shall be relocated or removed only as directed by the Resident.

524.05 Method of Measurement The following paragraph is added:

The protective shield shall be measured for payment by the lump sum for shielding, design, installation, removal, and disposal.

524.06 Basis of Payment

Protective Shielding will be paid for at the Contract lump sum price. Payment shall be full compensation for all materials, equipment, labor, and incidentals including but not necessarily limited to: Working Drawings; design; transportation and stacking; installation; removal, onsite storage, and reinstallation as required; and periodic removal of concrete rubble and other materials necessary to perform the work as in accordance with the Plans and these Specifications or as approved by the Resident.

Payment will be made under:

Pay Item	Pay Unit
524.40 Protective Shield	Lump Sum

SPECIAL PROVISION
SECTION 603
PIPE CULVERTS AND STORM DRAINS

603.12 Basis of Payment: This section shall be amended with the addition of the following:

Payment will be made under:

Pay Item		Pay Unit
603.175	18-inch Reinforced Concrete Pipe Class III	Linear Foot
603.195	24-inch Reinforced Concrete Pipe Class III	Linear Foot
603.205	30-inch Reinforced Concrete Pipe Class III	Linear Foot
603.215	36-inch Reinforced Concrete Pipe Class III	Linear Foot
603.225	42-inch Reinforced Concrete Pipe Class III	Linear Foot

SPECIAL PROVISION
SECTION 603
PIPE CULVERTS AND STORM DRAINS

603.01 Description The following sentence is added:

This work shall consist of furnishing and installing reinforced concrete pipe with integral steel casing in accordance with the Contract Plans and this Special Provision.

603.02 Materials The following is added:

Steel Casing	711.01

The concrete for this special pipe shall conform to the requirements of ASTM C 76, Class V, Wall Type B. Elliptical reinforcement shall be provided. Applicable sub-sections of Section 712.061 shall apply to the reinforced concrete pipe with integral steel casing.

603.03 Construction Requirements

603.031 General The following sentence is added:

The Contractor shall furnish a reinforced concrete pipe with integral steel casing. Bell and tongue joints shall be integral to the pipe.

603.11 Method of Measurement The following sentence is added:

Reinforced concrete pipe with integral steel casing will be measured by length in linear feet along the invert, laid as directed, complete in place, and accepted.

603.12 Basis of Payment The following paragraph is added:

The accepted quantity of reinforced concrete pipe with integral steel casing will be paid for at the contract unit price per linear foot, complete in place. Payment will be full compensation for the materials specified, including concrete, integral steel casing, reinforcing steel, and shear studs.

Payment will be made under:

Pay Item		Pay Unit
603.216	36” Special RCP	Linear Foot

SPECIAL PROVISION
SECTION 606
GUARDRAIL

(Snow Pole)

Description This work shall consist of furnishing and installing Snow Poles in lieu of Flexible Guardrail Delineators on w-beam guardrail. in accordance with the Manufacturer's recommendations in reasonably close conformity with the plans and specifications.

Materials Snow Poles materials shall be one of the following, or an approved equal:

Manufacturer	Model
Shur-Flex	96" Snow Pole Guide Post #SD0096

Construction Requirements Snow Poles shall be installed according to manufacturer specifications or as determined by the Resident. Length of Snow Poles shall be no less than eight feet in length. Color of the Snow Poles shall be Orange. Each pole or post shall have two sections of retroreflective sheeting meeting ASTM 4956 Type III requirements affixed at least nine inches in length and to cover 75% of the circumference of the pole or post. The color of the reflector shall meet the specifications for Reflectorized Flexible Guardrail Delineators in Standard Specification 606.02 Materials.

Method of Measurement Snow Pole will be measured for payment by each, installed, complete in place and accepted.

Basis of Payment The accepted quantity of Snow Poles will be paid for at the contract unit price each for all work and materials furnished to install, complete in place, including all incidentals necessary to complete the work.

Payment will be under:

Pay Item		Pay Unit
606.3511	Snow Pole	Each

SPECIAL PROVISION SECTION 607.093 Deer Escape Jump Out

Description: This work shall consist of furnishing all labor, equipment and materials for constructing a retaining wall-supported earthen ramp that creates a one-way portal for deer or other wildlife to safely exit the highway right of way to reduce vehicle animal crashes.

Construction Requirements: New Deer Escape Jump Out construction shall consist of excavating; installing an approved retaining wall type; placing, grading, and compacting common borrow; dirty borrow; seeding; and mulching to the dimensions shown in the detail sheet, plans, and special provisions, or as directed by the Resident.

The Contractor shall submit a Deer Escape Jump Out plan at or before the Preconstruction Meeting, that identifies wall type and installation details. The Department will review for conformity with the Contract provisions and provide comments to the Contractor within 14 days of receipt of the plan. The development and modifications of the plan will be considered incidental to this item.

Materials: New Deer Escape Jump Outs will include, approved retaining wall (e.g. precast concrete, sheet pile, etc.) common borrow, dirty borrow, seeding method # 2, mulch. Retaining wall and all materials shall meet the requirements specified in the applicable sections of the latest edition of the Department's Standard Specifications.

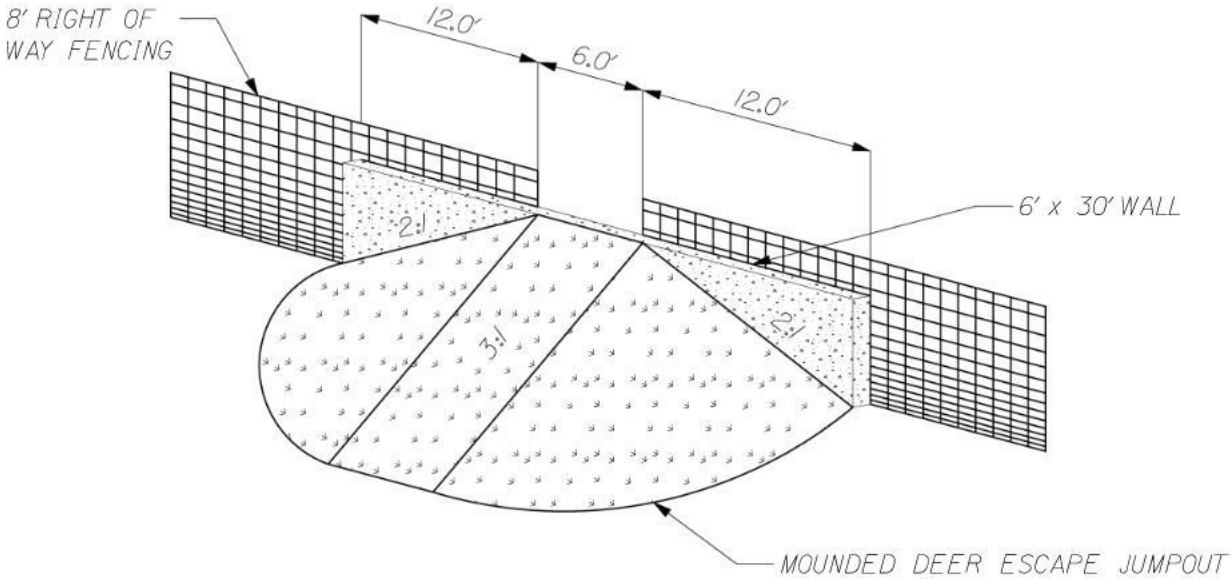
Common borrow	703.18
Dirty Borrow	615.10
Seeding Method # 2	618.14
Mulch	619.12
Retaining wall	appliable section

Basis of Payment: The accepted quantity of newly constructed Deer Jump-outs will be paid for at the contract price per each complete and in place.

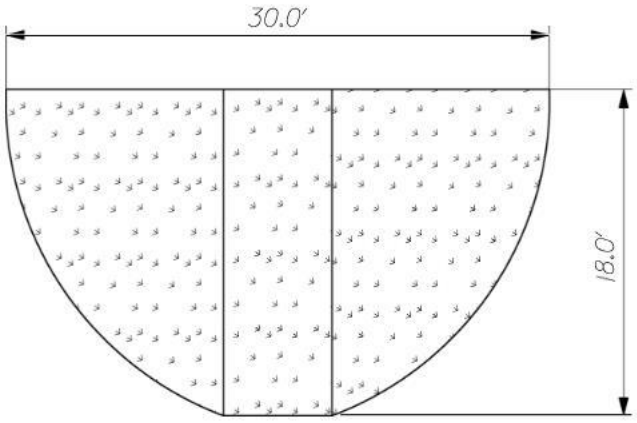
Payment will be made under:

Pay Item	Pay Unit
607.093 Deer Escape Jump Out	Each

607.093 DEER ESCAPE JUMP OUT



ISOMETRIC VIEW



PLAN VIEW

NOTES
1. THERE SHALL BE NO GAPS BETWEEN THE WALL AND THE RIGHT OF WAY FENCING
2. MOUND SHALL HAVE 2" DIRTY BORROW, AND BE SEEDED AND MULCHED
3. RIGHT OF WAY FENCING SHALL CONTINUE ALONG THE WALL, LOWERED TO 6' HIGH (INCIDENTAL TO THE ROW FENCE PAY ITEM)

NOT TO SCALE

SPECIAL PROVISION
SECTION 607
FENCES
(Chain Link Snow Fence)

607.01 Description The following paragraph is added:

This work consists of furnishing all materials for, and the construction of a chain link snow fence. The chain link snow fence shall be 33 inches tall and made from chain link materials as shown in the Plans and as specified herein.

607.02 Materials The following paragraphs are added:

Posts, rails, and braces shall be manufactured by one of the following methods with the steel conforming to ASTM A1011 or ASTM A1008 and A1011/A1011M with minimum yield strength 50 ksi:

- Furnace butt welded, continuous welded
- Cold rolled and electric resistance welded
- Seamless

The Piping shall conform to the details provided in this Special Provision.

Hardware shall be hot dipped galvanized in accordance with AASHTO M 232 (ASTM A 153) or AASHTO M 298 Class 50 (ASTM B 695 Class 50).

The chain link fabric shall be 9-gauge steel, zinc coated conforming to AASHTO M 181 Type 1 Class D (ASTM A 392), aluminum-coated conforming to AASHTO M181 Type II (ASTM A 491), or 6-gauge aluminum alloy conforming to AASHTO M 181 Type III (ASTM F1183). Chain-link fabric shall be knuckled on top and bottom. Wire ties shall be standard round 9-gauge zinc or aluminum coated steel or 6-gauge aluminum alloy conforming to ASTM F 626. All ties shall be wrapped around chain-link fabric twice (double-pigtailed) at both ends. Space ties at 6″ on center to bottom rail and at 12″ on center at all posts and other rails. Mechanical or power fastened ties are acceptable.

607.06 Method of Measurement The following paragraph is added:

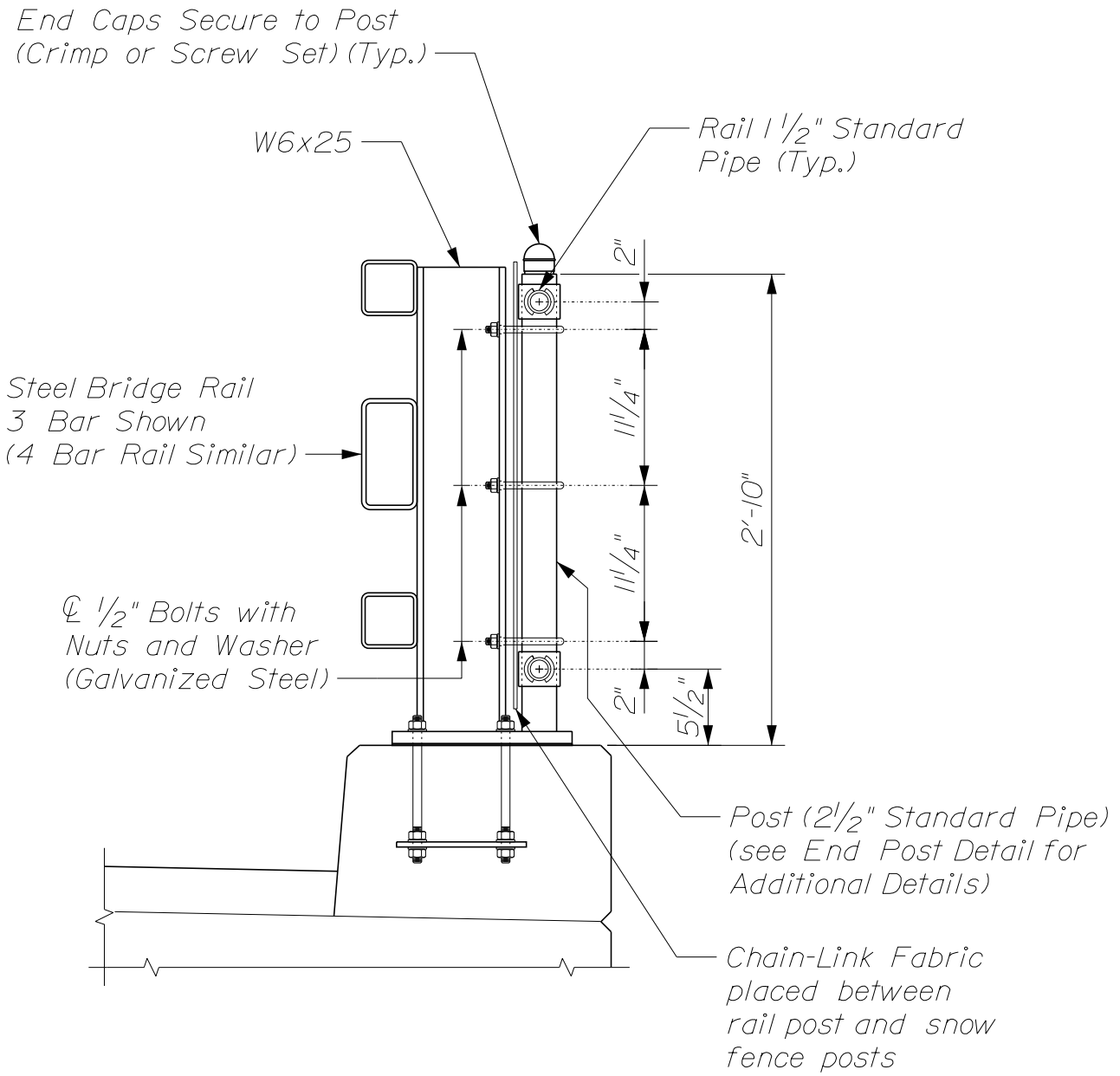
Chain link snow fence will be measured for payment as one unit, accepted in place and in conformity with the details shown on the Plans or as directed by the Resident.

607.07 Basis of Payment The following paragraph is added:

Chain Link Snow Fence will be paid for at the Contract unit price, complete and accepted in place. Such price will be compensation for furnishing all materials, labor, equipment, coatings, and incidentals to complete the work.

Payment will be made under:

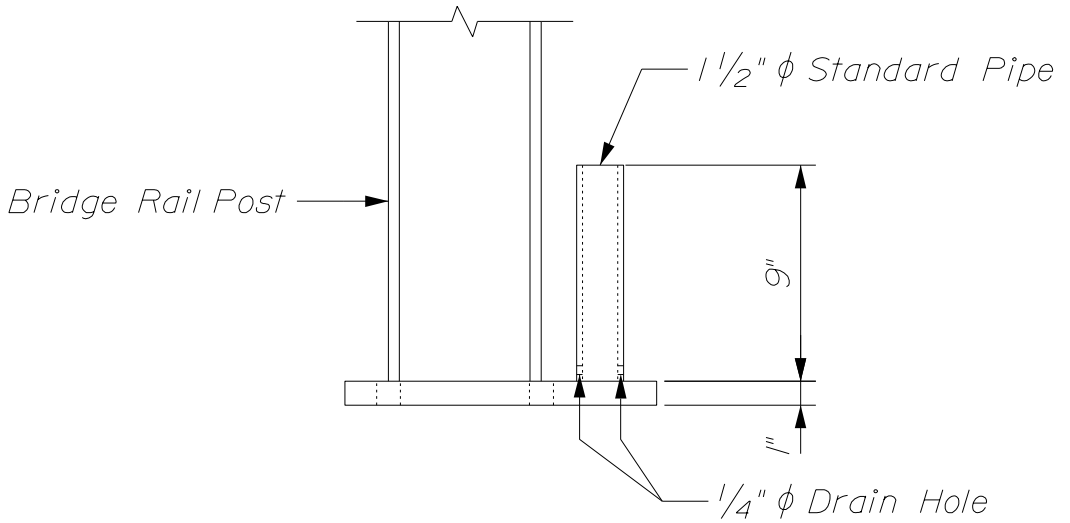
	Pay Item	Pay Unit
607.183	Chain Link Snow Fence 33″	Lump Sum



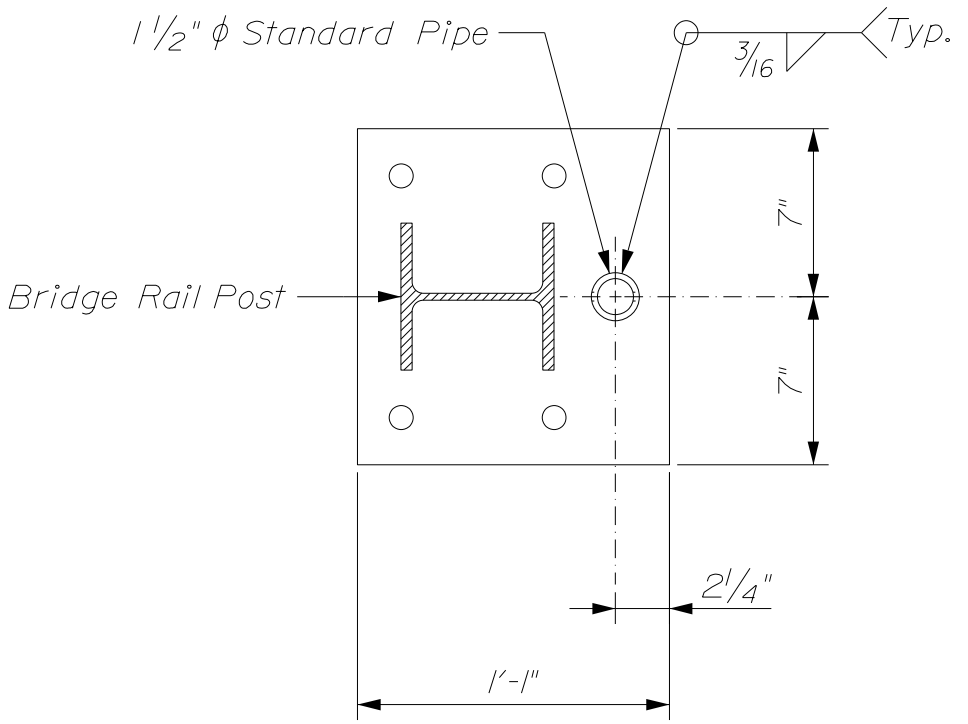
~ SNOW FENCE CONNECTION DETAILS ~

SNOW FENCE DETAILS

607(10)



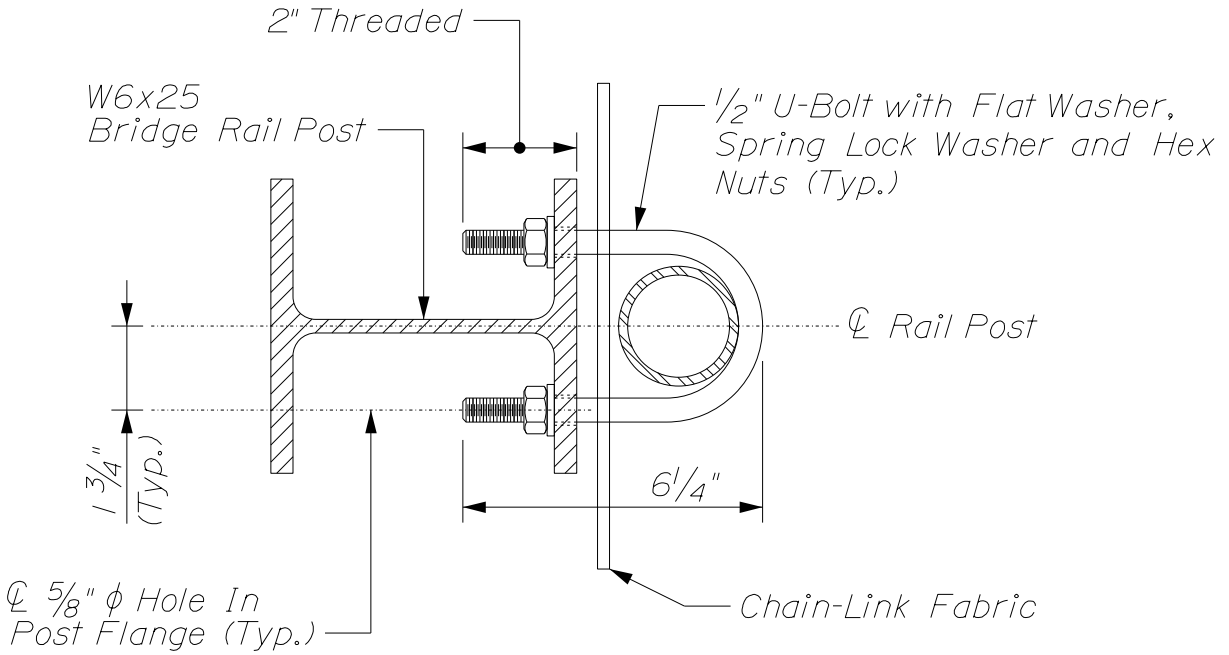
~ MODIFIED BASE PLATE ELEVATION ~



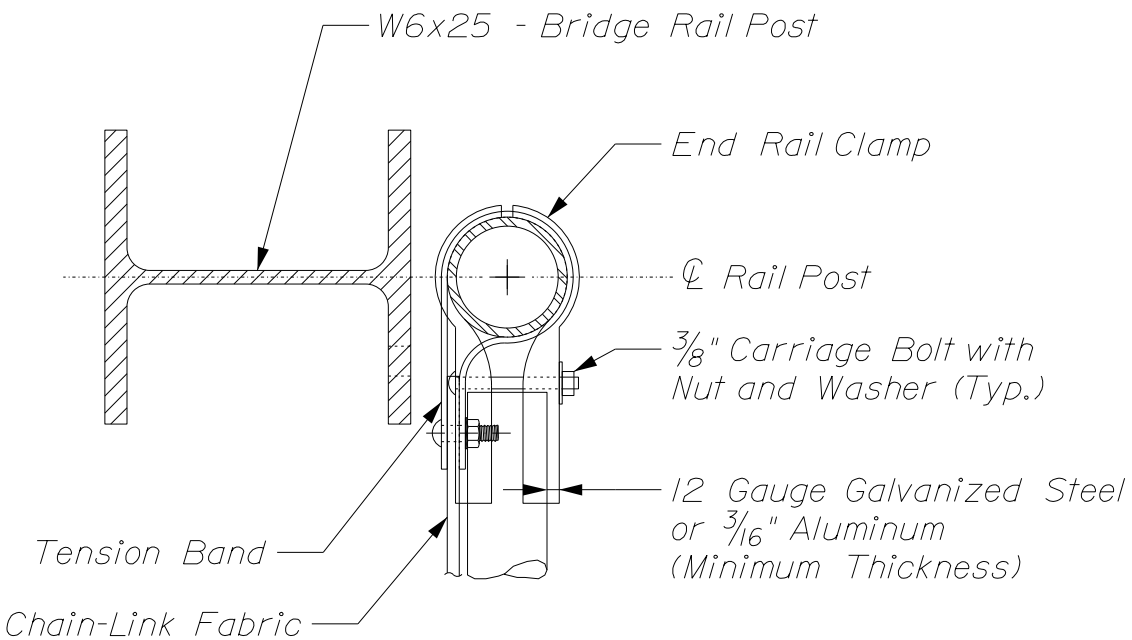
~ MODIFIED BASE PLATE DETAIL ~

SNOW FENCE DETAILS

607(11)

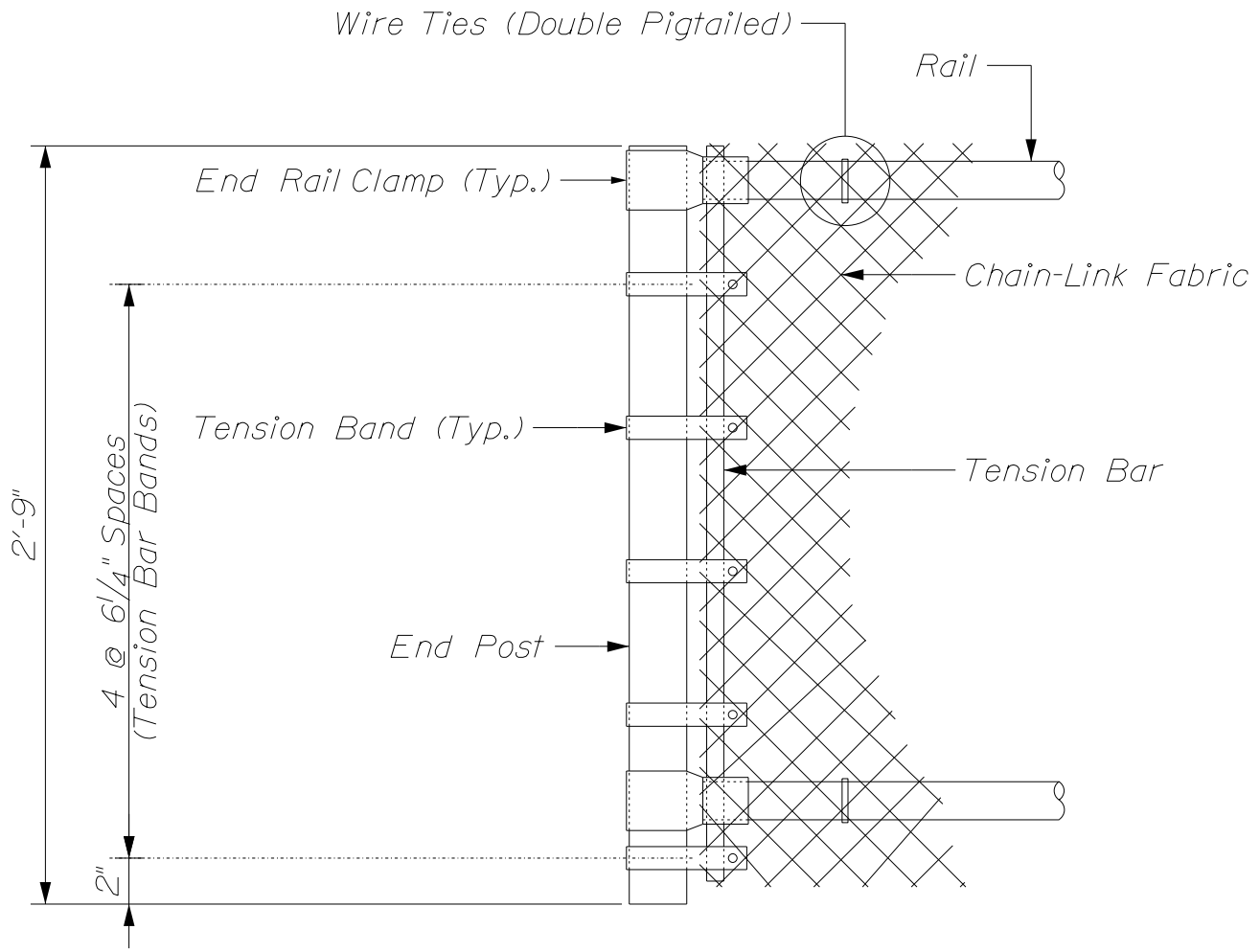


~ U-BOLT CONNECTION DETAIL ~
(At Interior Post)



~ END POST DETAIL ~
(U-Bolt Not Shown)

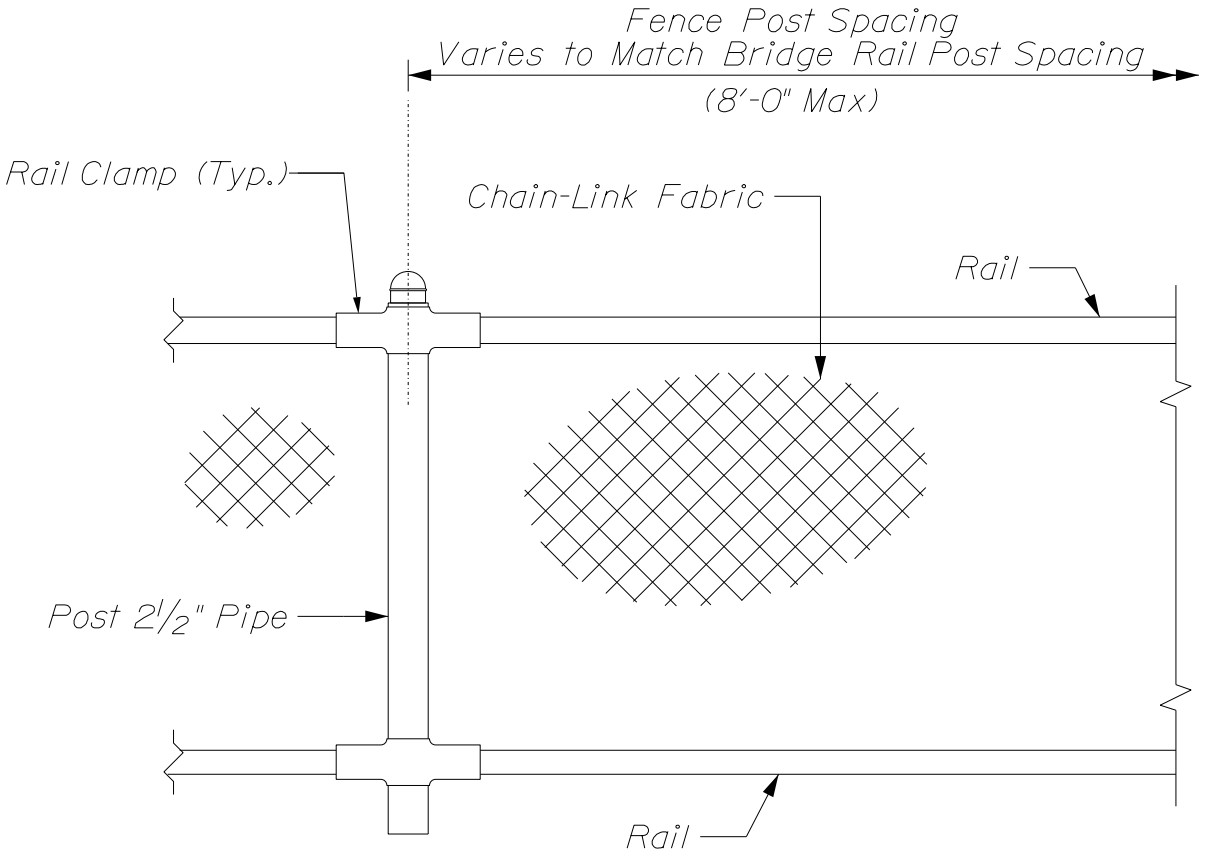
# SNOW FENCE DETAILS
607(12)



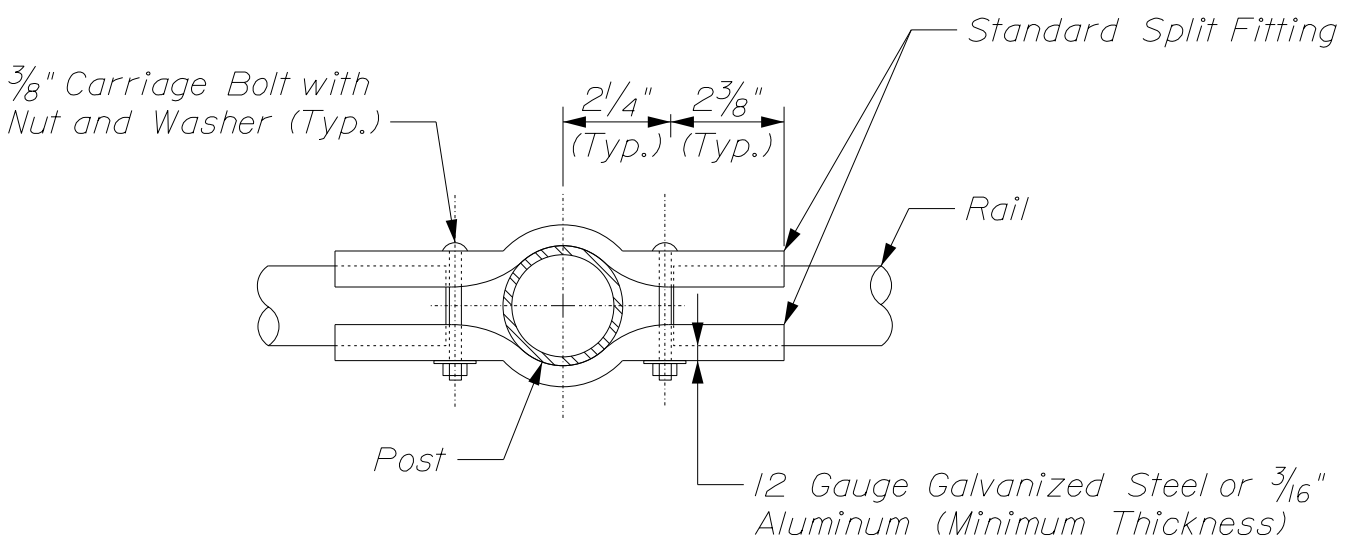
~ END POST ELEVATION ~

SNOW FENCE DETAILS

607(13)



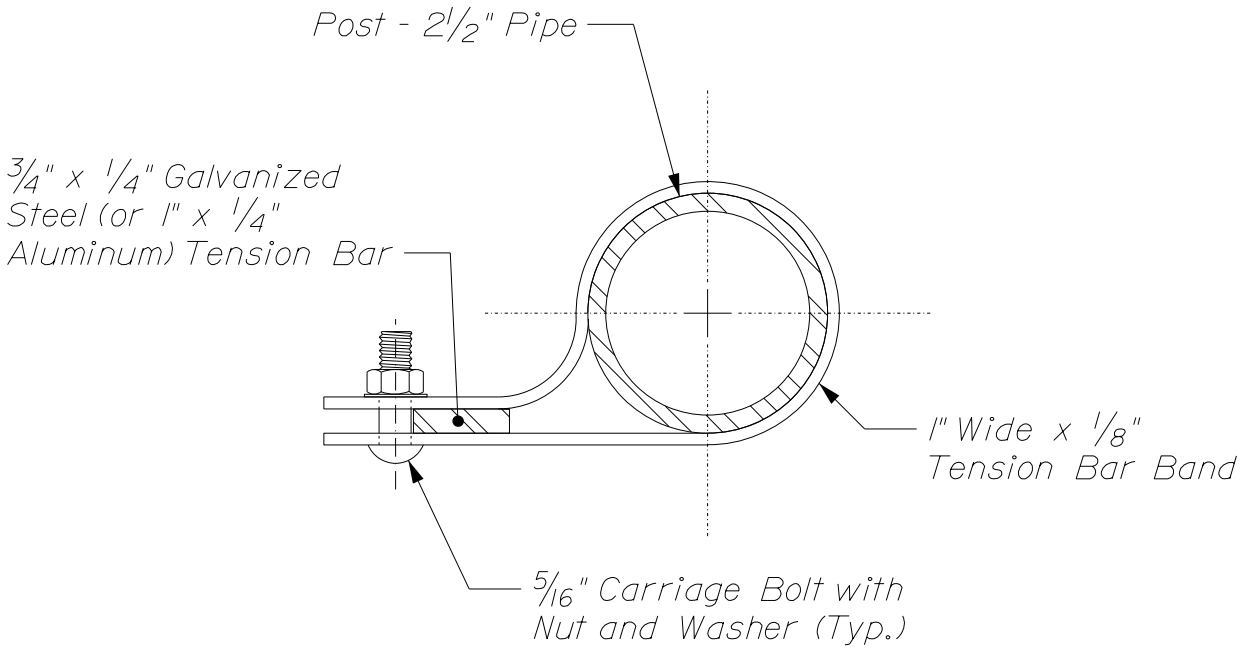
~ ELEVATION - SNOW FENCE ~



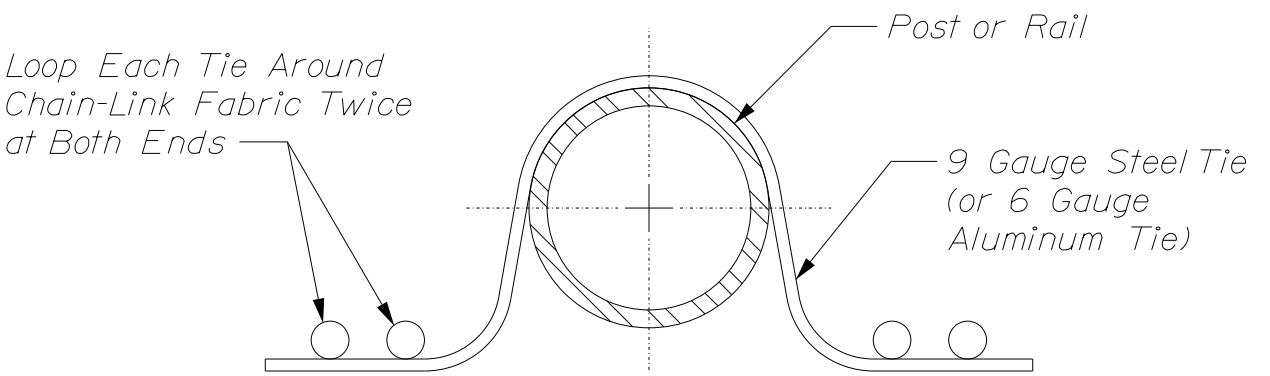
~ RAIL CLAMP DETAIL ~

SNOW FENCE DETAILS

607(14)



~ TENSION BAND DETAIL ~



~ DOUBLE PIGTAILED TIE ~

SNOW FENCE DETAILS

607(15)

SNOW FENCE NOTES

1. Chain-Link fence shall conform to Section 710.03 and Section 607. The size of wire mesh (fabric) shall be 1" by 1".

2. Post and rail pipe shall be hot-dip galvanized steel. All pipe shall be schedule 40, standard weight. Nominal pipe sizes are shown.

3. Rail may be field cut (sawn) to fit post spacing. Repair galvanizing on cut edges in accordance with ASTM A780. The thickness of the repair coating must be equal to or greater than the original coating thickness.

4. Payment for modified base plate will be incidental to related Contract items.

SNOW FENCE DETAILS

607(16)

SPECIAL PROVISION
SECTION 610
STONE FILL, RIPRAP, STONE BLANKET, AND STONE DITCH PROTECTION
(Streambed Rock Features)

Description

This work consists of furnishing and placing large stones in the streambed inside and outside of a culvert to simulate naturally occurring Streambed Rock Features. For this project, these features consist of Rock Riffle Clusters, J-Hooks, Rock Vanes, and Boulder Clusters.

Materials

Material for Streambed Rock Features shall consist of hard, sound durable rock that will not disintegrate by exposure to water or weather. Stone for Streambed Rock Features shall be subangular to subrounded and may be obtained by screening oversized rock from earth borrow pits or as fieldstone. A limited quantity may be available onsite; priority should be to re-use on-site rocks. Rock for "Boulder Clusters" and exposed faces of "Rock Riffle Crests," "J-Hooks," and "Rock Vanes" shall be rounded to sub-rounded and shall be similar in appearance to rock found in natural stream channels. Buried Rock may be angular to sub-rounded. Unwashed stone, and stone with naturally fractured faces will be allowed. Final determination shall be made by the Resident.

Streambed Rock Features shall consist of individual boulders. The minimum boulder stone size shall have an average dimension of 21 inches, the maximum stone size shall have an average dimension of 40 inches, and at least 50 percent of the stones by volume shall have an average dimension greater than 24 inches. The maximum allowable length to thickness ratio will be 2:1.

The Contractor shall identify the source and proposed stones for inspection at least ten (10) working days prior to the start of the stream channel construction. The grading of stone shall be determined by the Resident by visual inspection in accordance with the Standard Specifications, Section 610.032(d) Inspection.

Construction Requirements

Rock Riffle Crests, J-Hooks, and Rock Vanes

1. Place Streambed Rock Features in two courses, setting the bottom course (Buried Rock) before installing the top course (Exposed Rock). Place boulders in a compact mass laterally across the width of the channel, with the bottom course of rock embedded at least 1 foot below the bottom of Special Fill subgrade. Backfill around the bottom course with Special Fill, then place a top course of Rock above and slightly behind (upstream) of the bottom course, to form rock bands within the streambed with the shape and at the designated spacing shown on the Plans or as directed by the Resident. Firmly embed stones in the streambed sub-base as shown. Seal voids by washing in filler material until water ponds on the surface.

2. The crest of each rock band shall be set flush with the streambed finish grade, so that the crest is lower at the low flow channel and higher at the bank lines, with the tops of individual stones sticking up above the Special Fill surface no more than 3 inches at the flowline. Stones protruding above the surface more than 3 inches shall be embedded, reoriented, or replaced.

Feature Boulders

1. Place Streambed Rock Features at the designated spacing shown on the Plans or as directed by the Resident. Firmly embed stones in the streambed as shown. Individual rocks should extend at least 12 inches above the surrounding streambed surface; adjust or relocate rocks that extend less than 12 inches above the streambed. Seal voids by washing in filler material until water ponds on the surface.

Method of Measurement Streambed Rock Features will be measured by the cubic yard, complete in place.

Basis of Payment The accepted quantity of Streambed Rock Features will be paid for at the contract unit price per cubic yard complete in place Payment shall be full compensation for furnishing all materials, equipment, and labor and washing-in with water.

Payment will be made under:

Pay Item		Pay Unit
610.212	Streambed Rock Features	Cubic Yard

SPECIAL PROVISION
SECTION 610
STONE FILL, RIPRAP, STONE BLANKET, AND STONE DITCH PROTECTION
(Void-Filled Riprap and Void-Filled Heavy Riprap)

Description

This work shall consist of furnishing and placing Void-Filled Riprap and Void-Filled Heavy Riprap to construct armored stream channel banks for large culvert stream crossings, as part of constructing nature-like stream channels. Specifically, stream channel banks at the following large culvert stream crossings:

Bridge No. 6584 – Clark Brook
Bridge No. 6585 – Tributary to Clark Brook
Bridge No. 6586 – Tributary to Williams Brook
Bridge No. 6734 – Williams Brook
Bridge No. 6583 – Tributary to Merritt Brook (PI Bypass)
Bridge No. 6585 – Tributary to Merritt Brook (Conant Rd)

Materials

Void-Filled Riprap and Void-Filled Heavy Riprap shall conform to the following requirements:

Stone Blanket - shall be stone meeting the requirements of Section 703.27 – Stone Blanket and shall be used for construction of the Void-Filled Heavy Riprap

Plain Riprap - shall be stone meeting the requirements of Section 703.26 - Plain and Hand Laid Riprap.

Crushed Stone 5-inch – shall be a well graded mix of crushed stone with a maximum size of 5 inches and a minimum size of 3/4 inches.

Aggregate – shall be aggregate meeting the requirements of Section 703.06 - Type C aggregate for base, Type D aggregate for subbase gravel

Special Fill – shall be a mix of rounded cobbles, gravel, and sand consistent with natural stream channel bed material meeting the requirements of Special Fill (Special Provision 203.33). Where applicable, suitable material excavated on-site within the limits of the stream channel in accordance with Special Provision Section 203, Excavation and Embankment - Dredge Materials, may be used in the Void-Filled Riprap and Void-Filled Heavy Riprap mixtures with the approval of the Resident.

a. Mix proportions: Void-Filled Riprap shall be pre-mixed in the proportions listed in the following table:

Bottom Course (First Lift)	
Stone:	**Void-fill material:**

Plain Riprap	Crushed Stone 5-inch	Aggregate
3 parts	1 part	1 part
Top Course (Second Lift)		
Stone:	**Void-fill material:**	
Plain Riprap	Special Fill (203.33)	
3 parts	2 parts	

The mix proportions and materials listed in the table are approximate and may be adjusted by the Resident to obtain a mix that maintains contact between the larger stones for stability and has sufficient material to chink and fill the voids in the riprap. Void-Filled Riprap and Void-Filled Heavy Riprap shall conform to the requirements at the time it is placed.

b. Inspection - The Contractor shall identify the source and proposed materials for inspection at least 10 working days prior to the start of stream channel and riprap embankment construction. The grading of the stone for Void-Filled Riprap and Void-Filled Heavy Riprap shall be determined by the Resident by visual inspection in accordance with the Standard Specifications, Section 610.032.d Inspection.

Construction Requirements

Mix and place Void-Filled Riprap and Void-Filled Heavy Riprap in the areas specified on the plans and as follows:

a. Void-Filled Riprap (Tributary to Clark Brook, Tributary to Williams Brook, Williams Brook, Tributary to Merritt Brook)
    1. Void-Filled Riprap shall be placed in two lifts, the bottom (first) lift consisting entirely of angular stone and crushed stone and the top (second) lift consisting of a mix of plain riprap and Special Fill.
    2. Void-Filled Riprap shall be thoroughly pre-mixed and placed in a manner that minimizes segregation. After initial placement, areas that consist primarily of void-fill material shall be remixed with the larger stone as necessary.
    3. Place Void-Filled Riprap in two lifts not to exceed 12 inches unless otherwise approved by the Resident. All stones shall be securely interlocked and tamped into place such that contact between the stones is maintained, with void-fill material between and below the larger stones. Larger stones should extend to, and may protrude above, the average surface but shall be well embedded in the mix. The contact between the larger stones should be similar to riprap that is placed without filling the voids.
    4. Void-Filled Riprap shall be thoroughly washed-in with water immediately after placement of each layer. After the initial washing-in, place and spread additional void-fill material on the surface and wash-in until the remaining voids are filled prior to placing the next layer.
    5. After settlement and washing-in, the minimum height of the Void-Filled Riprap shall be as shown on the plans. Placement of areas of only void-fill material to achieve the full height or thickness will not be allowed. After the initial washing-in, place and spread additional aggregate and/or stockpiled native streambed material on the surface and wash-in until the remaining voids are filled prior to placing the next layer.
    6. Within the culvert, place a 4”-thick wearing course of pea gravel on the top of the Void-Filled Heavy Riprap from the top of bank to the culvert wall to provide a clear wildlife passage shelf surface for wildlife passage

7. Outside of the culvert, place a 4”-thick wearing course of loam and seed on the top of the Void-Filled Heavy Riprap from the top of bank extending back to the rear limit of Void-Filled Heavy Riprap as shown on plans to provide a clear surface for wildlife passage.

b. Void-Filled Heavy Riprap (Clark Brook)

1. For Void-Filled Heavy Riprap use Stone Blanket (703.27) instead of Plain Riprap for stones and place material in two lifts of 24 inches each. Thoroughly wash-in each lift with water using the same method as for void-filled riprap.
2. Place a bottom course of Stone Blanket stones (with an average diameter of 24 inches) in a line along the toe of the streambank as shown on plans. Backfill the voids between and behind these stones with the same mix of Plain Riprap, Crushed Stone (5-inch), and Aggregate used for Stream Channel Bed. Wash-in this material with water immediately after placement. After the initial washing-in, place and spread additional void-fill material on the surface and wash-in until the remaining voids are filled prior to placing the next layer.
3. Place a top course of Stone Blanket Stones in a line above and slightly behind the bottom course, along the top of the streambank as shown on plans. Backfill the voids between these stones with Special Fill and thoroughly wash-in the material. After the initial washing-in, place and spread additional aggregate and/or stockpiled native streambed material on the surface and wash-in until the remaining voids are filled prior to placing the next layer.
4. Within the culvert, place a 4”-thick wearing course of pea gravel on the top of the Void-Filled Heavy Riprap from the top of bank to the culvert wall to provide a clear wildlife passage shelf surface for wildlife passage
5. Outside of the culvert, place a 4”-thick wearing course of loam and seed on the top of the Void-Filled Heavy Riprap from the top of bank extending back to the rear limit of Void-Filled Heavy Riprap as shown on plans to provide a clear surface for wildlife passage.

610.01 Method of Measurement

Void-Filled Riprap and Void-Filled Heavy Riprap will be measured in place by the cubic yard.

610.02 Basis of Payment

Payment for Void-Filled Riprap and Void-Filled Heavy Riprap will be made at the contract unit price per cubic yard in place accepted by the Resident. Payment will be considered full compensation for all materials (including Special Fill), equipment and labor associated with furnishing and placing Void-Filled Riprap and Void-Filled Heavy Riprap.

Additional washing-in material and water added to the Void-Filled Riprap and Void-Filled Heavy Riprap to fill and seal voids shall be considered incidental to the work.

Pay Item	Pay Unit
610.213 Void-Filled Riprap	CY

SPECIAL PROVISION
SECTION 611
STREAM CHANNEL STABILIZATION
(Rootwads and Log Vanes)

Description This work consists of furnishing and installing rootwads and log vanes for channel stabilization along the banks of relocated Clark Brook and Merritt Brook streams as shown on the plans. It also includes excavation, backfill, and placement of footer logs and bracing boulders accessory to rootwad and log vane structures.

Materials

Rootwad Materials:

Rootwads shall consist of intact stumps taken from fresh, green, healthy hardwood parent trees with flattened root mass and a minimum diameter at breast height (DBH) of 16 inches. The length of the rootwad, measured from the cut end of the stump to the bottom of the root system, should be 10-16 feet.

The root fan shall have a diameter roughly equal to two times the maximum bankfull height. Root fans shall have relatively few broken branches and be securely attached to the trunk.

Footer logs should be a minimum of 12 inches in diameter and free of limbs. Boulders used to anchor rootwads and associated footer should be of adequate size with a minimum diameter of 2 feet. Fill soil should be native to the site, when possible, and should contain enough fine material to allow for rapid revegetation of the disturbed bank.

All rootwads shall be approved by the Resident prior to installation.

Log Vane Materials:

Log Vanes shall consist of intact logs taken from fresh, green, healthy hardwood parent trees with a minimum diameter at breast height (DBH) of 16 inches. The length of the logs should be as indicated on the plans.

Boulders used to anchor logs should be of adequate size with a minimum diameter of 2 feet. Fill soil should be native to the site, when possible, and should contain enough fine material to allow for rapid revegetation of the disturbed bank.

All log vanes shall be approved by the Resident prior to installation.

Construction Requirements

Rootwad Construction:

Stream flow should be diverted away from the site and sediment control devices installed according to a plan.

Work should proceed from the upstream section to the downstream end of the reach or meander beginning with excavation of a toe trench parallel to the stream bank to a depth of one-half to two-thirds the diameter of the footer logs. Trenches should also be excavated for rootwad placement. Appropriately sized root fans should be set at approximately 1/3 the bankfull height to provide toe protection. The bottom of the root mass should extend below the thalweg bottom. Two large rocks shall be placed on each end of the footer log to help hold it in place.

Placement of the rootwad components should be as follows:
Footer logs should be positioned in the trench below the stream invert such that each upstream log is shingled over its downstream neighbor.

Rootwads should be positioned in trenches such that the root mass of the trunk sits level with the cut end of the stump. The root mass should be oriented at an angle of 30 to 60 degrees to the channel centerline. After placement, 1 to 2 large boulders shall be placed on top of the trunk, just behind the root mass. Subsequent rootwads should be spaced such that the bank is shielded from flows deflected by adjacent upstream rootwads.

The rootwad revetment should be backfilled and compacted to the specified grade, and fill material should be tightly packed in the joints, connections, and gaps to firmly secure all components. Larger material should be used to plug holes and gaps to keep fill from falling into the channel.

Log Vane Construction:
Stream flow should be diverted away from the site and sediment control devices installed according to a plan.

Work should proceed from the upstream section to the downstream end of the reach or meander beginning with excavation of a trench set at a 30° angle to the stream bank to a depth equal to the diameter of the log. The log should be set so that at least 40% of the length of log is outside of the channel. The top of the log should be set flush with the streambed within the channel and buried at least one log diameter below finish grade outside of the channel. Two large rocks shall be placed on each site of the log at both ends of the log and at the channel bank to help hold it in place.

Placement of the log vane components should be as follows:
Excavate a trench for the log vane within the channel and adjacent overbank as shown on the Construction Drawings.

Log vanes should be positioned in trenches such that the top of the log is flush with the channel bed. The log should be oriented at an angle of 30 degrees to the bank line. After placement, at least 6 large boulders shall be placed on top of the trunk, set in pairs at each end of the log and at the bank line.

The log vane grade control should be backfilled with simulated streambed material (Item 585.25) and compacted to the specified grade, and fill material should be tightly packed in the joints, connections, and gaps to firmly secure all components. Larger material should be used to plug holes and gaps to keep fill from falling into the channel.

Method of Measurement

The quantity of rootwads to be paid for under this item will be by the unit, with one unit representing a completed single rootwad structure.

The quantity of log vanes to be paid for under this item will be by the unit, with one unit representing a completed single log vane structure.

Basis of Payment

The Department will pay for the accepted quantities of Rootwads and Log Vanes at the Contract price per unit, which price shall be full compensation for furnishing and installing the Rootwads and Log Vanes including accessory footer logs and boulders. The price shall also include any earthwork needed to bury and anchor the structures.

Payment will be made under:

Pay Item		Pay Unit
611.01	Rootwad	Unit
611.02	Log Vane	Unit

SPECIAL PROVISION
SECTION 614
EROSION CONTROL BLANKETS
(Coir Fiber Rolls)

Description This work consists of furnishing and applying coir fiber rolls along the banks of relocated Clark Brook and Merritt Brook streams as shown on the plans.

Materials
Coir fiber rolls (coir logs) shall consist of biodegradable, durable coconut fiber. The coir roll shall be in 10 to 20 ft lengths, 12 in diameter, and shall weigh 5.5 lbs./ft.

The outer net around the coir roll shall be coir twines woven square with openings 2 in x 2 in. Twine shall have 335 N tensile strength. Interior coir mattress fiber shall be compacted to 145 kg per cubic meter density.

Wood stakes used to secure the coir logs shall be a minimum of 2 in x 2 in x 3 ft long.

Sources of coir fiber rolls shall be submitted to the Resident for review and acceptance least ten (10) working days prior to the start of the stream restoration construction.

Construction Requirements
Install coir fiber rolls along banks concurrently with Coir Fiber Matting (Item 613.319, Erosion Control Blanket) over the adjacent stream buffer area. Anchor the stream-side end of the coir fiber matting by looping the end over the coir fiber roll and burying the end of the coir fiber matting in a trench at least 18” deep below the coir fiber roll.

Place coir fiber rolls with the top of roll flush with the top of the bank where indicated on the plans.

Tie the ends of adjacent coir rolls together with twine. Make a number of passes with the twine in the end netting of the adjacent coir logs to effectively lace the rolls together.

Drive stakes 3 feet on center. Pound the stakes down so that the top of the stake is level with the top of the coir log. Drive stakes on both sides of the coir roll, 2 stakes per 3 feet of coir roll.

Where a coir fiber roll does not abut another coir fiber roll, bend the end in towards the shore and embed it into the bank. Trench in both ends of either a single or a continuous line of coir logs, where shown on the plans or as directed by the Resident.

Method of Measurement
The quantity of coir fiber roll to be paid for under this item will be the number of linear feet of coir fiber roll installed in accordance with the plans or as directed by the Resident.

Basis of Payment

The Department will pay for the accepted quantities of Coir Fiber Roll at the Contract price per linear foot, which price shall be full compensation for furnishing and installing the Coir Fiber Rolls, anchor stakes, and twine. The price shall also include any earthwork needed to bury and anchor the Coir Fiber Rolls.

Payment will be made under:

Pay Item		Pay Unit
614.10	Coir Fiber Roll	Linear Foot

SPECIAL PROVISION
SECTION 615
LOAM
(Compost Blanket)

Description

This work shall consist of furnishing and placing compost to create a uniform blanket (compost blanket) for seeding, in reasonably close conformity with the thicknesses and locations called for on the Plans or as authorized.

Materials

The recipe for the Compost Blanket shall be a one-to-one blend by volume of compost and loam meeting the following requirements:

The loam shall meet requirements of Section 615.02 Loam or as approved by the Resident.

The compost for the Compost Blanket shall meet the following requirements:

Compost shall be produced by the aerobic (biological) and biochemical decomposition of source separated organic materials.

Compost shall be derived from a mixture of the following feedstock materials:

1. Green material consisting of chipped, shredded, or ground vegetation, or clean processed recycled wood products (MDEP Type IA, IB)
2. Manure
3. Mixed food waste (MDEP Type IB, IC)
4. No biosolid products may be included in the compost materials.

Compost shall not be derived from mixed municipal solid waste and must be reasonably free of visible contaminates. Compost shall not contain paint, petroleum products, pesticides, industrial residuals or any other chemical residues harmful to animal life or plant growth. Compost shall not possess objectionable odors.

The compost shall be produced at a licensed facility as specified under the State of Maine Department of Environmental Protection Chapter 410: Composting Facilities that regulate Solid Waste Facilities. If exempt from State permitting requirements, the composting facility shall certify that it follows guidelines and procedures for production of compost meeting the environmental standards of Chapter 410.

Compost Parameters

Acidity range:	6.0 pH to 8.0 pH.
Moisture content:	30-60% wet weight basis
Organic content:	25-65% dry weight basis
Particle Size: (% dry weight basis)	
100% passing	2”
90-100% passing	1”
70-100% passing	1/2”
30-75% passing	1/4”
Physical Contaminant:	<1 % (man-made inerts, dry weight basis)
Soluble Salts:	5.0 max mmhos/cm.
Carbon: Nitrogen Ratio:	15-25:1
Total Nitrogen:	<1.7%
Organic N:	<1.5%
Total Phosphorous:	<1.0%
Total Potassium:	<0.5%
Stability	<8 mg CO2-C per g OM per day

Maturity Test: The finished compost must be tested and classified as “Very Mature” by one of the following methods, or another method as approved by the resident:

Method	**Units**	**Very Mature**	**Mature**	**Immature**
Oxygen Uptake Rate (OUR Test)	O_2 / unit TS / hr	< 0.4	0.4 - 1.3	> 1.3
Specific Oxygen Uptake Rate (SOUR Test)	O_2 / unit BVS / hr	< 0.5	0.5 - 1.5	> 1.5
Dewar Self-Heating Test	Temp. rise (ºC)	< 10	10 - 20	> 20

Submittal Requirements

The contractor shall provide MaineDOT with a 5-gallon compost sample and certification letter from the compost supplier of the following information:

1. The source(s) of compost.
2. Laboratory results that show that the compost delivered to the project meets the compost parameters listed above. An independent Seal of Testing Assurance (STA) Program certified laboratory (as certified by the US compost Council) shall perform the analysis.
3. Compost supplier references documenting that they are fully permitted by the Maine DEP to produce compost.

Compost shall conform to all applicable specification requirements prior to mixing with the loam. The practice of culling deleterious or out of specification material after placement and/or grading in place will not be allowed.

Batch Mix- Compost and Loam

Compost and Loam shall be combined in equal (1 to 1) portions, by volume and mixed to produce homogeneous product approved by the Resident.

Preconstruction Site Walk

The Contractor shall have a preconstruction site walk with the Resident and a representative from the MaineDOT Environmental Office Surface Water Resources Unit to review the installation area and to answer questions in regard to layout and installation. The final locations and limits of compost blanket shall be laid out by the Contractor prior to installation for review and approval by the Resident.

Preparing Areas

All slopes and other areas where compost is to be placed shall be shaped to the required grade as shown in the Plans. The area shall be uniformly graded and be free of obstructions, rocks, clods, roots and soft or low-density pockets of material that could result in the concentration of surface water drainage. Prior to placing the compost blanket, the slopes shall be roughened by track-walking or rolling with a sheepsfoot roller.

Placing Compost Blanket

The compost blanket shall be placed in the locations as shown in the Plans. Compost blanket shall be placed by the Contractor using conventional earthmoving equipment, distributed by hand using a shovel, by mechanical means such as a spreader unit (e.g., bulldozer, excavator, or manure spreader), or pneumatic blower. It shall be spread to the uniform final depth of 3" and 6" as shown in the Plans. The Compost blanket shall be spread in a manner as to establish a loose, friable seed bed.

Seeding

The finished compost blanket shall be seeded with Method 2 seed according to Section 618 Seeding except no fertilizer, humic acid, agricultural ground limestone nor liquid lime shall be applied to the areas receiving the compost blanket. Areas shall be seeded the same Working Day as the placement of the compost blanket and before stabilization.

Stabilization

The Contractor shall maintain the compost blanket by repairing all damaged areas and by correcting all shifting of the blanket due to wind, water, or other causes. Erosion Control Blanket shall be installed over the compost blanket and seed prior to the end of each Working Day. Any additional disturbed soil stabilization shall be considered incidental to, and be completed in accordance with, Section 656.

Method of Measurement

Compost blankets will be measured by the cubic yard complete in place after finishing to the required depths as shown on the plans or directed. Lateral measurements will be parallel with the slope of the ground. No additional payment shall be made for the disruption or replacement of any signage, utilities, or similar manmade items during compost blanket construction.

Compost blankets have been designed to be in the following locations:

Station	To	Station	O/S	Length (ft)	Area(sf)
101+55		102+97	LT	142	4,235
601+25		607+00	LT	575	16,034
607+00		608+75	RT	175	5,212
706+10		709+09	RT	299	8,920
709+09		713+00	RT	391	11,713
804+73		813+00	LT	827	24,176
7337+04		7334+54	RT	250	22,296
7363+10		7365+10	LT	200	5,994
7362+50		7363+90	RT	140	4,204
7393+75		7395+49	RT	174	5,235
7393+97		7396+17	LT	220	6,562
7396+50		7400+00	RT	350	10,509
7396+97		7403+50	LT	653	19,462
7418+00		7421+26	LT	326	9,794
7418+00		7421+25	RT	325	9,775
7421+26		7430+25	LT	899	26,855
7428+50		7430+25	LT	175	5,265
7431+50		7436+00	LT	450	13,530
7431+53		7436+00	RT	447	13,433
7439+25		7441+00	RT	175	5,272
7450+00		7465+12	LT	1,512	45,499
7452+50		7457+00	RT	450	13,419
7467+40		7473+18	LT	578	17,408
7470+50		7472+60	RT	210	6,276
7474+00		7477+50	RT	350	10,537
7474+00		7477+50	LT	350	10,580
7530+00		7553+00	RT	2,300	8,999
7536+50		7550+95	RT	1,445	44,899
7552+39		7557+00	RT	461	13,833
7577+00		7590+00	RT	1,300	39,106
7613+00		7614+00	LT	100	2,971
7613+25		7614+50	RT	125	3,841
7616+00		7621+05	LT	505	15,139
7622+00		7625+75	RT	375	10,500

Basis of Payment

Compost blankets shall be paid for at the contract unit price per cubic yard, in place and accepted. No extra payment will be made for scarifying existing surface. Payment for Seeding Method 2 shall be made under Pay Item 618.14. Payment for Erosion Control Blanket shall be made under Pay Item 613.319. Payment for additional erosion control measures not explicitly mentioned in this special provision shall be considered incidental to the Temporary Erosion and Sediment Control item

Payment will be made under:

Pay Item		Pay Unit
615.081	Compost Blanket	Cubic Yard

SPECIAL PROVISION SECTION 615
LOAM
(Topsoil Salvage)

Description

This work will consist of furnishing labor, equipment, and materials for the installation of Topsoil Salvage within the areas shown as "Special Seed Mix - Stream Buffer" on the Stream Restoration Landscape Plans for Clark Brook and Merritt Brook in the plans. Topsoil Salvage shall consist of salvaged organic material from wetland impact areas within the limits of grading shown on the plans adjacent to Clark Brook and Merritt Brook.

Materials

Topsoil Salvage shall consist of a mix of soil organic matter that is free from foreign material, stumps, stones, hard soils, subsoil, clay cobbles, and other similar objects larger than 3 inch which will prevent the formulation of a uniform organic soil mixture.

Topsoil Salvage shall only consist of existing organic material from the top 12 inches below existing grade in these areas. Material may be used for final grading, and seed medium in restoration along the same stream where it was excavated in accordance with Special Provision 203 for Dredge Material.

Topsoil Salvage shall be dark to black in color decomposed organic fraction of natural wetland soil surface layers, defined technically as the "A" and "O" horizons by the Soils Science Society of America.

Locations

For restoration of the stream buffer of Merritt Brook, Topsoil Salvage shall be from material excavated from Wetland 01V (Station 7612+50 to 7618+00 and along ramp Station 704+00 to 717+00)

For restoration of the stream buffer of Clark Brook, Topsoil Salvage shall be from material excavated from Wetland 02T: Station 7336+00 to 7340+00 and along connector Station 101+00 to 104+00

Excess organic material from the above-listed wetland areas, or organic material excavated from other wetland within the project limits, may be used in place of Dirty Borrow (615.10) within other proposed seeding areas as approved by the Resident.

Requirements

Prior to final grading and seeding, topsoil salvage material may be stockpiled on site within temporary impact areas for one growing season or upland areas.

All areas where Topsoil Salvage is to be placed shall be smoothly shaped to the required subgrades prior to placement. After the subgrades are established, the Contractor shall spread the Topsoil Salvage at a depth of 6 inches or as ordered to form a relatively smooth finished surface.

Excessive compaction of the Topsoil Salvage shall be avoided. The Resident may require additional hand raking to form or shape the desired topography, as well as to remove excessive quantities of rocks and debris as directed.

Additional handling requirements for in-stream excavated material is described in Special Provision 203 Excavation and Embankment – Dredge Material

Method of Measurement

Topsoil Salvage will be measured by the cubic yard complete in place after being finished to the required depths. Lateral measurements will be parallel with the slope of the ground.

Basis of Payment.

The accepted quantities of Topsoil Salvage will be paid for at the contract unit price per cubic yard complete in place. The contract unit price will include the cost of loading and hauling salvaged Topsoil Salvage from topsoil stockpile areas; placing and grading soil, and providing, establishing, and maintaining layout stakes. Detailed machine work, specialized equipment, mats, and hand raking will not be paid for separately but shall be incidental to this item. Materials used for treating existing soils to meet the requirements of Section 615.2 will not be paid for separately but shall be incidental to this item.

Payment will be made under:

Pay Item	Pay Unit
615.09 Topsoil Salvage	Cubic Yard

SPECIAL PROVISION
SECTION 615
UNDERDRAIN SOIL FILTER

Amend Standard Specifications 615 – Loam to include the following:

615.01 Description. This work shall consist of constructing Underdrain Soil Filters to provide stormwater quality treatment. The Underdrained Soil Filters are centered at approximately Sta. 7365+00, 7367+00, 7391+00 RT, 7391+00 LT, 7492+00, 7609+00, 717+00 (Conant Road access), 602+00 (Conant Road access), 812+00, 912+00. All work beyond that edge shall generally be considered part of the Underdrained Soil Filter pay item. The layout, grading, drainage, seeding and related details for the Underdrain Soil Filters are indicated on the Contract Drawings.

615.02 Materials. Materials for the Underdrain Soil Filters shall meet the requirements of the following sections of the Standard Specifications except as provided below:

Low Permeability Fill - Clay	203.52
Aggregate Base Course – Type C	304.16
Seeding (Special Seeding)	Special Provision 618
Seeding (Method 2)	618.01
Loam	615.02
Erosion Control Geotextile	620.58
Fine Aggregate for Concrete	703.01
Granular Borrow	703.19
Underdrain Backfill Material – Type B	703.22
Underdrain Backfill Material – Type C	703.22
Plain Riprap	703.26
Corrugated Polyethylene Pipe	706.06
Erosion Control Blanket	717.061
Drainage Geotextile	722.02
Compost	Special Provision 615 - Compost
Soil Filter Media	See Below
Concrete Keyway	See Below
Impervious Liner	See Below

Compost – Compost shall consist of a compost/loam blend according to Special Provision 615 – Compost. Components shall not contain biosolids. Manufacturer/product information shall be submitted to and approved by the Resident.

Seeding – The Underdrained Soil Filter side slopes and bottom shall be seeded according to the method and seed mix indicated in Special Provision 618 (Special Seed Mix for Underdrain Soil Filter). USF maintenance access roads and berms as shown on Contract Plans, shall be seeded using Method #2 – Roadside Mixture #2. All seeding shall be completed between April 1st and June 15th or between August 15th and September 15th to ensure adequate time for establishment. Note: USF

side slopes and bottom use a different seeding mix and method than the surrounding maintenance access roads and berms.

Fine Aggregate for Concrete – Only the first paragraph and gradation table in Specification 703.01 apply. The remaining paragraphs do not apply.

Granular Borrow – Modified to have 100% passing the 6" sieve.

Corrugated Polyethylene Pipe – Both perforated and unperforated underdrain pipe shall be constructed as indicated on the Contract Drawings. This work shall be in accordance with Section 605.

Soil Filter Media – Soil Filter Media shall be a well-mixed batch containing the following components and proportions, measured by volume:

50% - Fine Aggregate for Concrete (703.01)
35% - Loam (615.02)
15% - Compost (Special Provision 615 – Compost)

The Soil Filter Media shall have 8% to 12% by weight passing the #200 sieve, a clay content of less than 2% (determined hydrometer grain size analysis) and 5-10% dry weight of organic matter.

The infiltration rate of the soil filter media shall be between 0.5 in/hr and 2 in/hr. The contractor shall test the soil in conformance with the MaineDEP Stormwater Management Design Manual, using in-place well or permeameter testing, or by conducting analyses of soil gradation.in the presence of the Engineer to ensure infiltration rate of soil media is within the desired range. Materials not meeting these specifications shall not be placed.

Impervious Liner – Impervious Liner shall consist of linear low-density polyethylene (LLDP) or PVC with a minimum thickness of 30 mil.

Concrete Keyway – A concrete keyway shall be constructed in the riprap emergency spillway as indicated on the Contract Drawings. This work shall be in accordance with Section 502.

Low Permeability Fill - Clay – Low permeability fill shall be natural, inorganic soil that is free from foreign matter such as construction debris, trash, wood, roots, leaves, and other organic matter.

An example of soil that may be considered acceptable for low permeability fill is a well graded, granular soil with high silt content. Low permeability fill shall be as follows when tested in accordance with AASHTO T 27:

Sieve Size		Percentage by Weight Passing
3 in	(75 mm)	100
No. 4	(4.75 mm)	80 - 100
No. 40	(0.425 mm)	60 – 90
No. 100	(0.150 mm)	40 – 60
No. 200	(0.075 mm) in total	25 – 45

For a preliminary determination of compliance with the specification for grading and for determination of the maximum dry density, the Contractor shall submit to the Engineer samples of materials to be used for low permeability fill prior to its placement. Samples may be taken from the pit or from stockpiles. Sampling and testing shall conform to AASHTO T 27, R 13, and T 99. Materials not meeting these specifications shall not be placed.

615.04 Construction Requirements. The Underdrain Soil Filter shall be constructed according to the location, layout, grading, drainage, and seeding indicated on the Contract Drawings. The Contractor shall have a preconstruction site walk with the Resident and a representative from the MaineDOT Environmental Office Surface Water Resources Unit to review the proposed locations and to answer questions regarding layout and construction. Any modifications to the elevation, location, and components of the Underdrain Soil Filters shall be at the direction of and approved by the Resident.

The footprint for embankment shall be cleared of trash/debris and any rocks greater than 6 inches, be free of any standing water, be graded to be no steeper than 1:1, be scarified prior to embankment fill placement, and be inspected and approved by the Resident before fill placement. Compact fill to 95% of Modified Proctor.

The following sequence of phases shall be observed during the construction of an Underdrained Soil Filter from the bottom up:

All water, excluding direct precipitation, shall be diverted from the Underdrained Soil Filter prior to the placement of the Impervious Liner and remain diverted until the basin and contributing drainage area reaches final stabilization (90% vegetation cover or paved).

Elevations in the Underdrained Soil Filter Contract Plans shall be surveyed as-built and recorded by the Resident.

After basin and spillway excavation and grading, the Impervious Liner and Geotextile Filter Fabric shall be installed on USF basin sides and bottom as shown in the Contract Drawings. The Impervious Liner shall not be placed during the presence of excessive winds as directed by the Resident. The Impervious Liner shall be laid in one continuous piece with all components internal to the USF placed on top of the liner. Unplanned punctures in the Impervious Liner shall be repaired in accordance with the manufacturer's specifications and approved by the Resident. Punctures in the Impervious Liner that are necessary according to the Contract Drawings shall be sealed to minimize the infiltration of water into the USF basin according to manufacturer's specifications and approved by the Resident. The Impervious Liner shall be anchored to the sidewalls of the excavation using a method approved by the Resident. The method of anchoring and relevant as-built elevations shall be submitted to the Environmental Office.

The Underdrain Backfill Material -Type B & Type C (703.22) and the underdrain pipes (706.06) shall be installed as indicated on the Contract Drawings. A underdrain cleanout shall be located at the upstream end of the underdrain network. Relevant as-built elevations, as appear in the Contract Plans, shall be recorded by the Resident before any media is placed over the underdrain. Underdrain Backfill Material (703.22) shall be compacted to between

90% and 92% standard proctor (AASHTO T180).

Install the 6-inch granular borrow (703.19) layer in a single lift and compact to between 90% and 92% standard proctor (AASHTO T180). A layer of non-woven drainage geotextile (722.02) shall be placed over the compacted gravel layer before Soil Filter Media is placed.

Install the 18-inch layer of Soil Filter Media in 6-inch lifts to prevent pockets of loose media. Compact to between 90 and 92% standard proctor (AASHTO T180). Over-compaction of the Soil Filter Media shall be avoided. Once compacted, relevant as-built elevations, as appear in the Contract Plans, shall be recorded by the resident prior to seeding.
Low permeability fill shall be placed in 6 in maximum lifts and shall be compacted to at least 95 percent of the maximum dry density. During compaction, the moisture content of the low permeability fill shall be between 1 percent below and 3 percent above the optimum moisture content. The maximum dry density and the optimum moisture content shall be as determined by AASHTO T 99 (Standard Proctor Test).

Once seeded, Erosion Control Blanket (717.061) shall be installed prior to the end of that Working Day.

615.041 General. Inspection and documentation of the Underdrain Soil Filters shall be provided for each phase of construction by the Resident and/or Third-Party Inspector. Documentation shall be provided upon request to the MaineDOT Environmental Office Surface Water Resources Unit.

615.042 Submittals. The following submittals are required:

- The Contractor shall identify the location of the source of each component of the Underdrain Soil Filters and provide documentation to the Resident. The Contractor shall submit samples of each material to be blended for the Soil Filter Media, the resulting Soil Filter Media, and Underdrain Backfill Material – Type B & Type C to a material testing firm at least 30 working days prior to delivery to the site. Representative samples shall be a composite of three different locations (grabs) from the stockpile or pit face. Sample size required will be determined by the material testing firm. All laboratory test results (see below) shall be submitted to the Resident at least 10 working days prior to the delivery of material to the site. The cost of material testing shall be considered incidental to the Pay Item.
- Submittals in accordance with individual material requirements set forth within the Standard Specifications.
- Method for anchoring of the impervious liner to the excavation walls.
- Records of surveyed as-built elevations for all pipe inverts, berms, outfalls, spillways, or other features as per those listed in the Underdrained Soil Filter Contract Plans.

615.043 Testing.

- Laboratory Testing - The Contractor's material testing firm shall conduct a sieve analysis conforming to AASHTO T88 on each of the Soil Filter Media components, the resulting Soil Filter Media, and Underdrain Backfill Material. The material testing laboratory shall test the organic content of the resulting Soil Filter Media and its components, the testing shall conform to AASHTO T267. The Soil Filter Media shall have 8% to 12% by weight passing the #200

sieve, a clay content of less than 2% and have 5-10% dry weight of organic matter.

- Permeability Testing – The Contractor's material testing firm shall perform a permeability test by constant-head method on the Soil Filter Media conforming to AASHTO T215. One test per Underdrained Soil Filter unit.

615.05 Method of Measurement. Underdrain Soil Filters will be measured for payment by the Lump Sum.

615.06 Basis of Payment. Underdrain Soil Filters will be paid for at the contract unit price as specified complete, in place, and accepted. The following are included in the Underdrain Soil Filter lump sum payment:

All construction materials, labor, and incidentals required for grading and construction of access roads, berms, spillways, USF basin with its internal components, and final stabilization as indicated in the Contract Drawings.

The following items will be measured for payment separately in accordance with the appliable specifications: Clearing (Section 201), Removal of Existing Catch Basins (Section 202), Guardrail (Section 606), Fencing (Section 607), Removal of Concrete Foundations (Section 626) and Lighting items (Section 634).

Payment will be made under:

Pay Item		Pay Unit
615.27	Underdrain Soil Filter	Lump Sum

SPECIAL PROVISION
SECTION 615
LOAM COMPOST MIX

Description

This work shall consist of furnishing compost as called for on the Underdrain Soil Filter Contract Plans or as authorized.

Materials

The recipe for the Compost shall be a one-to-one blend by volume of compost and loam meeting the following requirements:

The loam component shall meet requirements of Section 615.02 Loam or as approved by the Resident.

The compost component shall meet the following requirements:

Compost shall be produced by the aerobic (biological) and biochemical decomposition of source separated organic materials.

Compost shall be derived from a mixture of the following feedstock materials:

1. Green material consisting of chipped, shredded, or ground vegetation, or clean processed recycled wood products (Maine Department of Environmental Protection (MaineDEP) Type IA, IB)
2. Manure
3. Mixed food waste (MaineDEP Type IB, IC)

Compost shall not be derived from biosolids or mixed municipal solid waste and must be reasonably free of visible contaminants. Compost shall not contain paint, petroleum products, pesticides, industrial residuals or any other chemical residues harmful to animal life or plant growth. Compost shall not possess objectionable odors.

The compost shall be produced at a licensed facility as specified under MaineDEP Chapter 410: Composting Facilities that regulate Solid Waste Facilities. If exempt from State permitting requirements, the composting facility shall certify that it follows guidelines and procedures for production of compost meeting the environmental standards of Chapter 410.

Compost shall meet the following parameters:

Parameter	Requirement
Acidity Range	5.5 pH to 8.5 pH
Moisture Content	30-60% wet weight basis
Organic Content	25-65% dry weight basis
Particle Size	100% passing 3 inches 90-100% passing 1 inch 65-100% passing ¾ inch 0-75% passing ¼ inch
Physical Contaminant	<1% dry weight basis
Soluble Salts	< 5.0 mmhos/cm
Carbon: Nitrogen Ratio	15-25:1
Total Nitrogen	<1.7%
Organic N	<1.5%
Total Phosphorus	<1.0%
Total Potassium	<0.5%
Stability	<8 mg CO_2-C per g OM per day

Maturity Test: The finished compost must be tested and classified as "Very Mature" by one of the following methods, or another method as approved by the resident:

Method	Units	Very Mature	Mature	Immature
Oxygen Uptake Rate (OUR Test)	O2 / unit TS / hr	<0.4	0.4 - 1.3	>1.3
Specific Oxygen Uptake Rate (SOUR Test)	O2 / unit BVS / hr	<0.5	0.5 - 1.5	>1.5
Dewar Self-Heating Test	Temp. rise (°C)	<10	10 - 20	>20
Solvita Test	Index value	7-8	5-6	<5

Compost shall conform to all applicable specification requirements prior to its final placement on the project. The practice of culling deleterious or out-of-specification material after placement and/or grading in place will not be allowed.

Submittal Requirements

The contractor shall provide MaineDOT with a 5-gallon compost sample at least 14 days prior to application for laboratory testing if deemed appropriate before use, and documentation from the compost supplier of the following information:

1. The source(s) of compost.
2. Laboratory results that show that the compost delivered to the project meets the compost parameters listed above. An independent Seal of Testing Assurance (STA) Program certified laboratory shall perform the analysis.
3. Compost supplier references documenting that they are fully permitted by MaineDEP to produce compost.
4. MaineDOT reserves the right to have an additional Soil Analysis Test to reject the material and request an alternative material that passes acceptable standards.

Batch Mix- Compost and Loam

Compost and Loam shall be combined in equal (1 to 1) portions, by volume and mixed to produce homogeneous product approved by the Resident.

Method of Measurement

Compost (50% compost / 50% loam mix) will be measured by the cubic yard.

Basis of Payment

Compost, as used in an Underdrain Soil Filter, shall be incidental to pay item 615.27 Underdrain Soil Filter.

SPECIAL PROVISIONS
SECTION 618
SEEDING
(Special Seed Mix Underdrain Soil Filter)

The following list provides a Special Provision Seed Mix to be used on the UNDERDRAIN SOIL FILTER areas of this project as shown in the plans and as directed by the Resident.

The Underdrain Soil Filter side slopes and bottoms shall be seeded per the Standard Specification Section 618 with soil preparation for Seeding Method #2 replaced with the Special Seed Mix and supplemented with a Soil Enhancement and Growth Medium. The seeding shall be accomplished as soon as the structure is completed while the soil is still friable and before weeds emerge. Soil preparation shall be completed by hand raking and removing any rocks.

The Special Seed Mix shall be applied at the rate of ½ lb per unit [1,000 sq.ft.]

Underdrain Soil Filter Seed Mix

30.00	%	*Carex vulpinoidea*	Fox Sedge
20.00	%	*Elymus virginicus*	Virginia Wildrye
11.00	%	*Carex scoparia*	Blunt Broomsedge
10.70	%	*Carex lurida*	Lurid Sedge
4.20	%	*Asclepias incarnata*	Swamp Milkweed
4.00	%	*Verbena hastata*	Blue Vervain
3.00	%	*Bidens cernua*	Nodding Bur Marigold
2.90	%	*Zizia aurea*	Golden Alexanders
2.00	%	*Juncus effusus*	Soft Rush
1.60	%	*Asclepias syriaca*	Common Milkweed
1.20	%	*Sparganium eurycarpum*	Giant Bur-reed
1.00	%	*Carex lupulina*	Hop Sedge
1.00	%	*Solidago rugosa*	Wrinkleleaf Goldenrod
1.00	%	*Penthorum sedoides*	Ditch Stonecrop
1.00	%	*Aster novae-angliae*	New England Aster
0.80	%	*Aster puniceus*	Purple Stemmed Aster
0.80	%	*Aster umbellatus*	Flat-topped White Aster
0.70	%	*Eupatorium perfoliatum*	Boneset
0.70	%	*Monarda fistulosa*	Wild Bergamot
0.50	%	*Sparganium americanum*	Lesser Bur-reed
0.50	%	*Cinna arundinacea*	Wood Reedgrass
0.40	%	*Mimulus ringens*	Square Stemmed Monkeyflower
0.30	%	*Scirpus cyperinus*	Woolgrass
0.30	%	*Scirpus hattorianus*	Northern Bulrush
0.20	%	*Carex stricta*	Tussock Sedge
0.20	%	*Calamagrostis canadensis*	Canada Bluejoint

Apply this mix at 20 lbs/acre ½ lb per unit with a cover crop.

For a cover crop use Aroostook rye (1 Sep to 30 Apr; 30 lbs/acre (0.7 lbs/1,000 ft)) or Sideoats grama (1 May to 31 Aug; 7 lbs/acre (0.16 lbs/1,000 ft)).

Method of Measurement

Special Seed Mix shall be measured for payment per unit/1,000 square feet.

Basis of Payment

Special Seed Mix, as used in an Underdrain Soil Filter, shall be incidental to pay item 615.27 Underdrain Soil Filter.

SPECIAL PROVISIONS
SECTION 618
SEEDING
(Special Seed Mix – Stream Buffer)

Description This work consists of furnishing and applying seed, and other materials to areas shown on the plans or as authorized by the Resident. Special Seeding shall be applied in the areas shown as "Special Seeding – Stream Buffer" on the Stream Restoration Landscape Plans for Clark Brook and Merritt Brook in the plans, and in other areas as directed by the Resident Engineer. Refer to Special Provision 618.146 Seeding Hydromulch Medium for application methodology.

Materials
Seed shall be applied per unit. One unit is defined as 1,000 ft^2.

Seed mix shall meet the following requirements:

All seed shall be certified as to mixture, germination, purity, and live seed.

A. Percent germination > 80 %
B. Pure live seed > 85 %
C. Percent Purity > 85 %
D. Weed seed <1 %
E. All seed shall be from the current years crop unless recent tests by an approved testing agency demonstrate the approved requirements.

The species and relative proportion of species of the mix shall meet the following table:

TABLE 1: STREAM BUFFER SEED MIX

% of Total	Species Name	Common Name
2.0	Asclepias incarnata	Swamp Milkweed
0.4	Aster novae-angliae	New England Aster
0.4	Aster puniceus	Purple Stemmed Aster
0.4	Aster umbellatus	Flat Topped White Aster
1.0	Bidens cernua	Nodding Bur Marigold
0.2	Calamagrostis canadensis	Canada Bluejoint
1.0	Carex lupulina	Hop Sedge
11.8	Carex lurida	Lurid Sedge
12.0	Carex scoparia	Blunt Broomsedge
0.2	Carex stricta	Tussock Sedge
30.0	Carex vulpinoidea	Fox Sedge
0.5	Cephalanthus occidentalis	Button Bush

% of Total	Species Name	Common Name
0.5	Cinna arundinacea	Wood Reedgrass
0.5	Cornus amomum	Silky Dogwood
0.5	Cornus racemosa	Gray Dogwood
0.5	Cornus sericea	Red Twig Dogwood
18.0	Elymus virginicus	Virginia Wildrye
0.7	Eupatorium perfoliatum	Boneset
0.5	Ilex verticillata	Winterberry
2.0	Juncus effusus	Soft Rush
0.2	Mimulus ringens	Square Stemmed Monkeyflower
0.2	Monarda fistulosa	Wild Bergamot
1.0	Onoclea sensibilis	Sensitive Fern
0.2	Penthorum sedoides	Ditch Stonecrop
0.3	Scirpus cyperinus	Woolgrass
0.3	Scirpus hattorianus	Northern Bulrush
0.5	Solidago rugosa	Wrinkleleaf Goldenrod
2.5	Sparganium americanum	Lesser Burreed
6.0	Sparganium eurycarpum	Giant Burreed
3.0	Verbena hastata	Blue Vervain
0.5	Viburnum dentatum	Arrowwood
0.5	Viburnum lentago	Nannyberry
0.5	Viburnum trilobum	American Cranberry
1.2	Zizia aurea	Golden Alexanders
85.5	*Grass-like Species Subtotal*	
14.5	*Wildflower Species Subtotal*	
100.0	**Total**	

Apply this mix at 20 lbs/acre (1/2 lbs/1,000 sq ft) with a cover crop.
For a cover crop use either grain rye (1 Sep to 30 Apr; 30 lbs/acre (0.7 lbs/1,000 sq ft) or Japanese millet (1 May to 31 Aug; 10 lbs/acre (0.25 lbs/1,000 sq ft)).

TREE SEED Additional tree seed species shall be added only to the Stream Restoration area as a mix of approximately 25 units of seed mix. To this mix the contractor shall also add woody seed as follows:

Abues baksanea (Balsam Fir)	1/8 lb. 2 oz.	
Acer rubrum (Red Maple)	¼ lb 4 oz.	(wingless)
Betula populifolia (Gray Birch)	¼ lb. 4 oz.	
Quercus bicolor (Swamp White Oak)	½ lb 8 oz.	
Thuja occidentalis (Eastern Cedar)	½ lb 4 oz.	

These seeds will most likely be available from other vendors. Any adjustments to final application should be distributed on a percentage by weight for unit adjustment as necessary. At the discretion of the Resident Engineer and hydroseeding contractor it may

be preferable to scatter these seeds by hand before hydroseeding as directed by the landscape architect or resident engineer.

Construction Requirements

After the areas to be seeded have been brought to grade, the Contractor shall scarify all ground not sufficiently loose and friable to provide bedding for the seed to a depth of at least 2 inches immediately before seeding. The surface shall be a uniform grade but not smooth.

The Contractor shall install Coir Fiber Matting (Erosion Control Blanket) in accordance with Section 614 over areas indicated as "Special Seed Mix – Stream Buffer" on the plans. Coir Fiber Matting shall be anchored at the edge of stream bank and toe of slope by burying the ends of the matting in a trench at least 18" deep. Coir Fiber Matting shall be anchored to the soil by biodegradable wood stakes spaced no more than 6 feet on center.

After placement of Coir Fiber Matting, apply seed and HGM in accordance with SP 618.146.

Method of Measurement Special Seeding will be measured for payment by the area of seeded surface in Units of 1,000 ft^2 along the slope of the ground.

Basis of Payment The Department will pay for the accepted quantities of seeding at the Contract price per Unit for the method specified, which price shall be full compensation for furnishing and applying seed. The price shall also include any reseeding, watering, and maintenance necessary to meet the requirements of Section 618.10, Maintenance and Acceptance.

Coir Fiber Matting (Erosion Control Blanket) shall be measured and paid separately for under 614.10.

Hydromulch (HGM Hydroseed Growth Medium) shall be measured and paid separately for under 618.146.

Payment will be made under:

Pay Item		Pay Unit
618.143	Special Seed Mix - Stream Buffer	Unit

SPECIAL PROVISION
SECTION 618 - SEEDING
(618.146 Seeding Hydromulch Medium)

Supplement SECTION 618 - SEEDING with the following:

Description

This work shall consist of installing Special Seeding – Stream Buffer (Item 618.143) and Special Seeding – Underdrain Soil Filters (Item 618.1452) per ***Standard Specifications*** with the substitution of Method 2 Seed and 717.04 Cellulose Fiber Mulch with a soil enhancement Biotic Soil Hydromulch Medium and Growth Medium Hydromulch material. An initial application of Proganics Biotic Soil Hydromulch Medium or equal shall be used as directed by the Resident, followed by two consecutive layers of seed following methodology for Flexterra Flexible Growth Medium with Seed.

Materials

Special Seeding Mix shall consist of the application of Special Seed Mix, lime or liquid lime, humic acid soil conditioner and fertilizer to loamed areas as directed by the Resident Engineer. Material shall meet the requirements of the following Sections of Division 700 – Materials:

Agricultural Lime Stone/Liquid Lime	717.02
Proganics 1,500 lb/acre	
Biotic Soil Hydromulch Medium	717.05
Flexterra 1,500 lb/acre	

A dual application of Biotic Soil Hydromulch Medium such [Soil Enhancement Product] as Biotic Soil Conditioner or equal; and Flexterra Flexible Growth medium shall be used as directed by the Resident.

Delivery, Storage, and Handling

Deliver materials and products in UV and weather-resistant factory-labeled packages. Store and handle in strict compliance with manufacturer's instructions and recommendations. Protect from damage, weather, excessive temperatures, and construction operations.

Rates of Application

Rates of application shall be per ***Standard Specifications*** with the exception of Proganics Biotic Soil Hydromulch Medium which shall be applied at the rate of 1,500 lbs per acre with a starting base layer and a 50% seed layer, followed by applications of Flexterra with seed both at the rate of 1,500 lbs per acre/ 60 lbs/unit.

Time of Initial Seeding

Seeding dates shall be:
April 15 – July 15 (Spring) and August 15 - September 30 (Fall).

For seeding with Soil Amendment Product add 50% of seed, and apply seed Proganics seed layer; then apply Flexterra with balance of seed with dual applications from different angles for a final finished product layer.

Strictly comply with manufacturer's mixing and installation instructions and recommendations.

A mechanically-agitated mixing device is recommended.

Use approved hydro-spraying machine with fan-type nozzle to achieve best soil coverage. Apply from opposing directions to ensure 100% surface coverage.

Apply in a 2-Step process as follows, to be completed in immediate succession such that the seed applied in Step 1 is not left unprotected, especially if precipitation is imminent:

- Step 1: apply an initial base layer of Soil Enhancement Medium with then apply a second layer with 50% of seed with the remaining amount of Proganics.
- Step 2: mix balance of seed with Flexterra Medium and apply to a finished product layer of 80s lb /Unit.

Maintenance and Acceptance Maintenance and acceptance of seeded areas shall be as set forth in Standard Specification Section 618

Method of Measurement Seeding shall be measured for payment as set forth in standard specification Section 618

Basis of Payment The Seeding Hydromulch Growth Medium will be paid for at the contract unit price per unit (1,000 square feet) complete in place and accepted. Payment for the Special Seed Mix will be made separately under Pay Item 618.143. All other materials will be considered incidental.

Payment will be made under:

Pay Item		Pay Unit
618.146	Seeding Hydromulch Growth Media Soil Enhancement Hydroseed Medium [Proganics or equal] Hydroseed Growth Mulch Medium [Flexterra or Equal]	Unit

Presque Isle Bypass
WIN 06462.00
August 15, 2025

SPECIAL PROVISIONS
SECTION 621
LANDSCAPE
Plant Species Specification and Quantities List

The following list of items provides the estimated quantities for use on this project. The scientific name of the plant material is provided along with the common name in parenthesis. The contractor shall follow ***Standard Specifications*** Rev. March, 2020 for landscape materials and installation procedures (sec. 621).
The Resident Engineer or ***MaineDOT*** Landscape Architect or designee will be available to inspect plant materials and direct planting at planting time. Plantings shall be located within the areas shown as "Stream Buffer Planting Area" on the Stream Restoration Plans for Clark Brook and Merritt Brook in the plans, and in other areas as directed by the Resident Engineer. The intent is to encourage reforestation with appropriate materials randomly located at even spacing as directed. Trees shall be spaced at approx. 15 ft o.c. throughout the planting area, and shrubs shall be spaced at approx. 7 ft o.c. throughout the planting area. Plugs/starter plants shall be located immediately behind the restored streambanks and shall be spaced at approx. 3 ft o.c., with plugs set directly into coir fiber rolls at locations where the plans call for coir fiber rolls along streambanks.

A Two-Year Warranty guarantee will be incidental to plantings.

PLANT MATERIALS

ITEM	Description	Unit	Quant.	Total
621.014	Evergreen Trees 18" – 24" Group A &B/Cont.	Ea.		10
	Pinuss Strobus (White Pine)		10	
621.015	Evergreen Trees 18" – 24" Group B &B/Cont.	Ea.		20
	Abies balsamea (Balsam Fir)		10	
	Thuja occidentalis 'Nigra' (Cedar)	Ea.	10	
621.02	Evergreen Trees 2' – 3' Group B B&B/Cont.			20
	Abies balsamea (Balsam Fir)		10	
	Thuja occidentalis'Nigra' (Cedar)		10	
621.026	Evergreen Trees 3' – 4' Group B B&B/Cont.	Ea.		20
	Abies balsamea (Balsam Fir)		10	
	Thuja occidentalis 'Nigra' (Cedar)		10	
621.110	Small Deciduous Tree 3' – 4' Gr. A Cont.	Ea.		25
	Acer rubrum (Red Maple)		10	
	Betula papyrifera (Paper Birch)		5	
	Betula populifolia (Gray Birch)		10	
621.111	Small Deciduous Tree 3' – 4' Gr. B Cont.	Ea.		10
	Quercus bicolor (Swamp White Oak)		5	
	Ulmus americana (American Elm)		5	
621.178	Med. Decid. Tree 6' – 8' Group A Cont.	Ea.		15
	Acer rubrum (Red Maple)		10	
	Betula populifolia		5	
621.179	Med. Decid. Tree 6' – 8' Group B Cont.	Ea.		5
	Quercus bicolor (Swamp White Oak)		5	
621.184	Med. Decid. Tree 8' – 10' Group A Cont.	Ea.		10

	Acer rubrum (Red Maple)		5	
	Betula populifolia		5	
621.185	Med. Decic. Tree 8' – 10' Gr. B Cont.	Ea.		5
	(Swamp White Oak)		5	
621.267	Large Decid. Trees 1 ¾" – 2" Group A B&B/Cont.	Ea.		10
	Acer rubrum (Red Maple)		10	
621.268	Large Decid. Trees 1 ¾" – 2" Group B B&B/Cont.	Ea.		6
	Ulmus americana cult/x.Liberty/Colonial Spirit etc.		6	
621.269	Large Decid. Trees 1 ¾" – 2" Group C B&B/Cont.	Ea.		6
	Quercus bicolor (Swamp White Oak)		6	
621.1012	Plug/Starter plants Decid. Shrubs typ. 2" Cont. DP	Ea.		100
	Cornus sericea (Red-twig Dogwood)		50	
	Myrica pensylvanica (Northern Bayberry*)*		50	
621.703	Starter Plants 2" Pots min 6" plants	Ea.		150
	Sambucus canadensis (Elderberry)		50	
	Spiraea latifolia		50	
	Spiraea toamentosa		50	
621.706	Starter Plants 3" Pots DP Deep Pots 3' oc	Ea.		
	Plugs immediate stream edges double row 3' oc			700
	Alnus incana/rugosa (Speckled Alder)		400	
	*Cornus/Swida seric (*Red Twig Dogwood)		150	
	Ilex verticillata (Winterberry)		150	
621.5312	Deciduous Shrubs 10" – 12" Gr. A Cont.	Ea.		252
	Alnus incana/rugosa		36	
	Cornus/Swida seric		36	
	Ilex verticillata		36	
	Myrica pensylvanicum (Bayberry)		36	
	Viburnum cassinoides (Wild Raisin Viburnum)		*36*	
	Viburnum trilobum (Cranberry Viburnum)		36	
	Viburnum nudum (Smooth Witherod Viburnum)		36	
621.535	Deciduous Shrubs 12" – 15" Gr. A Cont.	Ea.		180
	Alnus incana/rugosa		36	
	Cornus/Swida seric		36	
	Ilex verticillata		36	
	Spiraea latifolia (Meadowsweet Spiraea)		36	
	Spiraea toamentosa (Steeplebush)_		36	
621.5351	Deciduous Shrub 15"– 18" Gr. A Cont.	Ea.		60
	Viburnum cassinoides		20	
	Viburnum trilobum		20	
	Viburnum nudum		20	
621.54	Deciduous Shrubs 18" – 24" Group A Cont.	Ea.		60
	Alnus incana/rugosa		20	
	Cornus/Swida seric		20	
	Ilex verticillata		20	
621.541	Deciduous Shrubs 18" – 24" Group B Cont.	Ea.		10
	Amelanchier canadensis (Serviceberry)		5	
	Hamamelis virginiana (Witch-hazel)		5	

Highway Lighting Quality Control Checklist

Subsection 634.09 Field Testing

Project Pin # _____

Location (if multiple services, please be specific)- _____

Grounding Electrode Resistance at service _____

Number of Circuits _____

Hand-Off-Auto Switch? _____

Circuit #1

Open Circuit Resistance- (Ohm out both hot legs at the cabinet while they are shorted together at the last pole and the fuse holders are disconnected at each pole) _____

Megger Test- (Meg out both hot legs to ground at the cabinet while they are shorted together at the last pole and the fuse holders are disconnected at each pole) _____

Current draw- (during normal operation) Leg #1 _____ Leg #2 _____

Operating Voltage at last pole _____

Circuit #2

Open Circuit Resistance- (Ohm out both hot legs at the cabinet while they are shorted together at the last pole and the fuse holders are disconnected at each pole) _____

Megger Test- (Meg out both hot legs to ground at the cabinet while they are shorted together at the last pole and the fuse holders are disconnected at each pole) _____

Current draw- (during normal operation) Leg #1 _____ Leg #2 _____

Operating Voltage at last pole _____

I, _____, certify that this work was done in accordance with subsection 643.14 and current NEC _____ guidelines, and when tested, was functioning as intended.

(YEAR)

Electrician's Signature _____

Electrician's License # _____

Highway Lighting Quality Control Checklist

Subsection 634.09 Field Testing

Project Pin # _____

Location (if multiple services, please be specific)- _____

Grounding Electrode Resistance at service _____

Number of Circuits _____

Hand-Off-Auto Switch? _____

Circuit #3

Open Circuit Resistance- (Ohm out both hot legs at the cabinet while they are shorted together at the last pole and the fuse holders are disconnected at each pole) _____

Megger Test- (Meg out both hot legs to ground at the cabinet while they are shorted together at the last pole and the fuse holders are disconnected at each pole) _____

Current draw- (during normal operation) Leg #1 _____ Leg #2 _____

Operating Voltage at last pole _____

Circuit #4

Open Circuit Resistance- (Ohm out both hot legs at the cabinet while they are shorted together at the last pole and the fuse holders are disconnected at each pole) _____

Megger Test- (Meg out both hot legs to ground at the cabinet while they are shorted together at the last pole and the fuse holders are disconnected at each pole) _____

Current draw- (during normal operation) Leg #1 _____ Leg #2 _____

Operating Voltage at last pole _____

I, _____, certify that this work was done in accordance with subsection 643.14 and current NEC _____ guidelines, and when tested, was functioning as intended.

(YEAR)

Electrician's Signature _____

Electrician's License # _____

SPECIAL PROVISION
SECTION 634
HIGHWAY LIGHTING
(Luminaires-LED)

634.093 Basis of Payment: This section shall be amended with the addition of the following:

Pay Item		Pay Unit
634.2042	LED Luminaires	Each

SPECIAL PROVISION
SECTION 634
HIGHWAY LIGHTING
(Service Pole and Cabinet)

Add to 634.01 Description

This work shall consist of furnishing and installing a wood utility pole, complete with cabinet and controls.

Add Section 634.028 Service Pole Complete with Cabinet and Controller

The Service Pole with Cabinet and Controller installation shall be in accordance with Standard Detail 634(01) and circuited in accordance with Standard Detail 634(02).

The service pole shall be installed in undisturbed soil, set plumb with the butt end not less than six and one-half feet below finish grade at point of installation. Provide a helical ground anchor and guy wire with the guy attached to pole directly opposite the point of attachment and in line with utility company service drop cable. The pole length shall be 30-feet to comply with utility company requirements for the minimum clearance above ground at lowest point of service drop cable sag and shall meet the material requirements of Section 720.10.

The cabinet shall be in accordance with Section 715.11 Service Equipment and include a single photo cell (715.10).

The maximum size for main breaker shall be a 2-pole, 50 -ampere, 240 volt, 1 phase, 3 wire service wired with #8 AWG.

Replace Paragraph 2 of 634.08 Service

The lighting system will be supplied with electrical power by the local power company. The type of service will be single phase, three wire, 120/240 volt, 60 hertz, alternating current. The power company will make all connections of the roadway lighting system cables at the power company's service pole. The Contractor shall notify the power company at least two weeks in advance of the time they intend to start construction at each of the sites and shall make all necessary arrangements with the power company for the required installation.

All meter mounting devices shall be installed so that the meters will be upright (plumb). They shall be installed with the top of the meter not less than 48 inches or more than 60 inches from the floor to the final grade. Exceptions to this height requirement will be made where special permission has been given to install group or modular metering, overall metering enclosures, or pole-mounted meters. Level grade shall be maintained for a minimum of 3 feet in front of the meter enclosure to provide a safe working space. In order to meet this requirement on uneven terrain, as an option, the Contractor may install a pressure-treated wood platform.

For any non-residential (industrial or commercial) self-contained meter socket the bypass requirements are single phase, 100 or 150 amp, single handle lever operated.

** The pass is particularly important for use during the Utility Company's normal business hours. Therefore, the following types of non-residential services (200A or less) are exempt from these by-pass requirements and the residential socket (non by-pass) may be utilized: Outdoor lighting (ball field, tennis court, etc.).

Add to 634.093 Basis of Payment

Service pole with cabinet and controller will be paid for at the respective Contract unit price per each, complete, operational, tested, and accepted in place, which prices shall include full compensation for all electrical components, mounting brackets, ground rods, ground wire and ground wire connections, enclosure, wiring, conduit, circuit breakers, load center, meter socket, control wiring, receptacle, device boxes, wire troughs, contactors, pull wire, photo cell and control, locks, delivery of keys to MaineDOT and the City of Presque Isle, time clocks, wood utility pole, and all labor, materials, equipment, and incidental costs required to complete the work, including all service coordination with the Emera.

Payment will be made under:

Pay Item		Pay Unit
634.25	Service Pole Complete with Cabinet and Controls	Each

SPECIAL PROVISION
SECTION 643
TRAFFIC SIGNALS
(Temporary Traffic Signal)

Standard Provision 643 TRAFFIC SIGNALS is amended as follows:

643.01 Description

The following paragraph is added:

This work shall consist of furnishing and installing all equipment necessary for the erection, operations, maintenance and removal of a temporary traffic signal to provide one lane of alternating two-way traffic control along Conant Road for the construction of the Conant Road culvert. The signal system will also include Residential Driveway Temporary Signals (RDTS) at the unsignalized driveways within the traffic signal limits.

643.03 General

The following paragraphs are added:

The Contractor shall install and maintain temporary traffic signals at all times when alternating two-way traffic is maintained. Work includes furnishing, installing, and maintaining a temporary traffic control signal system for traffic control along Conant Rd in the City of Presque Isle as specified herein. The temporary system may include portable traffic signal trailers and be capable of interoperating with at least one RDTS to be located for the driveway near STA 332+65, RT.

Signal heads at each approach to the work area shall be mounted on a temporary structure supplied by the Contractor and approved by the Resident. Two signal heads shall face traffic on each approach. All signal heads shall have 12-inch red, yellow and green circular LED indications with 5-inch back plates and yellow retroreflective tape along each border.

The Contractor shall furnish and install a NEMA traffic signal controller and all associated hardware for a complete, functional traffic signal system.

The RDTS(s) within the work area shall be mounted on a portable support or trailer supplied by the Contractor and approved by the Resident. The RDTS shall be equipped with sufficient all-weather batteries and solar charging capabilities to provide a minimum of four days of autonomy for an average month (October or April) of solar exposure. The solar power system shall include a 110V charger to facilitate external charging.

The RDTS shall include one signal head with three LED indications in a doghouse configuration with one 12-inch red ball indication on top of one 12-inch yellow left bimodal flashing and solid arrow and one 12-inch yellow right bimodal flashing and solid arrow. The signal indications shall face the driveway and provide a minimum of 18 feet of offset from the intended stopping location at the driveway. A "NO TURN ON RED (R10-11b)" sign and "TURN ONLY IN DIRECTION OF ARROW (IA-23-1P)" sign shall be located on the portable post or trailer.

Temporary stop bars shall be provided for both approaches (Conant Rd westbound, Conant Rd eastbound) and for any driveway entrances using an RDTS. Stop bar locations shall be based on proposed lane closures and approved by the Resident. Mainline stop bars shall be at least 40 feet from the nearest signal head. Stop bars shall be removed upon completion of temporary signal operations.

Non-invasive stop bar vehicle detection shall be installed for both mainline approaches (Conant Rd westbound, Conant Rd eastbound). The Contractor shall determine the detection method with the Resident's approval. The Contractor may be required to adjust and readjust the location of proposed vehicle detection zones in the presence of the Resident, at no additional cost, to properly set the detection areas. All equipment shall be installed and wired in a neat and orderly manner in conformance with the manufacturer's instructions. The detector assembly(s) shall be affixed to the support structure in accordance with the manufacturer's instructions to provide the optimal field of detection.

Where signal malfunctions and police detail assistance is necessary outside of construction hours the cost of details shall be borne by the Contractor and is not subject to reimbursement.

The Contractor shall program the signal controller with the following sequential phasing and timing (in seconds):

	Phase 1	Phase 2
Min Green	10	10
Extension	3	3
Max Green	25	25
Yellow Cl.	3.0	3.0
All Red	45.0	45.0
Flash	Red	Red
Recall	MIN	MIN

Phase 1 – Conant Rd Eastbound
Phase 2 – Conant Rd Westbound

Timing and phasing were determined based on an assumed speed of 25 mph and a stop bar to stop bar distance of 1630 feet. Max Green times is based on the following design volume and will be applied to the daily peak hour:

2026 Construction Design Hour Volumes		
Direction of travel	AM Peak	PM Peak
Eastbound	60 veh/hr	110 veh/hr
Westbound	130 veh/hr	100 veh/hr

The specified signal timing shall be set by the contractor according to the timing data provided above. Signal timing data may be adjusted by a Licensed Professional Engineer as needed and shall be considered incidental to the traffic signal system.

The Resident may increase All Red Clearance times as necessary for the safety of the traveling public. If the All-Red Clearance time exceeds the controller's maximum allowable All Red time, the Contractor shall propose an active clearance phase between applicable vehicle phases such that the active clearance phase shall always be called when the preceding phase is called. If the placement of stop bars results in additional driveway entrances within the operating limits of the temporary signal, additional RDTSs shall be installed for each additional driveway. The operating limits of the temporary signal are defined as the space between the mainline stop bars along Conant Road.

All signage conflicting with the temporary signal operations shall be removed in accordance with 645.07.

All pavement markings in conflict or extending beyond any proposed temporary stop bar shall be removed in accordance with 627.08. Yellow centerline markings shall prohibit passing maneuvers at least 800 feet before stop bars on each approach.

Advance Warning signs shall be as specified in the contractor's temporary traffic control plan and approved by Maine DOT.

When signals are not in use, all signal heads shall be bagged or the trailer removed from the side of the road and out of view from the traveling public.

Installation will be considered complete when the Contractor shows the vehicle detection system consistently places calls to the controller and the appropriate phase based on vehicle presence in the detection zone.

643.18 Method of Measurement

Replace the third paragraph with the following:

Each non-invasive stop bar detection system installed, connected to appropriate phases in the controller cabinet, complete and operational, will not be measured for payment but will be considered incidental to the Temporary Traffic Signal pay item.

The following paragraphs are added:

All existing signs to be removed or covered will not be measured for payment but will be considered incidental to the Temporary Traffic Signal pay item.

RDTSs will be measured for payment by each unit, satisfactorily installed, operated, maintained, and removed.

643.19 Basis of Payment

Replace the third paragraph with the following:

Any temporary traffic signal equipment that the Contractor furnishes and installs to provide a functional traffic signal shall be removed and salvaged back to the Contractor when the temporary traffic signal is no longer needed.

Replace the fourth paragraph with the following:

The stop bar detection system will be considered incidental to the Temporary Traffic Signal, which shall be full compensation for materials, labor, and equipment for each detection system installed, fully operational, and removed.

The following paragraph is added:

Payment will be made for each RDTS at the contract price per each unit required, which will be full compensation for the materials, labor, and equipment including for the removal of each of the unit(s) upon completion of the work. All materials used for RDTSs will remain the property of the Contractor.

Payment will be made under:

Pay Item		Pay Unit
643.66	Residential Driveway Temporary Signals (RDTS)	Each
643.72	Temporary Traffic Signal (Conant Rd)	Lump Sum

SPECIAL PROVISION
SECTION 652
MAINTENANCE OF TRAFFIC

Approaches. Approach signing shall include the following signs at a minimum. Field conditions may warrant the use of additional signs as determined by the Resident.

Road Work Next X* Miles
Road Work 500 Feet (Ahead)
End Road Work

Work Areas. At each work site, signs and channelizing devices shall be used as directed by the Resident.

Signs include:

Road Work XXXX[1].
One Lane Road Ahead
Flagger Sign

Other typical signs include:

Be Prepared to Stop
Low Shoulder
Bump
Pavement Ends

The above lists of Approach signs and Work Area signs are representative of the contract requirements. Other sign legends may be required.

Unless otherwise defined in Special Provision 105/107 or submitted and approved in the Traffic Control Plan, the following shall apply:

- The Contractor shall conduct their operations in such a manner that the roadway will not be restricted to one lane for more than 2,500 feet at each work area and no more than 4,000 feet for paving, milling, and crack seal/repair work areas.
- Where more than one work area restricts traffic to one lane operation, these work areas shall be separated by at least 1 mile of two-way operation.

Temporary Centerline A temporary centerline shall be placed each day on all new pavement to be used by traffic. The temporary centerline, when specified of reflectorized traffic paint, shall conform to the standard marking patterns used for permanent markings. Failure to apply a temporary centerline daily will result in a Traffic Control Violation and suspension of paving operations until temporary markers are applied to all previously placed pavement.

[1] "Road Work Ahead" to be used in short duration operations and "Road Work xx feet" to be used in stationary operations as directed by the Resident.

SPECIAL PROVISION
SECTION 652
MAINTENANCE OF TRAFFIC
(Staged Construction and Traffic Control)

Description This work shall consist of furnishing, installing, maintaining, and removing traffic control devices and staged construction items necessary to maintain the temporary travelway as specified in the Contract Documents and Standard Specifications. This work shall also include designing, fabricating, erecting, maintaining, and dismantling of temporary structural support wall(s) for the purpose of supporting the roadway during staged construction.

Use of staged construction and traffic control is anticipated at the following culvert replacement locations:

- Conant Road, Sta. 328+00: 12’ x 14’ Concrete Box

Materials All materials utilized shall meet the appropriate requirements of the Standard Specification and the Contract Documents.

Geometric and Approach Requirements

A. Horizontal Alignment Horizontal curve radii shall not be less than 200 feet at the centerline of the temporary roadway. Additional width of temporary travelway for off-tracking may be needed for tight radii curves.

B. Vertical Alignment Grades shall not exceed 10% and all grade changes will accommodate all legal highway vehicle components and attached loads.

Temporary Structural Support The design, erection, and removal of temporary structural supports shall be in accordance with Section 524 of the Standard Specifications. The design and associated working drawings shall be submitted to the Resident at least two weeks prior to construction.

Construction Requirements At or before the preconstruction meeting the Contractor shall submit a Staged Construction and Traffic Control Plan (SCTCP) to the Department. The Department will review the SCTCP for completeness and conformity with Federal requirements, Contract provisions, the current edition of the MUTCD, and Department policies and procedures. The Department will review and provide comments to the Contractor within 14 days of receipt of the SCTCP. No review or comment by the Department, or any failure to review or comment, shall not absolve the Contractor of its responsibility to design and implement the plan in accordance with the Contract, or to shift any responsibility to the Department. If the SCTCP is determined by the Department to be operationally ineffective, the Contractor shall submit modifications of the SCTCP to the Department for review, and shall implement these changes at no additional cost to the Contract. Nothing in this Section shall negate the Contractor’s obligations set forth in Section 110 - Indemnification, Bonding, and Insurance. The design, implementation and

modifications of the SCTCP shall be considered incidental to the related 652 items.

The plan shall address:

- Construction staging and phasing
- Maintenance of the required travelway width and impacts to vehicle movement
- Traffic Control items to be utilized
- Any shoring, excavation, fill, or other items not included in the plan set design
- Removal of any materials placed outside the final limits of impacts and beyond the neat lines of the Plans
- Sections of the plan dealing with shoring shall be designed and stamped by a Professional Engineer licensed in the State of Maine (see Temporary Structural Support).

The Contractor is responsible for all costs associated with obtaining all additional and required permits and/or property rights required by their plan. Certain rights and permits must be acquired by the Department. The Contractor shall factor the time and cost for these acquisitions into their plan.

Method of Measurement Staged Construction and Traffic Control will be measured and paid as one lump sum.

Basis of Payment The lump sum price will be full compensation for the design, implementation and modifications of the Staged Construction and Traffic Control Plan along with all other items necessary to maintain the temporary travelway as specified in the Contract Documents and Standard Specifications. All temporary structural support systems, shoring, excavating, placement of fill, piles, permits, rights, and any other work associated with this item shall be considered incidental.

Temporary Signals will be paid separately under the appropriate 643 item.

Incremental payment will be made on the following schedule:

- Approval of SCTCP 25%
- Installation of SCTCP items 25%
- Removal of SCTCP items 25%
- All work related to SCTCP complete 25%

Payment will be made under:

Pay Item		Pay Unit
652.61	Staged Construction and Traffic Control	Lump Sum

SPECIAL PROVISION
SECTION 653
POLYSTYRENE PLASTIC INSULATION
(Expanded Polystyrene Insulation)

Section 653 of the Standard Specifications is amended as follows:

653.2 General: Section 653.02 of the Standard Specifications shall be replaced with the following:

Insulating material shall be expanded polystyrene (EPS) insulating board conforming to the requirements of ASTM C578 Type IX and ASTM D6817 Type EPS29 with a minimum compressive resistance at 1% strain of 10.9 psi. EPS shall have a thickness of 4 inches.

Pegs shall be hardwood, approximately 8 inches long by 1/4 inch round, pointed on one end.

653.4 Placing Insulating Boards: Section 653.4 of the Standard Specifications shall be amended with the following:

EPS shall be placed after abutment footing and backwall installation and shall be cut and fit to be placed in accordance with the plans.

653.5 Placing Backfill: Section 653.5 of the Standard Specifications shall be replaced with the following:

After the insulating boards have been placed, concrete fill shall be placed over the insulation boards using care to avoid pushing or puncturing the boards. Construction equipment shall not be operated directly on the insulating boards. The type and thickness of concrete fill will be shown on the plans.

653.6 Compaction: Section 653.6 of the Standard Specifications shall be deleted.

653.9 Basis of Payment The accepted quantities of polystyrene plastic insulation will be paid for at the contract unit price per square yard complete in place. Payment shall be full compensation for furnishing and placing the insulating boards, pegs, and concrete fill.

Payment will be made under:

Pay Item		Pay Unit
653.24	4-inch Polystyrene Plastic Insulation	Square Yard

SPECIAL PROVISION
SECTION 654
INTELLIGENT TRANSPORTATION SYSTEMS
(ITS Base Specification)

654.01 Description

This work shall consist of the furnishing, configuring, integration and testing of intelligent transportation systems (ITS) devices, equipment, and associated materials. This specification includes materials, integration, and warranty requirements for all ITS systems. Each specific ITS system or device will include its own specification that supplements the requirements of this specification.

654.02 General

All ITS equipment shall be new unless otherwise specified. Requests for substitution of any specified material shall be submitted in writing with all documentation (specifications, mill certifications, catalog cuts, shop drawings, etc.) in order to enable the Department to evaluate the equivalency of the substitution. Substitutes shall give equal or better service than the specified material or equipment.

654.025 Materials

The Contractor shall provide a complete Technical Submittal as outlined below for all ITS systems, devices, and equipment. The requirements for the ITS Technical Submittal shall meet the following requirements and additional requirements as indicated by the specific ITS system, device, or equipment specifications:

1. This specification includes the universal requirements for all ITS Technical Submittals; additional requirements for specific ITS systems, devices, and equipment may be found in other specifications.
2. The Contractor shall not proceed with manufacture or fabrication until the Resident has approved the submittals in accordance with Section 105.7.
    a. The Contractor shall provide drawings, manufacturer's specifications, and applicable catalog cuts for all materials and components for this work, submitted in accordance with Section 105.7.
    b. The Technical Submittal shall list all proposed equipment to be provided, including mounting hardware as applicable.
    c. The Contractor shall provide cabinet diagrams for all equipment cabinets showing installed hardware and wiring connections.
    d. The Contractor shall provide electric load calculations required for all power supply equipment to be installed.
        i. Where solar powered systems are required, the Contractor shall provide solar power calculations to indicate the size, quantity, and capacity of the solar panels and batteries to meet the required autonomy standards.
        ii. Where uninterruptable power supply (UPS) is specified, the Contractor shall provide calculations to indicate that the proposed power

requirements of the system can be accommodated by the UPS equipment in accordance with the specifications.

e. All specification documentation shall be clearly marked to identify the exact proposed model and all options to be supplied.
f. MaineDOT will give no guarantee as to the completeness of the Plan details and the Contractor shall be required to furnish, install, and test any other equipment and materials required to provide a complete and operational ITS device system.

3. Steel Support Pole Submittals. The submittal for device support poles shall include the following for approval in accordance with Section 105.7.:
    a. Design computations (AASHTO LRFD) for support structures or poles, for the wind speeds defined in ITS system or device specifications. All calculations shall be signed and stamped by a Professional Engineer licensed in the State of Maine. The submittal for above grade components shall be in accordance with Section 626.034
    b. Complete sets of shop drawings for the pole signed and stamped by a Professional Engineer licensed in Maine.
    c. Manufacturer's specifications and applicable catalog cuts for all materials and components.
    d. If not provided with the Contract Documents, the Contractor shall submit elevation and plan views showing the device support locations, foundations, and the proposed slopes plotted on cross-sections showing no interference with utilities, drainage pipes or structures and showing support of excavation if needed for construction of the foundation.
    e. The submittal shall include the foundation system that is selected for each pole location in accordance with Section 626.034.
    f. When more than one Engineer is responsible for the design of separate components (i.e. pole, attachment information), the Contractor shall make one submittal containing all of the components unless otherwise allowed by MaineDOT.
4. Training Materials. When a training requirement is included in an ITS specification, the Contractor shall furnish and provide a separate Training submittal. This training submittal shall include the following:
    a. Samples of all training materials including student handouts, presentation materials, and training agendas.
    b. The proposed date, time, and location for the training program.
    c. Resumes for the proposed qualified instructors.
5. Ethernet Cable. Where Ethernet cable is specified in the Contract Document, it shall be interpreted to mean shielded, weatherproof Category 6 (Cat6) cable of the length required for the application. The maximum length for a single Cat6 cable shall be 325 feet. Cat6 cable shall not be spliced. If any Cat6 cable will be exposed to the sun, the cable shall be UV protected.

654.03 Construction

1. ITS Device Documentation Requirements.
    a. A minimum of 15 working days prior to configuration of the IP-addressable equipment, the Contractor shall formally request the assigned IP addresses from the MaineDOT ITS Traffic Engineer.
    b. All ITS Device documentation shall identify the specific manufacturer and model number as approved in the Technical Submittal.
    c. IP addresses and login credentials will be assigned for each device by MaineDOT and returned to the Contractor.
    d. The Contractor shall configure all devices with the correct IP addresses and login credentials assigned by MaineDOT.
    e. The Contractor shall properly label all ports and outlets within device interfaces with the correct component connected to the port or outlet.

654.04Software and Integration:

1. General Software and Integration
    a. All ITS devices furnished and integrated shall be fully compatible with the MaineDOT TMC's Advanced Transportation Management System (ATMS) known as New England Compass (Compass). This software was developed by the Southwest Research Institute and is used by the TMCs in Maine, New Hampshire, and Vermont.
    b. Where applicable, ITS devices and equipment shall also be fully compatible and integrated with specific equipment software (for example, Road and Weather software and Axis Camera Station software).
    c. Additional software and integration requirements are included in each of the specific ITS systems or device specifications.
2. New England Compass ATMS Integration
    a. All ITS provided for this project shall be integrated into New England Compass (ATMS). New equipment shall operate in the same manner as existing equipment in the ATMS. Integration shall be completed by Southwest Research Institute, who are the developers of the ATMS.
        i. All ITS includes the 12 new RWIS stations and Cameras.
    b. Vaisala and Campbell Scientific RWIS Equipment are currently integrated into Compass. If the Contractor proposes to supply RWIS equipment or sensors that requires additional software development to integrate, the contractor shall be responsible for all coordination and all costs associated with software development.
    c. SwRI integration work will be consistently priced for Bidders providing equipment types that are all currently integrated into Compass. Additional cost will be applied for models that are not currently integrated and supported by SwRI based on the complexity of development. Each Bidder shall get a price quote from SwRI for this integration work. SwRI and the Contractor will not be responsible for any Compass integration work needed beyond the original estimated budget and schedule. Any time required above and beyond that schedule may be negotiated between the Contractor, SwRI, and MaineDOT and will be paid for by MaineDOT if all parties are in agreement.

d. Compass Integration shall be deemed complete when the following is true in the ATMS production environment: 1) RWIS data is showing in all applicable interfaces and consistent with field measurements and, 2) Camera images are showing properly.
    i. These can be demonstrated in a 30-minute virtual meeting with SwRI and MaineDOT. If there is a failure during that meeting, the meeting can be rescheduled as many times as needed. At acceptance, the integrated devices will fall under the separate ATMS project contract, 2022-097-ATMS-NE Compass.
e. Compass integration is not included in any warranty for this project. No additional ATMS testing will be required after the initial 30-minute virtual meeting, barring a system failure during that meeting. SwRI's role is complete as soon as successful communication is demonstrated. The Contractor is no longer responsible for any ATMS testing once the successful SwRI virtual meeting is conducted.
f. If there are any issues with device performance in the ATMS that are caused by a data feed change or other non-Compass deficiencies as determined by MaineDOT, the Contractor shall be fully responsible for correcting those issues.

3. RWIS-Specific Integration
    a. Road and Weather Software
        i. All RWIS provided for this project shall be integrated into MaineDOT's Road and Weather Software and operate in the program in the same manner as the existing RWIS, including reporting capabilities. MaineDOT uses WSP for Road and Weather Software.
        ii. The Contractor shall be responsible for the first six months of the Road and Weather Software licensing fees. After the initial six month period, the software licensing fees will be paid by MaineDOT.
        iii. If operational testing is not completed on or before May 1, 2025, the Contractor shall be responsible for the first twelve (12) months of the Road and Weather Software licensing fees. After the initial 12-month period, the software licensing fees will be paid by MaineDOT.
4. CCTV-Specific Integration
    a. CCTVs provided for this project shall be compatible with Axis Camera Station.
    b. The Contractor shall supply Axis Camera Station licenses for each CCTV.
    c. The Contractor shall configure each CCTV so that they can be integrated into Axis Camera station by MaineDOT.

654.05 Testing Requirements:

1. General Requirement: ITS Device and System Testing
    a. In addition to the requirements of this specification, all installations of ITS devices and equipment, fiber optic cable, and wireless communication equipment will be subjected to rigorous testing before the work will be accepted by MaineDOT.
    b. The Contractor shall submit testing plans to MaineDOT for review and acceptance. Successful completion of device testing shall be considered a

requirement of the Contract. The Contractor shall provide all equipment, materials and labor required to perform each test, including laptop computers, internet connections, software, and Maintenance of Traffic.

c. The Contractor shall coordinate with the MaineDOT TMC no less than 7 days prior to scheduling any equipment or systems testing.
d. MaineDOT reserves the right to examine and test or retest any or all materials furnished by the Contractor for the project to determine if they meet the requirements specified within the Contract Documents.
e. If MaineDOT decides that any material used in the construction of this project is defective or otherwise unsuitable, the workmanship does not conform to the requirements of the contract, and/or the equipment does not meet the performance specifications required in the Contract Documents, the Contractor shall replace such defective or deficient parts and material at no cost to MaineDOT.
f. The Contractor shall conduct all tests in the presence of the Resident. Testing shall be scheduled only on weekdays, and subject to approval of MaineDOT.
g. Completed test results shall be packaged and submitted to MaineDOT within 14 calendar days of test completion. No test phase shall begin until all prior test phases have been completed, and test results have been approved by MaineDOT.
h. As part of the system and device testing, the Contractor shall provide to MaineDOT a complete set of maintenance and user manuals along with all wiring and assembly schematics and diagrams. This shall including any material safety data sheets (MSDS), prepared by the manufacturer and any toxic substances (coatings, liquids, or other) used. Maintenance information shall include troubleshooting directions, maintenance schedule recommendations, and calibration recommendations/directions. All necessary equipment to complete calibrations shall be included.
i. The Contractor shall provide any test specific software required to complete the test.

2. Testing Step 1 – Standalone and Subsystem Testing
    a. Standalone testing and Subsystem testing can be completed together for this project.
    b. Standalone testing shall be performed on site at the ITS device or system. The purpose of the Standalone tests is to exercise all in-field functional operations of the equipment or device as installed. The Contractor shall demonstrate compliance with the requirements for the equipment defined in the specifications during this testing period. If a unit fails to pass the stand-alone test, the Contractor shall correct the problem or replace the part/device/system and retest until satisfactory results are achieved.
    c. Subsystem testing shall be performed for ITS devices and systems that are connected to a communication network other than a cellular modem. The purpose of the Subsystem test is to exercise the ITS device or system over the communication network locally, before making a final connection to the required software. If a unit fails to pass the subsystem test, the Contractor shall

correct the problem, troubleshoot the communication system, or replace the part/device/system and retest until satisfactory results are achieved.

3. Testing Step 2 – Central Control Testing
    a. Central Control Testing shall be conducted after Standalone and Subsystem testing are deemed to be complete.
    b. Central Control Testing shall be performed at the TMC in Augusta and on non-Compass software. The purpose of the Central Control Test is to exercise all remote functionality and control of all ITS components at a TMC workstation, simulating normal use.
    c. The Contractor shall have a representative at each device location to provide on-site validation of device functionality during Central Control Testing, as required by the Resident or the MaineDOT TMC.
    d. If a device within the system fails to pass the central control test, the Contractor shall correct the problem or replace the part/device/equipment/system and retest until satisfactory results are achieved.
        i. Upon successful completion of the Central Control Test, the Contractor shall request in writing the initiation of the Operational Acceptance Test Period.
4. Testing Step 3 - Operational Acceptance Test Period
    a. An Operational Acceptance Test Period will be required for all ITS components. This test period shall commence upon successful completion of the Central Control Test. The purpose of the Operational Testing Period is to validate consistent system performance during real-life operations.
    b. During the Operational Testing Period, the ITS shall perform as expected by MaineDOT at all times. Any system errors will suspend the testing period.
    c. The Operational Acceptance Test Period shall be 45 days. In the event that there is a single failure associated with any ITS component or data transmission, the test shall be suspended while the Contractor resolves the failure (either by fixing the sensor or replacing the sensor). Upon successful repair/replacement, the test shall continue to the end of the 45 days, or a minimum of ten days, whichever is longer. Upon the failure of any second sensor or equipment, the Operational Test period shall be restarted for an additional 30 days upon each repair/replacement.
    d. It is imperative that the RWIS operational testing be conducted during inclement winter weather. A valid Operational Testing Period shall be defined as occurring between December 1st and April 30th. The Operational Test should include a minimum of 20 days that occur during that time. If the Operational Test cannot be achieved between December 1st and April 30th, the Supplemental Warranty condition shall apply.
5. The completion of the Operational Test period and the submission of all test reports shall be documented as the date of Final System Acceptance, provided all other work has been completed to the satisfaction of the Resident.

654.06 Guarantees and Warranties

1. The Contractor shall unconditionally guarantee all system and subsystem modules including all cabinets, equipment, hardware, and software installed to be free of defects.
2. It shall be the Contractor's responsibility to secure all guarantees that are customarily issued by the equipment manufacturers for the specific equipment included in the Contract. The form in which such guarantees are delivered to the Contractor shall include the provision that they are subject to transfer to MaineDOT and shall be accompanied by proper validation of such fact. Transfer of guarantees shall coincide with the Guarantee Period specified below.
3. The length of warranty shall be one (1) year from the completion date of the Operational Testing Period unless extended in accordance with the Supplemental Warranty requirements. The Contractor shall guarantee the availability of compatible replacement equipment for a five-year period from the same date.
    a. Supplemental Warranty: In the event the Operational Testing cannot be completed in accordance with Section 654.05 above, the customary warranty period shall be extended to include a minimum of two (2) winter maintenance periods following System Acceptance. A winter maintenance period shall be considered November 1st to April 30th. For example, if the Operational Test does not include a minimum of 20 days between December 1st and April 30th with System Acceptance occurring after April 30, 2029, the warranty period shall be extended to April 30, 2031.
4. The warranty shall cover all parts, labor, transportation, shipping, tools, equipment mobilization, maintenance of traffic, and incidentals necessary to repair or replace any system component, device, equipment or sensor that fails to perform as required by the Contract Documents.
5. The warranty shall include technical support available via telephone and email 24 hours per day, 7 days per week, 365 days per year for the warranty period.
6. The terms of any equipment warranties stipulated by the equipment manufacturers shall be provided with product data included in the Technical Submittal, specified in Section 654.025. The terms of any equipment manufacturer's warranties will not relieve the Contractor from any of the guarantee requirements of this contract.
7. The Contractor shall be responsible for repair or replacement during the guaranty/warranty period. Repair is defined as all activities that shall be performed for the system to remain in, or return to, operation as observed at the time of installation (by others). Replacement is defined as providing the same or better model of the equipment or device under warranty. The work consists of the repair of defective devices that fail during the normal course of operation, and does not include repairs or replacements made necessary due to damage resulting from vandalism, traffic accidents, or acts of God.
8. The Contractor shall provide on-site warranty service of the equipment within 48-hours of notification by MaineDOT. If the Contractor is unable to affect a repair to the equipment within seven (7) calendar days of notification, temporary equipment meeting all the original equipment specifications may be requested by MaineDOT and shall be provided and installed at no cost to MaineDOT. The Contractor shall then either fix or replace the broken device or equipment at their discretion.

9. A log of all guarantee work performed by the Contractor during the Guarantee Period shall be maintained by the Contractor. The log shall include, as a minimum, the following information:
    a. Date and time defect reported
    b. Entity reporting the defect
    c. Description of the reported defect
    d. Technician responding to reported defect
    e. Arrival time at the site of the technician
    f. Technician performing defect repair or replacement
    g. Description of observed defect
    h. Corrective actions taken
    i. Model and serial number of any module repaired or replaced
    j. Date and time defect rectified
10. The Contractor shall maintain records, which show the itemized material and equipment cost incurred to provide response maintenance during the guarantee period. These records shall be provided to the TMC within 15 working days of the warranty work. These records will not be used as a Basis of Payment to the Contractor. The Contractor shall assure that these cost records are as complete and accurate as practicable. MaineDOT may perform an audit to verify the accuracy of the cost records.
11. When a guarantee is available on repaired or replacement components, a written and signed guarantee shall accompany the manufacturer's billing invoice. The TMC representative or inspecting agent will sign and retain the original and provide a copy to the maintaining agency and a copy to the manufacturer.
12. If the same component requires repair more than twice during the warranty period, the Contractor shall replace the component rather than provide a third repair at no additional cost to the Department.

654.07 Method of Measurement

The development and submission of ITS Technical Submittals will not be measured, but shall be considered incidental to the ITS system, device or equipment installed.

Guarantees/Warranties will not be measured, but shall be considered incidental to the ITS system, device or equipment provided.

Configuration and integration of ITS equipment and devices will not be measured but shall be considered incidental to the equipment being provided.

SPECIAL PROVISION
SECTION 654
INTELLIGENT TRANSPORTATION SYSTEMS
(Semi-Permanent, Pad Mounted, Variable Message Sign (PVMS))

Special Provision 654 ITS BASE SPECIFICATION is amended as follows:

654.01 Description

The following paragraphs are added:

This work shall consist of furnishing, installing, configuring, and testing remotely controlled, Semi-Permanent, Pad Mounted, Variable Message Sign (PVMS). This work includes support of a Work Zone Monitoring system.

The sign shall be installed in stationary locations at designated sites within the project with the ability to be relocated as needed. Signs will be used year-round at unattended locations and must be completely suitable for operation in cold and snow locations without any maintenance.

654.021 Materials

The following sections are added:

654.022 Semi-Permanent, Pad-Mounted Variable Message Sign (PVMS) - General

1. All exterior surfaces except the sign face shall be cleaned, primed and finished with two coats of Highway Safety Orange. An exception is the border around the display, which shall be black. The finish shall be either polyester powder coat or baked enamel.
2. All wiring shall be inaccessible to vandals. All external wiring shall be enclosed in liquid-tight flexible conduit or flexible non-metallic tubing, All wiring and connections shall be of sufficient size to support all maximum currents continuously, with a maximum of five percent (5%) voltage drop, including an 'all pixels ON' display, for at least 3 hours.
3. All wiring installation shall meet or exceed National Electrical Code Articles 300 and 310 methods and requirements.
4. All terminals and connections shall be clearly labeled. Labels shall be permanent, waterproof and machine printed.
5. Unless specifically excluded in these specifications, the signs shall conform to all standards within the *NEMA TS 4-2010 Hardware Standards for Dynamic Message Signs (DMS) with NTCIP Requirements, NTCIP Standards*.
6. All parts of the PVMS will work normally in sustained ambient temperatures from -20 degrees F to +120 degrees F.

654.023 Variable Message Sign - Display

1. The display shall be a matrix of LED pixels to form a display of at least 72 inches high and 144 inches wide. Center-to-center pixel spacing shall be the same horizontally and vertically and shall be 2.6 inches or less. If the spacing is 2.6 inches, the display shall be at least 50 pixels wide and 27 pixels high. If the spacing is less, the number of pixels shall be proportionally larger.
2. The LEDs shall be amber and have a viewing angle of 30 degrees in the horizontal plane. That is, brightness at 15 degrees off axis shall be at least 50 percent of the on-axis brightness.
3. When all pixels are illuminated at maximum brightness, the display shall have an on-axis luminance intensity of at least 3,720 candelas per square meter. The sign shall have an automatic intensity control feature in order to keep the LED lamp matrix intensity constant with a reduction in voltage and adjust the brightness for the ambient light level.
4. The pixels shall be arranged as a "full matrix" display capable of multiple fonts and justifications, with equal horizontal and vertical spacing.
5. The display shall be capable of displaying three lines of 18-inch-tall characters, with a normal font style for a minimum of 8 characters on each line.
6. The display shall consist of at least ten display modules that can be easily and quickly replaced in the field. Each display module shall be securely mounted to prevent any misalignment.
7. The display enclosure shall be made of aluminum with aluminum and/or stainless-steel fasteners. The display enclosure shall be weatherproof and designed to completely protect the display modules from moisture and wind driven rain.
8. The housing shall include a sighting device to facilitate proper directional alignment of the message board. This device shall be securely mounted so that a 20-pound force in any direction will not misalign the sighting device.
9. The inside of the display enclosure shall be painted black to facilitate heat dissipation.
10. If the display modules are not weatherproof, they shall be protected by a watertight sheet of UV-protected acrylic or polycarbonate.

654.024 Variable Message Sign - Support Post

1. The message board shall be mounted on a mast that is raised and lowered by an electrically powered hydraulic pump (with attached fluid reservoir).
2. The hydraulic system shall include an auxiliary manual pump with release for emergency use.
3. When fully raised in the display position, the message board shall be able to rotate 360º so the sign can be aimed at traffic. Solar panels must be fully rotatable and tiltable, up to 60°, independently from the sign for maximum solar exposure.
4. The sign's rotation-locking device shall be independent from the sign's raise/lower-locking device. Such rotation-locking device will be secure enough to prevent rotation with wind gusts up to 50 mph.
5. The hydraulic system shall be inside a locked housing.
6. All exposed parts of the support post will be painted and constructed so as to minimize corrosion from winter road conditions and chemicals even when fully extended.

654.025 Variable Message Sign – Power System

1. The sign shall be powered by batteries that can be recharged by 120VAC power when available and by solar power (DC) at all other times. The charger shall be enclosed within the battery containers with an external power inlet.
2. The batteries shall not be proprietary to the PVMS manufacturer. The number, type, and amp hour rating of batteries shall be sufficient to operate a display of 3 full lines of "X"s for 480 hours, at maximum brightness, continuously with no recharging and no solar assist. This load shall include all communications and control devices. Low voltage cutoff which may disconnect the batteries, before full discharge, will be included in this requirement. This will be confirmed with field measurements of actual current draw. Amp hour calculations shall be submitted and need to recognize the effect of amperage increase with voltage decrease from the switching power supplies. (Constant wattage, not amperage.)
3. Batteries shall be of Absorbed Glass Mat (AGM) construction – solar charging will comply with AGM charging profile requirements.
4. A voltmeter and ammeter shall be furnished to monitor the condition of the batteries and charging system. The 120-volt battery charger shall include a separate ammeter for monitoring the charging process. During recharging of low batteries from 120-volt power source, the sign shall operate normally.
5. Power control circuitry shall protect the batteries from overcharging by the 120-volt and solar chargers. It shall also protect all components from damage in the event of a short circuit, overload, or similar problem. It shall disconnect the load from the batteries when further discharging could damage the batteries.
6. The system shall automatically switch between solar (DC) and 120-volt power (AC, when available) for battery charging with no operator intervention.
7. If the batteries have been disconnected, the sign and controller shall operate using 120 VAC.
8. The solar charging system shall produce more power in a 2-hour solar day than the sign needs to display a 3-line message of ("X"'s) continuously for 24 hours along with maintaining the functions of any other powered attachment such as radar units and cameras (though cameras only need to be operational during daylight hours).
9. Solar panel calculations shall be provided using actual operating voltage e.g., 12 volts (not Maximum Power Point).
10. The solar panels shall be mounted so the panels can be rotated independently from the display for 360 degrees; at the same time, the panels can be tilted from flat to 60 degrees from horizontal (for snow shedding and maximum winter solar collection). This structure shall be rugged enough to prevent rotation with wind gusts up to 50 mph from any direction while tilted and support a snow load of 80 pounds per square foot.
11. Solar panel framework shall include a locking device to lock solar panels down while in the transport position or while not in use.
12. All electrical systems, surge protectors, antenna grounds, and the trailer shall connect to a common ground that also connects to a grounding lug on the outside of the trailer. The grounding lug shall include a label: "EARTH GROUND".

654.026 Variable Message Sign - Trailer

1. The hitch shall have an adjustable height, with a 3-inch pintle ring.
2. The trailer shall be no more than 22 feet long with the tongue in place, and no more than eight feet wide.
3. The tongue shall have a jack with caster wheel (1,000 lbs capacity) affixed in such a manner that the jack may be readily placed and locked in a horizontal position for traveling without the use of any tools.
4. Both the tongue and coupler shall have a minimum of two Grade 70 safety chains and hooks with safety latches attached.
5. The trailer shall have lockable, weatherproof compartments for the controller and batteries. The battery compartment shall be centrally positioned to promote stability of the trailer.
6. The trailer chassis shall have at each corner a leveling jack (2,000 lbs capacity) affixed in such a manner that the jacks may be readily placed and locked in a horizontal position for traveling without the use of any tools. Each jack shall be of standard design and modular to allow for field replacement.
7. The face and sides of the trailer shall be delineated on a permanent basis by affixing retro-reflective material (conspicuity tape) in a continuous line as seen by oncoming drivers.
8. The main frame and cross members shall be constructed of tubular steel and meet all federal standards and industry standards.
9. The axle shall be constructed of straight tubular steel with a capacity of 3,500 lbs.
10. The springs shall be leaf type with a capacity of 1,750 lbs per-side.
11. Wheels shall be of steel design with five lugs; tire size shall be P205/75R15. Wheels shall be demountable for removal during semi-permanent installation.
12. Fenders shall be constructed of 16-gauge steel or plastic and attached to main frame with splash guards. Fenders construction and attachment shall be of heavy-duty design for the fenders to be walked upon, and shall support a 200 lb person. Anti-skid surfacing shall be applied to the top of the fenders.
13. The trailer shall have dual combination reflective LED lights with stop, tail, turn signal and corner clearance lights. The lights connector shall be the standard 4-pin connector.
14. Trailer shall include a license plate light and bracket.
15. The trailer shall be equipped with hydraulic surge brakes. Provision shall be made to block the braking action when moving the trailer backwards.
16. Upon placement in the final semi-permanent location and following installation approval, the wheels shall be removed and delivered to the MaineDOT Northern Region Maintenance Office. Each wheel shall be labeled with the location of the device from which it was removed.

654.027 Variable Message Sign – Data Collection Requirements

1. The PVMS shall include an on-board Doppler radar speed detector installed such that the speed of approaching vehicles can be displayed on the sign or used to trigger other messages. All necessary software, firmware, and wiring shall be included and installed in the controller.
2. With radar units installed the following data shall be continuously logged and stored:

   a. Time and date stamp that a vehicle was detected.
   b. The speed of the detected vehicle
   c. This data shall be stored locally and shall be remotely retrievable. Retrieved data shall be in a format that can be incorporated into an Excel spreadsheet.
3. The units shall have an on-board closed-circuit television (CCTV) camera to monitor the local area and roadway. The camera shall be capable of FTP and should be able to send still images every 60 seconds to a designated server via the cellular communications system.
4. The camera shall have the ability to stream live images if and when required.
5. The camera shall be IP-addressable to allow direct access from an external computer and remote access via the telecommunications system.

654.028 Variable Message Sign – Sign Controller

1. The controller shall be in a lockable weatherproof enclosure with a hasp for a padlock. The Contractor shall furnish a padlock and a minimum of two keys for each padlock.
2. The sign controller shall be supported by the current MaineDOT Transportation Management Center (TMC) software (Compass ATMS).
3. The sign shall support both types of control architecture described in Section 8.10 of Standard TS 4. The controller shall be able to store at least 30 messages in non-volatile memory.
4. Note that Section 5.6 of Standard TS 4 does not apply to this sign. The controller shall be capable of storing at least four fonts in memory and shall be shipped with at least two fonts in memory. The user shall be able to create at least two additional fonts, download them to the controller, and store them permanently.
5. Both default fonts shall consist of characters 18-inches tall. One shall be comparable to that shown in Figure 7-1 of Federal Highway Administration publication # FHWA-TS-90-043. The other shall be a similar, compressed font. Both fonts shall include:
   a. All upper-case letters
   b. The following punctuation marks. , / ? ‘ : and “.
   c. All numerals 0 to 9
   d. The following special characters # & * + < > ← → ↑ ↓ ↖ ↗ ↙ ↘
6. The sign controller shall automatically notify (via automated alarm) the central sign control system (Compass ATMS) when the battery voltage is low.
7. Note that Section 8.7 of Standard TS 4 does not apply to this sign. All communication with the sign controller shall use the latest recommended NTCIP standards at the time of bidding.
8. The controller shall have at least two communications ports that can be used for remote control. The controller shall accept commands via either port and respond via the same port that received the command, so that each port automatically functions as a backup communication link for the other port.
9. The controller communications shall include cell phone modems for U.S. Cellular, GPS and web server service.
   a. One port shall be equipped with a cellular modem. This modem shall be a current model of SierraWireless modem which is at least equivalent to the GX450 modem and should be set to use the U.S. Cellular cell service. The

antenna installation shall also include a GPS antenna connected directly to the cellular modem to be able to always locate the PVMS. The Department will supply the SIM card for the modem.

b. The cell modem shall be wired to be always ON; it will be necessary to pull a fuse or disconnect the power plug to recycle the power.
c. The second port shall be an RJ-45 Ethernet port, which may be used for a wireless data communication service. The Ethernet port shall also be suitable for connecting a notebook computer for local control and maintenance. It shall operate in accordance with the latest version of NTCIP 2104, Ethernet Subnetwork Profile. The medium shall be 10Base-T.

10. An antenna suitable for cellular telephone or data service shall be installed on top of the message board. Install the antenna in a way that does not permit water to enter the message board. A 50-ohm coaxial cable, 100 percent shielded and designed for outdoor use, shall run from the antenna to the controller compartment. The cable may not pass through the top of the compartment and the hole where the cable enters must be sealed watertight. Immediately upon entering the controller compartment, the cable shall terminate on a grounded lightning protector.
11. The antenna shall be omnidirectional, for bandwidth(s) that are compatible with the modem. It shall have a built-in ground plane and vertical polarization. The antenna gain shall be at least 5 dBi. The GPS antenna for the cellular modem may be included in this antenna.
12. Controller Standards
    a. The sign shall support the following objects defined in NTCIP 1201, Global Object Definitions:
        i. All objects in the Global Configuration Node.
        ii. The following objects in the Global Time Management Node: globalTime; globalDaylightSaving; maxTimeBaseScheduleEntries; timeBaseSchedule-Table; maxDayPlans; maxDayPlanEvents; timeBaseDayPlanTable.
        iii. All objects in the Report Parameters Node.
        iv. The module table required by Clause 2.2.3 of NTCIP 1201 shall contain at least one row with module Type equal to 3 (software).
13. Dynamic Message Sign Objects: See Appendix A for a list of the required sign objects.
14. Displaying a blank sign shall be achieved in the same way that any message is displayed (i.e., by using an object that has a syntax of either MessageActivationCode or MessageIDCode). However, a new memory type, dmsMessageMemoryType equal to 'blank (7)', shall be created to support this operation. It shall function as follows: The dmsMessageNumber for this memory type shall be reflective of the run time priority and shall be between 1 and 255, inclusive. The CRC for this memory type shall be 0x00 00 and the normal CRC algorithm shall not be applied to blank messages. The dmsMessageMultiString shall be an octet string of length 0. The activate priority for any MessageActivationCode using this type of memory shall be used as the actual activation priority.

15. The software shall implement the following tags (opening and closing where defined) of Mark Up Language for Transportation Information (MULTI) as defined in NTCIP 1203:
    a. Fields for 12-hour time, day of month, month, four digit year, and current speed in mph.
    b. Flash
    c. Font
    d. Justification Line
    e. Justification Page
    f. Moving Text
    g. New Line
    h. New Page
    i. Page Time
    j. Hexadecimal Character
16. All communication shall conform to the current NTCIP standard at time of writing.

654.029 Variable Message Sign – Work Zone Monitoring System

1. The PVMS shall include the following capabilities for incorporation into a Work Zone Monitoring System:
    a. Automated traffic flow monitoring system
    b. Data collection devices
    c. Automatic message update on the PVMS based on data collection (i.e., radar speed, weather station)
    d. Access to detail data for current and historical traffic flows

654.03 Construction

The following sections are added:

654.031 Variable Message Sign – Support

1. The manufacturer shall provide telephone or on-site support to the Contractor during installation.
2. The manufacturer, or the Contractor on behalf of the manufacturer, shall provide technical support for one year following project acceptance.
3. Phone numbers provided for technical support must be attended by a person who can answer questions or promptly find the answer to questions. An answering machine or answering service does not constitute technical support. The telephone support required by these specifications shall be provided at least eight hours a day (Eastern Standard Time) on all MaineDOT work days.

654.032 Variable Message Sign – Spare Parts

1. The Contractor shall furnish spare parts for each PVMS furnished and installed to include the following:
    a. Display modules: two modules
    b. Batteries: one battery

654.04 Software and Integration Requirements

The following sections are added:

654.041 Variable Message Sign – Remote Control Software

1. The PVMS shall be compatible with the MaineDOT ATMS system known as New England Compass, developed by the Southwest Research Institute (SwRI). The Compass ATMS enables traffic management staff to control and monitor the signs. It is also to enable a maintenance technician at a sign to exercise all sign features, examine event logs, and run diagnostic tests.
2. The Contractor shall supply any PVMS manufacturer-specific software that can provide more advanced tasks, such as diagnostic testing. It is expected that the software will be the PVMS manufacturer's standard product, with minimal customization necessary to integrate with Compass ATMS. The software for use by maintenance technicians need not be identical to that used by the traffic management staff, although it must have equivalent capabilities.
3. The Contractor shall provide (and install as needed) a minimum of ten licensed copies of the manufacturer's software for the PVMS sign controller. The installation shall occur at the MaineDOT Transportation Management Center (TMC) in Augusta, Maine. If MaineDOT already has the PVMS vendor software integrated with Compass, the Contractor shall integrate the new PVMS into the existing software application, including providing any device licenses required. It is noted that MaineDOT already has JamLogic software integrated with Compass; therefore, if the manufacturer's software uses JamLogic, the Contractor will be required to integrate the new PVMS locations into the existing JamLogic application.
4. The user shall enter commands by selecting from menus. The user shall make selections from menus and from lists of signs, messages, and options using a mouse. The interface shall be easy to use, minimizing memorization and opportunities for errors. The interface shall automatically check commands for out-of-range values and other errors. When it checks an error, it shall beep, reject the command or data, and provide the user with a clear explanation. The software shall have the complete text of the software operator's manual stored on a USB thumb drive or CD, readily available to the user.
5. The software shall be capable of remote communication with field equipment via IP addressing over a cellular or Ethernet network. It shall use the appropriate communication method for each sign, based on information stored in the computer's database.
6. Only users, who have proper authorization, as indicated by their passwords, shall be able to undertake the following actions:
    a. Place equipment on standby.
    b. Change sign messages, blank signs, and change message priority.
    c. Replace or delete messages stored in a PVMS controller's memory.
    d. Display test patterns on a sign.
    e. Change or delete the sign computer's schedule.

f. Modify the message library on the sign computer's hard disk.
g. Change sign configuration parameters.
h. Delete the event log.
i. View passwords (restricted to Administrator authorization).
j. Change passwords and privileges (restricted to Administrator authorization).
k. Each user shall have a different password. Users may be granted or denied permission to use each protected command independently. Via an encrypted lookup table, the computer shall determine which of the protected commands a user may use.
l. The software shall ask the user for his password at the time the protected command is entered. The computer shall not carry out these commands unless the user has the proper privileges.

7. An authorized user shall be able to take a sign off line, causing it to be ignored by the sign computer. This will be used when a malfunctioning sign is generating an excessive number of alarms. When a user attempts to control an off line sign, a message shall appear on his screen informing him that the sign is out of service. When a user takes a sign off line, the software shall ask the user to type in a comment of up to 100 characters explaining the action. The comment field may be left blank. The computer shall also record the user's name, based on his password, and include the name and comment in the failure report described below.
8. The sign computer shall store a library of at least 999 messages on its hard disk. In addition to the message text, the file shall contain all the MULTI control codes needed for a sign to properly display the message.
9. When adding a message to the library, a user shall specify the message name. If a message with the same name already exists in the library, the software shall notify the user and give him the options of replacing the existing file or selecting a new name for the message he has just created. A user shall also be able to delete library messages from within the program. The program shall ask the user to confirm each message deletion before actually deleting the file.
10. If the user is seeking a message to display, the software shall present a list so that the user can choose one. When the user makes his selection, the software shall display the entire message, exactly as it would appear on a sign, and shall ask the user to confirm that this is the message desired. The user shall then be able to post the message on one or more signs, edit the message, or do nothing with it.
11. Upon creating or revising a message, the user shall be able to save it in the message library on the sign computer's hard disk or send it directly to one or more PVMS controllers for storage or display.
12. When a user sends a message to one or more signs, the sign computer shall automatically check to be sure that the message will fit on the sign. This checking shall take into account the selected fonts and the size of the sign's display. If the message won't fit, the computer shall alert the user and not post the message.
13. If a user chooses to send the same message to multiple signs, the software shall present the user with a list of all signs, so that the user can check off which signs the new message goes to. The screen shall also give the user a choice of “All Signs”. The list shall identify signs by roadway and milepost. Using a single command, the user shall

be able to cause the message to be stored in all the signs he specified, replacing those previously stored in the controllers. Similarly, the user shall be able to use a single command to have all the selected signs display the same message, or the same message number.

14. In addition to entering commands for immediate execution, a user shall be able to store commands in the sign computer for future execution at a given time. A user shall be able to quickly and easily create, modify, suspend, or cancel a schedule of commands for the sign computer to issue to specified PVMS controllers. The user shall be able to specify the same action at the same time for multiple signs, in the same way as was described in the preceding paragraph. A user shall also be able to schedule the printing of sign-related reports. A user shall not be able to schedule any command that he does not have the privilege to execute directly. The schedule shall show the name of the user who scheduled each command, based on his password. Actions that would be recorded in the event log if a user commanded them directly shall also be logged when they result from a scheduled command. The record shall include the user's name and an indication that the command was scheduled.
15. The software shall provide a single command that not only transmits a message to a sign (after confirming that it fits) but also causes the sign to immediately display that message on the sign (after confirming that the transmission was error free).
16. The software shall display messages as a matrix of dots that replicate the way the message will actually appear on a selected sign. The presentation should be based on the assigned font and the height and width (in pixels) of the display, as stored in a database maintained by the sign computer. This type of display will be used during message creation and editing, as well as when displaying to a user the message currently on a sign. If the user is displaying a message from the library or creating a message without specifying what sign it will go on, the display shall be based on the characteristics of the signs provided in this project.
17. The sign computer shall maintain an event log file on its hard disk with a record for each appearance or disappearance of an alarm from a sign. The record shall include the date, time, sign ID, and nature of the change. If the alarm indicates a change in the sign display, the log shall include the exact text of the message, the device from which it was commanded, and, if commanded via the sign computer, the name of the person posting the message, based on his password. The log file shall include this same information each time a message is downloaded to a sign's memory from the sign computer.
18. The log shall also record each time a user at the sign computer does the following:
    a. Changes the priority of a message.
    b. Changes the schedule.
    c. Changes a message in the library on the computer's hard disk.
    d. Each log record shall include the user's name based on his password.
    e. Each log record shall record the beginning and end of communication failures. The sign computer shall deem a communication failure to have occurred if it does not get an error-free response to two consecutive commands to a controller. The computer shall deem a controller recovered if it responds properly to a command.

19. The system shall provide the following report types to the user's screen, a disk file named by the user, or to the printer, as specified by the user:
    a. ***Equipment Failure:*** Lists each sign that is currently malfunctioning, along with the time and date of failure and a phrase indicating the nature of the problem. Also lists each PVMS controller that is off line, along with the date and time it was taken off line, the comment written by the user who took it off line, and the user's name based on his password.
    b. ***Sign System Configuration*****:** Lists the current values of all configuration parameters stored in the sign computer, clearly labeled. It includes such things as communication address. It does not include operating parameters stored in the DMS controllers.
    c. ***Individual Sign Configuration****:* Lists the current values of all changeable parameters stored in a PVMS controller, clearly labeled. It includes such things as temperature thresholds. This report shall cover all signs, or a particular sign, as specified by the user. The information displayed shall be uploaded from the DMS controllers at the time the report is requested. If the sign computer is unable to upload the data from a particular sign, it shall use the corresponding data on its hard disk, but shall indicate in the report that the data is from the hard disk and may not be current.
    d. ***Current Sign Status:*** Lists sign location, text of message currently displayed, the priority value of the message, storage location of the message in the sign's memory, entity that caused the message to be displayed, and controller status (failed, working, or off line) for each sign in the system. This report shall cover all signs, or a particular sign, as specified by the user.
    e. ***Event Log:*** Lists all information in the control computer's event log file, with each field clearly labeled. The user shall be able to specify that only events between certain times, or pertaining to a certain sign, or pertaining to a certain type of event, or any combination of the foregoing, shall be included in the report. Events shall be listed chronologically.
    f. ***Message Library:*** Lists the text of each frame of each message in the message library, along with the duration for which the frame is displayed. Also lists the message's file name and latest revision date. Each frame shall be displayed in the report in the same way it would appear on a sign, with regard to text centering, bolding, and justification. Flashing text shall be underlined. Messages shall be grouped by subdirectory, and a user shall be able to specify that only certain subdirectories be included.
    g. ***Sign Computer's Schedule:*** Lists all information in the sign computer's schedule, clearly labeled. The user shall be able to specify that only events between certain times, or pertaining to a certain sign, or pertaining to a certain type of event, or any combination of the foregoing, shall be included in the report. Events shall be listed chronologically.
    h. ***Sign Memory:*** Lists sign ID and location and the text of each message stored in the sign. The message portion of the report shall indicate the message's memory location number and shall display the text of each frame of the message, along with the duration for which the frame is displayed. Each frame

shall be displayed in the report in the same way it would appear on a sign, with regard to text centering, bolding, and justification. Flashing text shall be underlined. All information shall be clearly labeled. The user shall be able to specify that the report cover only a particular sign, or all signs. The information displayed shall be uploaded from the PVMS controllers at the time the report is requested. If the sign computer is unable to upload the data from a particular sign, it shall use the corresponding data on its hard disk, but shall indicate in the report that the data is from the hard disk and may not be current.

i. ***Bad Pixel Maps:*** Consist of a matrix display indicating which display elements of a sign have failed, according to the PVMS controller. The user shall be able to specify that the report cover only a particular sign or all signs with display problems. If the user specifies all signs with display problems, the report will cover all signs whose controllers are currently reporting malfunctioning drivers or display elements.
j. The time and date for which the information is current shall appear on every page of each printed report. All pages shall be numbered.

654.05 Testing Requirements

The following sections are added:

654.051 Variable Message Sign –Testing Requirements

1. Prior to the testing, the Contractor shall successfully install the new PVMS in its semi-permanent pad location and integrate each PVMS into New England Compass ATMS.
2. The Contractor is strongly encouraged to pre-test the PVMS using the vendor software. When the Contractor is confident that the equipment, software, and parts will pass the test, the Resident will arrange for the Department's representatives to witness the testing. The Contractor shall contact the Engineer at least two weeks in advance of the proposed testing date and shall arrange for testing to begin at a mutually convenient time. All testing will be done on the same day at a location picked by the Department (either in the field or at the Northern Region Maintenance Office). The Contractor shall provide all materials and equipment needed for testing and shall prepare a written report of the test results.
3. The test procedure shall be designed to uncover manufacturing defects and shipping damage of all types. The test shall include a visual inspection of the sign. Among the aspects that must be tested are the following:
    a. All diagnostic routines provided by the manufacturer.
    b. Proper operation of every pixel, including uniform color, uniform brightness at all brightness levels and proper current consumption.
    c. Proper wiring of the display modules checked by displaying a text message that identifies the modules' proper row and column positions.
    d. Appropriate display brightness for day and night conditions, and brightness when the sun at its worst condition for the location.
    e. Proper aiming of the display modules.

f. Proper entry of messages into memory.
g. Proper operation of sign monitoring.
h. Proper operation of sensors for alarm conditions.
i. Correct wiring of sensors and alarms to the controller's inputs.
j. Proper remote access and control using the central and laptop software provided in this project.

4. The MaineDOT TMC will conduct a Central Control test to verify that the PVMS communicates remotely and operates within Compass ATMS.
5. Spare parts shall also be tested by substituting them into a working sign and running specific tests related to that hardware.

654.052 Variable Message Sign –Training

1. Within three weeks of successful completion of testing, the manufacturer shall train the Department's operations and maintenance staff at the Northern Region Office in Presque Isle, Maine or at the Industrial Drive facility in Augusta, Maine as required by MaineDOT. The training class shall accommodate up to 15 people.
2. In the training, each trainee shall receive hard copies of the appropriate manuals. The training shall be conducted in such a way as to familiarize the trainees with the manuals (and any other handouts provided) so that the trainees are able to make efficient use of those materials after the training. All course material, in reproducible form, shall be delivered to the Engineer immediately following course completion.
3. The manufacturer shall provide all tools and instruments needed for the training.
4. One aspect of the training shall be for board placement and installation. It shall cover proper towing and positioning of the sign, leveling, removing the tongue, raising and lowering the message board, aiming the message board, aiming the solar panels, connections to communication and power, and all other setup activities. It shall last two to four hours.
5. The maintenance and operator training shall be provided for 8-12 hours. The training shall include theory of operation, circuit description, field adjustments, parts replacement, preventative maintenance procedures, troubleshooting, operation of diagnostic and configuration software, use of the event log, and repair of components. The training shall also include a complete demonstration of the operation and capabilities of the signs and software, as well as opportunities for the trainees to create and store messages, post messages, and schedule messages
6. In addition to classroom training, it shall include "hands on" training using the signs provided in this project. That training shall include use of the control panels (if provided), control of the signs using the Department's notebook computers, display module replacement, controller replacement, battery replacement, and troubleshooting. Spare parts furnished under this contract may be used for the replacement activities. Each trainee shall use the Department's laptop software to run all the diagnostic messages, create a message, schedule the message, and adjust the sign's brightness. Each shall use the sign controller's front panel to run stored messages and determine the sign's current status.

654.07 Method of Measurement

The following paragraphs are added:

Semi-Permanent Pad-Mounted Variable Message Sign shall be measured by each unit installed, connected, tested and accepted in place.

654.08 Basis of Payment

The accepted quantities of Semi-Permanent Pad-Mounted Variable Message Sign will be paid for at the contract unit price each, complete in place. Payment shall be full compensation for the variable message sign system, CCTV, installation, modem and communications, configuration, integration, software and licenses, testing, training, spare parts, and for all labor, equipment, tools, transportation, and incidentals to place and level the PVMS on the pad.

Construction of the PVMS pad will be paid for under applicable items from Section 200 and 500.

Electrical AC service for the VMS will be paid for under applicable items from Section 654.

Payment will be made under:

Pay Item		Pay Unit
654.223	Semi-Permanent Pad-Mounted Variable Message Sign	Each

Appendix A

Required Dynamic Message Sign Objects

The proposed PVMS shall include the following objects, as defined in NTCIP 1203

- Sign Configuration and Capability Objects
  - dmsSignAccess
  - dmsSignType
  - dmsSignHeight
  - dmsSignWidth
  - dmsSignTechnology
  - vmsCharacterHeightPixels
  - vmsCharacterWidthPixels
  - vmsSignHeightPixels
  - vmsSignWidthPixels
  - vmsHorizontalPitch
  - vmsVerticalPitch
  - vmsMaxNumberPages
  - vmsMaxMultiStringLength
- Font Objects
  - numFonts
  - fontTable and subsidiary objects
  - maxFontCharacters
  - characterTable and subsidiary objects
  - fontMaxCharacterSize
- MULTI Configuration Objects
  - defaultFlashOn
  - defaultFlashOff
  - defaultFont
  - defaultJustificationLine
  - defaultJustificationPage
  - defaultPageOnTime
  - defaultPageOffTime
  - defaultCharacterSet
  - dmsColorScheme
  - dmsSupportedMultiTags
- Message Objects

- messageIDCode
- messageActivationCode
- dmsNumPermanentMsg
- dmsNumChangeableMsg
- dmsMaxChangeableMsg
- dmsFreeChangeableMemory
- dmsNumVolatileMsg
- dmsMaxVolatileMsg
- dmsFreeVolatileMemory
- dmsMessageTable and subsidiary objects
- dmsValidateMessageError

♦ Sign Control Objects

- dmsControlMode
- dmsSWReset
- dmsActivateMessage
- dmsMessageTimeRemaining
- dmsMsgTableSource
- dmsMsgRequesterID
- dmsMsgSourceMode
- dmsShortPowerRecoveryMessage
- dmsLongPowerRecoveryMessage
- dmsShortPowerLossTime
- dmsResetMessage
- dmsCommunicationLossMessage
- dmsTimeCommLoss
- dmsPowerLossMessage
- dmsEdDurationMessage
- dmsActivateMsgError
- dmsMultiSyntaxError
- dmsMultiSyntaxErrorPosition
- dmsMultiOtherErrorDescription
- dmsActivateMessageState

♦ Brightness Objects

- dmsIllumControl
- dmsIllumMaxPhotocellLevel
- dmsIllumPhotocellLevelStatus

- dmsIllumManLevel
- dmsIllumBrightnessValues
- dmsIllumBrightnessValuesError
- dmsIllumLightOutputStatus

- Scheduling Action Objects
  - numActionTableEntries
  - dmsActionTable and subsidiary objects
- Sign Status Objects, to the extent supported by the sign hardware.
  - statMultiFieldRows
  - statMultiFieldTable and subsidiary objects
  - watchdogFailureCount
  - dmsStatDoorOpen
  - shortErrorStatus
  - controllerErrorStatus
  - dmsPowerStatusMap
  - dmsPowerNumRows
  - dmsPowerStatusTable and subsidiary objects
  - fanFailures
  - pixelFailureTableNumRows
  - pixelFailureTable and subsidiary objects
  - pixelTestActivation
  - dmsPixelStatusTable and subsidiary objects
  - dmsPixelFailureTestRows
  - dmsPixelFailuresMessageRows
  - dmsLightSensorStatusMap
  - dmsLightSensorNumRows
  - dmsLightSensorStatusTable and subsidiary objects
  - dmsTepSensorStatusMap
  - dmsTemSensorNumRows
  - dmsTempSensorStatusTable and subsidiary objects
  - powerSource
  - tempMinAmbient
  - temptMaxAmbient
  - tempMinSignHousing
  - tempMaxSignHousing
  - tempSensorWarningMap

- tempSensorCriticalTempMap

♦ Graphic Definition Objects

- dmsGraphicMaxEntries
- dmsGraphicNumEntries
- dmsGraphicVertSpacing
- dmsGraphicHorzSpacing
- dmsGraphicMaxSize
- availableGraphicMemory
- dmsGraphicBlockSize
- dmsGraphicTable and subsidiary Objects
- dmsGraphicsBitmapTable and subsidiary objects

Any mandatory objects that are required by NTCIP1203 but that are missing from the above list shall also be supported.

Object Range Requirements Every object required by these specifications shall have full standardized object range support except:

OBJECT	MINIMUM PROJECT REQUIREMENTS
Max Time Base Schedule Entries	28
Max Day Plans	14
Max Day Plan Events	12
Max Event Log Configurations	50
Event Configuration Mode	2, 3, and 4
Max Event Log Size	200
Max Event Classes	16
Max Group Address	1
Number Fonts	4
Max. Font Characters	100
Number Action Table Entries	Equal to message capacity of sign
Number of User-Define Events	0
Number of External Devices	0
Number of Brightness Levels	16 or more

SPECIAL PROVISION
SECTION 654
INTELLIGENT TRANSPORTATION SYSTEMS

Special Provision 654 ITS BASE SPECIFICATION is amended as follows:

654.01 Description

The following paragraphs are added:

This item of work shall conform to this specification. This item shall consist of coordinating, furnishing, installing, and wiring an electrical power service connection between the public utility power source and the semi-permanent portable variable message signs (PVMS) to provide a complete AC power supply system. The electrical service connection shall be metered and shall include all necessary cables and equipment, including modification to the PVMS units to allow for semi-permanent AC power.

654.025 Materials

The following sections are added:

654.026 Electrical Service Connection – General

The materials for this work shall conform to the requirements of the local power utility company and other project specifications.

1. Electrical Service Connection shall consist of all materials required to establish a hard wire power connection to a public utility company that provides 120/240 Volt single phase, 100 ampere service.

2. The Contractor shall be responsible for furnishing and installing the required materials and equipment associated with establishing a power service connection. The materials and equipment shall conform to the power utility company's requirements for service connection.

3. The Contractor shall adhere to all applicable NEC, NESC, IEEE 1100-1992, UL 1459, and UL 1950 standards and practices.

4. Where the proposed electrical service connection requires an overhead connection, the Contractor shall furnish and install all span wire, cables, tensioning hardware, and grounding equipment and all other incidental equipment required by the public utility company supplying electrical service. All cables shall conform to Section 643 unless otherwise defined by the utility company.

5. Where the proposed electrical service connection requires an underground connection, the Contractor shall furnish and install conduit, cabling and all other incidental equipment required by the public utility company supplying electrical service. All conduit and cables shall conform to Section 626 and Section 643 unless otherwise defined by the utility company.

6. Where the plans call for a meter and disconnect pedestal, the Contractor shall furnish and install a metered service pedestal. This metered service pedestal should be UL listed "Suitable for Service Equipment" and shall be acceptable to the utility company for use as a service connection.
    a. Metered service pedestals may consist of a galvanized steel post containing a 100-amp main circuit breaker for service disconnect, a minimum of two branch circuit breakers, and an integral meter socket.
    b. Metered service pedestals may consist of two 6"x6" wood posts spanned with metallic struts to provide a mounting surface for the meter and disconnect equipment.
    c. Metered service pedestals shall include weatherproof arc flash labeling meeting the requirements of the National Fire Protection Association (NFPA) 70E Standard.

7. Meter and disconnect equipment shall not be attached to existing public utility poles or equipment.

654.03 Construction

The following sections are added:

654.031 Electrical Service Equipment Installation

1. The Contractor shall arrange a meeting with the Resident and the proposed power utility company to establish a schedule for power service connections. This meeting shall be held before any equipment or material is ordered for the electrical service connection.

2. Power service shall be obtained on behalf of the Maine Department of Transportation.

3. The Contractor shall be responsible for payment of any connection and installation fees charged by the utility company for the provision of power service. The Contractor shall also be responsible for payment of the monthly service charges throughout the project and for a minimum of 90 days following operational testing of the project's ITS equipment. After the 90 days, the Contractor shall transition the monthly service charges to MaineDOT at the direction of the Resident and the TMC.

4. The Contractor shall make the necessary arrangements with the utility companies to ensure utility service is available and connected at the time of equipment testing and power-up. Any utility energization, connection, or disconnection delays will not be a

valid reason for a time extension. Difficulties in securing utility company services are to be reported to the Resident at the earliest possible time.

5. Meter and disconnect equipment shall not be attached to existing public utility poles or equipment.

6. The metered service equipment shall be installed a minimum of 48 inches above the gravel leveling pad unless otherwise directed by the public utility company.

7. The Contractor shall provide a flexible conduit connection from the metered service pedestal to the PVMS electrical service. There shall be a minimum of 15 feet of flexible non-metallic conduit from the meter to the PVMS.

8. The Contractor shall make all necessary modifications to the PVMS to provide for semi-permanent AC power service.

9. Any entry or penetration to an enclosed section of the PVMS shall be fully sealed to the satisfaction of the Resident.

654.06 Method of Measurement

The following paragraphs are added:

Electrical Service Connection shall be measured for payment by the lump sum complete in place per site, satisfactorily installed, connected, energized, and accepted.

654.07 Basis of Payment:

Electrical Service Connection will be paid for at the contract lump sum price complete in place for each location. Payment will be full compensation for coordination with the power utility company, for all equipment and materials required by the power utility company for an electrical service connection including but not limited to meter sockets, disconnect switches, meter and disconnect pedestals, all connection fees, monthly service charges, and for any cables, span wire, hardware, connectorizing and installation to provide a complete electrical power connection at each PVMS location. Payment shall also include all labor, tools, equipment, hardware, and incidentals necessary to provide a complete and functional electrical service connection.

The conduit risers and conduit installed for the connection from the power utility company source to the appropriate ITS equipment cabinet shall be paid for in accordance with Section 626.

Payment will be made under:

Pay Item	Pay Unit
654.51 Electrical Service Connection:	Lump Sum

SPECIAL PROVISION
SECTION 654
INTELLIGENT TRANSPORTATION SYSTEMS
(Road Weather Information Station (RWIS) System Equipment)

Special Provision 654 ITS BASE SPECIFICATION is amended as follows:

654.01 Description

The following paragraphs are added:

This work shall consist of furnishing, installing, integrating and testing a Road Weather Information Station (RWIS) system. This RWIS system shall include a new steel pole with multiple weather sensors mounted to a reinforced concrete foundation. The RWIS system will be powered with a solar power system.

This work also includes integrating the data obtained by the RWIS system into the Maine Department of Transportation (MaineDOT) Advanced Transportation Management System (ATMS), New England Compass ATMS (Compass ATMS). Compass was developed by the Southwest Research Institute (SwRI) and is used by Maine, New Hampshire, and Vermont. This integration effort shall include the development of a live, supported dataflow using an open vendor API from the RWIS System Equipment to Compass ATMS and MaineDOT. RWIS data shall also be integrated into MaineDOT's existing Road and Weather software as part of this project.

MaineDOT currently maintains RWIS systems manufactured by Vaisala and Campbell Scientific. Both of these vendor's RWIS systems are currently integrated into both Compass and the existing Road and Weather software.

The Contractor shall provide a qualified System Integrator to integrate the RWIS system data into Compass. The System Integrator shall be responsible for the full integration and function of new RWIS data in Compass. Integration into MaineDOT's Road and Weather software shall be the responsibility of the Contractor and can be done separately of the Compass integration. MaineDOT has an existing contract for the Road and Weather software and will pay any associated licensing fees after the initial six months.

654.02 General

The following paragraphs are added:

654.021 RWIS, General:

The following specifications detail a typical RWIS system as currently deployed in the State of Maine. If any of the following hardware-specific requirements listed in the following sections cannot be met by a willing Bidder, but the Contractor believes that strict

conformance to the given requirement is unnecessary or may be accomplished differently, the Contractor shall provide a list of the requirements that cannot be strictly met along with a justification for how the Contractor's proposed RWIS System Equipment may be considered functionally equivalent in accordance with Special Provision 103.

654.025 Materials

The following sections are added:

654.026 RWIS System Equipment – General

1. All software and data interfaces shall be designed to reflect the latest NTCIP and Traffic Management Data Dictionary Standards. Specifically, the system shall support NTCIP 1204 v03.08 protocol.

2. The RWIS System shall include a controller (controller or Data Logger) that shall satisfy the following requirements:
    a. The controller shall have a modern processor, manufactured within the previous 12 months.
    b. The controller shall have a minimum of 512MB DDR3 and 2GB of NAND flash memory.
    c. The controller shall have internal/integral Ethernet communications and support direct Ethernet connections.
    d. The controller shall provide a means for real-time clock synchronization and location definition at least once daily.
    e. The controller shall have remote access capability for local maintenance purposes (WLAN, WiFi, Bluetooth or equivalent).
    f. The controller shall keep records and show calibration history of the attached sensors.
    g. The controller shall operate in the temperature range of -34°F to +150°F.

3. The RWIS System Equipment shall include a Sensor Interface and Power Management system that shall satisfy the following requirements:
    a. All sensor connectors shall be MIL-SPEC circular connectors rated to IP66/IP68.
    b. The controller shall include Ethernet interfaces for sensor and peripheral connections including at least two spare ports.
    c. Ethernet connections shall support Power over Ethernet (PoE) functionality.
    d. The controller shall have serial interfaces for sensor and peripheral connections without extension modules including at least two spare ports.
    e. The controller shall have centralized bus-bar for sensor grounding. The bus-bar shall be copper.
    f. Sensor cables shall be connected to bus-bar for grounding.
    g. The controller shall have built-in surge arrestors that shall be field replaceable.

h. Where indicated on the Plans, the controller shall have the capability to operate with solar power technology (direct current).
i. Where indicated on the Plans, the controller shall have a battery charger.

4. The RWIS System shall include a Solar Power Supply that shall satisfy the following basic requirements:
    a. Solar Power Autonomy
        i. The solar panels, in combination with the batteries, shall provide four (4) days, minimum, autonomy under no-light conditions when the batteries are fully charged and to provide 24 hours per day, 7 days per week, 365 days per year operation with no loss of operations.
        ii. The batteries shall provide sufficient power to maintain the RWIS system full functionality for the four days.
        iii. At the end of four days, the system shall be capable of maintaining power to the critical sensors (as defined by the manufacturer) for up to 24 additional hours. The system shall be capable of switching to low power/survival mode automatically as well as manually through remote commands.
        iv. At the end of the initial four days on continuous, full function operation under no-light conditions, the batteries shall still retain at least 50 percent of their full design capacity at 0°F.
        v. The solar panels shall be sufficient to recharge the batteries from 50 percent to 100 percent of rated capacity under full RWIS system load within 96 hours.
        vi. Batteries - The batteries shall be absorbed glass mat (AGM), spill proof and shall be considered maintenance free.
    b. Photovoltaic (PV) panels with mounting brackets
        i. The solar panel array shall be made up of one or more PV panels along with support and mounting brackets to attach firmly and securely to a steel support pole. Alternatively, the Contractor may provide a separate wood pole to mount the solar panels.
        ii. The mounting bracket shall provide flexibility to aim the solar panel to maximize sun exposure.
        iii. The solar panel array shall be designed to operate over a free air temperature range of -30°F to +122°F.
        iv. The solar power array shall be Underwriter's Laboratory (UL) approved. UL certification shall be provided with the Technical Submittal.
    c. The equipment cabinet shall include a manual generator transfer switch to allow the cabinet to be switched from solar power to provide 120 VAC generator power. The generator will be provided by MaineDOT as required. The generator transfer switch shall be mounted through the cabinet wall facing away from or downstream of the direction of traffic.
    d. Control Devices

i. Control devices should include a solar controller and a battery charge controller, with all necessary connector cables and ancillary equipment.
ii. The control devices shall prevent the batteries from overcharging.
iii. The control devices shall include low voltage disconnect devices which disconnect the batteries to prevent damage in the event of a very low state of charge.
iv. If the control devices include a power inverter, the power inverter shall provide 120 VAC power to the controller with three (3) percent or less total harmonic distortion and five (5) percent +/- output voltage regulation.
v. The control devices shall be temperature compensated such that the battery charging voltage is automatically adjusted based on temperature variations to maximize battery life.
vi. The control devices shall include a system monitoring device which allows maintenance personnel to assess critical system parameters such as battery condition and solar panel output.
vii. The control devices shall include overcurrent protection to ensure safe power output in the event of a malfunction of the solar power system.

e. Solar Power Technical Submittal
i. The solar power Technical Submittal shall include all components of the solar power system including catalog cuts and shop drawings for the solar panels, the batteries, the charging system and inverters (as required), solar panel mounting hardware, supplemental battery cabinets, and all other equipment and hardware for a fully functional solar power system. The Technical Submittal shall be submitted in accordance with Special Provision 654.
ii. The Contractor shall submit for approval a solar calculation which demonstrates compliance with the power requirements. This calculation shall include the manufacturer's specified loads for each sensor, the controller, and other pieces of equipment to be powered during the full function period and the low power/survival mode period. The solar calculation shall be measured from 0°F during lowest solar exposure weeks (late December/early January).
iii. The Technical Submittal shall include shop drawings and calculations for the solar panel support pole(s) and foundation(s).
iv. The Technical Submittal shall indicate the power requirement for the sensors indicated to be functional under the low power/survival mode.
v. The Technical Submittal shall be submitted in accordance with Special Provision 654.

5. The RWIS System Equipment shall include a communications system that shall satisfy the following requirements.

a. The controller shall support at least two parallel communication lines out from the station, with one communication line being a cellular modem.
b. The controller shall be native Ethernet, allowing Ethernet communications via cellular modem.
c. The controller cellular communication shall support modern networks: 4G/LTE/5G.
d. The controller cellular communication shall support dual SIM usage for data transmission purposes.
e. The controller shall support an RJ-45 port.
f. Where the controller includes a WLAN for local remote access, the controller shall have user definable time-out for WLAN broadcasting to prevent unintentional use of WLAN.
    i. The controller WLAN shall have the ability to be used as a hotspot.
    ii. The controller WLAN shall have the ability to be used as a client.
g. The controller shall have two Ethernet networks: one for internal communications and second for external communications.
h. The controller's internal network shall be Ethernet based.

6. The controller shall include a cabinet enclosure that shall satisfy the following requirements:
    a. The controller enclosure shall not have external connectors for sensors and other equipment, which may cause excessive amount of corrosion and malfunctions.
    b. All entries to the controller enclosure shall be completely encased in conduit with appropriate bushings to prevent insect and moisture entry. The sensor cable inlets shall be vandal-proof.
    c. The controller enclosure material shall be made of bare aluminum or stainless steel.
    d. The controller enclosure shall be equal to IP66 or NEMA-equivalent rating.
    e. The controller enclosure door shall have wind lock mechanism to maintain the door in an open position during maintenance.

7. The RWIS System shall include a lightning dissipater that shall satisfy the following requirements:
    a. The Contractor shall furnish a lightning dissipater consisting of a series of at least four spot dissipaters in a candelabra arrangement with a single mounting assembly.
    b. The lightning dissipater system shall include surge suppressor devices of the type recommended by the lightning dissipater manufacturer and shall properly interface with the pole mounted dissipater, and the size and type of cables used for communication and control of any installed equipment.
    c. The lightning dissipater shall be attached to the pole using manufacturer-recommended clamps. These clamps shall rigidly hold the lightning dissipater to the support pole in winds up to 100 mph.

d. The lightning dissipater and its mounting structure shall not interfere with the operation of any other sensors and shall avoid sight line obstruction of the CCTV equipment.

654.027 RWIS System Sensors

The Contractor shall furnish, install, integrate and test environmental and weather sensors that shall measure several environmental characteristics. The following sensor equipment shall be included:

a. Wind Speed and Direction Sensor
b. Visibility Sensor
c. Precipitation and Accumulation Sensor
d. Present Weather Detector (may include visibility, precipitation and accumulation sensors if the single combination sensor can meet the functional requirements for each of the individual sensors)
e. Air Temperature and Humidity Sensor
f. Barometric Pressure Sensor
g. Road Surface Sensors (Non-Invasive, Pavement Surface Condition Sensor and Subsurface Probe)
h. Closed Circuit Television (CCTV) Camera

1. Wind Speed and Direction Sensor
    a. The sensor shall measure both wind speed and wind direction.
    b. The sensor shall be weather resistant and have an operational temperature of -40°F to +140°F.
    c. The sensor shall fully compensate for the effect of temperature, humidity and pressure.
    d. The sensor shall be black to take advantage of thermal warming from the sun and have an ice resistant coating applied to all external surfaces.
    e. Measurement Parameters:
        i. The wind speed sensor shall have a measurement range of 0 to 150 miles per hour (mph).
        ii. Wind speed shall be user selectable in units of miles per hour (mph) and meters per second (mps).
        iii. Wind speed resolution shall be to the whole integer for the selected unit (i.e. 5 mph or 3 mps) and accuracy shall be within one (1) percent of actual.
        iv. Wind direction shall be measured in degrees. Wind direction resolution shall be +/- 3 degrees.
        v. Wind speed and direction shall be reported as instantaneous value and rolling average value to a customized average time.
        vi. Wind speed and direction minimum and maximum values shall be available over a customized time period (i.e. 10 minutes).
        vii. Wind speed shall be available as 3-second gust values.

2. Visibility Sensor (or visibility function of Present Weather Sensor)

a. The visibility sensor may be integrated into a combination sensor unit that operates as a Present Weather Detector. If they are separate units, the visibility sensor shall meet the requirements of parts b. through g. below.
b. The sensor shall have a measurement range of up to 10 miles with an accuracy of +/- 10 percent.
c. The sensor shall utilize back scatter optical technology.
d. The sensor shall have an operational temperature range of -40°F to +131°F.
e. The sensor shall have an operating humidity range of 0-100 percent relative humidity.
f. The sensor shall be IP66 rated.
g. The sensor shall be capable of detection through the following weather conditions:
    1. Clear visibility
    2. Fog
    3. Mist
    4. Haze (from smoke or other particulates)
    5. Rain
    6. Freezing rain
    7. Snow

3. Precipitation and Accumulation Detector (or precipitation function of Present Weather Sensor)
    a. The precipitation detector should be provided as an independent sensor. The Contractor may propose a combination sensor unit that operates as a Present Weather Detector with precipitation detector, subject to MaineDOT approval.
    b. The precipitation sensor shall meet the requirements of c. below, regardless whether it is part of a Present Weather Sensor or if it is a stand-alone sensor.
    c. Measurement Parameters:
        i. The sensor shall detect the following types of precipitation:
            8. Rain
            9. Freezing Rain
            10. Drizzle
            11. Freezing Drizzle
            12. Mixed Rain/Snow
            13. Snow
            14. Sleet/Ice Pellets
        ii. The sensor shall be capable of measuring rain precipitation accumulation rate to an accuracy of 0.05 inches per hour measured over a 10-minute time period. This accuracy shall be met under Maine field conditions.
        iii. The sensor shall be capable of measuring snow accumulation and amount of new snow since previous readings. Snow accumulation sensitivity shall be at least 0.5 inches per hour with

an accuracy of +/- 10 percent. This accuracy shall be met under Maine field conditions.

4. Air Temperature and Humidity Sensor
    a. The sensor shall contain a radiation shield to protect the sensor from solar radiation influence and from precipitation. The radiation shield shall contain no moving parts.
    b. The sensor shall combine air temperature detector (AT), relative humidity detector (RH), and dew point detector (DP) into a single unit. Alternatively, dew point may be calculated by the controller or via the Road and Weather software.
    c. The sensor shall have integral surge protection.
    d. The sensor shall be IP66 rated.
    e. The AT detector shall have an operational range of -40°F to +140°F.
    f. The RH detector shall have an operational range of 0-100 percent RH.
    g. Measurement Parameters:
        i. AT detector shall provide instantaneous and rolling one minute average values. The AT detector shall hold the previous five observations.
        ii. AT detector shall have rolling 24-hour minimum and maximum temperature values.
        iii. AT detector shall have an accuracy of 0.5°F over the range of 0°F to +100°F.
        iv. RH detector shall provide rolling one minute average values from the previous six observations.
        v. RH detector shall have an accuracy of two (2) percent and shall be reported to the nearest 0.1 percent (i.e. 90.8%).
        vi. RH detectors shall provide a means (either directly or via software) to measure dew point temperature and frost point temperature.
        vii. RH detector shall provide active measurements that maintain accuracy within 2% in condensing conditions.

5. Barometric Pressure Sensor
    a. The sensor shall be a silicon capacitive absolute pressure sensor designed for barometric pressure measurement.
    b. Measurement Parameters:
        i. The barometric pressure sensor shall conduct readings every 5 seconds and report the instantaneous readings.
        ii. The barometric pressure sensor shall measure in units of inches of mercury (Hg).
        iii. The barometric pressure sensor shall have an operational range of 18.0-31.0 inches Hg with a resolution of 0.03 inches Hg.
        iv. The barometric pressure sensor shall have an accuracy of +/- 0.12 inches Hg over the temperature range of 0°F to +140°F.

6. Non-Invasive Pavement Sensors
    a. There shall be sensors that can measure the pavement surface temperature, ambient air temperature, relative humidity, pavement surface state, and friction coefficient remotely, without penetrating the roadway. The non-invasive sensors shall be Luft NIRS, Viasala DSC/DST, or equivalent.
    b. If a pavement sensor cannot meet the accuracy requirements for all of the measurements in part a., additional supplemental sensors shall be furnished and installed to meet the accuracy requirements.
    c. These non-invasive sensors shall have no moving parts.
    d. Non-invasive sensors shall collect data samples from the road surface in accordance with the performance standards established in this specification.
    e. The data generated by the non-invasive sensors shall be compatible with the current Road and Weather software currently in operation within the MaineDOT license for New England Compass ATMS.
    f. Measurement Parameters:
        i. The pavement surface state sensor shall have an operational range of -40°F to +140°F and 0-100 percent RH.
        ii. The pavement surface state sensor shall be capable of remote readings at the range of 6.5 feet to 48 feet.
        iii. The pavement surface state sensor shall identify the condition of the pavement remotely with the following surface states:
            15. Dry
            16. Moist
            17. Wet
            18. Snow/Frost
            19. Ice
            20. Slush
        iv. The pavement surface state sensor shall measure the depth of precipitation on the pavement surface as shown below, all at a resolution of 0.01 millimeters:
            21. Water/Rain at 0.0 - 2.0 millimeters
            22. Ice at 0.0 – 2.0 millimeters
            23. Snow at 0.0 to 10.0 millimeters
        v. The pavement surface temperature sensor shall measure the pavement surface temperature every 60 seconds and have a resolution of 0.5°F.
        vi. The pavement surface friction sensor shall estimate the friction coefficient (grip factor) at the range 0.01 to 1.00 at a resolution of 0.01 units.

7. Subsurface Probe
    a. The sensor shall be a probe specifically designed for outdoor use.
    b. The sensor shall measure air, soil, and water temperature.
    c. The sensor probe shall be water-tight and weather-resistant.
    d. The sensor probe shall have an operational range of -40°F to +140°F.

e. Measurement Parameters:
    i. Road surface temperature shall have an accuracy of +/- 1°F with a resolution of 0.5°F.
    ii. Freezing point shall have an accuracy of +/- 1°F.

8. Pavement Surface Condition Sensor
    a. The sensor shall be specifically designed for pavement surface temperature, surface wetness and surface salinity measurement.
    b. The sensor shall be water-tight and weather-resistant.
    c. The sensor shall have an operational range of -40°F to +160°F.
    d. The sensor shall be able to detect and measure surface salinity (chlorides).
    e. The sensor shall be able to measure the following pavement surface states:
        i. Dry
        ii. Wet
        iii. Snowy
        iv. Icy
    f. The sensor shall be able to measure surface wetness to a minimum of 0.25 inches.
    g. Measurement Parameters:
        i. Temperature reading shall have an accuracy of +/- 1°F with a resolution of 0.5°F.
        ii. Water layer thickness reading shall have an accuracy of +/- 0.05 inches with a resolution of 0.01 inches.
    h. The sensor shall be hardwire cabled per manufacturer recommendations.

654.028 Closed Circuit Television (CCTV) Camera System: The Contractor shall furnish, install, integrate and test a digital closed-circuit television (CCTV) camera at the RWIS System location that shall provide streaming video adjacent to the RWIS system. The CCTV camera shall be connected to the controller and shall be remotely controlled via the RWIS communication system.

1. The CCTV camera shall be digital, IP addressable and Ethernet ready.
2. The CCTV camera shall be Underwriter's Laboratory (UL) approved. The UL certification shall be provided with the technical submittal.
3. The CCTV shall have the capability to be viewed, controlled and tested locally at the controller utilizing a laptop computer with the manufacturer's software. This shall include the capability to locally retrieve operational status and fault data for the camera.
4. The CCTV shall have a minimum resolution of HDTV 800 x 600.
5. The CCTV shall be capable of streaming video with H.264 and/or Motion JPEG video compression format.
6. The CCTV shall be capable of time triggered FTP.
7. The CCTV shall be powered by an industrial grade Power Over Ethernet Injector (POEI). The POEI shall provide operating power and Ethernet data to the CCTV.
8. The CCTV shall be housed in an environmentally hardened enclosure suitable for continuous outdoor use. The CCTV shall have an operating range of -40°F to +100°F, minimum.

9. The CCTV housing shall be IP66-rated.

654.029 RWIS System Support Structure and Foundation: The Contractor shall furnish and install a galvanized steel support structure on a steel reinforced concrete foundation.

1. The steel support structure shall be designed by the Contractor. Shop drawings and structural calculations shall be submitted to the Engineer for approval prior to beginning fabrication.
2. The steel support structure shall be designed in accordance with Standard Specification 643.023 for Traffic Signal Structures, with Fatigue Category II.
3. The steel support structure shall not be taller than 29.75 feet above the foundation.
4. The steel support structure shall be installed on a steel reinforced concrete foundation. The foundation should be a drilled shaft foundation in accordance with Standard Specification 626.034 for Concrete Foundations.
5. The foundation design shall conform to the requirements of Standard Specification 626.036.
6. The solar panels required for the RWIS system may be mounted to a wood pole located adjacent to the RWIS equipment.

654.03 Construction

The following sections are added:

654.031 RWIS System Construction Requirements:

The Contractor shall install the RWIS system equipment in accordance with the Plans. The Contractor shall be responsible for all other work to provide a fully functional, operational, and integrated RWIS system at the locations identified in the Plans.

The Contractor shall install, configure, integrate, and test the RWIS System data into the Compass ATMS and its Road and Weather software. The RWIS System Equipment shall continuously measure and record RWIS System data. The system data shall be available to MaineDOT in the Compass ATMS mapping feature and other related internal programs.

1. Power Requirements
    a. Each RWIS location shall be supplied with adequate power to meet the site and sensor design loads.
    b. Where AC power is provided by others, the Contractor shall coordinate the power connections at the meter and disconnect.

2. Grounding System Requirements
    a. All RWIS sites shall be grounded to a minimum of 25 ohms to ground. If other national, state, or local grounding requirements are more stringent than those of the manufacturer, the applicable national, state, or local code

shall apply. All metallic enclosures, lightning arrestors, and instrument mounting brackets shall be bonded to this system.

b. The Contractor shall install solid copper or copper clad ground rod (minimum ¾-inch x 10-foot) along with #4 AWG ground wire and fittings at the base of the RWIS equipment pole. The Contractor shall install additional ground rods required to meet the minimum grounding requirement.
c. The ground wire shall be exothermically welded to each ground rod installed with all ground rods attached to every other ground rod via the ground wire.
d. The RWIS grounding system shall be bonded to the controller enclosure bus-bar and the steel support structure in accordance with National Electric Code (NEC) requirements.
e. The lightning dissipater shall be offset from the support pole and provide protection for the site above any installed equipment without interfering with the functionality of any equipment or sensors.

3. Communication Requirements
    a. The Contractor shall furnish and install a cellular modem compatible with the RWIS system and with the MaineDOT communications system.
    b. The communication system shall support 4G/LTE and shall be configurable to support 5G if available.
    c. The modem shall be able to support US Cellular, Verizon, and AT&T service plans. Switching between the three shall be achievable with firmware updates.
    d. The RWIS system shall transmit weather sensor data to Compass and MaineDOT's Road and Weather software currently in operation.
    e. The Contractor shall provide all necessary equipment, cables, hardware, and ancillary equipment to capture the RWIS sensor data and transmit the data to Compass and to the Road and Weather software at the MaineDOT TMC.
    f. The communication system shall allow for configuration control and troubleshooting of the RWIS equipment through both a local onsite connection and through a remote connection to the controller.

4. Pavement Sensor Installation
    a. The Contractor shall install the pavement surface sensor in accordance with the manufacturer's recommendations. The pavement surface sensor shall be installed flush with the pavement surface.
    b. The Contractor shall sawcut the pavement at the width recommended by the manufacturer, and shall install the cable from the controller to the installation location of the pavement surface sensor as shown in the Contract Documents.
    c. The sawcut shall be backfilled with a sealant that is included in the MaineDOT Qualified Products List.
    d. The sawcut shall be laid out with angles of no greater than 45 degrees.

e. The sensor cable from below ground to the controller shall be protected when mounted to the RWIS support pole.

5. Software and Integration Requirements
    a. All RWIS, including CCTVs, shall be fully integrated into New England Compass and MaineDOT's Road and Weather Software.
    b. CCTVs shall be integrated into Axis Camera Station
    c. Specific Integration Requirements are identified in Special Provision Section 654 (ITS base specification), 654.04, Software and Integration Requirements.

6. Sawing Bituminous Pavement
    a. Sawcutting bituminous pavement shall be with a power-driven saw with an abrasive blade of sufficient width to provide the required cuts.
    b. The sawcut shall be vertical and not exceed two-inch depth.
    c. Debris from the sawing operation shall be removed and disposed of by the Contractor before reopening the roadway to traffic.

7. System Testing
    a. All RWIS shall pass Standalone Testing, Subsystem Testing, Central control Testing, and Operational Testing prior to work being deemed complete.
    b. Specific System Testing Requirements are identified in Special Provision Section 654 (ITS base specification), 654.05, Testing Requirements.

8. Training
    a. If the Contractor elects to provide new or modified Road and Weather software, the Contractor shall provide a training program consisting of the furnishing of educational training in the operation of the new software.
    b. The training shall be scheduled after Stand-Alone Testing but prior to the end of the Operational Testing period.
    c. The Contractor shall provide qualified instructors familiar with the operation of the software to conduct the training. Training shall consist of hands-on demonstrations as feasible.
    d. The Contractor shall develop and supply all necessary manuals, displays, class notes, visual aids, and other instructional materials as required to conduct the training program. The Contractor shall supply sufficient materials for up to 10 participants, plus one spare copy of all materials.
    e. Training will be conducted at the MaineDOT Main Office in Augusta, Maine. The Contractor shall coordinate a specific classroom facility with the Resident at least three weeks prior to the training date.
    f. The training session shall be up to four (4) hours and shall accommodate up to 10 people. Typical training topic areas include:
        i. An overview of the software and its operation.
        ii. New/modified features of the software.

iii. Interactions of the Road and Weather software with Compass ATMS.
iv. Producing reports using the Road and Weather software.

654.06 Guarantees and Warranties

The following sections are added:

654.061 RWIS System - Guarantees and Warranties

1. The length of warranty shall be one (1) year from the completion date of the Operational Testing Period unless extended in accordance with the Supplemental Warranty requirements. The Contractor shall guarantee the availability of compatible replacement equipment for a five-year period from the same date.
2. Detailed Warranty Requirements are included in Special Provision Section 654 (ITS base specification), 654.06, Guarantees and Warranties.

654.07 Method of Measurement

The following paragraphs are added:

Road Weather Information Station (RWIS) equipment will be measured for payment by the lump sum complete in place per site, satisfactorily installed, tested, operational, and accepted.

654.08 Basis of Payment

Road Weather Information Station (RWIS) equipment will be paid for at the contract lump sum price for each location. Such price will be full compensation for submission of the Technical Submittal and for furnishing and installing all materials, including but not limited to the sensors; CCTV camera; controller and enclosure cabinets with all internal hardware; solar power system; support poles, including supplemental wood pole mounting structures for solar panels; communication equipment; grounding; lightning dissipator; saw cutting pavement; integration and software modifications; system testing; training; warranties and guaranties; and all appurtenances and incidentals required for a complete and functional installation and for furnishing all assembly hardware, tools, labor, and testing necessary for completing the installation.

Foundation for the RWIS support poles will be paid for in accordance with Section 626.

Payment will be made under the following:

Pay Item		Pay Unit
654.53	Road Weather Information Station	Lump Sum

2020 STANDARD DETAIL UPDATES

Standard Details and Standard Detail updates are available at:
http://maine.gov/mdot/contractors/publications/standarddetail/

Detail #	Description	Posted Date
502(06)	Concrete Sidewalk on Bridges	9/22/2025
502(19)	Bridge Drains	3/17/2023
502(15)	Bridge Drains	3/17/2023
502(20)	Bridge Drains	3/17/2023
502(23)	Bridge Drains	3/17/2023
502(24)	Bridge Drains	3/17/2023
502(25)	Bridge Drains	3/17/2023
502(26)	Bridge Drains	3/17/2023
504(07)	Diaphragm & Crossframe Notes	3/17/2023
507(04)	Steel Bridge Railing	9/22/2025
507(05)	Steel Bridge Railing	9/22/2025
507(06)	Steel Bridge Railing	9/22/2025
507(07)	Steel Bridge Railing	9/22/2025
507(14)	Steel Bridge Railing	9/22/2025
507(15)	Steel Bridge Railing	9/22/2025
507(20)	Steel Approach Railing 3-Bar	2/11/2021
507(21)	Steel Approach Railing 3-Bar	2/11/2021
507(22)	Steel Approach Railing, 3 Bar	9/22/2025
507(23)	Steel Approach Railing, 3 Bar	9/22/2025
507(26)	Steel Approach Railing, 3 Bar	9/22/2025
507(27)	Steel Approach Railing	9/22/2025
507(39)	Barrier – Mounted Steel Bridge Rail	9/22/2025
526(01)	Portable Concrete Barrier	1/14/2021
526(01A)	Portable Concrete Barrier	1/14/2021
526(01B)	Portable Concrete Barrier	1/14/2021
526(02)	Portable Concrete Barrier	1/14/2021
526(02A)	Portable Concrete Barrier	1/14/2021
526(03)	Portable Concrete Barrier	1/14/2021
526(04)	Portable Concrete Barrier	1/14/2021

526(04A)	Portable Concrete Barrier	1/14/2021
526(04B)	Portable Concrete Barrier	1/14/2021
526(05)	Permanent Concrete Barrier	3/17/2023
526(21)	Permanent Concrete Barrier	3/17/2023
526(22)	Concrete Transition Barrier	9/22/2025
526(23)	Concrete Transition Barrier	9/22/2025
526(23)A	Concrete Transition Barrier	9/22/2025
526(34)	Concrete Transition Barrier	9/22/2025
526(35)	Concrete Transition Barrier	9/22/2025
526(36)	Concrete Transition Barrier	9/22/2025
526(37)	Concrete Transition Barrier	9/22/2025
526(37) A	Concrete Transition Barrier	9/22/2025
526(38)	Concrete Transition Barrier	9/22/2025
526(39)	Texas Classic Rail	3/17/2023
526(55)	Texas Classic Rail	3/17/2023
603(10)	Concrete Pipe Ties	6/10/2021
605(01)	Underdrain	7/8/2022
605(01)	Underdrain Notes	7/8/2022
606(17)	Midway Splice Guardrail Transition	6/10/2022
606(21)	Guardrail Type 3 – Single Rail Bridge Mounted	9/22/2025
606(22)	Guardrail Treatment over Buried Structures	9/22/2025
606(23)	Standard Bridge Transition – Type “1”	2/11/2021
606(24)	Bridge Transition – Type “1A”	9/22/2025
606(25)	Bridge Transition – Type “2”	9/22/2025
607(10)	Snow Fence Details (New Detail)	9/22/2025
607(11)	Snow Fence Details (New Detail)	9/22/2025
607(12)	Snow Fence Details (New Detail)	9/22/2025
607(13)	Snow Fence Details (New Detail)	9/22/2025
607(14)	Snow Fence Details (New Detail)	9/22/2025
607(15)	Snow Fence Details (New Detail)	9/22/2025
607(16)	Snow Fence Details (New Detail)	9/22/2025
608(02)	Detectable Warnings	6/10/2021
609(08)	Precast Concrete Transition Curb	9/22/2025
609(09)	Precast Concrete Vertical Curb	9/22/2025
627(07)	Crosswalk	2/22/2022
627(08)	Crosswalk	2/22/2022

643(11)	ATCC Cabinet	12/14/2020
645(06)	H Beam Posts Highway Signing	12/17/2024
645(21)	Overpass Mounted Sign Support Highway Signing	9/22/2025
645 (22)	Overpass Mounted Sign Support Highway Signing	9/22/2025
801(10) Pavement Transition at Bridge	DISCONTINUE THIS STD DETAIL	9/22/2025
801(11)	Pedestrian Ramp Notes	11/20/2023
801(12)	Pedestrian Ramp Requirements	11/20/2023
801(13)	Ramp Length Table	11/20/2023
801(14)	Parallel Pedestrian Ramp	11/20/2023
801(15)	Perpendicular Pedestrian Ramp – Option 1	11/20/2023
801(16)	Parallel Pedestrian Ramp – Option 2A	11/20/2023
801(17)	Perpendicular Pedestrian Ramp – Option 2A	11/20/2023
801(18)	Parallel Pedestrian Ramp – Option 2B	11/20/2023
801(19)	Perpendicular Pedestrian Ramp – Option 2B	11/20/2023
801(20)	Parallel Pedestrian Ramp – Option 3	11/20/2023
801(21)	Perpendicular Pedestrian Ramp – Option 3	11/20/2023
801(22)	Side Street Pedestrian Ramp	11/20/2023
801(23)	Parallel Pedestrian Ramp – Esplanade	11/20/2023
801(24)	Perpendicular Pedestrian Ramp – Esplanade	11/20/2023
801(25)	Island Crossings	11/20/2023
801(26)	Blended Transition	11/20/2023
801(26)	Blended Transition	1/19/2024
801(27)	Pedestrian Ramp Adjacent to Driveway or Entrance	11/20/2023
802(05)	Roadway Culvert End Slope Treatment	1/03/2017
802(05)	Roadway Culvert End Slope Treatment	11/01/2024

SUPPLEMENTAL SPECIFICATIONS
(Corrections, Additions, & Revisions to Standard Specifications – March 2020)

SECTION 101
CONTRACT INTERPRETATION

101.2 Definitions

Construction Easement revise this definition by removing it in its entirety and replace with; **"A right acquired by the Department for a specific use of private property outside of the established Right-of-Way. Examples include but are not limited to Drainage Easements, Construction and Maintenance Easements, and Slope Easements. Construction Easement areas, including Temporary Construction Limits and Temporary Road Limits, outside of the Right-of-Way remain private property. No use other than to access and perform the specified work activity is permitted without written permission of the owner."**

Construction Limit Line Remove this definition in its entirety.

Holidays Amend this paragraph by adding "**Juneteenth**" between 'Memorial Day' and 'Independence Day'.

Plans Revise this paragraph by removing "**Standard Details, Supplemental Standard Details**" from the first sentence.

Project Limits Revise this definition by removing it in its entirety and replacing it with: **"Areas within the Right-of-Way, Construction Easements, or Temporary Construction Limits shown on the Plans or otherwise indicated in the Contract. If no Project Limits are indicated in the Contract, the Project Limits shall be determined by the Department. For a related Maine statute, see 23 MRSA § 653. "**

Right-Of-Way Revise this definition by removing it in its entirety and replacing it with: **"The area of land, property, or interest therein, acquired for or devoted to the Project or other purposes. Portions of the Right-of-Way may be used for storage of materials and equipment and the location of engineering facilities, subject to written approval by the Department."**

Amend this Section by adding the following two definitions (that replace Construction Limit Line);

Temporary Construction Limits The area within which the Contractor may access and perform the Physical Work and outside of which Work may not be performed without written authorization by the property owner.

Temporary Road Limits The area within which the Contractor may construct and maintain a temporary detour for maintenance of traffic.

SECTION 102
BIDDING

102.11 Bid Responsiveness Revise the paragraph that states
"The Bid is not signed by a duly authorized representative of the Bidder." So that it reads:

"**The Bid is not signed by a duly authorized representative of the Bidder.**
- **Properly submitted electronic bids meet this requirement.**
- **Paper bids must include at least one signed copy of the Contract Agreement Offer & Award form**."

SECTION 103
AWARD AND CONTRACTING

103.3.1 Qualification Requirement for Award Revise this subsection so that it reads:

"**103.3.1 Qualification Requirement for Award If the Notice to Contractors lists a Prequalification requirement, the Apparent Successful Bidder must successfully complete the Prequalification process as a condition of Award. The Apparent Successful Bidder who does not already hold an Annual Prequalification shall have 21 days to provide the Department with their Prequal documents or the Department may move on to the next low bidder."**

SECTION 104
GENERAL RIGHTS AND RESPONSIBILITIES

104.2.1 Furnishing of Right-of-Way Revise this subsection by removing it in its entirety and replace with the new subsection:

"104.2.1 Furnishing of Property Rights The Department will secure all necessary rights to real property within the Project Limits shown on the Right-of-Way Plans that are provided with the Bid Documents. For related provisions, see Sections 104.3.2 – Furnishing of Other Property Rights, Licenses and Permits and 105.4.5 - Maintenance of Existing Structures. For related definitions, see Construction Easements and Right-of-Way."

104.3.2 Furnishing of Other Property Rights, Licenses and Permits Revise this subsection by replacing "104.2.1 Furnishing of Right-of-Way" with "**104.2.1 Furnishing of Property Rights".**

SECTION 105
GENERAL SCOPE OF WORK

Amend this Section by adding this new sub-section:
105.8.8 Protected Species If the Contractor witnesses a bat (dead or alive), any activities that may injure any live bats must cease immediately and the Contractor shall contact the

Resident. Dead and/or injured bats will be collected by the Department. Work in the vicinity of the live/dead bat sighting will not resume until the Department confirms it is acceptable to do so.

If the Contractor observes an active bird nest within the project limits, any activities that may disturb the nest or injure birds (i.e., nesting adults, chicks, eggs) must cease immediately, and the Contractor shall contact the Resident.

Amend this Section by adding this new sub-section to cover incidents in the field:
105.6.5 Survey Control Markers **If a survey control marker will be disturbed by Work on a project, the Resident shall be informed a minimum of 2 weeks prior to performing any Work that may disturb the marker. If a survey control marker is accidentally disturbed by Work on a project, the Resident shall be informed immediately. A disturbed marker will remain the property of the Department.**

105.10.1.4 Race-conscious Project Goals Revise the second paragraph of this section so it reads as follows:
*"***At the time of the bid opening, all Bidders shall submit with their bid a Disadvantaged Business Enterprise (DBE) Commitment Form provided by the Department. This form will list the DBE and non-DBE firms that are proposed to be used during the execution of the Work. This form must be filled out in its entirety. The dollar total of each commitment shall be totaled and a percentage determined.***"*

105.10.2 Requirements Applicable to All Contracts Under section A, number 2, in the first sentence of the first paragraph, revise this Section by replacing the word "handicap" in two places with the word "disability" so it now reads:

"2) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, State that all qualified applicants will receive consideration for employment without regard to race, color, sexual orientation, religious creed, sex, national origin, ancestry, age, physical disability, or mental disability."

105.10.1.6 Bidders' List Survey This section shall be revised to meet the May 9, 2024 CFR changes as follows:
Revise the title of this Section to "**Bidders' List**" by removing the word "**Survey**".
Revise the current information required to:

(i) Firm name;
(ii) Firm address including ZIP code;
(iii) Firm's status as a DBE or non-DBE;
(iv) Race and gender information for the firm's majority owner;
(v) NAICS code applicable to each scope of work the firm sought to perform in its bid;
(vi) Age of the firm; and

(vii) The annual gross receipts of the firm. You may obtain this information by asking each firm to
indicate into what gross receipts bracket they fit (*e.g.*, less than $1 million; $1-3 million; $3-6 million; $6-10 million; etc.) rather than requesting an exact figure from the firm.

Revise this section by removing the paragraph beginning with "This information…" and replacing it with the following:
"This data is required from all bidders for federally assisted contracts to be submitted with their bids as this information is critical in determining the availability of DBE Businesses relative to other businesses that do similar work."

SECTION 106
QUALITY

106.6 Acceptance Revise this Subsection by replacing the paragraph beginning with "Acceptance of Hot Mix Asphalt Pavement will be based" with:

> **"Acceptance of Hot Mix Asphalt Pavement will be based on Method A or C Statistical Acceptance, or Method B or D Acceptance as specified. The method of acceptance for each item is defined in Special Provision, Section 403, Hot Mix Asphalt Pavement. When items of Hot Mix Asphalt Pavement are not so designated, Method A will be utilized whenever there are more than 1000 tons per Hot Mix Asphalt Pavement item, and Method B will be utilized when there are less than or equal to 1000 tons per Hot Mix Asphalt Pavement item."**

Revise Subsection "B" by removing it and replacing it with:

> **"B. Items not designated for Statistical Acceptance will utilize Method B or D Acceptance testing to validate the quality of the material incorporated into the Project. For material paid under Item 403.209 – Method D, or designated to be visually accepted, the Contractor shall provide the Department with a Certification Letter that indicates that the material supplied complies with the Specifications. Test results representative of the certified material shall be attached to the letter.**
>
> **The Department will randomly sample and test the certified Material for properties noted in Table 1 of Section 502 - Structural Concrete or Table 14 of Section –401.21 Acceptance Method B & D. Material will be subject to rejection as noted in Structural Concrete Section 502.195 - Quality Assurance Method C Concrete or Hot Mix Asphalt, Section 401.2022 Pay Adjustment – Method B & D."**

106.7.1 Standard Deviation Method Revise 106.7.1, subsection H by removing the following from the first paragraph:

"Method B: PF = [70 + (Quality Level * 0.33)] * 0.01"
106.9.1 Warranty by Contractor Revise the third paragraph of this section so that it reads:

"**For a related provision regarding obligations regarding plantings, see section 621.36 – Maintenance Period.** "

SECTION 107
TIME

107.3.1 General Amend this paragraph by adding "**Juneteenth**" between 'Patriot's Day' and 'the Friday after Thanksgiving'.

SECTION 108
PAYMENT

108.2.3 Mobilization Payments Replace Standard Specification 108.2.3 – Mobilization Payments with the following:

"**108.2.3 Mobilization Payments "Mobilization" includes the mobilization and demobilization of all resources as many times as necessary during the Work.**

Percent Mobilization Bid will be determined by taking the amount Bid for Mobilization and dividing by the Total Contract Amount less Mobilization. Mob/(Total Contract – Mob).

Payment will be made at the following intervals:

% Mobilization Bid	% Mobilization Paid at Contract Award	% Mobilization Paid after the Department determines 50% of the work is Complete	% Mobilization Paid at Final Acceptance
10% or less	50%	50%	
More than 10% to 15%	33%	33%	34%
More than15% to 20%	25%	25%	50%
More than 20% to 30%	15%	15%	70%
Greater than 30%	10%	10%	80%

108.3 Retainage Revise the third paragraph of this section so that it reads:

"Upon Final Acceptance, and determination by the department that there are no claims either by or on the Contractor or Subcontractors; no over payments by the department; no LDs due; and no disincentives due, the Department will reduce Retent to 1% of the original Contract Award amount, or $100,000, whichever is less, as it deems desirable and prudent."

108.4.1 Price Adjustment for Hot Mix Asphalt Revise this section by removing it in its entirety and replacing it with the following:

"108.4.1 Price Adjustment for Hot Mix Asphalt: For each Contract, a price adjustment for performance graded binder will be made for the following pay items, when the total quantity of Hot Mix Asphalt included in these items is in excess of 500 tons, based on the estimated quantities of these items at the time of bid.

Item 403.102	**Hot Mix Asphalt – Special Areas**
Item 403.207	**Hot Mix Asphalt - 19 mm**
Item 403.2071	**Hot Mix Asphalt - 19 mm (Polymer Modified)**
Item 403.2072	**Hot Mix Asphalt - 19 mm (Asphalt Rich Base)**
Item 403.208	**Hot Mix Asphalt - 12.5 mm**
Item 403.2081	**Hot Mix Asphalt - 12.5 mm (Polymer Modified)**
Item 403.2084	**Hot Mix Asphalt - 12.5 mm (Highly Modified HiMAP)**
Item 403.209	**Hot Mix Asphalt - 9.5 mm (sidewalks, drives, & incidentals)**
Item 403.210	**Hot Mix Asphalt - 9.5 mm**
Item 403.2101	**Hot Mix Asphalt - 9.5 mm (Polymer Modified)**
Item 403.2104	**Hot Mix Asphalt - 9.5 mm (Thin Lift Surface Treatment)**
Item 403.21041	**Hot Mix Asphalt - 9.5 mm (Polymer Modified Thin Lift Surface Treatment)**
Item 403.211	**Hot Mix Asphalt – Shim**
Item 403.2111	**Hot Mix Asphalt – Shim (Polymer Modified)**
Item 403.212	**Hot Mix Asphalt - 4.75 mm (Shim)**
Item 403.213	**Hot Mix Asphalt - 12.5 mm (base and intermediate course)**
Item 403.2131	**Hot Mix Asphalt - 12.5 mm (base and intermediate course Polymer Modified)**
Item 403.2132	**Hot Mix Asphalt - 12.5 mm (Asphalt Rich Base and intermediate course)**
Item 403.301	**Hot Mix Asphalt (Asphalt Rubber Gap-Graded)**
Item 461.13	**Light Capital Pavement**
Item 461.210	**9.5 mm HMA - Paver Placed Surface**
Item 461.2101	**Hot Mix Asphalt - 9.5 mm (Polymer Modified)**
Item 461.216	**Hot Mix Asphalt (Shim)**
Item 462.30	**Ultra-Thin Bonded Wearing Course**
Item 462.301	**Polymer Modified Ultra-Thin Bonded Wearing Course**

Price adjustments will be based on the variance in costs for the performance graded binder component of hot mix asphalt. They will be determined as follows:

The quantity of hot mix asphalt for each pay item will be multiplied by the performance graded binder percentages given in the table below times the difference in price between the base price and the period price of asphalt cement. Adjustments will be made upward or downward, as prices increase or decrease.

Item 403.102–6.2%
Item 403.207–5.2%
Item 403.2071–5.2%
Item 403.2072–5.8%
Item 403.208–5.6%
Item 403.2081–5.6%
Item 403.2084 – 6.2%
Item 403.209–6.2%
Item 403.210–6.2%
Item 403.2101–6.2%
Item 403.2104–6.2%
Item 403.21041–6.2%
Item 403.211–6.2%
Item 403.2111–6.2%
Item 403.212–6.8%
Item 403.213–5.6%
Item 403.2131–5.6%
Item 403.2132–6.2%
Item 403.301–6.2%
Item 461.13–6.7%
Item 461.210 – 6.4%
Item 461.2101 – 6.4%
Item 461.216 – 6.7%
Item 462.30–0.0021 tons/SY
Item 462.301–0.0021 tons/SY"

SECTION 110
INDEMNIFICATION, BONDING, AND INSURANCE

110.3.2 Commercial General Liability Revise the last sentence in this Section that starts with "The coverage shall also…" and add a sentence to the end so that it reads:

"**The coverage shall also include protection against damage claims due to explosives, collapse, and underground coverage. No endorsement excluding damage caused by subsidence, earth movement, and/or earth pressure shall be permitted.**"

110.3.9 Administrative & General Provisions Amend this subsection by adding "**Automobile Liability**" under letter A) Additional Insured to the list of exceptions.

10. Assurance Required by 49 CFR: 26.13(a)(b) Revise this section by removing it in its entirety and replacing it with the following:

"a. MaineDOT shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of any DOT-assisted contract or in the administration of its DBE Program or the requirements of 49 CFR part 26. MaineDOT shall take all necessary and reasonable steps under 49 CFR part 26 to ensure nondiscrimination in the award and administration of DOT-assisted contracts. MaineDOT's DBE Program, as required by 49 CFR part 26 and as approved by DOT, is incorporated by reference in this agreement. The implementation of this program is a legal obligation and failure to carry out its terms shall be treated as a violation of this agreement. Upon notification to the MaineDOT of its failure to carry out its terms shall be treated as a violation of this agreement. Upon notification to the MaineDOT of its failure to carry out its approved program, the Department may impose sanctions as provided for under 49 CFR Part 26, and may, in appropriate cases, refer the matter for enforcement under 18 U.S.C. 1001 and/or the Program Fraud Remedies Act of 1986 (31 U.S.C. 3801 et seq.). This language will appear in financial assistance agreements with sub-recipients.

b. The contractor, sub-recipient, or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, including, but not limited to:

1. **Withholding monthly progress payments;**
2. **Assessing sanctions;**
3. **Liquidated damages; and/or**
4. **Disqualifying the contractor from future bidding as non-responsible."**

SECTION 206
STRUCTURAL EXCAVATION

206.01 Description – *Structural Earth Excavation, Below Grade* delete the entire sentence and replace with "**shall consist of the removal of excavation required for unknown or unanticipated subsurface condition. See 206.04 – Method of Measurement for pay limits**."

206.04 Method of Measurement – Drainage and Minor Structures Paragraph 1, sentence 2, delete the remainder of the sentence beginning with "….provided the maximum allowable…"And replace with: **"….in accordance with the following limits:"**

- **Vertical pay limits:**

- **Below a plane parallel with and 12 inches below the bottom of the drainage or minor structure or**
- **Below the excavation limits shown in the Bid Documents; whichever is greater.**

- **Horizontal pay limits – The maximum allowable horizontal dimensions shall not exceed those bounded by vertical surfaces 18 inches outside the base, or extreme limits of, the structure, and to the vertical neat lines of underdrain trenches, as shown in the Contract Documents.**

SECTION 401
HOT MIX ASPHALT PAVEMENT

401.19 Contractor Quality Control Amend this Section by adding the following to the end:
"Failure to comply with the approved QCP will result in work suspension and pay reductions as outlined in Section 106.4.6. The Quality Control Plan Value shall be the total bid value for all items covered by the QCP as identified in Special Provision 403."

SECTION 501
FOUNDATION PILES

501.044 Special Requirements for Steel Pipe Piles and Steel Casings Amend this section by deleting it in its entirety and replacing with:

Pipe piles shall be driven closed ended, unless otherwise specified. When open-ended pipe piles are specified or when the ends are not completely closed ended when driven, the inside of the pile shall be thoroughly cleaned out, and the inside walls cleaned by jetting or other means approved by the Resident. The sediment control required for the cleaning operations shall be covered in the Contractor's SEWPCP.

Pipe piles shall be inspected and approved by the Resident immediately before concrete is placed in them. They shall be free from rupture and undue deformation and shall be free from water unless the Resident determines that the concrete can be placed without damage to the pile and such that the discharged water will be contained. The Contractor shall provide lights and other equipment necessary to enable the Resident to inspect each pipe pile.

Portland cement concrete for filling the pipe piles shall be placed in one continuous operation to fill the pile completely without causing water contamination. An internal type vibrator shall be used in the top 25 feet. Pile heads shall be protected and cured in accordance with Section 502, Structural Concrete.

The placing of concrete and the driving of piles shall be scheduled so that fresh and setting concrete will not be injured by the pile driving.

Concrete shall not be placed in pipe piles until pile driving has progressed beyond a radius of 15 feet from the pile to be concreted. If pile heave is detected for pipe piles that have been filled with concrete, the piles shall be redriven to the original position after the concrete has attained sufficient strength and a proper hammer-pile cushion system, is in place and is satisfactory to the Resident.

When a reinforcing steel cage is specified, it shall be placed inside the piles to allow for a minimum of 2 inches of concrete cover and the piles shall be filled with concrete to the elevation shown on the Plans.

Full-length pipe piles and steel casings shall be used wherever practicable; however, splicing may be permitted when approved by the Resident. The method of splicing shall be as follows:

a. Steel pipe piles and steel casings shall be spliced by full penetration butt joint welds.

b. When the pipe piles and steel casings are to be spliced while in a vertical position, splicing shall be accomplished utilizing single-bevel groove welds with the use of back-up rings. When the pipe piles and steel casings are to be spliced while in a horizontal position, splicing shall be accomplished utilizing single-vee groove welds with the use of back-up rings.

c. Welded joints shall conform to the Standard Details.

501.047 Splicing Piles Amend this section by deleting it in its entirety and replacing it with:

Full-length piles shall always be used wherever practicable. When full-length piles cannot be used, the number of splices, locations, and details shall be noted in the QCP. Piles fabricated from multiple pieces will be acceptable only if they comply with the following:

H-Beam Piles [a]		Pipe Piles and Steel Casings [a,b]	
Lengths	**Maximum No. Field Splices**	**Lengths**	**Maximum No. Field Splices**
Less than 20 ft.	**0**	**Less than 20 ft.**	**0**
Over 20 – 35 ft.	**1**	**Over 20 – 40 ft.**	**1**
Over 35 – 79 ft.	**2**	**Over 40 – 60 ft.**	**2**
Over 79 ft.	**1 per 40 ft.**	**Over 60 – 80 ft.**	**3**
		Over 80 ft.	**1 per 20 ft.**
[a] Pile lengths less than 10 feet will not be spliced, except as the final (top) section of the pile. **[b] Where pipe piles are used for pile bent piers, no splices will be allowed in the length of pile from the cutoff elevation to 2 feet below the channel bottom.**			

When pre-planned splicing is approved, the pile piece of lesser length shall be placed at the tip of the pile (the first part of the pile that enters the ground).

When splicing is allowed, the work shall be done in accordance with the following:

A. Welding shall be done in accordance with the requirements of the AWS D1.1 welding code.
B. Qualify welders in accordance with the most recent edition of the AWS D1.5 code.
C. Submit a written Weld Procedure Specification (WPS) for each joint to be included as part of the QCP. The WPSs shall be provided to the Fabrication Engineer for review and approval prior to beginning welding. Provide copies of the approved WPSs to the welder, QC Inspector and Resident prior to beginning welding. Welding performed without an approved WPS and approved QCP will be considered Unacceptable Work.
D. Provide a list of qualified welders with copies of their AWS certifications to the Fabrication Engineer for review prior to beginning welding. Welders shall have in their possession, at the time of welding, a valid certification for the process and position to be used in production from the AWS. The welder shall show the Resident their credentials upon request.
E. The Contractor shall only use electrodes that are on the Department's Qualified Products List for Welding Electrodes or shall submit alternative electrodes for review and approval by the Fabrication Engineer. Electrodes used shall match those approved for use in the WPS.
F. Welding shall not be done: When the temperature in the immediate vicinity of the weld is below 0°F; when the surfaces are damp or exposed to rain, snow, or high wind; or when the welders or welding operators are exposed to inclement conditions.
G. The pile shall be preheated to and maintained at 150°F minimum, within 6 inches from the joint during welding.
H. Power sources for welders shall have meters indicating amperage/voltage that have been calibrated within 1 year at the time of welding.
I. The Contractor shall provide the Department with notice, a minimum of, 7 Days prior to the start of any welding.
J. The Contractor shall provide a QC Inspector to perform QC for the welds in accordance with the AWS D1.1 welding code. The QC Inspector shall be an AWS Certified Welding Inspector (CWI) in conformance with the requirements of AWS QC1, Standard for AWS Certifications of Welding Inspectors. The Contractor may submit, in lieu of a CWI, an alternative QC Inspector with documented training and experience in metals fabrication, inspection, and testing for approval by the Fabrication Engineer. The QC Inspector shall be someone other than the welder performing the welds to be inspected.
K. The QC Inspector shall inspect all production stages of the welded splice to ensure that workmanship and materials meet the requirements of the AWS D1.1 welding code and the Contract. The QC Inspector shall submit a signed record of all weld inspection documentation to the Resident after welding is completed.

Record of weld inspection shall include, but not be limited to, the following:

1. Name of QC Inspector
2. Project WIN and Location
3. Date
4. Weather conditions
5. Type, size, length, and location of welds.

6. **Confirmation of appropriate equipment and materials used, including proper handling of welding electrodes.**
7. **Confirmation that welder has approved WPS onsite, and welding is performed in accordance with approved WPS.**
8. **Confirmation that welder is qualified to perform work per approved WPS. Include name and certifications of qualified welder who performed the work.**
9. **Confirm that 100% visual testing, in accordance with AWS D1.1 Table 8.1, has been conducted and any subsequent repairs are made prior to non-destructive testing (NDT).**
10. **Document NDT testing including name of NDT technician, NDT personnel qualifications, type and extent of NDT testing performed, and include NDT testing reports provided by the NDT testing technician.**

L. Piles shall not be driven until all pile welding has been inspected and accepted by the Department.

501.0471 Specific Requirements for Splicing H-Beam Piles

A. Damaged material shall be removed from the end of the driven pile. Lifting holes shall be repaired or trimmed off. The ends of both pieces to be spliced shall be cut off square with the longitudinal axis of the pile and beveled per the approved WPS. All cutting shall be done with the use of a mechanical guide, except that minor trimming may be allowed, as approved by the Resident.

B. The Contractor shall use an approved mechanical splicer or a full penetration butt weld for the entire cross section of the pile. Mechanical splicers shall be installed per the manufacturer's recommendations, except that the flanges shall be welded using a complete joint penetration weld, per the AWS D1.1 welding code.

C. In addition to the 100% visual testing (VT) performed by the QC Inspector, the Contractor shall perform NDT on the first two welded splices of the same type/size. The welds shall be radiographically (RT) or ultrasonically (UT) tested for their full length for acceptance per Table 8.2 of AWS D1.1. If both RT/UT-tested splices are determined to be acceptable, no further NDT will be required. If either of the first two RT/UT-tested splices contain defects warranting rejection, RT/UT testing of splices shall continue until two consecutive splices are found to be acceptable.

D. Should the Department determine that the Quality Control of the Contractor is not producing welds with acceptable quality, then the Department may request the Contractor to perform additional NDT, such as RT or UT of any or all welds. Should the NDT testing identify defects warranting rejection, the welds shall be repaired and retested. The Contractor shall perform the NDT and weld repair work at no additional cost to the Department. If the NDT does not identify defects warranting rejection, then the Department will pay for the cost of the NDT testing. RT and UT defect indications will be evaluated according to the statically loaded criteria of AWS D1.1.

501.0472 Specific Requirements for Splicing Steel Pipe Piles and Steel Casings

A. Damaged material shall be removed from the end of the driven pile. Lifting holes shall be trimmed off. The ends of both pieces to be spliced shall be cut off square with the

longitudinal axis of the pile and beveled per the approved WPS. All cutting shall be done with the use of a mechanical guide, except that minor trimming may be allowed, as approved by the Resident.

B. Splices shall be welded using an AWS D1.1 Complete Joint Penetration butt weld with a backer ring.

C. In addition to the 100% VT performed by the QC Inspector, the Contractor shall perform NDT on the first two welded splices of the same type/size. The welds shall be RT or UT tested for their full length for acceptance per Table 8.2 of AWS D1.1. If both RT/UT-tested splices are determined to be acceptable, no further NDT will be required. If either of the first two RT/UT-tested splices contain defects warranting rejection, RT/UT testing of splices shall continue until two consecutive splices are found to be acceptable.

D. Should the Department determine that the Quality Control of the Contractor is not producing welds with acceptable quality, then the Department may request the Contractor to perform additional NDT, such as RT or UT of any or all welds. Should the NDT testing identify defects warranting rejection, the welds shall be repaired and retested. The Contractor shall perform the NDT and weld repair work at no additional cost to the Department. If the NDT does not identify defects warranting rejection, then the Department will pay for the cost of the NDT testing. RT and UT defect indications will be evaluated according to the statically loaded criteria of AWS D1.1.

501.048 Prefabricated Pile Tips Amend this section by deleting it in its entirety and replacing it with:

Welding of pile tips shall be done in accordance with the following:

A. Welding shall be done in accordance with the requirements of the AWS D1.1 welding code.

B. Qualify welders in accordance with the most recent edition of the AWS D1.5 code.

C. Submit a written WPS for each tip to be included as part of the QCP. The WPSs shall be provided to the Fabrication Engineer for review and approval prior to beginning welding. Provide copies of the approved the WPS to the welder and Resident prior to beginning welding. Welding performed without an approved WPS and approved QCP will be considered Unacceptable Work.

D. Provide a list of qualified welders with copies of their AWS certifications to the Fabrication Engineer for review prior to beginning welding. Welders shall have in their possession, at the time of welding, a valid certification for the process and position to be used in production from the AWS or other organization acceptable to the Resident. The welder shall show the Resident their credentials upon request.

E. The Contractor shall only use electrodes that are on the Department's Qualified Products List for Welding Electrodes or shall submit alternative electrodes for review and approval by the Fabrication Engineer. Electrodes used shall match those approved for use in the WPS.

F. Pile tips shall be approved by the Resident.

G. Welding shall not be done: When the temperature in the immediate vicinity of the weld is below 0°F; when the surfaces are damp or exposed to rain, snow, or high wind; or when the welders or welding operators are exposed to inclement conditions.

H. The pile shall be preheated to and maintained at 150°F minimum within 6 inches from the joint during welding.

I. Power sources for welders shall have meters indicating amperage/voltage that have been calibrated within 1 year at the time of welding.

J. Pile tips may be welded to the piles by the pile supplier upon approval by the Department. Approval is contingent upon submission of the following: A welding QC Plan; proof that the proposed welder(s) is certified per AWS D1.5; and an AWS D1.1 WPS, with base metal preheated to a minimum of 150°F. The Contractor shall provide notice a minimum of 14 Days prior to the start of any welding by the pile supplier. At a minimum, welds shall be 100% visually inspected by the pile supplier's QC representative.

K. The Contractor shall provide a QC Inspector to perform QC for the welds in accordance with the AWS D1.1 welding code. The QC Inspector shall be an CWI in conformance with the requirements of AWS QC1, Standard for AWS Certifications of Welding Inspectors. The Contractor may submit, in lieu of a CWI, an alternative QC Inspector with documented training and experience in metals fabrication, inspection, and testing for approval by the Fabrication Engineer. The QC Inspector shall be someone other than the welder performing the welds to be inspected.

L. The QC Inspector shall inspect all production stages of the welded splice to ensure that workmanship and materials meet the requirements of the AWS D1.1 welding code and the Contract. The QC Inspector shall submit a signed record of all weld inspection documentation to the Resident after welding is completed.

M.

Record of weld inspection shall include, but not be limited to, the following:

1. **Name of QC Inspector**
2. **Project WIN and Location**
3. **Date**
4. **Weather conditions**
5. **Type, size, length, and location of welds.**
6. **Confirmation of appropriate equipment and materials used, including proper handling of welding electrodes.**
7. **Confirmation that welder has approved WPS onsite, and welding is performed in accordance with approved WPS.**
8. **Confirmation that welder is qualified to perform work per approved WPS. Include name and certifications of qualified welder who performed the work.**
9. **Confirm that 100% VT, in accordance with AWS D1.1 Table 8.1, has been conducted and any subsequent repairs are made prior to NDT.**
10. **Document NDT testing including name of NDT technician, NDT personnel qualifications, type and extent of NDT testing performed, and include NDT testing reports provided by the NDT testing technician.**

N. The Contractor shall provide notice a minimum of 7 Days prior to the start of any field welding.

O. Piles shall not be driven until all pile welding has been inspected and accepted by the Department.

501.0481 Specific Requirements for Installing H-Beam Pile Tips

A. Damaged material shall be removed from the end of the driven pile, as applicable. Lifting holes shall be trimmed off. The end of the pile to which the tip is to be attached shall be cut off square with the longitudinal axis of the pile and prepared per the approved WPS. All cutting shall be done with the use of a mechanical guide, except that minor trimming may be allowed, as approved by the Resident.

B. Regarding weld size, prefabricated pile tips shall be attached to H-beam piles with 5/16-inch groove welds along each flange, or as recommended by the manufacturer of the pile tips, whichever weld size is larger.

C. The QC Inspector shall, at a minimum, perform 100% VT on each pile tip weld.

D. Should the Department determine that the Quality Control of the Contractor is not producing welds with acceptable quality, then the Department may request the Contractor to perform additional NDT, such as RT or UT of any or all welds. Should the NDT testing identify defects warranting rejection, the welds shall be repaired and retested. The Contractor shall perform the NDT and weld repair work at no additional cost to the Department. If the NDT does not identify defects warranting rejection, then the Department will pay for the cost of the NDT testing. RT and UT defect indications will be evaluated according to the statically loaded criteria of AWS D1.1.

501.0482 Specific Requirements for Installing Steel Pipe Pile Tips

A. Damaged material shall be removed from the end of the driven pile, as applicable. Lifting holes shall be trimmed off. The end of the pile to which the tip is to be attached shall be cut off square with the longitudinal axis of the pile and prepared per the approved WPS. All cutting shall be done with the use of a mechanical guide, except that minor trimming may be allowed, as approved by the Resident.

B. Unless otherwise shown on the Plans, steel pipe piles shall have pointed cast steel pile tips.

C. Regarding weld size, prefabricated pile tips shall be attached to steel pipe piles with a continuous 5/16-inch groove weld along the full perimeter of the pile, or as recommended by the manufacturer of the pile tips, whichever weld size is larger.

D. The QC Inspector shall, at a minimum, perform 100% VT on each pile tip weld.

E. Should the Department determine that the Quality Control of the Contractor is not producing welds with acceptable quality, then the Department may request the Contractor to perform additional NDT, such as RT or UT of any or all welds. Should the NDT testing identify defects warranting rejection, the welds shall be repaired and retested. The Contractor shall perform the NDT and weld repair work at no additional cost to the Department. If the NDT does not identify defects warranting rejection, then the Department will pay for the cost of the NDT testing. RT and UT defect indications will be evaluated according to the statically loaded criteria of AWS D1.1.

501.05 Method of Measurement
c. Piles in Place Revise the third paragraph by replacing the "10" with "20" so that it reads:

Unused pile cutoffs **20** feet or more in length, except those required to accommodate the Contractor's construction method, as discussed herein, will remain the property of the Department and will be stored at a bridge maintenance yard nearest the project. Hauling and unloading of piles will be done by the Contractor or by the Department, depending upon availability of services.

SECTION 502
STRUCTURAL CONCRETE

502.03 Materi**al**s Amend this section by adding the following to the list of materials:

Combined Aggregate Grading for Concrete 703.03

502.07 Mixing and Delivery Remove the last sentence in Paragraph A that starts with "With prior approval… and replace with the following:

"An approved hydration stabilizing admixture may be used to increase the discharge time. Justification for the need for a hydration stabilizing admixture shall be provided in the QC Plan. When a hydration stabilizing admixture is used, the manufacturer, dosage rate and discharge time, from the time cement is added to the aggregate, shall be documented in the approved QC Plan. The proposed discharge time(s) shall be based on the manufacturer's written recommendations, the anticipated concrete temperatures and anticipated ambient conditions at the time of placement(s). Discharge time(s) shall be adjusted when conditions change or are not as anticipated as outlined in the approved QC Plan. The discharge time(s) approved by the Department shall be subject to change at any time, and discharge of concrete into the permanent work shall cease immediately if the concrete is determined to have attained Accelerated Hydration Gain. Accelerated Hydration Gain being the condition where the fresh concrete has hydrated to the point where the workability and finishability is detrimental to the quality of the final product. Determination of when concrete has attained Accelerated Hydration Gain shall be made by the Contractor's Quality Control Technician(s) and shall be based on parameters proposed by the Contractor in the QC Plan, such as, but not limited to, loss of slump, plasticity, or workability, an increase in concrete temperature, or a change in the percentage of entrained air."

502.09 Forms and Falsework Amend this subsection by adding the subsection title "**502.10 Placing Concrete**" after section "D" Removal of Forms and False work" and after the paragraph beginning with "2. Forms and False work, including blocking…". So that a new subsection starts and reads:

"**502.10 Placing Concrete**

A. **General Concrete shall not be placed until forms** …."

502.1701 Quality Control, Method A and B Revise this Section so that the first paragraph and the first sentence of the second paragraph read:

"**502.17 Quality Control The Contractor shall control the quality of the concrete through testing, inspection, and practices which shall be described in the QCP, sufficient to assure a product meeting the Contract requirements. The QCP shall meet the requirements of Section 106, Quality, and this specification. No work under this item shall proceed until the QCP is submitted to and approved by the Department. Failure to comply with the approved QCP will result in work suspension and pay reductions as outlined in Section 106.4.6. The Quality Control Plan Value shall be the total bid value for all cast-in-place items covered by the QCP, using the P value listed in Special Provision 502. If no P value is listed, a value of $350, or bid value per cubic yard, whichever is less, shall be used.**

502.1701 Quality Control, Method A and B The QCP shall address all elements that affect the quality of the structural concrete including, but not limited to, the following: "

Under the list with the heading, "The QCP shall address all elements that affect the quality of the structural concrete including, but not limited to, the following:":

Replace "F" to read: "**Mix and Transportation, including Time from Batching to Completion of Delivery, as well as manufacturer, product name, proposed dosage(s) and discharge time(s) if a hydration stabilizing admixture is used**."

Replace "H" to read: "**Process QC Testing, including monitoring for attainment of Accelerated Hydration Gain when a hydration stabilizing admixture is used**."

Revise this section by replacing the paragraph before Table 4 that starts out "The Contractor shall maintain…"to read:

"**The Contractor shall maintain records of all QC tests and calculations. All QC test data shall be signed by the person who performed the test. The representative gradation test results shall be reported to the Department before the placement they represent. This initial representative gradation test shall be sampled a maximum of 30 days prior to the production day. The Contractor or supplier shall retain split samples of the most recent QC gradations for possible testing by the Department. In addition, the Department will sample the aggregates at the plant monthly to determine compliance with 703.03 Combined Aggregate Grading for Concrete. The Combined Aggregate Grading will be calculated by mathematically blending the individual aggregate gradations using the batch percentages from the approved mix design. If the Department's gradation tests determine that the aggregate does not meet the specified gradation limits, the current procedure mentioned in MaineDOT PCC Policies and Procedures Manual shall be followed. The compressive strength test results shall be reported to the Department by 10:00 A.M. of the first working day following the test. The Contractor shall record all onsite QC test data and calculations at the time of the placement and present this information, on a form acceptable to the Department, to the Department by 10:00 A.M. of the first working day following the concrete placement. Batch tickets shall be representative of that day's total moisture in aggregate value, QC test data for total moisture in aggregate shall be provided to the**

Department by 10:00 A.M. of the first working day following the concrete placement. All Method A and B QC testing shall meet the minimum requirements found in Table 4."

Section 502.1701, Quality Control, Revise Table 4 of this Subsection by removing it in its entirety and replacing it with:

TABLE 4
METHOD A & B MINIMUM QUALITY CONTROL TESTING REQUIREMENTS*

TEST	TEST METHOD	SAMPLING LOCATION	FREQUENCY
Gradation	AASHTO T 27 & T 11	Stockpile	One representative set per proposed grading before production One set every 100 yd^3 (Min. 1 set per month)
Organic Impurities	AASHTO T 21	Stockpile	Once per fine aggregate per year**
% Absorption	AASHTO T 84 & T 85	Stockpile	Once per aggregate per year
Specific Gravity	AASHTO T 84 & T 85	Stockpile	Once per aggregate per year
Total Moisture in Aggregate	AASHTO T 255	Stockpile	One set per day's production
Free Water and Aggregate Wt.	N/A		One per day's production
% Entrained Air	AASHTO T 152	On Project	On first two loads and every third load thereafter provided consistent results are achieved
Compressive Strength	AASHTO T 22	On Project	One set per sublot
Compressive Strength	AASHTO T 22	On Project	One set per sublot

***Additional QC testing will be required any time a process change occurs during a placement, including changes in type or dosage of admixture. Additional testing shall include, but is not limited to, entrained air testing.**
****If the color produced is a laboratory designation Plate III, then the fine aggregate shall be tested once per month**

502.1702 Quality Control, Method C Remove this sub section and replace it with:

"**The Contractor shall submit a QCP listing the mix design(s) to be used, the name and location of the production facility, a brief description of the placement and curing process and the name and qualifications of any QCT to be used. When a hydration stabilizing admixture is proposed for use, the manufacturer, product name, dosage rate and discharge time, from the time cement is added to the aggregate, shall be included, as well as procedures for monitoring attainment of Accelerated Hydration Gain. A QCT will be required. The Contractor shall provide a Certificate of Compliance for each truckload of concrete to the Department at the time of the load placement**."

502.18, Method of Measurement, Revise Subsection 'F' by removing the word 'transverse' so that it reads: "**Saw cut grooving of concrete wearing surfaces, complete and accepted, will be measured for payment as one lump sum**."

502.19, Basis of Payment, Revise the third paragraph by removing the word 'transverse' so that it reads: "**Saw cut grooving of concrete wearing surfaces will be paid for at the Contract Lump Sum Price, which shall be payment for furnishing all materials, labor, and equipment, including depth gauges and all incidentals, to satisfactorily complete the work."**
(Also see 535.24 and 535.25 for related changes)

SECTION 503
REINFORCING STEEL

Section 503.07 Splicing Revise this section by removing the table and following footnote and replacing them with:

Minimum Lap Splice Length (inches)									
	Bar Size								
Bar Type	#3	#4	#5	#6	#7	#8	#9	#10	#11
Plain or Galvanized	16	20	24	29	38	47	59	72	85
Epoxy or Dual Coated	17	24	36	43	56	71	88	107	128
Stainless	19	24	30	36	47	59	73	89	107
Low-carbon Chromium	24	32	39	47	63	78	97	119	142

"**The minimum lap splice lengths in the table above are based on the parameters below. When any of these parameters are altered, appropriate minimum lap splice lengths will be as shown on the Plans.**

- **Normal weight concrete**
- **Minimum 28-day concrete compressive strength from 4,000 psi to 10,000 psi**

- **Class B tension lap splice**
- **Minimum center-to-center spacing between bars of 6 inches**
- **Minimum clear cover of 2 inches**
- **Nominal reinforcing steel yield strengths**
  - **Low-carbon Chromium = 100 ksi**
  - **Stainless = 75 ksi**
  - **All others = 60 ksi**
- **Reinforcement with yield strengths greater than 75 ksi shall have beam transverse reinforcement and column ties provided over the required lap splice length in accordancewith the current edition of the AASHTO LRFD Bridge Design Specifications**

When lap splices are placed horizontally in an element where the concrete depth below the splice will be 12 inches, or more, the indicated lap splice lengths shall be multiplied by a factor of 1.3."

Amend the Paragraph starting with Welded Splices may be made…" by adding to the last sentence beginning so that it reads **"The Contractor shall submit complete details of their proposed method of making welded splices for the Resident's approval at least 10 days prior to use."**

504.12 Protective Coatings Revise this subsection by removing the paragraph beginning with "When galvanizing is specified" and replacing it with:

"**When galvanizing is specified, clean the steel in accordance with SSPC-SP 6 prior to galvanizing. Galvanize in accordance with AASHTO M 111 (ASTM A123). Galvanize fasteners in accordance with AASHTO M 232 (ASTM A153), ASTM F2329, or ASTM B695, Class 50, Type I. Galvanized nuts shall be lubricated with a water-soluble lubricant containing a dye that contrasts with the color of the galvanizing.**"

SECTION 506
SHOP APPLIED PROTECTIVE COATING – STEEL

506.10 Description Revise this subsection by removing the entire paragraph in its entirety and replacing it with:

"This work shall consist of surface preparation and application of coating systems in accordance with the Plans and this Specification. The color of structural steel painted in its entirety shall comply with SAE AMS-STD-595 – Colors Used in Government Procurement Color No. 14272 (Green), unless otherwise specified in the Contract. The color of partially painted weathering steel shall comply with SAE AMS-STD-595 – Colors Used in Government Procurement Color No. 30045 (Brown), unless otherwise specified in the Contract. All other coating colors shall be as specified in the Contract."

506.13 Surface Preparation Amend this section by adding this paragraph to the end:

"**Steel shall meet the requirements of SSPC SP8 Pickling prior to being immersed in the zinc tanks. Verification of the surface preparation shall be included in the QC documentation**."

SECTION 518
STRUCTURAL CONCRETE REPAIR

518.02 Repair Materials Replace the paragraph beginning with "Where the depth of placement…" with the following:
"**Where the depth of placement is equal to or greater than 1 inch, the Contractor may use concrete as the repair material. When concrete is used, the coarse aggregate shall conform to the requirements of the table below and Standard Specification Section 703.02, Coarse Aggregate for Concrete, or 703.03, Combined Aggregate Grading for Concrete."**

Remove the second table with the heading, "Sieve Designation Percent by Weight Passing a Square Mesh Sieve"

SECTION 523
BEARINGS

523.051 Protective Coating Revise this subsection by removing the paragraph beginning with "Anchor rods shall be galvanized…" and replacing with:

"**Anchor rods shall be galvanized. When anchor rods are designated to secure bare unpainted steel or painted steel, a dielectric coating (epoxy or bituminous type coatings are acceptable) shall be applied to the anchor rod and/or adjacent steel to prevent contact between galvanized surfaces and painted or unpainted steel."**

523.22 Fabrication Amend this subsection by adding the following: "**Elastomeric Bearings shall be fabricated in accordance with AASHTO M251."**

SECTION 526
CONCRETE BARRIER

Amend this section by deleting it in its entirety and replacing it with:

"**526.01 Description This work shall consist of the furnishing, constructing, erecting, setting, resetting, and removal of concrete barrier and associated elements in accordance with these specifications, the Standard Details, and the lines and grades shown on the Plans or established by the Resident.**

The types of concrete barrier are designated as follows:

Portable Concrete Barrier Type I Double faced removable barrier in accordance with the Standard Details.

Permanent Concrete Barrier Type II Double faced barrier as shown on the Plans.

Permanent Concrete Barrier Type IIIa Single faced barrier 32 inches high in accordance with the Standard Details or as shown on the Plans.

Permanent Concrete Barrier Type IIIb Single faced barrier 42 inches high in accordance with the Standard Details or as shown on the Plans.

Permanent Concrete Transition Barrier Barrier of various heights joining steel bridge rail to steel guardrail in accordance with the Standard Details or as shown on the Plans.

Permanent Texas Classic Rail Barrier Traffic rail or sidewalk rail, in accordance with the Standard Details or as shown on the Plans.

526.02 Materials

a. Concrete Concrete for barriers, both permanent and portable, shall have a design strength of 5,000 psi.

For cast-in-place barrier: The concrete shall be Class LP, in accordance with Standard Specification Section 502, Structural Concrete.

For precast barrier: The concrete shall meet the requirements of Standard Specification 712.061, Structural Precast Concrete Units, except that the stripping strength for precast barriers is 4,000 psi.

b. Reinforcing Steel Reinforcing steel shall meet the requirements of Section 503, Reinforcing Steel.

c. Structural Steel Plates and barrier connections shall meet the requirements specified in Standard Specification 504 - Structural Steel and shall be hot dip galvanized after fabrication in accordance with Standard Specification 506, Shop Applied Protective Coating – Steel

d. Bolts Bolts shall meet the requirements specified in Section 713.02, High Strength Bolts.

e. Connecting Pins for Portable Concrete Barrier Portable concrete barriers must be connected using a 1- inch diameter pin. The connecting pin must be smooth, not deformed, i.e., reinforcing bar may not be used, and shall meet the strength requirements of ASTM A449 steel. Materials with greater strength may be used with the approval of the Department.

f. Anchor Pins for Portable Concrete Barrier Anchoring to concrete or asphalt will be required when specified on the Plans. When required, portable concrete barriers must be anchored using a 1 ½ - inch diameter anchor pin. The anchor pin must be smooth, not deformed, i.e., reinforcing bar may not be used, and shall meet the strength requirements of ASTM A36 steel. Materials with greater strength may be used with the approval of the Department.

g. Device Crashworthiness MaineDOT is transitioning to MASH2016 criteria for Portable Concrete Barrier on the following schedule:

New Portable Concrete Barrier shall be crash tested and/or evaluated to MASH2016 criteria.

Current Portable Concrete Barrier in useful serviceable condition that is successfully tested to NCHRP Report 350 or MASH2009 criteria may be utilized through December 31, 2029.

Other current Portable Concrete Barrier that is deemed acceptable by the Department may be utilized on projects off the National Highway System through December 31, 2024.

526.03 Construction Requirements

Cast-in-place barriers shall be fabricated in accordance with Standard Specification Section 502, Structural Concrete. Precast barriers shall be fabricated in accordance with Standard Specification 534, Precast Structural Concrete.

Concrete finish for permanent barrier shall be rubbed as defined in Standard Specification Section 502, Structural Concrete, 502.13 D2 or an approved equal.

Portable concrete barrier shall be generally free from fins and porous areas and shall present a neat and uniform appearance.

Permanent barrier shall have a protective coating applied in accordance with Standard Specification Section 515, Protective Coating for Concrete Surfaces.

Reflective delineators for concrete median barrier shall meet the requirements of Special Provision 645, Highway Signing.

Preformed Joint Filler shall meet the requirements specified in Subsection 705.01, Preformed Expansion Joint Filler.

Permissible dimensional tolerances for all concrete barriers shall be as follows:

a. Cross-sectional dimensions shall not vary from design dimensions by more than ¼ inch. The vertical centerline shall not be out of plumb by more than ¼ inch.

b. Longitudinal dimensions shall not vary from the design dimensions by more than ¼ inch per 10 feet of barrier section and shall not exceed ¾ inches per section.

c. Location of anchoring holes shall not vary by more than ½ inch from the dimensions shown in the concrete barrier details on the Plans.

d. Surface straightness shall not vary more than ¼ inch under a 10-foot straightedge.

e. The barrier shall have no significant cracking. Significant cracking is defined as fractures or cracks passing through the section, or any continuous crack extending for a length of 12 inches or more, regardless of position in the section.

526.04 Method of Measurement Permanent Concrete Barrier Type II, IIIa, IIIb, Texas Classic Rail, and Precast Median Barrier will be measured for payment by lump sum, complete in place.

Portable concrete barrier, both anchored and unanchored will be measured for payment by lump sum. Lump sum measurement will include verification of the installation and removal of all portable concrete at the completion of the Contractor's operations.

The Contractor shall replace sections of portable concrete barrier, including anchored barrier damaged by the traveling public when directed by the Resident. Replacement sections will be measured for payment in accordance with Standard Specification 109.7, Equitable Adjustments to Compensation and Time.

Transition barrier will be measured by each, complete in place.

526.05 Basis of Payment The accepted quantities of Concrete Barrier Type II, IIIa, IIIb, Texas Classic Rail, and Precast Median Barrier will be paid for at the Contract lump sum price for the type specified, complete in place.

The accepted quantities of Portable Concrete Barrier Type I, both anchored and unanchored will be paid for at the Contract lump sum price. Such payment shall be full compensation for furnishing all materials, assembling, moving, resetting, transporting, temporarily storing, removing barrier, furnishing new parts as necessary, and all incidentals necessary to complete the work.

Portable barrier shall become the property of the Contractor upon completion of the use of the barrier on the project and shall be removed from the project site by the Contractor.

Transition barrier will be paid for at the Contract price each, complete in place.

The accepted quantity of all types of concrete barrier, whether portable or permanent, will be paid for at the lump sum or per each price, as applicable, which payment shall be full compensation for all materials, including reinforcing steel, protective coating, reflective

delineators, steel plates and hardware, equipment, labor and incidentals required, as necessary, to complete the work.

Payment will be made under:

	Pay Item	**Pay Unit**
526.301	**Portable Concrete Barrier, Type I**	**Lump Sum**
526.304	**Portable Concrete Barrier, Anchored Type I**	**Lump Sum**
526.312	**Permanent Concrete Barrier Type II**	**Lump Sum**
526.321	**Permanent Concrete Barrier Type IIIa**	**Lump Sum**
526.323	**Texas Classic Rail**	**Lump Sum**
526.331	**Permanent Concrete Barrier Type IIIb**	**Lump Sum**
526.34	**Permanent Concrete Transition Barrier**	**Each**
526.502	**Precast Concrete Median Barrier**	**Lump Sum**"

SECTION 527
ENERGY ABSORBING UNIT

527.02 Materials Amend this section by deleting it in its entirety and replacing it with:

"**MaineDOT is transitioning to MASH2016 criteria for Work Zone Traffic Control Devices on the following schedule:**

Portable Crash Cushions will be crash tested and/or evaluated to MASH2016 criteria by January 1, 2030. Current Category 3 devices in useful serviceable condition that are successfully tested to NCHRP Report 350 or MASH2009 criteria may be utilized through December 31, 2029.

Work Zone Crash Cushions shall be selected from the Department's Qualified Products List of Crash Cushions/Impact Attenuators or approved equal."

SECTION 535
PRECAST, PRESTRESSED CONCRETE SUPERSTRUCTURE

535.02 Materials Replace the description of "Coarse Aggregate for Concrete (Class A, AA, or Latex) in its entirety with: "**Coarse Aggregate for Concrete (Class A, AA, or SP-1-7)"**

535.22 Tolerances Amend this section by deleting it in its entirety and replacing it with:
"**Product dimensional tolerances shall be in conformance with the latest edition of PCI MNL-135, Tolerance Manual for Precast and Prestressed Concrete Construction, as applicable to the particular product (e.g., slab, I-girder, box beam), the Plans, and this Specification. Use Box**

Beam fabrication tolerances for voided or solid slab beams and use Double Tee tolerances for NEXT beams. In case of dispute, the Fabrication Engineer shall determine the allowable tolerance."

535.24 Installation of Slabs, Beams, and Girders Revise the 5th paragraph by replacing "6.0 and 9.0" to "5.0 and 8.0" so it reads: **"Ready mixed grout shall achieve a design compressive strength of 6,000 psi at 28 days, have an entrained air content of between 5.0 and 8.0 percent, be non-shrink, flowable, and contain a non-shrink additive listed on the Department QPL for expansive cements."**

535.25, Installation of Precast/Prestressed Deck Panels Revise the 2nd paragraph by replacing "6.0 and 9.0" to "5.0 and 8.0" so it reads: **"Ready mixed grout shall achieve a design compressive strength of 6,000 psi at 28 days, have an entrained air content of between 5.0 and 8.0 percent, be non-shrink, flowable, and contain a non-shrink additive listed on the Department QPL for expansive cements."**

SECTION 606
GUARDRAIL

Amend this section by replacing it with the following:

606.01 Description This work shall consist of furnishing and installing guardrail components in accordance with these specifications and in reasonably close conformity with the lines and grades shown on the plans or as established. Guardrail is designated as:

31" W-Beam Guardrail - Mid-Way Splice
Galvanized steel w-beam, 8" wood or composite offset blocks, galvanized steel posts
Thrie Beam
Galvanized steel thrie beam, 8" wood or composite offset blocks, galvanized steel posts

Median guardrail shall consist of two beams of the above types, mounted on single posts.

Bridge mounted guardrail shall consist of furnishing all labor, materials, and equipment necessary to install guardrail as shown on the plans. This work shall also include drilling for and installation of offset blocks if specified, and incidental hardware necessary for satisfactory completion of the work.

Remove and Reset and Remove, Modify, and Reset guardrail shall consist of removing the existing designated guardrail and resetting in a new location as shown on the plans or directed by the Resident. Remove, Modify, and Reset guardrail and Modify guardrail include the following guardrail modifications: Removing plate washers at all posts, except at anchorage assemblies as noted on the Standard Details, adding offset blocks, and other modifications as listed in the Construction Notes or General Notes. Modifications shall conform to the guardrail Standard Details.

Bridge Connection shall consist of the installation and attachment of beam guardrail to the existing bridge. This work shall consist of constructing a concrete end post or modifying an existing end post as required, furnishing, and installing a terminal connector, necessary hardware, and incidentals required to complete the work as shown on the plans. Bridge Transition shall consist of a bridge connection and furnishing and installing guardrail components as shown in the Standard Details.

606.02 Materials Materials shall meet the requirements specified in the following Sections of Division 700 - Materials:

Timber Preservative	708.05
Metal Beam Rail	710.04
Guardrail Posts	710.07
Guardrail Hardware	710.08

Guardrail components shall meet the applicable standards of "A Guide to Standardized Highway Barrier Hardware" prepared and approved by the AASHTO-AGC-ARTBA Joint Cooperative Committee, Task Force 13 Report.

Posts for underdrain delineators shall be “U” channel steel, 8 ft long, 2 ½ lb/ft minimum and have 3/8-inch round holes, 1-inch center to center for a minimum distance of 2 ft from the top of the post.

Reflectorized Flexible Guardrail Markers shall be mounted on all guardrails. A marker shall be mounted onto guardrail posts at the flared guardrail terminal end point and tangent point, both at the leading and trailing ends of each run of guardrail. The marker’s flexible posts shall be gray with either silver-white or yellow reflectors (to match the edge line striping) at the tangents, red at leading ends, and green at trailing ends. Whenever the guardrail terminal is not flared, markers will only be required at the terminal end point. These shall be red or green as appropriate. Markers shall be installed on the protected side of guardrail posts unless otherwise approved by the Resident. Reflectorized flexible guardrail markers shall be from the Department’s Qualified Products List of Delineators. The marker shall be gray, flexible, durable, and of a non-discoloring material to which 3-inch by 9-inch reflectors shall be applied, and capable of recovering from repeated impacts and meeting MASH 16 requirements. Reflective material shall meet the requirements of Section 719.01 for ASTM D 4956 Type III reflective sheeting. The marker shall be secured to the guardrail post with two fasteners, as shown in the Standard Details.

Reflectorized beam guardrail reflectors shall be mounted on all “w” beam guardrail and shall be either the “butterfly” type or linear delineation system panels. “Butterfly” or linear delineation panels shall be installed at approximately 62.5 foot intervals on tangents (after every tenth post) and 31.25 feet on curves (after every fifth post), and shall be centered on the guardrail beam. On Divided highways, the left-hand delineators shall be yellow and the right-hand delineators shall be silver/ white. On two-way directional highways, the right-hand side will have silver / white reflectors and no reflectorized delineator used on the left. Delineators shall have reflective sheeting that meets or exceeds the requirements of Section 719.01.

"Butterfly" reflectors shall be fabricated from high-impact, ultraviolet & weather resistant thermoplastic. Aluminum, galvanized metal or other materials shall not be used. Reflective sheeting will be applied to only one side of the delineator facing the direction of traffic and shall be centered vertically on the guardrail beam as shown in the Standard Detail 606(7).

Linear delineation system panels shall be 1.5 inches wide by approximately 11 inches nominal length, with a minimum of 5 raised lateral ridges spaced at approximately 2.25 inches. The height of each ridge shall be 0.34 inches with a 45 degree profile and a 0.28 inches radius at the top. Sheeting shall be laminated to thin gauge aluminum with a pre-applied adhesive tape on the back. Panels shall not be installed over seams or bolt heads and shall be centered horizontally on the guardrail beam; linear delineation panels shall be attached to only one guardrail beam. The guardrail beam surface shall be cleaned and prepared according to the manufacturer's instructions. Air temperature and guardrail surface temperature must be a minimum of 50 degrees F (10 C) with rising temperature at the time of installation.

Exact locations of the either the "butterfly" type or the linear delineation panels shall be approved by the Resident prior to installation.

Single wood post shall be of cedar, white oak, or tamarack, well-seasoned, straight, and sound and have been cut from live trees. The outer and inner bark shall be removed, and all knots trimmed flush with the surface of the post. Posts shall be uniform taper and free of kinks and bends.

Single steel post shall conform to the requirements of Section 710.07 b.

Single steel pipe post shall be galvanized, seamless steel pipe conforming to the requirements of ASTM A120, Schedule No. 40, Standard Weight.

Acceptable multiple mailbox assemblies shall be listed on the Department's Qualified Products List and shall be MASH 16 tested and approved.

Flared and Tangent w-beam guardrail terminals and guardrail offset blocks shall be from the Department's Qualified Products List. Flared terminals shall be installed with a 4 ft offset as shown in the Manufacturer's installation instructions.

Anchorage assemblies used to anchor trailing ends, radius guardrail, or other ends not exposed to traffic shall meet the applicable standards of "A Guide to Standardized Highway Barrier Hardware" prepared and approved by the AASHTO-AGC-ARTBA Joint Cooperative Committee, Task Force 13 Report, Drawing SEW02a.

Existing materials damaged or lost during adjusting, removing and resetting, or removing, modifying, and resetting, shall be replaced by the Contractor without additional compensation. Existing guardrail posts and guardrail beams found to be unfit for reuse shall be replaced when directed by the Resident.

606.03 Posts Posts for guardrail shall be set plumb in holes or they may be driven if suitable driving equipment is used to prevent battering and distorting the post. When posts are driven

through pavement, the damaged area around the post shall be repaired with approved bituminous patching. Damage to lighting and signal conduit and conductors shall be repaired by the Contractor.

When set in holes, posts shall be on a stable foundation and the space around the posts, backfilled in layers with suitable material, thoroughly tamped.

The reflectorized flexible guardrail markers shall be set plumb with the reflective surface facing the oncoming traffic. Markers shall be installed on the protected side of guardrail posts. Markers, which become bent or otherwise damaged, shall be removed and replaced with new markers.

Single wood posts shall be set plumb in holes and backfilled in layers with suitable material, thoroughly tamped. The Resident will designate the elevation and shape of the top. The posts, that are not pressure treated, shall be painted two coats of good quality oil base exterior house paint.

Single steel posts shall be set plumb in holes as specified for single wood posts or they may be driven if suitable driving equipment is used to prevent battering and distorting the post.

Additional bolt holes required in existing posts shall be drilled or punched, but the size of the holes shall not exceed the dimensions given in the Standard Details. Metal around the holes shall be thoroughly cleaned and painted with two coats of approved aluminum rust resistant paint. Holes shall not be burned.

606.04 Rails Brackets and fittings shall be placed and fastened as shown on the plans. Rail beams shall be erected and aligned to provide a smooth, continuous barrier. Beams shall be lapped with the exposed end away from approaching traffic.

End assemblies shall be installed as shown on the plans and shall be securely attached to the rail section and end post.

All bolts shall be of sufficient length to extend beyond the nuts but not more than ½ inch. Nuts shall be drawn tight.

Additional bolt holes required in existing beams shall be drilled or punched, but the size of the holes shall not exceed the dimensions given in the Standard Details. Metal around the holes shall be thoroughly cleaned and painted with two coats of approved aluminum rust resistant paint. Holes shall not be burned.

606.045 Offset Blocks The same offset block material is to be provided for the entire project unless otherwise specified.

606.05 Shoulder Widening At designated locations the existing shoulder of the roadway shall be widened as shown on the plans. All grading, paving, seeding, and other necessary work shall be in accordance with the Specifications for the type work being done.

606.06 Mail Box Post Single wood post shall be installed at the designated location for the support of the mailbox. The multiple mailbox assemblies shall be installed at the designated location in

accordance with the Standard Details and as recommended by the Manufacturer. Attachment of the mailbox to the post will be the responsibility of the home or business owner.

606.07 Abraded Surfaces All galvanized surfaces of new guardrail and posts, which have been abraded so that the base metal is exposed, and the threaded portions of all fittings and fasteners and cut ends of bolts shall be cleaned and painted with two coats of approved rust resistant paint.

606.08 Method of Measurement Guardrail will be measured by the linear foot from center to center of end posts along the gradient of the rail except where end connections are made to masonry or steel structures, in which case measurement will be as shown on the plans. When connected to radius rail, measurement will be to the end of the last tangent beam.

Guardrail terminal, reflectorized flexible guardrail marker, terminal end, anchorage assembly, bridge transition, bridge connection, multiple mailbox post, and single post will be measured by each unit of the kind specified and installed.

Widened shoulder will be measured as a unit of grading within the limits shown on the plans.

Excavation in solid rock for placement of posts will be paid under force account unless otherwise indicated in the Bid Documents.

Reflectorized beam guardrail reflectors (“butterfly” type or linear delineation system panels) when identified by pay item, will be measured for payment by each.

606.09 Basis of Payment The accepted quantities of guardrail will be paid for at the contract unit price per linear foot for the type specified, complete in place. Reflectorized beam guardrail (“butterfly”-type) delineators will not be paid for directly but will be considered incidental to guardrail items. Reflectorized flexible guardrail marker, terminal end, anchorage assembly, bridge transition, bridge connection, multiple mailbox post, and single post will be paid for at the contract unit price each for the kind specified complete in place.
Guardrail terminals will be paid for at the contract price each, complete in place which price shall be full payment for furnishing and installing all components including the terminal section, posts, offset blocks, "w" beam, cable foundation posts, plates and for all incidentals necessary to complete the installation within the limits as shown on the Standard Details or the Manufacturer’s installation instructions. Pay limits for a flared terminal will be 37.5 feet. Pay limits for a tangent terminal will be 50 feet. Each guardrail terminal will be clearly marked with the Manufacturer’s name and model number to facilitate any future needed repair. Such payment shall also be full compensation for furnishing all material, excavating, backfilling holes, assembling, and all incidentals necessary to complete the work, except that for excavation for posts or anchorages in solid ledge rock, payment will be made under 109.7.5 – Force Account. Type III Retroreflective Adhesive Sheeting shall be applied to the approach buffer end sections and sized to substantially cover the end section. On all roadways, the ends shall be marked with alternating black and retroreflective yellow stripes. The stripes shall be 3 in wide and sloped down at an angle of 45 degrees toward the side on which traffic is to pass the end section. Guardrail terminals shall also include a set of installation drawings supplied to the Resident.

Anchorages to bridge end posts will be part of the bridge work. Connections thereto will be considered included in the unit bid price for guardrail.

Guardrail to be placed on a radius of curvature of 150 ft or less will be paid for under the designated radius pay item for the type guardrail being placed.

Widened shoulder will be paid for at the contract unit price each complete in place and will be full compensation for furnishing and placing, grading and compaction of aggregate subbase and any required fill material.

Adjust guardrail will be paid for at the contract unit price per linear foot and will be full compensation for adjusting to grade. Payment shall also include adjusting guardrail terminals where required.

Modify guardrail will be paid for at the contract unit price per linear foot and will be full compensation for furnishing and installing offset blocks, additional posts, and other specified modifications; removing, modifying, installing, and adjusting to grade existing posts and beams; removing plate washers and backup plates, and all incidentals necessary to complete the work. Payment shall also include removing and resetting guardrail terminals where required.

Remove and Reset guardrail will be paid for at the contract unit price per linear foot and will be full compensation for removing, transporting, storing, reassembling all parts, necessary cutting, furnishing new parts when necessary, reinstalling at the new location, and all other incidentals necessary to complete the work. Payment shall also include removing and resetting guardrail terminals when required.

Remove, Modify, and Reset guardrail will be paid for at the contract unit price per foot and will be full compensation for the requirements listed in Modify guardrail and Remove and Reset guardrail.

Bridge Connections will be paid for at the contract unit price each. Payment shall include, attaching the connection to the endpost including furnishing and placing concrete and reinforcing steel necessary to construct new endposts if required, furnishing and installing the terminal connector, and all miscellaneous hardware, labor, equipment, and incidentals necessary to complete the work.

Bridge Transitions will be paid for at the contract unit price each. Payment shall include furnishing and installing the thrie beam or “w”-beam terminal connector, doubled beam section, and transition section, where called for, posts, hardware, precast concrete transition and vertical curb, and any other necessary materials and labor, including the bridge connection as stated in the previous paragraph.

No payment will be made for guardrail removed, but not reset and all costs for such removal shall be considered incidental to the various contract pay items.

Reflectorized beam guardrail reflectors (“butterfly” type and the linear delineation panels) will not be paid for directly but will be considered incidental to all new guardrail items. The Contractor shall

furnish and install either the “butterfly” type or linear delineation panels, at its discretion, for new guardrail items.

Reflectorized beam guardrail reflectors (either “butterfly” type or linear delineation system panels) will be paid for under the applicable pay items for installation in conjunction with Adjust, Modify, Remove and Reset, Remove Modify and Reset guardrail items. The accepted quantity of “butterfly” type or linear delineation system panels will be paid for at the contract unit price each for all work and materials furnished to install, complete in place, including all incidentals necessary to complete the work.

Payment will be made under:

Pay Item		Pay Unit
606.1301	31” W-Beam Guardrail - Mid-Way Splice – Single Faced	Linear Foot
606.1302	31” W-Beam Guardrail - Mid-Way Splice – Double Faced	Linear Foot
606.1303	31” W-Beam Guardrail - Mid-Way Splice, 15’ Radius and Less	Linear Foot
606.1304	31” W-Beam Guardrail - Mid-Way Splice, Over 15’ Radius	Linear Foot
606.1305	31” W-Beam Guardrail - Mid-Way Splice Flared Terminal	Each
606.1306	31” W-Beam Guardrail - Mid-Way Splice Tangent Terminal	Each
606.1307	Bridge Transition (Asymmetrical) – Type IA	Each
606.1721	Bridge Transition - Type I	Each
606.1722	Bridge Transition - Type II	Each
606.1731	Bridge Connection - Type I	Each
606.1732	Bridge Connection - Type II	Each
606.178	Guardrail Beam	Linear Foot
606.25	Terminal Connector	Each
606.257	Terminal Connector - Thrie Beam	Each
606.259	Anchorage Assembly	Each
606.265	Terminal End-Single Rail - Galvanized Steel	Each
606.266	Terminal End-Single Rail - Corrosion Resistant Steel	Each
606.275	Terminal End-Double Rail - Galvanized Steel	Each
606.276	Terminal End-Double Rail - Corrosion Resistant Steel	Each
606.352	Reflectorized Beam Guardrail Delineators (“Butterfly” type)	Each
606.3521	Linear Delineation System Panel	Each
606.353	Reflectorized Flexible Guardrail Marker	Each
606.354	Remove and Reset Reflectorized Flexible Guardrail Marker	Each
606.356	Underdrain Delineator Post	Each
606.358	Guardrail, Modify	Linear Foot
606.362	Guardrail, Adjust	Linear Foot
606.365	Guardrail, Remove, Modify, and Reset	Linear Foot
606.366	Guardrail, Remove and Reset	Linear Foot
606.367	Replace Unusable Existing Guardrail Posts	Each
606.3671	Replace Unusable Offset Blocks	Each
606.47	Single Wood Post	Each
606.48	Single Galvanized Steel Post	Each

606.50	Single Steel Pipe Post	Each
606.51	Multiple Mailbox Support	Each
606.568	Guardrail, Modify - Double Rail	Linear Foot
606.63	Thrie Beam Rail Beam	Linear Foot
606.64	Guardrail Thrie Beam - Double Rail	Linear Foot
606.65	Guardrail Thrie Beam - Single Rail	Linear Foot
606.66	Terminal End Thrie Beam	Each
606.70	Transition Section - Thrie Beam	Each
606.71	Guardrail Thrie Beam - 15 ft radius and less	Linear Foot
606.72	Guardrail Thrie Beam - over 15 ft radius	Linear Foot
606.73	Guardrail Thrie Beam - Single Rail Bridge Mounted	Linear Foot
606.74	Guardrail - Single Rail Bridge Mounted	Linear Foot
606.753	Widen Shoulder for Low Volume Guardrail End	Each
606.754	Widen Shoulder for Flared Guardrail Terminal	Each
606.78	Low Volume Guardrail End	Each
606.80	Buried-in-Slope Guardrail End	Each

SECTION 608
SIDEWALKS

Section 608.022Detectable Warning Materials Standard Revise this section by removing the last sentence of this section beginning with "Concrete…" and replacing it with "**Concrete shall meet the requirements of Section 608.021, Sidewalk Materials, of this specification or may be a prepackaged concrete mix from the Department's Qualified Products List (QPL).**"

SECTION 609
CURB

Remove this section in its entirety and replace with the following:

609.01 Description Construct or reset curb, gutter, or combination curb and gutter, paved ditch, and paved flume. The types of curb are designated as follows:

Type 1 - Stone curbing of quarried granite stone
Type 2 – Concrete Curbing
Type 3 - Bituminous curbing
Type 5 - Stone edging of quarried granite stone

609.02 Materials Except as provided below, the materials used shall meet the requirements of the following Sections of Division 700 - Materials:

Portland Cement and Portland Pozzolan Cement	701.01
Water	701.02
Air Entraining Chemical Admixture	701.03
Fine Aggregate for Concrete	703.01

Coarse Aggregate for Concrete	703.02
Joint Mortar	705.02
Reinforcing Steel	709.01
Stone Curbing and Edging	712.04
Epoxy Resin	712.35
Hot Mix Asphalt Curbing	712.36
Structural Precast Concrete Units (Concrete Curb)	712.061

The Contractor shall submit a concrete mix design for the Portland Cement Concrete to the Resident, for the uses specified below or in accordance with the Contract Documents.

Circular curb, terminal sections and transition sections shall be in reasonably close conformity with the shape and dimensions shown on the Plans and to the applicable material requirements herein for the type of curb specified.

Dowels shall be reinforcing steel deformed bars.

Concrete for Slipform Concrete Curb shall meet the requirements below:

a. Class A, with the exception that permeability requirements shall be waived.
b. Entrained air content of Slipform Concrete Curb shall be 4.0% to 7.0%
c. Concrete temperature, prior to discharge, shall not exceed 90 F.
d. Proposed mix designs may contain polypropylene fibers.
e. Partially discharged loads may be retempered with water provided the maximum water to cement ratio is not exceeded.

609.03 Vertical Stone Curb, Terminal Section and Transition Sections and Portland Cement Concrete Curb, Terminal Sections and Transition Sections

a. Installation The curb stone shall be set on a compacted foundation so that the front top arris line conforms to the lines and grades required. The foundation shall be prepared in advance of setting the stone by grading the proper elevation and shaping to conform as closely as possible to the shape of the bottom of the stone. The required spacing between stones shall be assured by the use of an approved spacing device to provide an open joint between stones of at least ¼ inch and no greater than ⅝ inch.

b. Backfilling All remaining spaces under the curb shall be filled with approved material and thoroughly hand tamped so the stones will have a firm uniform bearing on the foundation for the entire length and width. Any remaining excavated areas surrounding the curb shall be filled to the required grade with approved materials. This material shall be placed in layers not exceeding 8 inches in depth, loose measure and thoroughly tamped.

When backfill material infiltrates through the joints between the stones, small amounts of joint mortar or other approved material shall be placed in the back portion of the joint to prevent such infiltrating.

c. Protection The curb shall be protected and kept in good condition. All exposed surfaces smeared or discolored shall be cleaned and restored to a satisfactory condition or the curb stone removed and replaced.

d. Curb Inlets Curb placed adjacent to curb inlets shall be installed with steel dowels cemented into each stone with epoxy grout as shown in the Standard Details.

The epoxy grout shall be used in accordance with the manufacturer's instructions. The grout shall be forced into the hole, after which the dowel shall be coated with grout for one-half its length and inserted into the grout filled hole. The hole shall be completely filled with grout around the dowel. All tools and containers must be clean before using.

The Contractor may elect to substitute concrete to backfill Stone Curbing or Stone Edging at their option. If the concrete backfill option is elected, the Concrete Fill shall meet the requirements of 609.02. The Contractor shall submit a concrete design for the Portland Cement Concrete, with a minimum designated compressive strength of 3000 PSI meeting the requirements of Class S or Class Fill Concrete. The Contractor may elect to choose a Prepackaged Concrete Mix from the Departments Qualified Products list (QPL). Concrete backfill shall be completed in conformance with a Department supplied concrete backfill detail.

609.04 Bituminous Curb

a. Preparation of Base Before placing the curb, the foundation course shall be thoroughly cleaned of all foreign and objectionable material. String or chalk lines shall be positioned on the prepared base to provide guidelines. The foundation shall be uniformly painted with tack coat at a rate of 0.04 to 0.14 gal/yd^2.

b. Placing The curb shall be placed by an approved power operated extruding type machine using the shape mold called for. A tight bond shall be obtained between the base and the curb. The Resident may permit the placing of curbing by other than mechanical curb placing machines when short sections or sections with short radii are required. The resulting curbing shall conform in all respects to the curbing produced by the machine.

c. When required, the curb shall be painted and coated with glass beads in accordance with Section 627 - Pavement Marking. Curb designated to be painted shall not be sealed with bituminous sealing compound.

d. Acceptance Curb may be accepted or rejected based on appearance concerning texture, alignment, or both. All damaged curb shall be removed and replaced at the Contractor's expense.

e. Polyester fibers shall be uniformly incorporated into the dry mix at a rate of 0.25 percent of the total batch weight. Certification shall be provided from the supplier with each shipment meeting the following requirements:

Average Length	0.25 inches ± 0.005
Average Diameter	0.0008 inches ± 0.0001
Specific Gravity	1.32-1.40
Melting Temperature	480 °F Minimum

609.05 Slipform Concrete Curb

a. Preparation of Base Before placing the curb, the foundation course shall be thoroughly cleaned of all foreign and objectionable material. The Contractor shall not place Slipform Concrete Curb on a wet or frozen foundation. The foundation (HMA or concrete) may be in a Saturated Surface Dry condition, but no standing water shall be allowed. String or chalk lines shall be positioned on the prepared foundation to provide guidelines. Prior to placing the curb, the foundation shall be uniformly coated with an epoxy resin adhesive that meets the requirements of AASHTO M 235, Type I, II, III, IV or V and has been tested by AASHTO Product Evaluation & Audit Solutions. The Contractor shall submit the epoxy resin adhesive that they propose to utilize with the concrete mix design. The epoxy resin adhesive must be approved prior to placement and used in accordance with manufacturer's recommendations.

b. Placing Concrete shall be placed with an approved Slipform machine that will produce a finished product according to the design specified in the Plans. For cold weather slip forming, the outside temperature must be at least 36°F and rising. The curb shall be placed on a firm, uniform foundation, shall conform to the section profile specified in the Plans, and shall match the appropriate grade. Expansion joints shall be placed in the curb where it meets rigid structures such as but not limited to building foundations, catch basin headers or fire hydrants. Contraction joints will be placed at 10-foot intervals using sawing methods, which shall cut 1 to 3 inches into the concrete. Contraction joints shall be cut between 1 and 7 days after placement of the concrete. Joints shall be constructed perpendicular to the subgrade and match other joints in roadways, sidewalks, or other structures when applicable.

c. Curing and Sealing Proper curing shall be provided using either a combination curing/sealing compound spray that meets ASTM 1315 Type 1-Class A, or a curing compound spray that meets ASTM 309 Type 1-D – Class A. Curing may also be accomplished by the methods specified in Standard Specification Section 502.14, Curing Concrete.

If a combination curing/sealing compound spray is not used, a separate sealing compound from the MaineDOT Qualified Products List for a Type 1c sealer shall be applied after the concrete has cured.

d. Protection Slipform curb must be adequately protected after placement. The concrete shall be allowed to cure for at least 72 hours. During cold weather conditions, when temperatures drop below the required temperature of 36°F after placement, curbing shall be protected by concrete blankets or a combination of plastic sheeting and straw. After any

placement of Slipform curb, regardless of weather conditions, the placed curb shall be adequately protected by traffic control devices as necessary.

e. Marking When required, the curb shall be painted and coated with glass beads in accordance with Section 627 - Pavement Marking. Curb designated to be painted shall not be sealed unless a combination curing/sealing compound is used.

f. Acceptance Curb shall be accepted or rejected based on finish, alignment, entrained air content, and compressive strength. Concrete Quality Control and Acceptance shall be done in accordance with Standard Specification Section 502, Method C. All damaged curb shall be removed and replaced at the Contractor's expense.

609.06 Stone Edging The curb shall be installed, backfilled and protected in accordance with Section 609.03, except as follows:

a. Slope The edging shall be set on a slope as shown on the Plans or as directed.

b. Joints Joints shall be open and not greater than 1½ inch in width.

609.07 Stone Bridge Curb

a. Installation Each stone and the bed upon which it is to be placed shall be cleaned and thoroughly wetted with water before placing the mortar for bedding and setting the stone. The stone shall be set on a fresh bed of joint mortar and well bedded before the mortar has set so that the front top arris line conforms to the line and grade required. Whenever temporary supporting wedges or other devices are used in setting the stones, they shall be removed before the mortar in the bed has become set, and the holes left by them shall be filled with mortar. Concrete behind the stones shall not be placed until the stones have been in place at least two days. Bedding and pointing mortar for joints shall be cured as required under Section 502 - Structural Concrete.

b. Joints Vertical joints shall be ½ inch in width plus or minus ⅛ inch. Whenever possible, the face and top of the joint shall be pointed with joint mortar to a depth of 1½ inch, before the bedding mortar has set. Joints which cannot be so pointed, shall be prepared for pointing by raking them to a depth of 1½ inch before the mortar has set. Joints not pointed at the time the stone is laid shall be thoroughly wetted with clean water and filled with mortar. The mortar shall be well driven into the joint and finished with an approved pointing tool, flush with the pitch line of the stones.

609.08 Resetting Stone or Portland Cement Concrete Curb, Including Terminal Sections and Transitions

The curb shall be installed, backfilled and protected in accordance with Section 609.03, except as follows:

a. Removal of Curbing The Contractor shall carefully remove and store curb specified on the Plans or designated for resetting. Curb damaged or destroyed, because of the

Contractor's operations or because of their failure to store and protect it in a manner that would prevent its loss or damage, shall be replaced with curbing of equal quality at the Contractor's expense.

b. Cutting and Fitting Cutting or fitting necessary in order to install the curbing at the locations directed shall be done by the Contractor.

609.09 Method of Measurement Curb, both new and reset, will be measured by the linear foot along the front face of the curb at the elevation of the finished pavement, complete in place and accepted. Curb inlets at catch basins, including doweling, will not be measured for payment but shall be considered included in the cost of the catch basin. New transition sections and terminal curb will be measured by the unit. Reset transition sections and terminal curb will be included in the measurement for resetting curb.

Concrete Slipform Curb and terminal ends will be measured by the linear foot along the front face of the curb at the elevation of the finished pavement, complete in place and accepted.

609.10 Basis of Payment The accepted quantities of curbing will be paid for at the contract unit price per linear foot for each kind and type of curbing as specified.

Payment for terminal curb shall include only that portion of the curbing modified for installation at ends of curb runs shown in the Standard Details. Curb adjacent to terminal ends shall be paid for at the contract unit price per linear foot for the type of curb installed.

Vertical Curb Type 1 is required to have a radius of 60 feet or less, will be paid for as Vertical Curb Type 1 - Circular.

Curb, Type 5 required to have a radius of 30 feet or less will be paid for as Curb Type 5 - Circular.

There will be no separate payment for concrete fill, mortar, reinforcing steel, anchors, tack coat, drilling for and grouting anchors, pointing and bedding of curbing, and for cutting and fitting, but these will be considered included in the work of the related curb.

Removal of existing curb and necessary excavation for installing new or reset curbing will not be paid for directly but shall be considered to be included in the appropriate new or reset curb pay item. Base and Subbase material will be paid for under Section 304 - Aggregate Base and Subbase Course. Backing up bituminous curb is incidental to the curb items. Loam, as directed, will be paid under 615 – Loam.

Payment will be made under:

	Pay Item	Pay Unit
609.11	Vertical Curb Type 1	Linear Foot
609.12	Vertical Curb Type 1 - Circular	Linear Foot
609.13	Vertical Bridge Curb Type 1	Linear Foot
609.131	Vertical Bridge Curb Type 1A	Linear Foot
609.132	Vertical Bridge Curb Type 1B	Linear Foot
609.142	Vertical Bridge Curb Type 1B - Circular	Linear Foot
609.15	Sloped Curb Type 1	Linear Foot
609.151	Sloped Curb Type 1 - Circular	Linear Foot
609.161	Concrete Slipform Curb – Vertical Type 2	Linear Foot
609.21	Concrete Slipform Curb Type 2	Linear Foot
609.219	Concrete Slipform Terminal End Type 2	Linear Foot
609.23	Terminal Curb Type 1	Each
609.234	Terminal Curb Type 1 - 4 foot	Each
609.237	Terminal Curb Type 1 - 7 foot	Each
609.2371	Terminal Curb Type 1 - 7 foot – Circular	Each
609.238	Terminal Curb Type 1 - 8 foot	Each
609.26	Curb Transition Section B Type 1	Each
609.31	Curb Type 3	Linear Foot
609.34	Curb Type 5	Linear Foot
609.35	Curb-Type 5 - Circular	Linear Foot
609.38	Reset Curb Type 1	Linear Foot
609.39	Reset Curb Type 2	Linear Foot
609.40	Reset Curb Type 5	Linear Foot

SECTION 610
STONE FILL, RIPRAP, STONE BLANKET, AND STONE DITCH PROTECTION

610.02 Materials Amend this subsection by adding the following to the end of the material list:
"**Stone Ditch Protection 703.29"**

SECTION 618
SEEDING

618.08 Mulching Revise this Section so that the third sentence reads: "Mulch for Seeding Method Number 1 shall only be cellulous fiber mulch Section 619.04 **(b)** or straw mulch Section 619.04 (**a**)."

SECTION 619
MULCH

619.03 General Amend this Section by adding the following sentence to the end: **"Straw mulch shall be used in all wetland areas."**

SECTION 626
FOUNDATIONS, CONDUIT, AND JUNCTION BOXES FOR HIGHWAY SIGNING, LIGHTING, AND SIGNALS

Section 626.021 Miscellaneous Materials Revise this section by removing the fourth paragraph beginning with " All Concrete for concrete encasement…" and replace it with "**All concrete for concrete encasement of conduit shall be Class S or Class Fill concrete in accordance with the applicable requirements of Section 502 – Structural Concrete, or a Prepackaged Concrete Mix from the Department's Qualified Products List (QPL).**"

Section 626.031Conduit Revise the fifth paragraph beginning with "After the trench has been…" by removing the last sentence beginning with "Where concrete encasement…" and replacing it with **"Where concrete encasement is required around the conduit, the concrete shall meet Class S, Class Fill in accordance with the applicable requirements of Section 502 – Structural Concrete, or a Prepackaged Concrete Mix from the Department's Qualified Products List (QPL)."**

626.034 Concrete Foundations Revise this Section by changing '626.037' to '**626.036**' in the Second Paragraph which begins with "Foundations shall consist of cast-in-place…".

Revise the 10th paragraph beginning with "Before placing concrete, the required elbows…" by removing "…**in accordance with Standard Specification 633**."

626.036 Precast Foundations Revise the last sentence of paragraph one so that it reads: "**Construction of precast foundations shall conform to the Standard Details and all requirements of 712.061**."

SECTION 627
PAVEMENT MARKINGS

627.02 Materials Amend this section by adding the following to the existing Specification:

"When pavement marking paint must be applied on pavement with an air temperature between 35 ºF and 50 ºF, a low temperature waterborne paint may be used upon the Department's approval as noted below.

The Contractor shall submit the following information for Department review and approval at least 10 calendar days prior to application:

The manufacturer and product name of the low temperature waterborne paint

The manufacturer's technical product data sheets

The product's SDS sheets

All required and recommended application specifications for the product

The manufacturer's requirements for temperature, surface preparation, paint thickness and the bead application shall be followed. No additional payment will be made for the use of low temperature waterborne paint. "

627.06 Application Revise this subsection by replacing the paragraph beginning with " On other final pavement markings…" with the following:
"On other final pavement markings and on curb, where the paint is applied by hand painting or spraying, application shall be one uniform covering coat at least 16 mils thick. Before the paint has dried, the glass beads shall be applied by a pressure system that will force the glass beads onto the undried paint as uniformly as possible.

Painted lines and markings shall be applied in accordance with the manufacturer's published recommendations. These recommendations will be supplied to the Resident prior to installation."

Revise this subsection by replacing the paragraph beginning with " If the final reflectivety values are less…" with the following:

"The final reflectivity will be acceptable if 90 percent or more of the painted pavement lines and markings meet the specified minimum value. If less than 90 percent of the painted pavement lines and markings meet the specified minimum final reflectivity values, the Contractor shall repaint those areas not meeting required reflectivity at no cost to the Department.

If, after repainting, analysis of the final reflectivity values results in the need for a second repainting, the Contractor will submit in writing a plan of action to meet the reflectivity minimums prior to continuing any work. Once the plan has been reviewed and approved by the Department, the Contractor shall reapply at no cost to the Department."

SECTION 634
HIGHWAY LIGHTING

634.021 Materials Revise this subsection by removing the paragraph beginning with "All bolts for mounting lighting fixtures" and replacing with:

"**All bolts for mounting lighting fixtures under bridge structures shall conform to the requirements of ASTM A307. These bolts and other fastening hardware shall be galvanized in**

accordance with AASHTO M 232 (ASTM A153), ASTM F2329, or ASTM B695, Class 50, Type I."

SECTION 637
DUST CONTROL

Revise this section by removing it in its entirety.

SECTION 643
TRAFFIC SIGNALS

643.021 Materials Amend this subsection by adding the following at the end:

"**MaineDOT is transitioning to MASH2016 criteria for Work Zone Traffic Control Devices on the following schedule:**

Temporary Traffic Control Signals will be crash tested and/or evaluated to MASH2016 criteria by January 1, 2030. Current Category 4 devices in useful serviceable condition that are successfully tested to NCHRP Report 350 or MASH2009 criteria may be utilized through December 31, 2029."

643.023 Traffic Signal Structures Remove the third paragraph and replace it with the following:

"**Traffic signal support structures shall be classified as Fatigue Category III if they are located on roads with a speed limit of 35 mph or less, Fatigue Category II if they are located on roads with a speed limit of greater than 35 mph, and Fatigue Category I if noted on the Contract Plans. Fatigue Importance Factors shall be as specified in Table 11.6-1 (Fatigue Importance Factors). Fatigue analyses are not required for span-wire (strain) pole traffic signal support structures with heights of 55 feet or less unless required by the current edition of AASHTO "LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals".**

643.09 Service Connection Revise this subsection by removing the paragraph that begins with "Traffic signal services shall have…".

And by removing the paragraphs beginning with " A service ground rod shall be installed…" and "A total of 4, 10' service…" and replace them with "**A total of 4, 10' service ground rods shall be installed and properly connected together on the outside of the cabinet foundation. One ground rod shall be located at each corner and shall be either flush or slightly below finished grade. The connection between the ground rod and the ground wire shall be an**

exothermic connection such as a Cadweld. The ground wire from the interconnected ground rods shall be routed through a conduit in the foundation and into the base of the cabinet".

SECTION 645
HIGHWAY SIGNING

Section 645.023 Sign Support Structures. Under letter "c.", revise the fifth paragraph beginning with "In addition to the required details…" by removing the words "**and foundation**" from the 5th sentence.

Section 645.08 Method of Measurement. Revise the second paragraph beginning with "Bridge-type, cantilever and…" by removing the words "**including the foundation**" .

Section 645.09 Basis of Payment. Revise the third paragraph beginning with "The accepted bridge-type, cantilever and…" by removing the word "**foundation**" from the second sentence. Add the following sentence to the end of the paragraph "**Conduits, Junction Boxes, and Foundations will be paid for under Section 626.**"

SECTION 652
MAINTENANCE OF TRAFFIC

652.2.5 Portable Changeable Message Sign Revise the fifth paragraph so it reads:

"The control system shall include a display screen upon which messages can be reviewed before being displayed on the message sign. The control system shall be capable of maintaining memory when power is unavailable. Messages must be changeable with either a portable electronic device like a notebook computer or an on-board keypad. The controller shall have the capability to store a minimum of 200 user-defined and 200 pre-programmed messages. Controller and battery compartments shall be enclosed in lockable, weather-tight boxes. The cabinet shall be locked at all times that the Contractor is not actively changing the message. The Contractor shall change the password for the controller prior to stationing the PCMS and shall provide the password to the Resident. The password shall be unique per PCMS and secure and shall not be written anywhere in, on, around, or stored in the PCMS."
Amend this Section by adding the following new subsection:

"**652.2.6 Device Crashworthiness MaineDOT is transitioning to MASH2016 criteria for Work Zone Traffic Control Devices on the following schedule:**

Category 1 (Cones, Drums, Tubular Markers, Flexible Delineators, and similar devices that have little chance if causing windshield penetration, tire damage, or other significant effect on the control or trajectory of a vehicle) – All Category 1 devices will be manufacturer self-certified as MASH2016 by January 1, 2025. Current Category 1 devices in useful serviceable condition that are not self-certified as MASH2016 compliant may be utilized through December 31, 2024.

Category 2 (Barricades, Portable Sign Supports, Category 1 devices with attachments, and similar devices that are not expected to produce significant vehicular velocity change but may be otherwise hazardous) – All Category 2 devices will be crash tested and/or evaluated to MASH2016 criteria by January 1, 2025. Current Category 2 devices in useful serviceable condition that are successfully tested to NCHRP Report 350 or MASH2009 criteria may be utilized through December 31, 2024.

Category 3 (Portable Concrete Barrier, Portable Crash Cushions, Truck Mounted Attenuators, Category 2 devices weighing more than 100 pounds, and similar devices that are expected to produce significant vehicular velocity change or other harmful reactions) – All Category 3 devices will be crash tested and/or evaluated to MASH2016 criteria by January 1, 2030. Current Category 3 devices in useful serviceable condition that are successfully tested to NCHRP Report 350 or MASH2009 criteria may be utilized through December 31, 2029. (See Standard Specification 526 for additional Portable Concrete Barrier information).

Category 4 (Trailer Mounted Devices: Arrow Boards, Temporary Traffic Control Signals, Area Lighting, Portable Changeable Message Sign, and other similar devices.) – All Category 4 devices will be crash tested and/or evaluated to MASH2016 criteria by January 1, 2030. Current Category 4 devices in useful serviceable condition that are successfully tested to NCHRP Report 350 or MASH2009 criteria may be utilized through December 31, 2029."

652.3.3 Submittal of Traffic Control Plan Amend this section by adding:

"n. A security plan for any PCMS shall be included. The Contractor shall provide a plan for secure access to the PCMS and protection from unauthorized users. The plan shall have details on securing the cabinets via a lock and password from unauthorized users, password changing protocols, and where the access information will be kept so it can be used in the event of emergency. The Contractor shall not Identify or store passwords in the TCP."

652.4 Flaggers Revise the first paragraph of this section so that it reads:

"The Contractor shall furnish flaggers as required by the TCP or as otherwise specified by the Resident. All flaggers must have successfully completed a flagger test approved by the Department and administered by a Department-approved Flagger-Certifier who is employing that flagger. All flaggers must carry an official certification card with them while flagging that has been issued by their employer."

SECTION 681
PRECAST AGGREGATE-FILLED, CONCRETE BLOCK GRAVITY WALL

681.08 Basis of Payment Amend this section by adding the Item Number "**681.10**' in front of the item "Precast Aggregate-Filled Concrete Block Gravity Wall" at the end of the section.

SECTION 701
STRUCTURAL CONCRETE RELATED MATERIAL

701.01 Portland Cement and Portland Pozzolan Cement Amend the first sentence of Paragraph 3 by adding "**or Type 1L Portland Limestone cement**" so that it reads:
"**A Type IP (MS) Portland-pozzolan cement (blended hydraulic cement with moderate sulfate resistance) or Type 1L Portland Limestone cement meeting the requirements of AASHTO M 240, may be used instead of Type II or where Type I Portland cement, meeting the requirements of AASHTO M 85, is allowed**."

SECTION 703
AGGREGATES

Add the following to Section 703 - Aggregates

703.01 Fine Aggregate for Concrete Fine aggregate for concrete shall consist of natural sand or, when approved by the Resident, other inert materials with similar characteristics or combinations thereof, having strong, durable particles. Fine aggregate from different sources of supply shall not be mixed or stored in the same pile nor used alternately in the same class of construction or mix without permission of the Resident.

All fine aggregate shall be free from injurious amounts of organic impurities. Should the fine aggregate, when subjected to the colorimetric test for organic impurities, AASHTO T 21, produce a color darker than the reference standard color solution (laboratory designation Plate III), the fine aggregate shall be rejected.

Fine aggregate shall have a sand equivalent value of not less than 75 when tested in accordance with AASHTO T 176.
Fine aggregate sources shall meet the Alkali Silica Reactivity (ASR) requirements of Section 703.0201.

The fineness modulus shall not be less than 2.26 or more than 3.14. If this value is exceeded, the fine aggregate will be rejected unless suitable adjustments are made in proportions of coarse and fine aggregate. The fineness modulus of fine aggregate shall be determined by adding the cumulative percentages of material by weight retained on the following sieves: Nos. 4, 8, 16, 30, 50, 100 and dividing by 100.

Fine aggregate, from an individual source when tested for absorption as specified in AASHTO T 84, shall show an absorption of not more than 2.3 percent.

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves
⅜ inch	100
No. 4	95-100
No. 8	80-100
No. 16	50-85
No. 30	25-60
No. 50	10-30
No. 100	2-10
No. 200	0-5.0

703.02 Coarse Aggregate for Concrete Coarse aggregate for concrete shall consist of crushed stone or gravel having hard, strong, durable pieces, free from adherent coatings and of which the composite blend retained on the ⅜ inch sieve shall contain no more than 15 percent, by weight of flat and elongated particles when performed in accordance with test method ASTM D 4791, Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate, using a dimensional ratio of 1:5.

The coarse aggregate from an individual source shall have an absorption no greater than 2.0 percent by weight determined in accordance with AASHTO T 85 modified for weight of sample.

The composite blend shall have a Micro-Deval value of 18.0 percent or less as determined by AASHTO T 327 or not exceed 40 percent loss as determined by AASHTO T 96.

Coarse aggregate sources shall meet the Alkali Silica Reactivity (ASR) requirements of Section 703.0201.

Coarse aggregate shall conform to the requirements of the following table for the size or sizes designated and shall be well graded between the limits specified.

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves						
Grading	S	A	AA	SP-1-7	SP-1-78	SP-2-8	SP-2-89
Aggregate Size	1 ½ inch	1 inch	¾ inch	½ inch	½ inch	⅜ inch	⅜ inch
2 inch	100						
1 ½ inch	95-100	100					
1 inch	-	95-100	100				
¾ inch	35-70	-	90-100	100	100		
½ inch	-	25-60	-	90-100	90-100	100	100
⅜ inch	10-30	-	20-55	40-70	40-75	85-100	90-100
No. 4	0-5	0-10	0-10	0-15	5-25	10-30	20-55
No. 8	-	0-5	0-5	0-5	0-10	0-10	5-30
No. 16	-	-	-	-	0-5	0-5	0-10
No. 50	-	-	-	-	-	-	0-5
No. 200*	0-1.5	0-1.5	0-1.5	0-1.5	0-1.5	0-1.5	0-1.5

*This limit will be 0-2.0 for Department production samples. Yearly quality samples will be held to 0-1.5.

703.0201 Alkali Silica Reactive Aggregates All coarse and fine aggregates proposed for use in concrete shall be tested for Alkali Silica Reactivity (ASR) potential under AASHTO T 303 (ASTM C 1260), Accelerated Detection of Potentially Deleterious Expansion of Mortar Bars Due to Alkali-Silica Reaction, prior to being accepted for use. Acceptance will be based on testing performed by an accredited independent lab submitted to the Department. Aggregate submittals will be required on a 5-year cycle, unless the source or character of the aggregate in question has changed within 5 years from the last test date.

As per AASHTO T 303 (ASTM C 1260): Use of a particular coarse or fine aggregate will be allowed with no restrictions when the mortar bars made with this aggregate expand less than or equal to 0.10 percent at 30 days from casting. Use of a particular coarse or fine aggregate will be classified as potentially reactive when the mortar bars made with this aggregate expand greater than 0.10 percent at 30 days from casting. Use of this aggregate will only be allowed with the use of cement-pozzolan blends and/or chemical admixtures that result in mortar bar expansion of less than 0.10 percent at 30 days from casting as tested under ASTM C 1567.

Acceptable pozzolans and chemical admixtures that may be used when an aggregate is classified as potentially reactive include, but are not limited to the following:

a. Class F Coal Fly Ash meeting the requirements of AASHTO M 295
b. Ground Granulated Blast Furnace Slag (Grade 100 or 120) meeting the requirements of AASHTO M 302
c. Densified Silica Fume meeting the requirements of AASHTO M 307
d. Lithium-based admixtures
e. Metakaolin

Pozzolans or chemical admixtures required to offset the effects of potentially reactive aggregates will be incorporated into the concrete at no additional cost to the Department.

Amend this section by adding the new sub section:

"703.03 Combined Aggregate Grading for Concrete The combined gradation of the fine and coarse aggregates when mathematically blended using the mix design percentages shall conform to the requirements of the following table for the size or sizes designated and shall be well graded between the limits specified.

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves						
Grading	**S**	**A**	**AA**	**SP-1-7**	**SP-1-78**	**SP-2-8**	**SP-2-89**
Aggregate Size	**1½ inch**	**1 inch**	**¾ inch**	**½ inch**	**½ inch**	**⅜ inch**	**⅜ inch**
2 inch	**100**						
1½ inch	**95–100**	**100**					
1 inch	**80–100**	**95–100**	**100**				
¾ inch	**55–90**	**90–100**	**93–100**	**100**	**100**		
½ inch	**45–80**	**55–80**	**60–90**	**90–100**	**90–100**	**100**	**100**
⅜ inch	**40–65**	**40–65**	**50–80**	**55–85**	**65–90**	**90–100**	**90–100**
No. 4	**35–55**	**35–55**	**35–60**	**30–60**	**40–70**	**45–75**	**50–80**
No. 8	**25–53**	**28–50**	**30–55**	**25–55**	**30–65**	**35–65**	**35–75**
No. 16	**15–40**	**18–45**	**19–45**	**18–50**	**20–55**	**20–55**	**20–55**
No. 30	**7–30**	**9–30**	**10–33**	**8–32**	**10–38**	**10–38**	**10–40**
No. 50	**3–14**	**4–14**	**4–16**	**3–16**	**4–20**	**4–20**	**4–20**
No. 100	**0–6**	**0–6**	**0–6**	**0–6**	**0–7**	**0–8**	**0–8**
No. 200	**0–3.5***	**0–3.5***	**0–3.5***	**0–3.5***	**0–3.5***	**0–3.5***	**0–3.5***

***The percent passing the No. 200 sieve shall not exceed 6.0 percent for any fine aggregate. The percent passing the No. 200 sieve shall not exceed 2.0 percent for any single coarse aggregate. The percent passing the No. 200 sieve shall not exceed 4.0 percent for the combined gradation of self-consolidating concrete (SCC) mix designs."**

703.05 Aggregate for Sand Leveling Aggregate for sand leveling shall be sand of hard durable particles free from vegetable matter, lumps or balls of clay and other deleterious substances. The aggregate shall meet the grading requirements of the following table.

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves
⅜ inch	85-100
No. 200	0-5.0

703.06 Aggregate for Base and Subbase The following shall apply to Sections (a.) and (c.) below. The material shall have a Micro-Deval value of 25.0 or less as determined by AASHTO T 327. If the Micro- Deval value exceeds 25.0, the Washington State Degradation DOT Test Method T113, Method of Test for Determination of Degradation Value (January 2009 version) shall be performed, except that the test shall be performed on the portion of the sample that passes the ½ in sieve and is retained on the No. 10 sieve. If the material has a Washington Degradation value of less than 15, the material shall be rejected.

The material used in Section (b.) below shall have a Micro-Deval value of 25.0 or less as determined by AASHTO T 327. If the Micro-Deval value exceeds 25.0 the material may be used if it does not exceed 25 percent loss on AASHTO T 96, Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine.

Recycled Asphalt Pavement (RAP) shall not be used for or blended with aggregate base or subbase.

a. Aggregate for base, Type A and B shall be crushed ledge or crushed gravel of hard durable particles free from vegetable matter, lumps or balls of clay and other deleterious substances. The gradation of the part that passes a 3 inch sieve shall meet the grading requirements of the following table:

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves	
	Type A	Type B
½ inch	45-70	35-75
¼ inch	30-55	25-60
No. 40	0-20	0-25
No. 200	0-6.0	0-6.0

At least 50 percent by weight of the material retained on the No. 4 sieve shall have at least one fractured face as tested by AASHTO T 335.

Type A aggregate for base shall only contain particles of rock that will pass the 2 inch square mesh sieve.

Type B aggregate for base shall only contain particles of rock that will pass the 4 inch square mesh sieve.

b. Aggregate for base, Type C shall be crushed ledge or crushed gravel of hard durable particles free from vegetable matter, lumps or balls of clay and other deleterious substances. The material shall meet the grading requirements of the following table:

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves
	Type C
4 inches	100
3 inches	90-100
2 inches	75-100
1 inch	50-80
½ inch	30-60
No. 4	15-40
No. 200	0-6.0

At least 50 percent by weight of the material coarser than the No. 4 sieve shall have at least one fractured face as tested by AASHTO T 335.

c. Aggregate for subbase shall be sand or gravel of hard durable particles free from vegetable matter, lumps or balls of clay and other deleterious substances. The gradation of the part that passes a 3 inch sieve shall meet the grading requirements of the following table:

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves	
	Type D	Type E
½ in	35-80	
¼ inch	25-65	25-100
No. 40	0-30	0-50
No. 200	0-7.0	0-7.0

Type D aggregate for subbase gravel may contain up to 50 percent by weight Recycled Concrete Aggregate (RCA). When RCA is used, the portion of the resulting blend of gravel and RCA retained on a ½" square mesh sieve shall contain a total of no more than 5 percent by weight of other recycled materials such as brick, concrete masonry block, or asphalt pavement as determined by visual inspection.

RCA shall be substantially free of wood, metal, plaster, and gypsum board as defined in Note 9 in Section 7.4 of AASHTO M 319. RCA shall also be free of all substances that fall under the category of solid waste or hazardous materials.

Aggregate for subbase shall not contain particles of rock which will not pass the 6 inch square mesh sieve.

703.08 Recycled Asphalt Pavement Recycled asphalt pavement shall consist of salvaged asphalt materials from milled pavements or production waste that has been processed before use to meet the requirements of the job mix formula. It shall be free of winter sand, granular fill, construction debris, or other materials not generally considered asphalt pavement.

703.081 RAP for Asphalt Pavement Recycled Asphalt Pavement (RAP) may be introduced into hot-mix asphalt pavement at percentages approved by the Department according to the MaineDOT Policies and Procedures for HMA Sampling and Testing.

If approved by the Department, the Contractor shall provide documentation stating the source, test results for average residual asphalt content, and stockpile gradations showing RAP materials have been sized to meet the maximum aggregate size requirements of each mix designation. The Department will obtain samples for verification and approval prior to its use.

The maximum allowable percent of RAP shall be determined by the asphalt content, the percent passing the 0.075 mm sieve, the ratio between the percent passing the 0.075 mm sieve and the asphalt content, and Coarse Micro-Deval loss values as tested by the Department.

The maximum percentage of RAP allowable shall be the lowest percentage as determined according to Table 4 below:

Classification	Maximum RAP Percentage Allowed	Asphalt content standard deviation	Percent passing 0.075 mm sieve standard deviation	Percent passing 0.075 mm sieve / asphalt content ratio	Residual aggregate M-D loss value
Class III	**10%**	**≤ 1.0**	**N/A**	**≤ 4.0**	**≤ 18**
Class II	**20%**	**≤ 0.5**	**≤ 1.0**	**≤ 2.8**	
Class I	**30%**	**≤ 0.3**	**≤ 0.5**	**≤ 1.8**	

Table 4: Maximum Percent RAP According to Test Results

The Department will monitor RAP asphalt content and gradation during production by testing samples from the stockpile at approximately 15,000 T intervals (in terms of mix production). The allowable variance limits (from the numerical average values used for mix designs) for this testing are determined based upon the maximum allowable RAP percentage and are shown below in Table 5.

Table 5: RAP Verification Limits

Classification	Asphalt content (compared to aim)	Percent passing 0.075 mm sieve (compared to aim)
Class III	± 1.5	± 2.0
Class II	± 1.0	± 1.5
Class I	± 0.5	± 0.7

For specification purposes, RAP will be categorized as follows:

Class III – A maximum of 10.0 percent of Class III RAP may be used in any base, intermediate base, surface, or shim mixture. A maximum of 20.0 percent of Class III RAP may be used in hand-placed mixes for item 403.209.

Class II – A maximum of 20.0 percent Class II RAP in any base, binder, surface, or shim course.

Class I – A maximum of 20.0 percent Class I RAP may be used in any base, intermediate base, surface, or shim mixture without requiring a change to the specified asphalt binder. A maximum of 30.0 percent Class I RAP may be used in in any base or intermediate base mixture provided that a PG 58-28 or PG 58-34 asphalt binder is used. A maximum of 30.0 percent Class I RAP may be used in any surface or shim mixture provided that PG 58-34 asphalt binder is used. Mixtures exceeding 20.0 percent Class I RAP must be evaluated and approved by the Department.

The Contractor may use up to two different RAP sources in any one mix design. The total RAP percentage of the mix shall not exceed the maximum allowed for the highest classification RAP source used (i.e. if a Class I & Class III used, total RAP must not exceed 30.0%). The blended RAP material must meet all the requirements of the classification for which the RAP is entered (i.e. 10% Class III with 20% Class I, blend must meet Class I criteria). The Department may take belt cuts of the blended RAP to verify the material meets these requirements. If the Contractor elects to use more than one RAP source in a design, the Contractor shall provide an acceptable point of sampling blended RAP material from the feed belt.

In the event that RAP source or properties change, the Contractor shall notify the Department of the change and submit new documentation stating the new source or properties a minimum of 72 hours prior to the change to allow for obtaining new samples and approval.

Revise this Section by removing 703.7 and 703.9 in its entirety and replace with the following:

703.07 Aggregates for HMA Pavements **Coarse and fine aggregate for hot mix asphalt pavements shall be of such gradation that when combined in the proper proportions, including filler, if required, the resultant blend will meet the composition of mixture for the type of pavement specified.**

Coarse aggregate, that material retained on the No. 4 sieve, shall be crushed stone or crushed gravel and, unless otherwise stipulated, shall consist of clean, tough, durable fragments free from an excess of soft or disintegrated pieces and free from stone coated with dirt or other objectionable matter. Coarse aggregate shall not exceed an absorption of 2.0 percent by weight as determined by AASHTO T 85.

Fine aggregate, material that passes the No. 4 sieve, shall consist of natural sand, manufactured sand, or a combination of these. It shall consist of hard, tough grains, free from injurious amounts of clay, loam, or other deleterious substances. Fine aggregate shall not exceed an absorption of 2.3 percent by weight as determined by AASHTO T 84.

All individual aggregates for hot mix asphalt pavements shall meet Table 3 requirements (excluding LCP) unless otherwise noted. The Department reserves the right to sample and test the aggregate for any of the following properties at any time:

TABLE 3: Aggregate Consensus Properties Criteria

Estimated Traffic, Million 18 kip ESALs	AASHTO T 335 (minimum %)	AASHTO T 304 Method A **	ASTM D 4791 Method B	AASHTO T 176	Aggregate shall meet at least one of these:		
					AASHTO T 327	AASHTO T 96	WSDOT T 113*
< 3.0	75/60	≥ 40%	≤ 10%	≥ 45	≤ 18.0%	≤ 40%	≥ 30
3.0 to < 10	90/80	≥ 45%		≥ 50		≤ 35%	
≥ 10	95/90					≤ 30%	N/A

* As determined by Washington State DOT Test Method T 113, Method of Test for Determination of Degradation Value except that the reported degradation value will be the result of testing a single composite specimen from that portion of the sample that passes the ½ inch sieve and is retained on the No. 10 sieve.

** Property will be evaluated on a mix design basis by calculating a weighted average based upon individual aggregate values (weighted average by the percentage proportion of the aggregate within the design).

AASHTO T 335 - "90/80" denotes that 90 percent of the coarse aggregate has one fractured face and 80 percent has two fractured faces.

AASHTO T 304 - Criteria are presented as percent air voids in loosely compacted fine aggregate, (U).

ASTM D4791 - Criteria are presented as maximum percent by weight of flat and elongated particles (5:1 ratio).

The entire HMA wearing course shall come from the same source of material and the same job mix formula, except when permission is obtained from the Department to change sources.

703.09 HMA Mixture Composition **The coarse and fine aggregate shall meet the requirements of Section 703.07. The several aggregate fractions for mixtures shall be sized, graded, and combined in such proportions that the resulting composite blends, including RAP aggregate will meet the grading requirements of the following table:**

Aggregate Gradation Control Points

Nominal Maximum Aggregate Size---Control Points (Percent Passing)						
Sieve Designation	**Type 25 mm**	**Type 19 mm**	**Type 12.5 mm**	**Type 9.5 mm**	**Type 9.5 mm Thin Lift Mixture (TLM)**	**Type 4.75 mm**
	Percent By Weight Passing - Combined Aggregate					
37.5 mm	**100**					
25 mm	**90-100**	**100**				
19 mm	**-90**	**90-100**	**100**			
12.5 mm	**-**	**-90**	**90-100**	**100**	**100**	**100**
9.5 mm	**-**	**-**	**-90**	**90-100**	**95-100**	**95-100**
4.75 mm	**-**	**-**	**-**	**-90**	**60-95**	**80-100**
2.36 mm	**19-45**	**23-49**	**28-58**	**32-67**	**47-65**	**40 - 80**
1.18 mm	**-**	**-**	**-**	**-**	**-**	**-**
0.60 mm	**-**	**-**	**-**	**-**	**-**	**-**
0.30 mm	**-**	**-**	**-**	**-**	**-**	**-**
0.075 mm	**2.0-6.0**	**2.0-6.0**	**2.0-6.0**	**2.0-7.0***	**2.0-7.0***	**2.0-7.0**

*** For 9.5 mm nominal maximum aggregate size mixtures, the maximum design aim for the percent passing the 75 µm sieve is 6.5%.**

SECTION 709
REINFORCING STEEL AND WELDED STEEL WIRE FABRIC

709.01 Reinforcing Steel Remove the second paragraph of Section 709.01 of the standard specification beginning with "Low-Carbon, Chromium,…" and replace with the following:

" Low-carbon, chromium, reinforcing steel shall be deformed bars conforming to the requirements of ASTM A1035. Bars shall be Grade 100 and alloy Type CS unless otherwise specified on the Plans. "

SECTION 710
FENCE AND GUARDRAIL

710.06 Fence Posts and Braces Revise the first Paragraph so that it reads:

"Wood posts shall be of cedar, white oak, or tamarack or other AWPA approved species, of the diameter or section and length shown on the plans."

Remove the fourth paragraph which starts " That portion of wood posts…".

Revise the paragraph beginning with "Braces shall be of spruce, eastern hemlock … so that it now reads:

"Braces shall be of spruce, eastern hemlock, Norway pine, pitch pine, or tamarack timbers or other AWPA approved species, or spruce, cedar, tamarack or other AWPA approved species round posts of sufficient length to make a diagonal brace between adjacent posts. All wood posts and braces shall be pressure-treated in accordance with AASHTO M 133 and AWPA U1, UC4A Commodity Specification B: Posts. "

710.07 Guardrail Posts Revise this section so that the first sentence of section a. reads:

"a. Wood posts shall be of Norway pine, southern yellow pine, pitch pine, Douglas fir, red pine, white pine, or eastern hemlock or other AWPA approved species."

Revise the next paragraph so that it reads:

Wood posts and offset brackets shall be preservative treated in accordance with the requirements of AASHTO M 133 and AWPA U1, UC4A Commodity Specification B: Posts.

710.08 Guardrail Hardware Revise this subsection by replacing "**AASHTO M 298**" with "**ASTM B695**"

SECTION 711
MISCELLANEOUS BRIDGE MATERIAL

711.06 Stud Shear Connector Anchors and Fasteners Amend this section by deleting it in its entirety and replacing it with:
"Shear connectors shall meet the dimensional tolerances of Figure 9.1 of the ANSI/AASHTO/AWS D1.5 Bridge Welding Code (D1.5 Code). Shear connectors, anchors and fasteners shall meet the material requirements of Section 9 of the D1.5 Code. Shear connectors shall meet the mechanical property requirements of Table 9.1, Type B of the D1.5 Code. Anchors and fasteners shall meet the mechanical property requirements of Table 9.1 of the D1.5 Code, Type A."

SECTION 712
MISCELLANEOUS HIGHWAY MATERIAL

712.061 Structural Precast Units Amend this section by adding the following sentence to the end of the first paragraph of the Construction subsection:

"Facilities certified by NPCA or PCI shall provide to the Fabrication Engineer a copy of their annual audit to include deficiency reports and corrective actions."

Revise this section by changing the letter "b" of ASTM C1611 of the Concrete Testing subsection so that it reads:

"**b. Air content shall be 5.0% to 8.0%**."

SECTION 713
STRUCTURAL STEEL AND RELATED MATERIAL

Section 713.01 Structural Steel Replace paragraph two in its entirety with the following:
"**Main load-carrying components subject to tensile stresses or stress reversal shall meet the notch toughness requirements in AASHTO M 270M, Table 11, Zone 2, for non-fracture critical steel or Table 12, Zone 2 for fracture critical steel. Frequency of tension tests shall comply with the requirements of S1.**"

Section 713.02 High Strength Bolts **R**evise this subsection by removing the portion from the beginning up to and including TABLE 1 – Test Schedule*, and replace it with:

"**Bolts shall conform to the requirements of ASTM F3125, Grade A325, Type 1 or Type 3. Type 3 bolts shall be supplied for all structures utilizing unpainted AASHTO M 270M weathering steel. Type 1 galvanized bolts shall be used for all structures utilizing metallized or galvanized steel.**

Nuts shall meet the requirements of ASTM A563.

Circular and beveled washers shall conform to the requirements of ASTM F436.

Direct Tension Indicators (DTI'S) shall conform to the requirements of ASTM F959. DTI's for use with painted steel shall have a plain "as fabricated" finish. DTI's for use with unpainted steel shall be galvanized to the requirements of ASTM B695 Class 50, Type I and have a fusion-bonded epoxy coating. DTI's used with galvanized steel, metalized steel and steel coated with a zinc-rich primer shall be galvanized to the requirements of ASTM B695 Class 50, Type I.

"Twist Off" Type Tension Control Structural Bolt/Nut/Washer Assemblies shall meet the requirements of ASTM F3125, Grade F1852.

Bolts, nuts and washers specified to be galvanized, shall be galvanized in accordance with AASHTO M 232 (ASTM A153), ASTM F2329, or ASTM B695 Class 50, Type I.

All fastener (bolts and nuts), whether black or galvanized, shall be coated with a suitable lubricant. Galvanized nuts shall be lubricated with a lubricant containing a visible dye.

Each lot of bolts, nuts, washers and DTI's shall be tested by the manufacturer in accordance with the tests tabulated in Table 1 - Test Schedule. The testing frequency for bolts, nuts and washers from each shipping lot of fasteners shall be as specified in the applicable AASHTO/ASTM Standard Specifications. The testing frequency for each production lot of DTI's shall be as specified in ASTM F959.

TABLE 1 - Test Schedule*

Bolts	Tensile Strength (Wedge Test) Proof Load Hardness Coating Thickness	ASTM F606 ASTM F606 ASTM F606 ASTM B695
Nuts	Proof Load Hardness Coating Thickness	ASTM F606 ASTM F606 ASTM B695
Washers	Hardness Coating Thickness	ASTM F606 ASTM B695
DTI's	Coating Thickness Compression Load	ASTM B695 ASTM F959

Section 716
STRUCTURAL ALUMINUM AND RELATED MATERIAL

716.01 Aluminum Railings: Revise this subsection by removing section d. and replacing with:

d. Steel Anchor Assembly Steel spacers for post anchors shall conform to the requirements of ASTM A36. Nuts embedded in concrete shall conform to the requirements of ASTM A307.

Anchor bolts, exposed nuts and washers shall conform to the requirements of ASTM A449 or ASTM F1554, Grade 55 and shall be galvanized in accordance with AASHTO M 232 (ASTM A153), ASTM F2329, or ASTM B695, Class 50, Type I.

SECTION 718
TRAFFIC SIGNALS MATERIAL

718.03 Signal Mounting Amend the paragraph beginning with "All trunions, brackets and…" by adding "**For polycarbonate signal heads with more than 3 sections or requiring mounting extensions greater than 12 inches in length, reinforcing plates shall be used to reinforce the housings at the point of attachment.**" to the end of the paragraph.

718.08 Controller Cabinet Revise this subsection by replacing the paragraph beginning with "The cabinet shall be supplied with LED light panels…" on or about page 7-66 with "**The cabinet shall be supplied with white LED light panels which shall automatically illuminate via a door open switch whenever one of the four main cabinet doors are opened for the ground mount cabinet or two main doors for the side of pole cabinet. The ground mounted cabinet shall contain four LED light panels per side totaling eight panels for the cabinet; one panel each at the top and bottom portion of the front side and back side on the Control side and Power/Auxiliary side of the cabinet. Each light panel shall produce a minimum of 250 lumens for a total minimum lumen output of 2000 lumens with all eight panels illuminated. The minimum output per side would be 1000 lumens. The LED panels shall be protected by a clear shatterproof shield. The side of pole mounted cabinet shall contain four light panels; one at the top of the rack assembly and one at the bottom rack assembly on each side of the cabinet.**

A second door open status switch per door shall activate a controller input to log a report event that one of the doors was opened. All door open status switches shall be connected to the same controller input. For the ground mount cabinet, there shall be two switches on each of the four main doors. For the side-of-pole mount cabinet, there shall be two switches on each of the two main doors."

Revise this subsection by replacing the paragraph beginning with "The cabinet shall be supplied with a generator panel …" on or about page 7-68 with:

"The cabinet shall be supplied with a generator panel. The generator panel shall consist of a manual transfer switch and a twist-lock connector for generator hookup. The transfer switch knob and twist-lock connector shall be located inside a stainless steel enclosure with a separate lockable door accessed with a Corbin #2 key. The unit shall be mounted on the left, exterior of the control side wall of the ground mount cabinet a minimum of 36" above the surrounding grade and on the lower left side of the pole mounted cabinet. The generator transfer switch shall be a Reliance C30A1N Signa Series or approved equal. "

Revise this subsection by removing the following from the paragraph beginning with "The ground mounted cabinet shall be supplied and installed with an electric service meter socket trim and electrical service disconnect switch …" on or about page 7-69: **"(removed: thus preventing that space from being used either by equipment supplied as part of the project, or future equipment that would be installed in the rack system. Joe indicated that he would add this language to the detail so it is covered.)".**

Revise this subsection by replacing the following in the paragraph beginning with "The Contractor shall reconfigure the default user name…" on or around page 7-70; "MaineDOT IT" with "**MaineDOT Traffic Division**".

In the paragraph beginning with "Tests shall be conducted by the contractor…" on or around page 7-73, amend this subsection by removing **"in the state of Maine and"** after "The facility shall be".

Amend this Section by adding the following subsection:

718.13 Field Monitoring Unit (FMU) This item of work shall conform to this specification. This item shall consist of furnishing and installing a Field Monitoring Unit (FMU) and software, as well as all needed accessories required for a full and complete installation, including but not limited to power adapters, Ethernet cables, and interface cables, as described herein.

Where applicable, communications from MaineDOT's cloud-based Central Management System (CMS) to the on-street traffic signal controllers shall be made through fiber optic interconnect cable connected back to existing internet connections and/or the Field Monitoring Unit (FMU). The Contractor shall furnish and install all materials necessary for a complete and operational fiber optic interconnection to all project intersections as shown on the plans. All connections to the CMS cloud-based system shall be via a secure VPN network.

The FMU shall be the only remote connection device used by isolated intersections to connect to the cloud-based system. All connections shall be encrypted VPN tunnels. The Contractor shall coordinate all configuration settings with MaineDOT IT and the Engineer.

The FMU central web based interface shall be a separate element from the CMS.

MATERIALS: The materials for this work shall conform to the following requirements:

1. The work under this item specifies the requirements for the FMU. The FMU shall operate independent of the brand/type of intersection controller deployed in the ATC traffic cabinet.

2. The FMU shall conform to the following requirements:
   - 2.1 The FMU shall function correctly between -34 degrees C and +74 degrees C.
   - 2.2 The FMU shall be provided with appropriately rated connectors that allows the FMU to be exchanged by unplugging connectors, without tools.
   - 2.3 The FMU shall monitor and log all ATC Controller and ATC cabinet faults and or alarms.
   - 2.4 The FMU shall be wired directly to the ATC cabinet.
   - 2.5 The FMU shall have an internal cellular modem running at 4G LTE.
     - 2.5.1 The Cellular modem shall be designed to be replaced / upgraded to 5G service when available.
   - 2.6 The FMU shall incorporate an integrated GPS and cell modem.
   - 2.7 The configuration of the FMU shall be accomplished by accessing the internal web server with a browser. It shall be possible to configure the FMU without any special software.
   - 2.8 The FMU shall be powered via a standard 120V input power.

2.9 The FMU shall allow for the routing of the controller configuration packets to and from the controller (either by Ethernet or serial communications) for any type of controller utilized by the MaineDOT. In this way it shall be possible to configure the controller and utilize the controller specific software to interrogate the controller, and the FMU shall provide the communications pipe which allows this to be accomplished.

2.10 The FMU shall, within the size limitations above, include a battery and battery charging/monitoring circuit, to allow the FMU to function correctly even when all power to the intersection has failed. The battery shall continue to power the FMU for a minimum of 5 hours after all power has failed to the intersection.

2.11 The FMU shall incorporate an integrated GPS which will allow the FMU to geo-locate itself on the FMU management software map, without configuration.

2.12 The FMU shall operate without requiring a static IP address. The only configuration required at the FMU is to enter the URL of where the FMU management software is hosted.

2.13 In the event that the cell service is interrupted or is not available, the FMU shall store any events that occur in internal memory and forward these events automatically to the FMU management software when the cell service is restored. In this way, a complete record of events at the device can be maintained even if cell service is interrupted for a period. The system will store 5000 events.

2.14 The FMU shall utilize HTTP and HTTPS protocols, and XML data structures, for communication with the FMU management software. In this way the data will be open for future expansion and competition. The use of secret proprietary protocols is not permitted.

2.15 The FMU shall include Ethernet communications via an Ethernet Port with RJ45 connector.

2.16 The FMU shall include weather proof antennas.

3. **Map Display FMU Management Software**

3.1 The FMU shall include a scrollable, zoomable map display, with the intersections and other monitored devices shown as representative icons on the map. The map shall include the ability to see the intersections using Google Streetview.

3.2 The alarm status of the intersection shall be clearly indicated on the icon on the map, so that the user can see at a glance which intersections are in alarm.

3.3 The map display shall also include a list of intersections, with the number and priority of alarms indicated on the list. Intersections in high priority alarm shall be moved to the top

of the list, followed by medium priority, low priority and then finally by intersections not in alarm.

3.4 The icons shall change to be able to clearly indicate if an intersection is offline.

3.5 Clicking on the icon on the map shall expose a box with the current parameters of the intersection shown.

3.6 The default map display position and zoom shall be configurable by user, so that the user's view will default to show the intersections that the user is responsible for managing.

3.7 The map view shall have the ability to show Google traffic overlays on the map.

4. **Intersection Detail Display FMU Management Software**

4.1 It shall be possible to drill down, either from the map icon or from the list, to a device level detail for the intersection, which as a minimum shall display the following parameters:

4.1.1 The alarm status, with priority indicated, and a text description of the alarm (if an alarm is present for this device).

4.1.2 The time since the last communication with the device

4.1.3 The following parameters (real time now values, minimum for the day values, maximum for the day values, and average for the day values)

4.1.3.1 The AC mains voltage (value)

4.1.3.2 The battery back-up voltage (value)

4.1.3.3 The cabinet temperature (value)

4.1.3.4 The cabinet humidity (value)

4.1.3.5 The presence of AC power (OK or Fail)

4.1.3.6 The flashing status of the intersection (OK or Flashing)

4.1.3.7 Stop Time status (OK or Stop Time Active)

4.1.3.8 The cabinet door status (Open or Closed)

4.1.3.9 The intersection fan status (Fan On or Fan off)

4.1.4 It shall be possible to view graphs of each of the value parameters in graphical form, over the recent two-week period. This includes real time graphs of:

4.1.4.1 The AC mains voltage

4.1.4.2 The battery back-up voltage

4.1.4.3 The cabinet temperature

4.1.4.4 The cabinet humidity

5. **Diagnostics and Log Display FMU Management Software**

5.1 From the device level detail within the FMU management software, it shall be possible to drill down to get the raw data; the error logs; and the communications logs to allow a technician to fault-find problems.

5.2 It shall be possible to filter the logs by Device; by Device Type and/or by Group as well as between dates.

5.3 It shall be possible to print these selected logs to a local printer or a PDF file.

5.4 It shall be possible to export these logs to Excel on the local computer for further analysis.

6. **Alarms FMU Management Software**

6.1 The FMU management software shall have a comprehensive alarm generation capability

6.2 It shall be possible to configure alarms to be generated on any parameter becoming out of tolerance, including analog values, digital values and enumerated values.

6.3 Alarms shall be configurable to be of Low, High or Critical Priority.

6.4 The alarm priority shall be displayed throughout the FMU management software, on all displays, using color codes such as red-critical; yellow – high; and amber-low to indicate the priority of the alarm.

6.5 The current active alarms shall be accessible for view via an expandable window, to see which alarms are active and when the alarm occurred. The highest priority alarms shall rise to the top of the list.

7. **Alerts FMU Management Software**

7.1 The FMU management software shall have comprehensive alerting capability, to enable the response personnel to be notified when an abnormal situation has occurred.

7.2 It shall be possible to configure alerts to one or more personnel for each alarm. This will cause, as selected, an SMS and/or an email to be sent to the person when an alarm occurs.

7.3 The alert shall be configurable to optionally send via email and/or via SMS a message when an alarm clears.

7.4 The intention is that the FMU management software provides the alerts to the user in near real time. The SMS and email shall be issued within 30 seconds of the occurrence of event which results in an alert being issued.

8. **Hosting and Connectivity and Service FMU / FMU Management Software**

8.1 The contractor shall supply the FMU with the FMU manufacturers 10 year options for Connectivity and Service, as part of the purchase price. The Connectivity and Service agreement shall include at a minimum:

8.1.1 Cellular Connectivity

8.1.2 No cellular overage charges

8.1.3 Extended warranty on the hardware for the period of the Connectivity and Service Agreement

8.1.4 Over-the-air software updates

8.1.5 Over-the-air security updates

8.1.6 Future Connected Vehicles Service

Section 719
SIGNING MATERIAL

719.072 Overhead Signing: Revise this subsection by replacing it in entirety with:

"**Sign panels mounted to independent sign support structures and support structure components mounted to bridges passing over the highway are considered to be overhead signing. Overhead signing shall be mounted on W6 by 9 steel beams conforming to the requirements of ASTM A992/A992M, galvanized in accordance with AASHTO M 111 (ASTM A123), or the same size aluminum beams conforming to ASTM B221M, alloys and tempers of 6061-T6, 6063-T6 or 6005-T5. These components shall be horizontally spaced a maximum of 5¼ feet on center, extending from the bottom of sign panel to the top. If supplemental signs are included in the contract, these beams will extend from the bottom of the main sign panel to the top of the supplemental sign panel. The maximum distance from the edge of the sign to the center of the W6 by 9 shall not exceed approximately 3¼ feet.**

On independent sign support structures, these W6 by 9 beam components shall be fastened to chords with a pair of appropriately sized U-bolts on each side of the web at each fastening

location. A similar pair of U-bolt assemblies shall be used in attaching each chord of an overhead component to upright supports. U-bolts for steel support structures shall conform to ASTM A449, Type 1. U-bolt hardware, which includes nuts, flat washers, and helical lock washers, shall be galvanized in accordance with AASHTO M 232 (ASTM A153), ASTM F2329, or ASTM B695, Class 50, Type I. Washers shall conform to the requirements of ASTM F436. The U-bolt material for aluminum support structures, or a combination of steel and aluminum structural components, shall be stainless steel conforming to the requirements of ASTM F593, alloy group 1, with a minimum yield strength of 45 ksi. Steel support structures may also utilize stainless steel hardware assemblies as an alternative to galvanized steel. Nuts shall be of the locking type with nylon inserts. Washers shall conform to the requirements of ASTM A276, Type 302. Flat washers, without helical lock washers, will be acceptable in this stainless steel assembly.

On bridge mounted structures, the fastener configurations shall be depicted in the contract documents. "

SECTION 720
STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS

720.03 Steel Supports: Revise this subsection by removing the paragraph beginning with "Chord flange splice fastener" and replacing with:

"**Chord flange splice fastener assemblies shall conform to ASTM A325, Type 1, and galvanized in accordance with AASHTO M 232 (ASTM A153), ASTM F2329, or ASTM B695, Class 50, Type I. Other fastener assemblies shall be as specified in Section 719.07, or as approved by the Fabrication Engineer."**

720.06 Steel H-beam: Revise this subsection by replacing it in its entirety with:

"**Steel H-beam Post shall conform to the requirements of ASTM A992. All work shall conform to the applicable provisions of Section 504 – Structural Steel. Steel shall be hot-dip galvanized in accordance with AASHTO M 111 (ASTM A123). All steel hardware for use with H-beam poles shall be galvanized in accordance with AASHTO M 232 (ASTM A153), ASTM F2329, or ASTM B695, Class 50, Type I."**

720.07 Anchor Bolts: Revise this subsection by replacing it in its entirety with:

"**Anchor bolts and nuts supplied for aluminum and/or steel supports shall conform to ASTM A449, Type 1, or ASTM F1554, Grade 55, both with a minimum yield strength of 55 ksi. Anchor bolts shall be supplied with 2 heavy hex nuts and 2 hardened washers and unless otherwise specified the anchor bolts shall have a 90° bend with a 6 inch minimum leg length at the lower end. The anchor bolts, nuts and hardened washers shall be galvanized in accordance with AASHTO M 232 (ASTM A153), ASTM F2329, or ASTM B695, Class 50, Type I. The bolt**

shall be zinc-coated 12 inches from the exposed end, unless otherwise specified. If the anchor bolts are to be used with breakaway devices incorporating the function of a nut, for example, longitudinally grooved breakaway couplings, nuts or washers will not be required.

Alternate materials, grades, and designs may be used for anchor bolts subject to approval of the Fabrication Engineer."

720.09 Wood Ornamental Light Standard: Revise this subsection by removing the paragraph beginning with "All bolts shall be" and replacing it with:

"**All bolts shall be galvanized in accordance with AASHTO M 232 (ASTM A153), ASTM F2329, or ASTM B695, Class 50, Type I."**

720.12 Wood Sign Posts Revise the first sentence so that it reads:

"Wood sign posts shall be rectangular, straight and sound timber, cut from live growing native spruce, red pine, hemlock, cedar trees or other AWPA approved species, free from loose knots or other structurally weakening defects of importance, such as shake or holes or heart rot."

Revise the third paragraph that starts with "When pressure treated…" so that it reads:

"All sign posts shall be pressure-treated in accordance with AASHTO M 133 and AWPA Standard U1, UC4A, Commodity Specification A: Sawn Products."

REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS

I. General
II. Nondiscrimination
III. Non-segregated Facilities
IV. Davis-Bacon and Related Act Provisions
V. Contract Work Hours and Safety Standards Act Provisions
VI. Subletting or Assigning the Contract
VII. Safety: Accident Prevention
VIII. False Statements Concerning Highway Projects
IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
X. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion
XI. Certification Regarding Use of Contract Funds for Lobbying
XII. Use of United States-Flag Vessels:

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under title 23, United States Code, as required in 23 CFR 633.102(b) (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services). 23 CFR 633.102(e).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider. 23 CFR 633.102(e).

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services) in accordance with 23 CFR 633.102. The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in solicitation-for-bids or request-for-proposals documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract). 23 CFR 633.102(b).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract. 23 CFR 633.102(d).

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. 23 U.S.C. 114(b). The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors. 23 U.S.C. 101(a).

II. NONDISCRIMINATION (23 CFR 230.107(a); 23 CFR Part 230, Subpart A, Appendix A; EO 11246)

The provisions of this section related to 23 CFR Part 230, Subpart A, Appendix A are applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR Part 60, 29 CFR Parts 1625-1627, 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding $10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR Part 60, and 29 CFR Parts 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), and Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR Part 230, Subpart A, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal Employment Opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (*see* 28 CFR Part 35, 29 CFR Part 1630, 29 CFR Parts 1625-1627, 41 CFR Part 60 and 49 CFR Part 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140, shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR Part 35 and 29 CFR Part 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract. 23 CFR 230.409 (g)(4) & (5).

b. The contractor will accept as its operating policy the following statement:

> "It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, sexual orientation, gender identity, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action or are substantially involved in such action, will be made fully cognizant of and will implement the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer or other knowledgeable company official.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to ensure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action

within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs (i.e., apprenticeship and on-the-job training programs for the geographical area of contract performance). In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. 23 CFR 230.409. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established thereunder. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors, suppliers, and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurances Required:

a. The requirements of 49 CFR Part 26 and the State DOT's FHWA-approved Disadvantaged Business Enterprise (DBE) program are incorporated by reference.

b. The contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:
(1) Withholding monthly progress payments;
(2) Assessing sanctions;
(3) Liquidated damages; and/or
(4) Disqualifying the contractor from future bidding as non-responsible.

c. The Title VI and nondiscrimination provisions of U.S. DOT Order 1050.2A at Appendixes A and E are incorporated by reference. 49 CFR Part 21.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women.

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of more than $10,000. 41 CFR 60-1.5.

As prescribed by 41 CFR 60-1.8, the contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location under the contractor's control where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding $2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size), in accordance with 29 CFR 5.5. The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. 23 U.S.C. 113. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. 23 U.S.C. 101. Where applicable law requires that projects be treated as a project on a Federal-aid highway, the provisions of this subpart will apply regardless of the location of the project. Examples include: Surface Transportation Block Grant Program projects funded under 23 U.S.C. 133 [excluding recreational trails projects], the Nationally Significant Freight and Highway Projects funded under 23 U.S.C. 117, and National Highway Freight Program projects funded under 23 U.S.C. 167.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 “Contract provisions and related matters” with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages (29 CFR 5.5)

a. *Wage rates and fringe benefits.* All laborers and mechanics employed or working upon the site of the work (or otherwise working in construction or development of the project under a development statute), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of basic hourly wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. As provided in paragraphs (d) and (e) of 29 CFR 5.5, the appropriate wage determinations are effective by operation of law even if they have not been attached to the contract. Contributions made or costs reasonably anticipated for bona fide fringe benefits under the Davis-Bacon Act (40 U.S.C. 3141(2)(B)) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.e. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics must be paid the appropriate wage rate and fringe benefits on the wage determination for the classification(s) of work actually performed, without regard to skill, except as provided in paragraph 4. of this section. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided,* That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under paragraph 1.c. of this section) and the Davis-Bacon poster (WH–1321) must be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. *Frequently recurring classifications.* (1) In addition to wage and fringe benefit rates that have been determined to be prevailing under the procedures set forth in 29 CFR part 1, a wage determination may contain, pursuant to § 1.3(f), wage and fringe benefit rates for classifications of laborers and mechanics for which conformance requests are regularly submitted pursuant to paragraph 1.c. of this section, provided that:

(i) The work performed by the classification is not performed by a classification in the wage determination for which a prevailing wage rate has been determined;

(ii) The classification is used in the area by the construction industry; and

(iii) The wage rate for the classification bears a reasonable relationship to the prevailing wage rates contained in the wage determination.

(2) The Administrator will establish wage rates for such classifications in accordance with paragraph 1.c.(1)(iii) of this section. Work performed in such a classification must be paid at no less than the wage and fringe benefit rate listed on the wage determination for such classification.

c. *Conformance.* (1) The contracting officer must require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract be classified in conformance with the wage determination. Conformance of an additional classification and wage rate and fringe benefits is appropriate only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is used in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) The conformance process may not be used to split, subdivide, or otherwise avoid application of classifications listed in the wage determination.

(3) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken will be sent by the contracting officer by email to *DBAconformance@dol.gov*. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30–day period that additional time is necessary.

(4) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer will, by email to *DBAconformance@dol.gov*, refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30–day period that additional time is necessary.

(5) The contracting officer must promptly notify the contractor of the action taken by the Wage and Hour Division under paragraphs 1.c.(3) and (4) of this section. The contractor must furnish a written copy of such determination to each affected worker or it must be posted as a part of the wage determination. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 1.c.(3) or (4) of this section must be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

d. *Fringe benefits not expressed as an hourly rate.* Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor may either pay the benefit as stated in the wage determination or may pay another bona fide fringe benefit or an hourly cash equivalent thereof.

e. *Unfunded plans.* If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, *Provided,* That the Secretary of Labor has found, upon the written request of the contractor, in accordance with the criteria set forth in § 5.28, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

f. *Interest.* In the event of a failure to pay all or part of the wages required by the contract, the contractor will be required to pay interest on any underpayment of wages.

2. Withholding (29 CFR 5.5)

a. *Withholding requirements.* The contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for the full amount of wages and monetary relief, including interest, required by the clauses set forth in this section for violations of this contract, or to satisfy any such liabilities required by any other Federal contract, or federally assisted contract subject to Davis-Bacon labor standards, that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to Davis-Bacon labor standards requirements and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld. In the event of a contractor's failure to pay any laborer or mechanic, including any apprentice or helper working on the site of the work all or part of the wages required by the contract, or upon the contractor's failure to submit the required records as discussed in paragraph 3.d. of this section, the contracting agency may on its own initiative and after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with paragraph

2.a. of this section or Section V, paragraph 3.a., or both, over claims to those funds by:

(1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;

(2) A contracting agency for its reprocurement costs;

(3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;

(4) A contractor's assignee(s);

(5) A contractor's successor(s); or

(6) A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901–3907.

3. Records and certified payrolls (29 CFR 5.5)

a. *Basic record requirements* (1) *Length of record retention.* All regular payrolls and other basic records must be maintained by the contractor and any subcontractor during the course of the work and preserved for all laborers and mechanics working at the site of the work (or otherwise working in construction or development of the project under a development statute) for a period of at least 3 years after all the work on the prime contract is completed.

(2) *Information required.* Such records must contain the name; Social Security number; last known address, telephone number, and email address of each such worker; each worker's correct classification(s) of work actually performed; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act); daily and weekly number of hours actually worked in total and on each covered contract; deductions made; and actual wages paid.

(3) *Additional records relating to fringe benefits.* Whenever the Secretary of Labor has found under paragraph 1.e. of this section that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act, the contractor must maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits.

(4) *Additional records relating to apprenticeship.* Contractors with apprentices working under approved programs must maintain written evidence of the registration of apprenticeship programs, the registration of the apprentices, and the ratios and wage rates prescribed in the applicable programs.

b. *Certified payroll requirements* (1) *Frequency and method of submission.* The contractor or subcontractor must submit weekly, for each week in which any DBA- or Related Acts-covered work is performed, certified payrolls to the contracting agency. The prime contractor is responsible for the submission of all certified payrolls by all subcontractors. A contracting agency or prime contractor may permit or require contractors to submit certified payrolls through an electronic system, as long as the electronic system requires a legally valid electronic signature; the system allows the contractor, the contracting agency, and the Department of Labor to access the certified payrolls upon request for at least 3 years after the work on the prime contract has been completed; and the contracting agency or prime contractor permits other methods of submission in situations where the contractor is unable or limited in its ability to use or access the electronic system.

(2) *Information required.* The certified payrolls submitted must set out accurately and completely all of the information required to be maintained under paragraph 3.a.(2) of this section, except that full Social Security numbers and last known addresses, telephone numbers, and email addresses must not be included on weekly transmittals. Instead, the certified payrolls need only include an individually identifying number for each worker (*e.g.,* the last four digits of the worker's Social Security number). The required weekly certified payroll information may be submitted using Optional Form WH–347 or in any other format desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division website at *https://www.dol.gov/sites/dolgov/files/WHD/legacy/files/wh347/.pdf* or its successor website. It is not a violation of this section for a prime contractor to require a subcontractor to provide full Social Security numbers and last known addresses, telephone numbers, and email addresses to the prime contractor for its own records, without weekly submission by the subcontractor to the contracting agency.

(3) *Statement of Compliance.* Each certified payroll submitted must be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor, or the contractor's or subcontractor's agent who pays or supervises the payment of the persons working on the contract, and must certify the following:

(i) That the certified payroll for the payroll period contains the information required to be provided under paragraph 3.b. of this section, the appropriate information and basic records are being maintained under paragraph 3.a. of this section, and such information and records are correct and complete;

(ii) That each laborer or mechanic (including each helper and apprentice) working on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR part 3; and

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification(s) of work actually performed, as specified in the applicable wage determination incorporated into the contract.

(4) *Use of Optional Form WH–347.* The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH–347 will satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(3) of this section.

(5) *Signature.* The signature by the contractor, subcontractor, or the contractor's or subcontractor's agent must be an original handwritten signature or a legally valid electronic signature.

(6) *Falsification.* The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 3729.

(7) *Length of certified payroll retention.* The contractor or subcontractor must preserve all certified payrolls during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

c. *Contracts, subcontracts, and related documents.* The contractor or subcontractor must maintain this contract or subcontract and related documents including, without limitation, bids, proposals, amendments, modifications, and extensions. The contractor or subcontractor must preserve these contracts, subcontracts, and related documents during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

d. *Required disclosures and access* (1) *Required record disclosures and access to workers.* The contractor or subcontractor must make the records required under paragraphs 3.a. through 3.c. of this section, and any other documents that the contracting agency, the State DOT, the FHWA, or the Department of Labor deems necessary to determine compliance with the labor standards provisions of any of the applicable statutes referenced by § 5.1, available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and must permit such representatives to interview workers during working hours on the job.

(2) *Sanctions for non-compliance with records and worker access requirements.* If the contractor or subcontractor fails to submit the required records or to make them available, or refuses to permit worker interviews during working hours on the job, the Federal agency may, after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, that maintains such records or that employs such workers, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available, or to permit worker interviews during working hours on the job, may be grounds for debarment action pursuant to § 5.12. In addition, any contractor or other person that fails to submit the required records or make those records available to WHD within the time WHD requests that the records be produced will be precluded from introducing as evidence in an administrative proceeding under 29 CFR part 6 any of the required records that were not provided or made available to WHD. WHD will take into consideration a reasonable request from the contractor or person for an extension of the time for submission of records. WHD will determine the reasonableness of the request and may consider, among other things, the location of the records and the volume of production.

(3) *Required information disclosures.* Contractors and subcontractors must maintain the full Social Security number and last known address, telephone number, and email address of each covered worker, and must provide them upon request to the contracting agency, the State DOT, the FHWA, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or other compliance action.

4. Apprentices and equal employment opportunity (29 CFR 5.5)

a. *Apprentices* (1) *Rate of pay.* Apprentices will be permitted to work at less than the predetermined rate for the work they perform when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship (OA), or with a State Apprenticeship Agency recognized by the OA. A person who is not individually registered in the program, but who has been certified by the OA or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice, will be permitted to work at less than the predetermined rate for the work they perform in the first 90 days of probationary employment as an apprentice in such a program. In the event the OA or a State Apprenticeship Agency recognized by the OA withdraws approval of an apprenticeship program, the contractor will no longer be permitted to use apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(2) *Fringe benefits.* Apprentices must be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringe benefits must be paid in accordance with that determination.

(3) *Apprenticeship ratio.* The allowable ratio of apprentices to journeyworkers on the job site in any craft classification must not be greater than the ratio permitted to the contractor as to the entire work force under the registered program or the ratio applicable to the locality of the project pursuant to paragraph 4.a.(4) of this section. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in paragraph 4.a.(1) of this section, must be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under this section must be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(4) *Reciprocity of ratios and wage rates.* Where a contractor is performing construction on a project in a locality other than the locality in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyworker's hourly rate) applicable within the locality in which the construction is being performed must be observed. If there is no applicable ratio or wage rate for the locality of the project, the ratio and wage rate specified in the contractor's registered program must be observed.

b. *Equal employment opportunity.* The use of apprentices and journeyworkers under this part must be in conformity with

the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

c. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. 23 CFR 230.111(e)(2). The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeyworkers shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract as provided in 29 CFR 5.5.

6. Subcontracts. The contractor or subcontractor must insert FHWA-1273 in any subcontracts, along with the applicable wage determination(s) and such other clauses or contract modifications as the contracting agency may by appropriate instructions require, and a clause requiring the subcontractors to include these clauses and wage determination(s) in any lower tier subcontracts. The prime contractor is responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this section. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and may be subject to debarment, as appropriate. 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract as provided in 29 CFR 5.5.

9. Disputes concerning labor standards. As provided in 29 CFR 5.5, disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility. a. By entering into this contract, the contractor certifies that neither it nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of 40 U.S.C. 3144(b) or § 5.12(a).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of 40 U.S.C. 3144(b) or § 5.12(a).

c. The penalty for making false statements is prescribed in the U.S. Code, Title 18 Crimes and Criminal Procedure, 18 U.S.C. 1001.

11. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the DBA, Related Acts, this part, or 29 CFR part 1 or 3;

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under the DBA, Related Acts, this part, or 29 CFR part 1 or 3;

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under the DBA, Related Acts, this part, or 29 CFR part 1 or 3; or

d. Informing any other person about their rights under the DBA, Related Acts, this part, or 29 CFR part 1 or 3.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

Pursuant to 29 CFR 5.5(b), the following clauses apply to any Federal-aid construction contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchpersons and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek. 29 CFR 5.5.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph 1. of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages and interest from the date of the underpayment. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or

mechanic, including watchpersons and guards, employed in violation of the clause set forth in paragraph 1. of this section, in the sum currently provided in 29 CFR 5.5(b)(2)* for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph 1. of this section.

* $31 as of January 15, 2023 (See 88 FR 88 FR 2210) as may be adjusted annually by the Department of Labor, pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990.

3. Withholding for unpaid wages and liquidated damages

a. *Withholding process.* The FHWA or the contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in this section on this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract subject to the Contract Work Hours and Safety Standards Act that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards Act and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with Section IV paragraph 2.a. or paragraph 3.a. of this section, or both, over claims to those funds by:

(1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;

(2) A contracting agency for its reprocurement costs;

(3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;

(4) A contractor's assignee(s);

(5) A contractor's successor(s); or

(6) A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901–3907.

4. Subcontracts. The contractor or subcontractor must insert in any subcontracts the clauses set forth in paragraphs 1. through 5. of this section and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor is responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 1. through 5. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

5. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in this part;

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or this part;

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or this part; or

d. Informing any other person about their rights under CWHSSA or this part.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System pursuant to 23 CFR 635.116.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term “perform work with its own organization” in paragraph 1 of Section VI refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions: (based on longstanding interpretation)

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
(2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract. 23 CFR 635.102.

2. Pursuant to 23 CFR 635.116(a), the contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. Pursuant to 23 CFR 635.116(c), the contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract. (based on long-standing interpretation of 23 CFR 635.116).

5. The 30-percent self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements. 23 CFR 635.116(d).

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR Part 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract. 23 CFR 635.108.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR Part 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704). 29 CFR 1926.10.

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR Part 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 11, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT (42 U.S.C. 7606; 2 CFR 200.88; EO 11738)

This provision is applicable to all Federal-aid construction contracts in excess of $150,000 and to all related subcontracts. 48 CFR 2.101; 2 CFR 200.327.

By submission of this bid/proposal or the execution of this contract or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, subcontractor, supplier, or vendor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal Highway Administration and the Regional Office of the Environmental Protection Agency. 2 CFR Part 200, Appendix II.

The contractor agrees to include or cause to be included the requirements of this Section in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements. 2 CFR 200.327.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost $25,000 or more – as defined in 2 CFR Parts 180 and 1200. 2 CFR 180.220 and 1200.220.

1**. Instructions for Certification – First Tier Participants:**

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction. 2 CFR 180.320.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default. 2 CFR 180.325.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances. 2 CFR 180.345 and 180.350.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900-180.1020, and 1200. “First Tier Covered Transactions” refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction. 2 CFR 180.330.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold. 2 CFR 180.220 and 180.300.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. 2 CFR 180.300; 180.320, and 180.325. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. 2 CFR 180.335. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (https://www.sam.gov/). 2 CFR 180.300, 180.320, and 180.325.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default. 2 CFR 180.325.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.335;.

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property, 2 CFR 180.800;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification, 2 CFR 180.700 and 180.800; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default. 2 CFR 180.335(d).

(5) Are not a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(6) Are not a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability (USDOT Order 4200.6 implementing appropriations act requirements).

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal. 2 CFR 180.335 and 180.340.

* * * * *

3. **Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders, and other lower tier transactions requiring prior FHWA approval or estimated to cost $25,000 or more - 2 CFR Parts 180 and 1200). 2 CFR 180.220 and 1200.220.

a. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances. 2 CFR 180.365.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900 – 180.1020, and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. “First Tier Covered Transactions” refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated. 2 CFR 1200.220 and 1200.332.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold. 2 CFR 180.220 and 1200.220.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (https://www.sam.gov/), which is compiled by the General Services Administration. 2 CFR 180.300, 180.320, 180.330, and 180.335.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily

excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment. 2 CFR 180.325.

* * * * *

4. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

a. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals:

(1) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.355;

(2) is a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(3) is a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability. (USDOT Order 4200.6 implementing appropriations act requirements)

b. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed $100,000. 49 CFR Part 20, App. A.

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such recipients shall certify and disclose accordingly.

XII. USE OF UNITED STATES-FLAG VESSELS:

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, or any other covered transaction. 46 CFR Part 381.

This requirement applies to material or equipment that is acquired for a specific Federal-aid highway project. 46 CFR 381.7. It is not applicable to goods or materials that come into inventories independent of an FHWA funded-contract.

When oceanic shipments (or shipments across the Great Lakes) are necessary for materials or equipment acquired for a specific Federal-aid construction project, the bidder, proposer, contractor, subcontractor, or vendor agrees:

1. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels. 46 CFR 381.7.

2. To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, ‘on-board’ commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b)(1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Office of Cargo and Commercial Sealift (MAR-620), Maritime Administration, Washington, DC 20590. (MARAD requires copies of the ocean carrier's (master) bills of lading, certified onboard, dated, with rates and charges. These bills of lading may contain business sensitive information and therefore may be submitted directly to MARAD by the Ocean Transportation Intermediary on behalf of the contractor). 46 CFR 381.7.

ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS (23 CFR 633, Subpart B, Appendix B)
This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

The United States Department of Transportation (USDOT)

Standard Title VI/Non-Discrimination Assurances

DOT Order No. 1050.2A

The **Maine Department of Transportation** (herein referred to as the "Recipient"), **HEREBY AGREES THAT,** as a condition to receiving any Federal financial assistance from the U.S. Department of Transportation (DOT), through Federal Highway Administration (herein referred to as "FHWA" is subject to and will comply with the following:

Statutory/Regulatory Authorities

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq.,* 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin);
- 49 C.F.R. Part 21 (entitled *Non-discrimination In Federally-Assisted Programs Of The Department Of Transportation-Effectuation Of Title VI Of The Civil Rights Act Of 1964);*
- 28 C.F.R. section 50.3 (U.S. Department of Justice Guidelines for Enforcement of Title VI of the Civil Rights Act of 1964);

The preceding statutory and regulatory cites hereinafter are referred to as the "Acts" and "Regulations," respectively.

General Assurances

In accordance with the Acts, the Regulations, and other pertinent directives, circulars, policy, memoranda, and/or guidance, the Recipient hereby gives assurance that it will promptly take any measures necessary to ensure that:

> *"No person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity, "for which the Recipient receives Federal financial assistance from DOT, including the* **FHWA.**

The Civil Rights Restoration Act of 1987 clarified the original intent of Congress, with respect to Title VI and other Non-discrimination requirements (The Age Discrimination Act of 1975, and Section 504 of the Rehabilitation Act of 1973), by restoring the broad, institutional-wide scope and coverage of these non- discrimination statutes and requirements to include all programs and activities of the Recipient, so long as any portion of the program is Federally assisted.

Specific Assurances

More specifically, and without limiting the above general Assurance, the Recipient agrees with and gives the following Assurances with respect to its Federally assisted **FHWA Program.**

1. The Recipient agrees that each "activity," "facility," or "program," as defined in§§ 21.23(b) and 21.2(e) of 49 C.F.R. § 21 will be (with regard to an "activity") facilitated, or will be (with regard to a "facility") operated, or will be (with regard to a "program") conducted in compliance with all requirements imposed by, or pursuant to the Acts and the Regulations.

2. The Recipient will insert the following notification in all solicitations for bids, Requests For Proposals for work, or material subject to the Acts and the Regulations made in connection with all **FHWA Programs** and, in adapted form, in all proposals for negotiated agreements regardless of funding source:

   *"The **Maine Department of Transportation,** in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 US.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award."*

3. The Recipient will insert the clauses of Appendix A and E of this Assurance in every contract or agreement subject to the Acts and the Regulations.

4. The Recipient will insert the clauses of Appendix B of this Assurance, as a covenant running with the land, in any deed from the United States affecting or recording a transfer of real property, structures, use, or improvements thereon or interest therein to a Recipient.

5. That where the Recipient receives Federal financial assistance to construct a facility, or part of a facility, the Assurance will extend to the entire facility and facilities operated in connection therewith.

6. That where the Recipient receives Federal financial assistance in the form, or for the acquisition of real property or an interest in real property, the Assurance will extend to rights to space on, over, or under such property.

7. That the Recipient will include the clauses set forth in Appendix C and Appendix D of this Assurance, as a covenant running with the land, in any future deeds,

leases, licenses, permits, or similar instruments entered into by the Recipient with other parties:

a. for the subsequent transfer of real property acquired or improved under the applicable activity, project, or program; and
b. for the construction or use of, or access to, space on, over, or under real property acquired or improved under the applicable activity, project, or program.

8. That this Assurance obligates the Recipient for the period during which Federal financial assistance is extended to the program, except where the Federal financial assistance is to provide, or is in the form of, personal property, or real property, or interest therein, or structures or improvements thereon, in which case the Assurance obligates the Recipient, or any transferee for the longer of the following periods:

    A. the period during which the property is used for a purpose for which the Federal financial assistance is extended, or for another purpose involving the provision of similar services or benefits; or
    b. the period during which the Recipient retains ownership or possession of the property.

9. The Recipient will provide for such methods of administration for the program as are found by the Secretary of Transportation or the official to whom he/she delegates specific authority to give reasonable guarantee that it, other recipients, sub-recipients, sub-grantees, contractors, subcontractors, consultants, transferees, successors in interest, and other participants of Federal financial assistance under such program will comply with all requirements imposed or pursuant to the Acts, the Regulations, and this Assurance.

10. The Recipient agrees that the United States has a right to seek judicial enforcement with regard to any matter arising under the Acts, the Regulations, and this Assurance.

By signing this ASSURANCE, **Maine Department of Transportation** also agrees to comply (and require any sub-recipients, sub-grantees, contractors, successors, transferees, and/or assignees to comply) with all applicable provisions governing the **FHWA's** access to records, accounts, documents, information, facilities, and staff. You also recognize that you must comply with any program or compliance reviews, and/or complaint investigations conducted by the **FHWA.** You must keep records, reports, and submit the material for review upon request to **FHWA** or its designee in a timely, complete, and accurate way. Additionally, you must comply with all other reporting, data collection, and evaluation requirements, as prescribed by law or detailed in program guidance.

Maine Department of Transportation gives this ASSURANCE in consideration of and for obtaining any Federal grants, loans, contracts, agreements, property, and/or discounts, or other Federal-aid and Federal financial assistance extended after the date hereof to the recipients by the U.S. Department of Transportation under the **FHWA Programs**. This ASSURANCE is binding on the State of Maine, other recipients, sub-recipients, sub-grantees, contractors, subcontractors and their subcontractors, transferees, successors in interest, and any other participants in the **FHWA Programs**. The person(s) signing below is authorized to sign this ASSURANCE on behalf of the Recipient.

Maine Department of Transportation
Dale F. Doughty, Acting Commissioner
(Name of Recipient)

By:
(Signature of Authorized Official)

Dated: 3-27-25

APPENDIX A

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

1. **Compliance with Regulations:** The contractor (hereinafter includes consultants) will comply with the Acts and the Regulations relative to Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, **Federal Highway Administration (FHWA)**, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.

2. **Non-discrimination:** The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.

3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor's obligations under this contract and the Acts and the Regulations relative to Non-discrimination on the grounds of race, color, or national origin.

4. **Information and Reports:** The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the **FHWA** to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the Recipient or the **FHWA** as appropriate, and will set forth what efforts it has made to obtain the information.

5. **Sanctions for Noncompliance:** In the event of a contractor's noncompliance with the Non- discrimination provisions of this contract, the Recipient will impose such contract sanctions as it or the **FHWA** may determine to be appropriate, including, but not limited to:

a. withholding payments to the contractor under the contract until the contractor complies; and/or
b. cancelling, terminating, or suspending a contract, in whole or in part.

6. **Incorporation of Provisions:** The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as the Recipient or the FHWA may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

APPENDIX B

CLAUSES FOR DEEDS TRANSFERRING UNITED STATES PROPERTY

The following clauses will be included in deeds effecting or recording the transfer of real property, structures, or improvements thereon, or granting interest therein from the United States pursuant to the provisions of Assurance 4:

NOW, THEREFORE, the U.S. Department of Transportation as authorized by law and upon the condition that the **Maine Department of Transportation** will accept title to the lands and maintain the project constructed thereon in accordance with all requirements imposed by Title 49, Code of Federal Regulations, Department of Transportation, subtitle A, Office of the Secretary, part 21, Non-discrimination in Federally-assisted Programs of the Department of Transportation pertaining to and effectuating the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252; 42 U.S.C. § 2000d to 2000d-4), the Regulations for the Administration of **Federal Highway Administration (FHWA) Program,** and the policies and procedures prescribed by the **FHWA** of the U.S. Department of Transportation in accordance and in compliance with all requirements imposed by Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Non-discrimination in Federally-assisted programs of the U.S Department of Transportation pertaining to and effectuating the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252; 42 U.S.C. § 2000d to 2000d-4), does hereby remise, release, quitclaim and convey unto the **Maine Department of Transportation** all the right, title and interest of the U.S. Department of Transportation in and to said lands described in Exhibit A attached hereto and made a part hereof.

(HABENDUM CLAUSE)

TO HAVE AND TO HOLD said lands and interests therein unto **Maine Department of Transportation** and its successors forever, subject, however, to the covenants, conditions, restrictions and reservations herein contained as follows, which will remain in effect for the period during which the real property or structures are used for a purpose for which Federal financial assistance is extended or for another purpose involving the provision of similar services or benefits and will be binding on the **Maine Department of Transportation**, its successors and assigns.

The **Maine Department of Transportation**, in consideration of the conveyance of said lands and interests in lands, does hereby covenant and agree as a covenant running with the land for itself, its successors and assigns, that (1) no person will on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination with regard to any facility located wholly or in part on, over, or under such lands hereby conveyed [,] [and]* (2) that the **Maine Department of Transportation** will use the lands and interests in lands and interests in lands so conveyed, in compliance with all requirements imposed by or pursuant to Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Non- discrimination in Federally-assisted programs of the U.S. Department of Transportation, Effectuation of Title VI of the Civil Rights Act of 1964, and as said Regulations and Acts may be amended[, and (3) that in the event of breach of any of the above-mentioned non-discrimination conditions, the Department will have a right to enter or re-enter said lands and facilities on said land, and that above described land and facilities will thereon revert to and vest in and become the absolute property of the U.S. Department of Transportation

and its assigns as such interest existed prior to this instruction].*

(*Reverter clause and related language to be used only when it is determined that such a clause is necessary in order to make clear the purpose of Title VI.)

APPENDIX C

CLAUSES FOR TRANSFER OF REAL PROPERTY ACQUIRED OR IMPROVED UNDER THE ACTIVITY, FACILITY, OR PROGRAM

The following clauses will be included in deeds, licenses, leases, permits, or similar instruments entered into by the **Maine Department of Transportation** pursuant to the provisions of Assurance 7(a):

A. The (grantee, lessee, permittee, etc. as appropriate) for himself/herself, his/her heirs, personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree [in the case of deeds and leases add "as a covenant running with the land"] that:

   1. In the event facilities are constructed, maintained, or otherwise operated on the property described in this (deed, license, lease, permit, etc.) for a purpose for which a U.S. Department of Transportation activity, facility, or program is extended or for another purpose involving the provision of similar services or benefits, the (grantee, licensee, lessee, permittee, etc.) will maintain and operate such facilities and services in compliance with all requirements imposed by the Acts and Regulations (as may be amended) such that no person on the grounds of race, color, or national origin, will be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities.

B. With respect to licenses, leases, permits, etc., in the event of breach of any of the above Non-discrimination covenants, **Maine Department of Transportation** will have the right to terminate the (lease, license, permit, etc.) and to enter, re-enter, and repossess said lands and facilities thereon, and hold the same as if the (lease, license, permit, etc.) had never been made or issued.*

C. With respect to a deed, in the event of breach of any of the above Non-discrimination covenants, the **Maine Department of Transportation** will have the right to enter or re-enter the lands and facilities thereon, and the above described lands and facilities will there upon revert to and vest in and become the absolute property of the **Maine Department of Transportation** and its assigns.*

(*Reverter clause and related language to be used only when it is determined that such a clause is necessary to make clear the purpose of Title VI.)

APPENDIX D

CLAUSES FOR CONSTRUCTION/USE/ACCESS TO REAL PROPERTY ACQUIRED UNDER THE ACTIVITY, FACILITY OR PROGRAM

The following clauses will be included in deeds, licenses, permits, or similar instruments/agreements entered into by **Maine Department of Transportation** pursuant to the provisions of Assurance 7(b):

A. The (grantee, licensee, permittee, etc., as appropriate) for himself/herself, his/her heirs, personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree (in the case of deeds and leases add, "as a covenant running with the land") that (1) no person on the ground of race, color, or national origin, will be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities, (2) that in the construction of any improvements on, over, or under such land, and the furnishing of services thereon, no person on the ground of race, color, or national origin, will be excluded from participation in, denied the benefits of, or otherwise be subjected to discrimination, (3) that the (grantee, licensee, lessee, permittee, etc.) will use the premises in compliance with all other requirements imposed by or pursuant to the Acts and Regulations, as amended, set forth in this Assurance.

B. With respect to (licenses, leases, permits, etc.), in the event of breach of any of the above Non- discrimination covenants, **Maine Department of Transportation** will have the right to terminate the (license, permit, etc., as appropriate) and to enter or re-enter and repossess said land and the facilities thereon, and hold the same as if said (license, permit, etc., as appropriate) had never been made or issued.*

C. With respect to deeds, in the event of breach of any of the above Non-discrimination covenants, **Maine Department of Transportation** will there upon revert to and vest in and become the absolute property of **Maine Department of Transportation** and its assigns.*

(*Reverter clause and related language to be used only when it is determined that such a clause is necessary to make clear the purpose of Title VI.)

APPENDIX E

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

Pertinent Non-Discrimination Authorities:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq.*, 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21.
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 *et seq.),* (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 *et seq.),* as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 *et seq.),* (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131-12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;
- The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure

compliance with Title VI, you must take reasonable steps to
-ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);

- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq).

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION AUGUSTA, MAINE 04333-0017

DEPARTMENT ORDER

IN THE MATTER OF

MAINE DEPARTMENT OF TRANSPORTATION	) NATURAL RESOURCES PROTECTION ACT
	) FRESHWATER WETLAND ALTERATION
Presque Isle, Aroostook County	) SIGNIFICANT WILDLIFE HABITAT
HIGHWAY CONSTRUCTION	) WATER QUALITY CERTIFICATION
L-26876-TH-B-N (approval)	) FINDINGS OF FACT AND ORDER

Pursuant to the provisions of 38 M.R.S. §§ 480-A–480-JJ, Section 401 of the Clean Water Act (33 U.S.C. § 1341), and Chapters 310, 315, and 335 of Department rules, the Department of Environmental Protection (Department) has considered the application of the MAINE DEPARTMENT OF TRANSPORTATION (applicant) with the supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

1. PROJECT DESCRIPTION:

A. History of Project: In Department Order #L-26876-TB-A-N, dated August 24, 2016, the Department approved the construction of Phase 1 of the Presque Isle Bypass, a three-phase project consisting of a two-lane controlled-access highway that is intended to bypass the City of Presque Isle. As a result of construction, the project impacted approximately 5,446 square feet of freshwater wetlands. The project is located off the Conant Road and extends 1.7 miles north to Route 163 in the City of Presque Isle.

B. Summary: The applicant now proposes to begin Phase 2 of the Presque Isle Bypass. The purpose of the project is to divert traffic from Route 1 away from downtown Presque Isle, which is the commercial center of northern Maine. The abundance of traffic results in traffic buildup and several high crash locations. Additionally, the highway provides the needed separation between a variety of vehicles that utilize the Route 1 corridor in northern Maine, such as tractor-trailer trucks, bicycles, passenger vehicles, horse and buggy. The applicant states that the proposed highway will result in nearly $400,000,000.00 of regional benefit over the next three decades due to time savings, reduced accidents and injuries in downtown Presque Isle, increasing property values from reduced noise pollution, emissions, and traffic congestion, and a reduction in costs of downtown road maintenance.

The project will begin on Route 1 in Westfield and will extend 6.53 miles north to the Conant Road where it will connect to Phase 1 of the bypass. The project will be a controlled-access highway consisting of two 12-foot-wide travel lanes with adjacent eight-foot-wide paved shoulders. An additional 12-foot-wide truck climbing lane with an adjacent four-foot-wide paved shoulder will be along a section of the southbound lanes at the southern end of the project. The side slopes of the new road will be 4H:1V, or in sections with guardrail, 2H:1V. The project includes four box culverts, one precast

concrete arch culvert, and a new interchange with a bridge over Conant Road. The applicant also proposes three new overpasses along Henderson Road, Easton Road, and the Maine Northern Railway. A multi-use trail crossing at Conant Road and Henderson Road is also proposed with available space along the right of way (ROW) for a future snowmobile/ATV trail located west of the highway. The project also includes installation of wildlife jumpouts and large animal fencing at the ROW limits to minimize impacts to wildlife. The fencing consists of an eight-foot-wall hog wire fence that is angled towards and tied into the wildlife crossing structures.

The project alignment includes forested, scrub-shrub, and emergent wet meadow wetlands as well as beaver ponds, vernal pools, and streams. One significant vernal pool (SVP) has been identified within the project's vicinity. Several wetland areas are identified as wetlands of special significance (WOSS) due to the proximity to streams, the presence of at least 20,000 square feet of emergent vegetation or open water, and the connection of wetlands to the critical terrestrial habitat (CTH) associated with an SVP.

The project proposes several stream crossings and stream relocations to accommodate the proposed highway route. The list of stream crossings and relocations are as follows:

1. The relocation of a 815 linear foot portion of an intermittent tributary to Clark Brook resulting in 10,986 square feet of direct impacts.
2. The installation of a new 30-foot-wide by 20.2-foot-tall by 160-foot-long open bottom arch crossing with a wildlife shelf across 251 linear feet of Clark Brook resulting in 6,835 square feet of direct impacts and 4,158 square feet of temporary impacts due to equipment access.
3. The installation of a new 12-foot-wide by 10-foot-tall by 120-foot-long open bottom box culvert across 170 linear feet of a perennial tributary to Clark Brook resulting in 2,063 square feet of direct impacts and 1,815 square feet of temporary impacts due to equipment access.
4. The installation of a new 20-foot-wide by 10-foot-tall by 104-foot-long box culvert with wildlife shelf bank across 194 linear feet of a perennial tributary to Williams Brook resulting in 3,640 square feet of direct impacts and 3,873 square feet of temporary impacts due to equipment access.
5. The relocation of a 167 linear foot perennial tributary to Williams Brook resulting in 950 square feet of direct impacts and 850 square feet of temporary impacts due to equipment access.
6. The relocation of a 131 linear foot unnamed intermittent stream resulting in 419 square feet of direct impacts and 172 square feet of temporary impacts due to equipment access.
7. The installation of a new 22-foot-wide by 18-foot-tall by 92-foot-long box culvert with wildlife shelf bank across 200 linear feet of a perennial tributary to Williams Brook resulting in 4,611 square feet of direct impacts and 6,116 square feet of temporary impacts due to equipment access.
8. The relocation of a 256 linear foot portion of a perennial tributary to Williams Brook resulting in 387 square feet of direct impacts and 57 square feet of temporary impacts due to equipment access.

9. The installation of a new 18-foot-wide by 18-foot-tall by 110-foot-long box culvert with wildlife shelf bank and the relocation of a 658 linear foot portion of a perennial tributary to Merritt Brook resulting in 17,105 square feet of direct impacts and 3,122 square feet of temporary impacts due to equipment access.
10. The replacement of a 30-inch reinforced concrete pipe culvert with a new 12-foot-wide by 14-foot-tall by 114-foot-long box culvert over an 85 linear foot portion of a perennial tributary to Merritt Brook resulting in 1,193 square feet of direct impacts and 1,615 square feet of temporary impacts due to equipment access.

Additionally, the applicant proposes the crossing, filling, and conversion of several wetlands complexes in the footprint of the limit of disturbance (LOD) of the highway. In total, the project proposes approximately 19.6 acres of permanent wetland impacts, 2.4 acres of permanent wetland conversion, and 19.3 acres of temporary wetland impacts for construction access. Impacts include palustrine forested (PFO) wetlands, palustrine scrub-shrub (PSS) wetlands, palustrine emergent (PEM) wetlands, and palustrine open water, unconsolidated bottom (PUB) wetlands. Additionally, some impacts to the CTH of an SVP are anticipated. The summary of resource impacts is as follows:

1. Non-WOSS PFO impacts consist of 221,716 square feet of direct impacts, 46,507 square feet of conversion, and 340,802 square feet of temporary impacts.
2. Non-WOSS PSS impacts consist of 161,688 square feet of direct impacts, 812 square feet of conversion, and 153,990 square feet of temporary impacts.
3. Non-WOSS PEM impacts consist of 6,353 square feet of direct impacts and 3,439 square feet of temporary impacts to non-WOSS PEM wetlands.
4. WOSS PFO impacts consist of 421,811 square feet of direct impacts, 52,709 square feet of conversion, and 309,893 square feet of temporary impacts.
5. WOSS PSS impacts consist of 5,593 square feet of temporary impacts.
6. WOSS PUB impacts consist of 43,124 square feet of direct impacts, 6,335 square feet of conversion, and 10,791 square feet of temporary impacts.
7. CTH impacts consist of 132 square feet of direct impacts to wetlands connected to CTH, 376 square feet of conversion impacts to wetlands connected to CTH, 2,083 square feet of temporary impacts due to construction access to wetlands connected to CTH, and 55,800 square feet of upland tree clearing within CTH.

The project is shown on a set of plans, the first sheet of which is titled “Presque Isle Bypass Section I – Phase II Construction,” dated November 3, 2024, and prepared by VHB, Inc.

C. Current Use of the Site: The project site consists of several parcels with a variety of uses, primarily residential and agricultural. The project runs north from Route 1 in Westfield to the Conant Road in Presque Isle.

D. Title, right, or interest: An application must include documentation demonstrating that the applicant has title, right or interest in the property proposed to be developed or used for the project sufficient for the nature and duration of the proposed development or use. The Maine Department of Transportation (MDOT) has eminent

domain authority to acquire interests in property for transportation purposes when a public need has been determined as cited in Title 23 M.R.S.A. §§ 151-159 and 651. MDOT is required to acquire property rights in conformance with the federal Uniform Act and the FHWA approved Right of Way Manual. MDOT established the ROW in the planning phase of the project and acquired the rights for Phase 1 (Section 2) and is actively acquiring the rights to 28 properties to construct Phase 2 (Section 1).

2. EXISTING SCENIC, AESTHETIC, RECREATIONAL OR NAVIGATIONAL USES:

The Natural Resources Protection Act (NRPA), in 38 M.R.S. § 480-D(1), requires the applicant to demonstrate that the proposed project will not unreasonably interfere with existing scenic, aesthetic, recreational and navigational uses.

In accordance with Chapter 315, *Assessing and Mitigating Impacts to Scenic and Aesthetic Uses* (06-096 C.M.R. ch. 315, effective June 29, 2003), the applicant submitted a copy of the Department's Visual Evaluation Field Survey Checklist as Appendix A to the application along with a description of the property and the proposed project. The applicant also submitted several photographs of the proposed project site and surroundings including aerial photographs of the project site. Department staff visited the project site on October 21, 2023.

The proposed project is located in unnamed freshwater wetlands and streams which are not scenic resources visited by the general public, in part, for the use, observation, enjoyment and appreciation of its natural and cultural visual qualities.

The area surrounding the proposed projects consists of a mix of residential and agricultural uses. The applicant submitted a Visual Evaluation Checklist dated May 23, 2023, that describes the visibility of the project from nearby national natural landmarks, state or national wildlife refuges, sanctuaries, or preserves, recreational trails, and other public areas. The applicant identified no public areas within one mile of the LOD in which the project would result in significant impacts to the visual aesthetic of the public space. Additionally, no state or federal parks are located in the vicinity of the project. The closest public area is Mantle Lake Park located 1.6 miles east of the project’s LOD. The closest state or federal park is the Aroostook State Park located 1.8 miles southwest of the project’s LOD.

The proposed project lies in the direct vicinity of similar projects. The new highway will be located west of and will run parallel with the existing Route 1. The surrounding area exhibits limited scenic character and visual aesthetics due to the presence of vast farmlands and residential development.

The Department staff utilized the Department’s Visual Impact Assessment Matrix in its evaluation of the proposed project and the Matrix showed an acceptable potential visual impact rating for the proposed project. Based on the information submitted in the application, the visual impact rating, and the site visit, the Department determined that the location and scale of the proposed activity is compatible with the existing visual

quality and landscape characteristics found within the viewshed of the scenic resource in the project area.

The Department determined that based on the nature of the proposed project and its location, there are no existing recreational or navigational uses of the resource that would be unreasonably impacted.

The Department finds that the proposed activity will not unreasonably interfere with existing scenic, aesthetic, recreational or navigational uses of the freshwater wetlands.

3. SOIL EROSION:

The NRPA, in 38 M.R.S. § 480-D(2), requires the applicant to demonstrate that the proposed project will not cause unreasonable erosion of soil or sediment nor unreasonably inhibit the natural transfer of soil from the terrestrial to the marine or freshwater environment.

Construction of the project is scheduled to begin in November 2025 and is expected to open to traffic in 2029. Construction of the highway will require the management of traffic where the new highway will tie into the existing road infrastructure on Route 1 and the Conant Road, as well as the locations of road crossings, overpasses, and stream crossings.

The applicant supplied an outline of the anticipated construction sequence. Prior to the start of construction, the applicant proposes to conduct a pre-construction meeting with the selected contractor and the state and federal agencies involved in project review conditions of the granted permits. The MDOT Environmental Office will review and approve the contractor's Soil Erosion and Water Pollution Control Plan (SEWPCP). The SEWPCP must include identification of steep slopes, consideration of emergency procedures for storms, and must provide a timeframe for corrective actions. Upon approval of the SEWPCP, vegetation clearing within the ROW, as well as installation of erosion controls in accordance with the SEWPCP, will begin. The ROW will subsequently be grubbed and cofferdams will be placed to begin in-water work for culverts and bridges. The applicant will then lay the foundation of the road, construct drainage features and stormwater best management practices (BMPs), and finish the grade and pave.

The applicant submitted an erosion control plan with the application. The applicant proposes to install erosion and sedimentation control measures that will conform to the Maine Erosion and Sedimentation Control Best Management Practices. Temporary erosion and sedimentation control is achieved in compliance with the Basic Standards of Chapter 500, Stormwater Management Rules as agreed to in the Memorandum of Agreement for Stormwater Management between MDOT, the Maine Turnpike Authority, and the Department. Permanent erosion and sedimentation control on all disturbed soil is achieved by seeding with a perennial seed mix, placing four inches of erosion control mix (ECM), or placement of riprap. The applicant proposes to meet the Basic, General, and

Flooding Standards outlined in Chapter 500. The applicant proposes to install 10 underdrained soil filters, two detention basins, vegetated buffers, and compost filter strips along the entire length of the new highway.

The Department finds that the activity will not cause unreasonable erosion of soil or sediment nor unreasonably inhibit the natural transfer of soil from the terrestrial to the marine or freshwater environment provided that a pre-construction meeting is held with the applicant's representative, Department staff, review agencies, the design engineers, and contractors to discuss the construction schedule, erosion and sediment control plan, and permit conditions.

4. HABITAT CONSIDERATIONS:

The NRPA, in 38 M.R.S. § 480-D(3), requires the applicant to demonstrate that the proposed project will not unreasonably harm significant wildlife habitat, freshwater wetland plant habitat, threatened or endangered plant habitat, aquatic or adjacent upland habitat, travel corridor, freshwater, estuarine or marine fisheries or other aquatic life.

The project site consists of a mix of agricultural and residential developments. Additionally, the project will intersect undeveloped parcels consisting of forested uplands, freshwater wetlands, vernal pools, and streams.

During project planning, the applicant corresponded with the Maine Natural Areas Program to determine if the chosen project alignment would intersect with any areas known to contain rare, threatened, or endangered (RTE) plant species. Some RTE species were observed to occur within four miles of the project site, namely large toothwort (*Cardamine maxima*) and wild leek (*Allium tricocum*). In 2022, the applicant hired Stantec to review the alignment for RTE plants and natural communities. The applicant supplied the summary report titled "Rare Plant Survey Report: Presque Isle Phase 2 Bypass," dated November 1, 2022, which stated some RTE species were observed to occur within four miles of the project site, namely large toothwort (*Cardamine maxima*) and wild leek (*Allium tricocum*). However, it was not found that any RTE species existed in the project footprint. Due to the survey having been conducted in September, Stantec recommended that the applicant conduct additional presence surveys in May or June to confirm the absence of the RTE species. The applicant conducted additional RTE species surveys in May, 2023, in which no RTE species were identified.

The Maine Department of Inland Fisheries and Wildlife (MDIFW) reviewed the proposed project. MDIFW supplied comments and recommendations related to anticipated stream impacts, habitat impacts, and wildlife passage across the new highway.

MDIFW stated that the impacted streams provide critical thermal habitat and linkages to downstream resources for many species, including wild brook trout. Additionally, movement by instream migrants links headwaters with downstream and terrestrial ecosystems, as do exports such as emerging and drifting insects. MDIFW stated that impacts to small streams will likely cause the warming of the Clark and Merritt Brooks,

two high quality brook trout waters that support sport fisheries for brook trout. MDIFW commented that riparian areas should be maintained to the greatest extent practicable in order to continue providing the streams with woody debris input and shading. MDIFW also recommended that impacts to streams be mitigated due to the permanent loss of habitat. The applicant stated that permanent conversion of wetland areas are only proposed where necessary. Clearing activities for construction purposes only will revegetate over time. The applicant intends to pay an in-lieu fee in accordance with the U.S. Army Corps of Engineer's requirements for the permanent stream impacts.

MDIFW further commented that the highway will adversely impact wildlife. MDIFW stated that the highway will created direct impacts to wildlife habitat, create fragmentation, cause displacement, and will likely act as a barrier to wildlife movement and have significant impacts to wildlife distribution for multiple species. Additionally, the construction of the highway will also result in other impacts such as wildlife-vehicle collisions. During the consultation phase of the project, the applicant corresponded with MDIFW to address the above concerns. As a result, the applicant incorporated multiple wildlife crossing structures, two of which are designed to accommodate large animals such as bear and moose, in the project's design. Additionally, these crossing structures will utilize funneling fencing to encourage the use of these crossings by wildlife. The applicant also proposes the use of wildlife jump-out areas that will allow large animals to leave the highway should they become inadvertently trapped.

MDIFW stated that acoustic surveys indicated the presence of several bat species within the project area, including little brown bats (*Myotis lucifugus*), a state endangered species. To minimize impacts to bats during maternity season, MDIFW recommended no tree clearing occur from May 15 to August 15. The applicant agreed to adhere to this recommendation.

MDIFW also identified the need to provide permeability of the bypass to smaller wildlife species. MDIFW recommended that all culverts be upsized to the maximum size allowable given road cover constraints. Furthermore, stream crossings should include wildlife shelf banks to accommodate the crossing of terrestrial species. MDOT incorporated these recommendations into their design of their crossings by including wildlife shelf banks and sizing all stream crossings to at least 1.2x bank full width.

MDIFW recommended that the applicant create a beaver management plan prior to the clearing of trees and earth movement on the project alignment. The applicant agreed to contact the MDIFW regional wildlife biologists to confirm the date of construction so that recreational trappers have the opportunity to remove beavers prior to construction. If trapping is not sufficient, the applicant agreed to contract with the USDA's Animal and Plant Health Inspection Service (APHIS) for beaver removal prior to construction.

MDIFW also recommends that the highway side slopes be revegetated using seed mixes with pollinator/friendly species native to the area. The applicant supplied the seed mix and a list of the included species indicating that they will adhere to this recommendation.

MDIFW recommended that the applicant continue to work with MDIFW to develop a post-construction monitoring plan to assess the efficacy of the crossing structures, the jump-outs, and the fence lines. The applicant agreed to install cameras at all crossings.

Descriptions of other considered alternatives, avoidance and minimization efforts, and proposed compensation for impacts to habitat are further elaborated on in Finding 6.

The Department finds that the activity will not unreasonably harm any significant wildlife habitat, freshwater wetland plant habitat, threatened or endangered plant habitat, aquatic or adjacent upland habitat, travel corridor, freshwater, estuarine or marine fisheries or other aquatic life.

5. WATER QUALITY CONSIDERATIONS:

As discussed in Finding 3, the applicant proposes to use erosion and sediment control during construction to minimize impacts to water quality from siltation.

The Department does not anticipate that the proposed project will violate any state water quality law, including those governing the classification of the State's waters.

6. WETLANDS AND WATERBODIES PROTECTION RULES:

The applicant proposes to directly impact 19.6 acres and permanently convert 2.4 acres of freshwater wetlands to construct the proposed bypass. Included in these amounts is 508 square feet of impacts to wetlands located within CTH, as well as 55,800 square feet of upland tree clearing. Additionally, the applicant proposes to cross, relocate, and directly impact several streams. Some freshwater wetland impacts are to WOSS due to proximity to streams, containment within a significant wildlife habitat, and the presence of over 20,000 square feet of emergent wetland vegetation or open water. The summary of wetland and stream impacts are elaborated on in Finding 1.

The *Wetlands and Waterbodies Protection Rules*, 06-096 C.M.R. ch. 310 (last amended November 11, 2018) and the Department's *Significant Wildlife Habitat* rules, 06-096 C.M.R. ch. 335 (last amended January 7, 2014), interpret and elaborate on the Natural Resources Protection Act (NRPA) criteria for obtaining a permit. The rules guide the Department in its determination of whether a project's impacts would be unreasonable. A proposed project would generally be found to be unreasonable if it would cause a loss in wetland area, wetland functions and values, degrade significant wildlife habitat, disturb the subject wildlife either during or as a result of the activity, and there is a practicable alternative to the project that would be less damaging to the environment. Each application for a NRPA permit that involves a freshwater wetland or significant wildlife habitat alteration must provide an analysis of alternatives in order to demonstrate that a practicable alternative does not exist.

A. Avoidance. An applicant must submit an analysis of whether there is a practicable alternative to the project that would be less damaging to the environment and

this analysis is considered by the Department in its assessment of the reasonableness of any impacts. Additionally, for activities proposed in, on, or over wetlands of special significance the activity must be among the types listed in Chapter 310, § 5(A) or a practicable alternative less damaging to the environment is considered to exist and the impact is unreasonable. Crossings by road, rail, or utility lines are among the activities specifically provided for in Chapter 310, § 5(A)(1)(b).

The applicant submitted an alternatives analysis for the proposed project completed by the applicant. The purpose of the project is to construct a two-lane controlled-access highway intended to direct traffic away from downtown Presque Isle to reduce congestion and vehicle collisions.

The applicant considered multiple alternatives to the proposed project. Among the alternatives is a no-build option, a Transportation System Management (TSM) option, and 11 different alignment options. Nine of the alternatives were dismissed within the Supplemental Draft EIS (SDEIS) or during the U.S. Army Corps of Engineers (USACE) Highway Methodology Phase I Avoidance or Phase II Permit Application process. The alignments were chosen based on transportation benefits of time savings, vehicle miles traveled, vehicle hours traveled, mobility, and downtown traffic shifts, specifically focused on truck traffic.

The no-action alternative was not considered as it would not meet the project purpose and need. Without an alternative route to bypass downtown Presque Isle, traffic would continue to be congested, and vehicle collisions would still occur at frequent rates. Phase 1 of the project has already been completed and the sole use of Phase 1 does not result in a significant impact on the traffic throughout downtown Presque Isle.

The TSM option would result in an upgrade to the existing Route 1 infrastructure. Although this would result in significantly less impacts, it would not redirect traffic away from downtown Presque Isle. Additionally, there would be significant economic impacts related to the loss of street parking.

An alternative was considered which would place the alignment far to the west of downtown Presque Isle compared to all of the other alternative alignments which would place the alignment to the east. This alternative was not chosen as it would result in a significantly longer highway, would not improve mobility or public safety, and would not improve access to Easton industrial facilities. Another western alternative closer to city center was considered; however, this alternative would have excessive farmland impact and would be located close to a public water supply intake. Additionally, neither of these alternatives would tie into Phase 1 of the project.

Several alternative alignments were considered to the east of downtown Presque Isle. Of the nine alternatives, Alignments 4B, 6, and 7 were found to result in the least amount of environmental and historic impacts. Alignment 7 was found to be the preferred alternative despite Alignments 4B and 6 resulting in fewer wetland impacts. However, alignment 7 was ultimately chosen because it yielded the least amount of farmland

impact, had no impact to properties listed or eligible to be listed on the National Register of Historic Places, and has no use of properties protected under Section 4(f) of the U.S. Department of Transportation (USDOT) Act unlike Alignments 4B and 6.

In order to meet the project purpose, some impacts to freshwater wetlands, streams, and wildlife habitats are unavoidable.

B. Minimal Alteration. In support of an application and to address the analysis of the reasonableness of any impacts of a proposed project, an applicant must demonstrate that the amount of freshwater wetland and significant wildlife habitat to be altered will be kept to the minimum amount necessary for meeting the overall purpose of the project.

The applicant incorporated several minimization efforts into the project's design. The alignment was chosen to cross wetlands at their narrowest points. Side slopes were designed at the steepest slope possible in order to minimize wetland intrusion. Vegetation clearing around the highway was limited to the minimum necessary. All clearing associated with construction access, including riparian areas, are proposed to be seeded with native species and allowed to revegetate naturally.

The applicant made several modifications to minimize the impacts of stream crossings during the planning phase of the project and during review of the application. In response to MDIFW recommendations, the applicant sized all stream crossings to 1.2 times bank full width. The applicant stated that the over-sizing of these culverts was necessary to account for flood capacity and to minimize flood elevations upstream while also providing additional floodplain area within the culverts themselves, reducing the net effective floodplain impact of the project by approximately 0.2 acres. The crossings were designed with wildlife banks that would allow smaller terrestrial animals to cross the highway safely. The applicant stated that the sizing of these crossings exceeds the minimum standards outlined in the Wildlife Crossing Structure Handbook published by the Federal Highway Administration (FHWA).

The applicant included multiple large animal crossings, including wildlife funnel fencing and jump outs, to assist the crossing of large terrestrial animals and to minimize the impacts of habitat fragmentation.

The applicant minimized impacts to CTH by placing the highway to the edge of the 250 foot CTH buffer, as well as minimizing wetland impacts within CTH to approximately 508 square feet.

C. Compensation. In accordance with Chapter 310, § 5(C)(6)(b) and Chapter 335, § 3(D)(1), compensation may be required to achieve the goal of no net loss of freshwater wetland and significant wildlife habitat functions and values. This project will result in over 15,000 square feet of fill in freshwater wetlands which is the threshold over which compensation is generally required, including the alteration of WOSS and significant tree clearing within CTH.

The applicant submitted a functions and values assessment of the 19 wetland complexes proposed to be impacted by the project. The wetlands consisted of PFO, PSS, PEM, and PUB complexes with a variety of functions and values. The applicant identified the principal functions of these wetland complexes to be floodflow alteration, sediment-toxicant retention, nutrient removal, retention, and transformation, as well as wildlife habitat.

The applicant proposes to make a contribution into the In-Lieu Fee program of the Maine Natural Resource Conservation Program in the amount of $4,748,127.07. This amount is calculated based on cumulative impacts to wetlands from Phase 1 and Phase 2, and includes compensation for impacts to WOSS, CTH, and an additional $229,139.00 for impacts to streams in accordance with the U.S. Army Corps of Engineers mitigation requirements.

Furthermore, in response to MDIFW and Department concerns, the applicant is also proposing to conduct a stream restoration effort on a 400 linear foot section of Clark Brook. The applicant proposes to remove a deteriorated crossing under an out-of-use roadway connected to Route 1 that currently creates a hydraulic constriction. By removing the crossing and the associated roadway embankment fill, the applicant seeks to restore the hydraulic connection and to restore approximately 0.8 acres of previously filled floodplain.

Prior to the start of construction, the applicant must submit a payment in the amount of $4,748,127.07, payable to "Treasurer, State of Maine," and directed to the attention of the In-Lieu Fee Program Administrator at 17 State House Station, Augusta, Maine 04333.

The Department finds that the applicant has avoided and minimized freshwater wetland and significant wildlife impacts to the greatest extent practicable, and that the proposed project represents the least environmentally damaging alternative that meets the overall purpose of the project provided that prior to project construction, the applicant submits the In-Lieu Fee payment as described above.

7. OTHER CONSIDERATIONS:

The Department finds, based on the design, proposed construction methods, and location, the proposed project will not inhibit the natural transfer of soil from the terrestrial to the marine environment, will not interfere with the natural flow of any surface or subsurface waters, and will not cause or increase flooding. The proposed project is not located in a coastal sand dune system, is not a crossing of an outstanding river segment, and does not involve dredge spoils disposal or the transport of dredge spoils by water.

BASED on the above findings of fact, and subject to the conditions listed below, the Department makes the following conclusions pursuant to 38 M.R.S. §§ 480-A–480-JJ and Section 401 of the Clean Water Act (33 U.S.C. § 1341):

A. The proposed activity will not unreasonably interfere with existing scenic, aesthetic, recreational, or navigational uses.

B. The proposed activity will not cause unreasonable erosion of soil or sediment.

C. The proposed activity will not unreasonably inhibit the natural transfer of soil from the terrestrial to the marine or freshwater environment provided that the applicant meets the requirement outlined in Finding 3.

D. The proposed activity will not unreasonably harm any significant wildlife habitat, freshwater wetland plant habitat, threatened or endangered plant habitat, aquatic or adjacent upland habitat, travel corridor, freshwater, estuarine, or marine fisheries or other aquatic life provided that prior to construction the applicant makes a contribution to the In-Lieu Fee program as described in Finding 6 and meets the requirements outlined in Finding 4.

E. The proposed activity will not unreasonably interfere with the natural flow of any surface or subsurface waters.

F. The proposed activity will not violate any state water quality law including those governing the classifications of the State's waters.

G. The proposed activity will not unreasonably cause or increase the flooding of the alteration area or adjacent properties.

H. The proposed activity is not on or adjacent to a sand dune.

I. The proposed activity is not on an outstanding river segment as noted in 38 M.R.S. § 480-P.

THEREFORE, the Department APPROVES the above noted application of the MAINE DEPARTMENT OF TRANSPORTATION to construct a two-lane controlled-access highway as described in Finding 1, SUBJECT TO THE ATTACHED CONDITIONS, and all applicable standards and regulations:

1. Standard Conditions of Approval, a copy attached.

2. The applicant shall take all necessary measures to ensure that its activities or those of its agents do not result in measurable erosion of soil on the site during the construction of the project covered by this approval.

3. Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

4. No tree clearing must occur between May 15 to August 15.

5. The applicant must install wildlife cameras at crossings and fence lines to monitor efficacy of these crossings in accordance with MDIFW recommendations.

6. Prior to construction, the applicant must submit a beaver management plan to MDIFW and the Department for review.

7. Prior the start of construction, the applicant shall conduct a pre-construction meeting. This meeting shall be attended by the applicant's representative, Department staff, review agencies, the design engineer, and the contractor.

8. Prior to the start of construction, the applicant shall submit a payment in the amount of $4,748,127.07, payable to "Treasurer, State of Maine", to the attention of the In-Lieu Fee Program Administrator at 17 State House Station, Augusta, Maine 04333. A copy of this Order shall be included or referenced with payment submittal.

THIS APPROVAL DOES NOT CONSTITUTE OR SUBSTITUTE FOR ANY OTHER REQUIRED STATE, FEDERAL OR LOCAL APPROVALS NOR DOES IT VERIFY COMPLIANCE WITH ANY APPLICABLE SHORELAND ZONING ORDINANCES.

DONE AND DATED IN AUGUSTA, MAINE, THIS 1st DAY OF AUGUST, 2025.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY:_____
For: Melanie Loyzim, Commissioner

PLEASE NOTE THE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES.

KF/L26876BN

Natural Resources Protection Act (NRPA)
Standard Conditions

THE FOLLOWING STANDARD CONDITIONS SHALL APPLY TO ALL PERMITS GRANTED UNDER THE NATURAL RESOURCES PROTECTION ACT, 38 M.R.S. §§ 480-A ET SEQ., UNLESS OTHERWISE SPECIFICALLY STATED IN THE PERMIT.

A. Approval of Variations From Plans. The granting of this permit is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. Any variation from these plans, proposals, and supporting documents is subject to review and approval prior to implementation.

B. Compliance With All Applicable Laws. The applicant shall secure and comply with all applicable federal, state, and local licenses, permits, authorizations, conditions, agreements, and orders prior to or during construction and operation, as appropriate.

C. Erosion Control. The applicant shall take all necessary measures to ensure that his activities or those of his agents do not result in measurable erosion of soils on the site during the construction and operation of the project covered by this Approval.

D. Compliance With Conditions. Should the project be found, at any time, not to be in compliance with any of the Conditions of this Approval, or should the applicant construct or operate this development in any way other the specified in the Application or Supporting Documents, as modified by the Conditions of this Approval, then the terms of this Approval shall be considered to have been violated.

E. Time frame for approvals. If construction or operation of the activity is not begun within four years, this permit shall lapse and the applicant shall reapply to the Board for a new permit. The applicant may not begin construction or operation of the activity until a new permit is granted. Reapplications for permits may include information submitted in the initial application by reference. This approval, if construction is begun within the four-year time frame, is valid for seven years. If construction is not completed within the seven-year time frame, the applicant must reapply for, and receive, approval prior to continuing construction.

F. No Construction Equipment Below High Water. No construction equipment used in the undertaking of an approved activity is allowed below the mean high-water line unless otherwise specified by this permit.

G. Permit Included In Contract Bids. A copy of this permit must be included in or attached to all contract bid specifications for the approved activity.

H. Permit Shown To Contractor. Work done by a contractor pursuant to this permit shall not begin before the contractor has been shown by the applicant a copy of this permit.

Revised September 2016

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION, AUGUSTA, MAINE 04333

Erosion Control for Homeowners

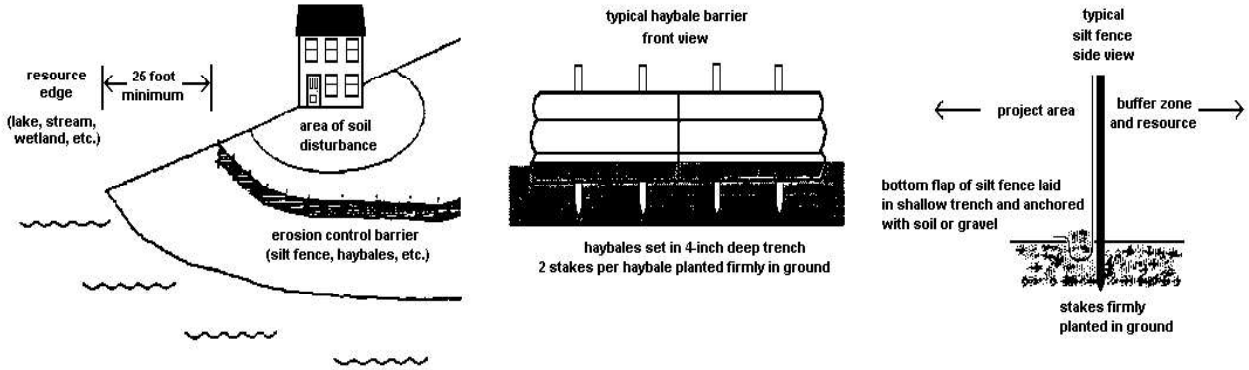
Before Construction

1. If you have hired a contractor, make sure you discuss your permit with them. Talk about what measures they plan to take to control erosion. Everybody involved should understand what the resource is, and where it is located. Most people can identify the edge of a lake or river. However, the edges of wetlands are often not so obvious. Your contractor may be the person actually pushing dirt around, but you are both responsible for complying with the permit.

2. Call around to find where erosion control materials are available. Chances are your contractor has these materials already on hand. You probably will need silt fence, hay bales, wooden stakes, grass seed (or conservation mix), and perhaps filter fabric. Places to check for these items include farm & feed supply stores, garden & lawn suppliers, and landscaping companies. It is not always easy to find hay or straw during late winter and early spring. It also may be more expensive during those times of year. Plan ahead – buy a supply early and keep it under a tarp.

3. Before any soil is disturbed, make sure an erosion control barrier has been installed. The barrier can be either a silt fence, a row of staked hay bales, or both. Use the drawings below as a guide for correct installation and placement. The barrier should be placed as close as possible to the soil-disturbance activity.

4. If a contractor is installing the erosion control barrier, double check it as a precaution. Erosion control barriers should be installed "on the contour," meaning at the same level or elevation across the land slope, whenever possible. This keeps stormwater from flowing to the lowest point along the barrier where it can build up and overflow or destroy the barrier.



During Construction

1. Use lots of hay or straw mulch on disturbed soil. The idea behind mulch is to prevent rain from striking the soil directly. It is the force of raindrops hitting the bare ground that makes the soil begin to move downslope with the runoff water, and cause erosion. More than 90% of erosion is prevented by keeping the soil covered.

2. Inspect your erosion control barriers frequently. This is especially important after a rainfall. If there is muddy water leaving the project site, then your erosion controls are not working as intended. You or your contractor then need to figure out what can be done to prevent more soil from getting past the barrier.

3. Keep your erosion control barrier up and maintained until you get a good and healthy growth of grass and the area is permanently stabilized.

After Construction

1. After your project is finished, seed the area. Note that all ground covers are not equal. For example, a mix of creeping red fescue and Kentucky bluegrass is a good choice for lawns and other high-maintenance areas. But this same seed mix is a poor selection for stabilizing a road shoulder or a cut bank that you don't intend to mow. Your contractor may have experience with different seed mixes, or you might contact a seed supplier for advice.

2. Do not spread grass seed after September 15. There is the likelihood that germinating seedlings could be killed by a frost before they have a chance to become established. Instead, mulch the area with a thick layer of hay or straw. In the spring, rake off the mulch and then seed the area. Don't forget to mulch again to hold in moisture and prevent the seed from washing away or being eaten by birds or other animals.

3. Keep your erosion control barrier up and maintained until you get a good and healthy growth of grass and the area is permanently stabilized.

Why Control Erosion?

To Protect Water Quality

When soil erodes into protected resources such as streams, rivers, wetlands, and lakes, it has many bad effects. Eroding soil particles carry phosphorus to the water. An excess of phosphorus can lead to explosions of algae growth in lakes and ponds called blooms. The water will look green and can have green slime in it. If you are near a lake or pond, this is not pleasant for swimming, and when the soil settles out on the bottom, it smothers fish eggs and small animals eaten by fish. There are many other effects as well, which are all bad.

To Protect the Soil

It has taken thousands of years for our soil to develop. Its usefulness is evident all around us, from sustaining forests and growing our garden vegetables, to even treating our septic wastewater! We cannot afford to waste this valuable resource.

To Save Money ($$)

Replacing topsoil or gravel washed off your property can be expensive. You end up paying twice because State and local governments wind up spending your tax dollars to dig out ditches and storm drains that have become choked with sediment from soil erosion.

DEP INFORMATION SHEET

Appeals to the Board of Environmental Protection

Date: November 2024 Contact: Clerk.BEP@maine.gov or (207) 314-1458

SUMMARY

This document provides information regarding a person's rights and obligations in filing an administrative or judicial appeal of: (1) a final license decision made by the Commissioner of the Department of Environmental Protection ("DEP"); or (2) an insurance claim-related decision ("Clean-up and Response Fund decision") made by the Commissioner or the Office of State Fire Marshal pursuant to 38 M.R.S. § 568-A.

Except as explained below, there are two methods available to an aggrieved person seeking to appeal a license decision made by the Commissioner or a Clean-up and Response Fund decision: (1) an administrative appeal before the Board of Environmental Protection ("Board"); or (2) a judicial appeal before Maine's Superior Court. An aggrieved person seeking review of a license decision or Clean-up and Response Fund decision made by the Board may seek judicial review in Maine's Superior Court.

An appeal of a license decision made by the DEP Commissioner or the Board regarding an application for an expedited wind energy development (35-A M.R.S. § 3451(4)), a general permit for an offshore wind energy demonstration project (38 M.R.S. § 480-HH(1)), or a general permit for a tidal energy demonstration project (38 M.R.S. § 636-A) must be taken to the Supreme Judicial Court sitting as the Law Court.

I. ADMINISTRATIVE APPEALS TO THE BOARD

LEGAL REFERENCES

A person filing an appeal with the Board should review the applicable rules and statutes, including the DEP's Chapter 2 rule, *Processing of Applications and Other Administrative Matters* (06-096 C.M.R. ch. 2); Organization and Powers, 38 M.R.S. §§ 341-D(4) and 346; and the Maine Administrative Procedure Act, 5 M.R.S. § 11001.

DEADLINE TO SUBMIT AN APPEAL TO THE BOARD

Within 30 calendar days of the date of: (1) a final license decision of the Commissioner; or (2) a Clean-up and Response Fund decision, an aggrieved person may appeal to the Board for review of that decision. "Aggrieved person" means any person whom the Board determines may suffer a particularized injury as a result of a Commissioner's license decision or a Clean-up and Response Fund decision. A complete appeal must be received by the Board no later than 5:00 p.m. on the 30th calendar day of the decision being appealed. With limited exception, untimely appeals will be dismissed.

HOW TO SUBMIT AN APPEAL TO THE BOARD

An appeal to the Board may be submitted via postal mail or electronic mail (e-mail) and must contain all signatures and required appeal contents. An electronic filing must contain the scanned original signature of the appellant(s). The appeal documents must be sent to the following address.

Chair, Board of Environmental Protection
c/o Board Clerk
17 State House Station
Augusta, ME 04333-0017
Clerk.BEP@maine.gov

The DEP may also request the submittal of the original signed paper appeal documents when the appeal is filed electronically. The risk of material not being received in a timely manner is on the sender, regardless of the method used.

At the time an appeal is filed with the Board, the appellant must send a copy of the appeal to: (1) the Commissioner of the DEP (Maine Department of Environmental Protection, 17 State House Station, Augusta, Maine 04333-0017); (2) the licensee, if the appellant is not the licensee; and (3) if a hearing was held on the application, any intervenors in that hearing proceeding. For appeals of Clean-up and Response Fund decisions made by the State Fire Marshal, the appellant must also send a copy of the appeal to the State Fire Marshal. **Please contact the Board Clerk at clerk.bep@maine.gov or DEP staff at 207-287-7688 with questions or for contact information regarding a specific license or Clean-up and Response Fund decision.**

REQUIRED APPEAL CONTENTS

A written appeal must contain the information specified in Chapter 2, section 23(B) or section 24(B), as applicable, at the time the appeal is submitted. **Please carefully review these sections of Chapter 2**, which is available online at https://www.maine.gov/sos/cec/rules/06/chaps06.htm, or contact the Board Clerk to obtain a copy of the rule. Failure to comply with the content of appeal requirements may result in the appeal being dismissed pursuant to Chapter 2, section 23(C) or section 24(C).

OTHER CONSIDERATIONS IN APPEALING A DECISION TO THE BOARD

1. *Be familiar with the administrative record.* Generally, the record on which the Board decides an appeal is limited to the record prepared by the agency in its review of the application, any supplemental evidence admitted to the record by the Board Chair and, if a hearing is held on the appeal, additional evidence admitted during the hearing. A person who seeks to appeal a decision to the Board is encouraged to contact the DEP (or State Fire Marshal for Clean-up and Response Fund decisions made by that agency) to inspect the record before filing an appeal.

2. *Be familiar with the applicable rules and laws.* An appellant is required to identify the licensing criterion or standard the appellant believes was not satisfied in issuing the decision, the bases of the objections or challenges, and the remedy sought. Prior to filing an appeal, review the decision being appealed to identify the rules and laws that are applicable to the decision. An appellant may contact the DEP or Board staff with any questions regarding the applicable rules and laws or the appeal procedure generally.

3. *The filing of an appeal does not operate as a stay to any decision.* If a license has been granted and it has been appealed, the license normally remains in effect pending the processing of the appeal. Unless a separate stay of the decision is requested and granted (*see* Chapter 2, section 23(M)), the licensee may proceed with an approved project pending the outcome of the appeal. Any activity initiated in accordance with the approved license during the pendency of the appeal comes with the risk of not knowing the outcome of the appeal, including the possibility that the decision may be reversed or modified by the Board.

4. *Alternative dispute resolution.* If the appeal participants agree to use mediation or another form of alternative dispute resolution ("ADR") to resolve the appeal and so notify the Board, the Board will not hear the matter until the conclusion of that effort, provided the participants engaged in the alternative dispute resolution demonstrate satisfactory progress toward resolving the issues. *See* Chapter 2, section 23(H) or contact the Board Executive Analyst (contact information below) for more information on the ADR provision.

WHAT TO EXPECT ONCE YOU FILE A TIMELY APPEAL WITH THE BOARD

The Board will acknowledge receipt of each appeal and develop a service list of appeal participants and any interested persons for use in the appeal proceeding. Electronic mail (e-mail) is the preferred method of communication during an appeal proceeding; however, the Board reserves the right to require paper copies of all filings. Once the Board Chair rules on the admissibility of all proposed supplemental evidence, the licensee (if the licensee is not the appellant) may respond to the merits of the appeal. Instructions specific to each appeal will be provided in correspondence from the Board Executive Analyst or Board Chair.

Generally, once all filings in an appeal proceeding are complete, the DEP staff will assemble a packet of materials for the Board (Board packet), including a staff recommendation in the form of a proposed Board Order. Once available, appeal participants will receive a copy of the Board packet and an agenda with the meeting location and start time. Once finalized, the meeting agenda will be posted on the Board's webpage https://www.maine.gov/dep/bep/index.html. Appeals will be considered based on the administrative record on appeal and oral argument at a regular meeting of the Board. *See* Chapter 2, Section 23(I). The Board may affirm all or part of the decision under appeal; affirm all or part of the decision under appeal with modifications, or new or additional conditions; order a hearing to be held as expeditiously as possible; reverse the decision under appeal; or remand the decision to the Commissioner or State Fire Marshal, as applicable, for further proceedings.

II. JUDICIAL APPEALS

The filing of an appeal with the Board is not a prerequisite for the filing of a judicial appeal. Maine law generally allows aggrieved persons to appeal final license decisions to Maine's Superior Court (*see* 38 M.R.S. § 346(1); Chapter 2; 5 M.R.S. § 11001; and M.R. Civ. P. 80C). A judicial appeal by a party to the underlying proceeding must be filed with the Superior Court within 30 days of receipt of notice of the Board's or the Commissioner's decision. For any other aggrieved person, an appeal must be filed within 40 days of the date the decision was rendered. An appeal to court of a license decision regarding an expedited wind energy development, a general permit for an offshore wind energy demonstration project, or a general permit for a tidal energy demonstration project may only be taken directly to the Maine Supreme Judicial Court. *See* 38 M.R.S. § 346(4), the Maine Administrative Procedure Act, statutes governing a particular license decision, and the Maine Rules of Civil Procedure for substantive and procedural details applicable to judicial appeals.

ADDITIONAL INFORMATION

If you have questions or need additional information on the appeal procedure, for administrative appeals contact the Board Clerk at clerk.bep@maine.gov or 207-287-2811 or the Board Executive Analyst at bill.hinkel@maine.gov or 207-314-1458, or for judicial appeals contact the court clerk's office in which the appeal will be filed.

Note: This information sheet, in conjunction with a review of the statutory and rule provisions referred to herein, is provided to help a person to understand their rights and obligations in filing an administrative or judicial appeal, and to comply with notice requirements of the Maine Administrative Procedure Act, 5 M.R.S. § 9061. This information sheet is not intended to supplant the parties' obligations to review and comply with all statutes and rules applicable to an appeal and insofar as there is any inconsistency between the information in this document and the applicable statutes and rules, the relevant statutes and rules apply.

DEPARTMENT OF THE ARMY PERMIT

Permittee: **Maine Department of Transportation**
Attn: Danielle Tetreau
16 State House Station
Augusta, **Maine 04333**

Permit No: NAE-2008-02480

Issuing Office: U.S. Army Engineer District, New England

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the U.S. Army Corps of Engineers (Corps) having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: The project will construct a 6.53-mile-long, two-lane roadway known as Phase 2 of the Presque Isle Bypass. The roadway will connect U.S. Route 1 in Westfield, Maine, to Conant Road in Presque Isle, Maine, with a new interchange and bridge over Conant Road. The bridge will connect to Phase 1 of the bypass, which was completed in 2019 and extends from Conant Road to Fort Road in Presque Isle. The Phase 2 roadway will have a typical cross section consisting of two 12-foot-wide travel lanes with adjacent eight-foot-wide paved shoulders and side slopes of varying steepness. The southern end of the project will include a third lane for truck climbing for approximately 0.45 miles. The project will install five precast concrete box culverts and one precast concrete arch culvert in perennial streams and three concrete pipe culverts in small perennial and intermittent streams. The existing Route 1 culvert on Clark Brook will be removed, and the channel and stream banks will be restored to natural conditions. In total, the project will result in the permanent loss of 1,071 linear feet of stream channel, and the stream flow from those areas will be directed to new ditch swales. The project will also result in the permanent loss of 658 linear feet of a perennial tributary to Merritt Brook that will be relocated to a new channel constructed with stone and granular streambed material, riffles, pools, meanders, root wads, log vanes, and a vegetated floodplain to recreate natural stream functions. Overall, Phase 2 will discharge permanent fill in 1.11 acres and temporary fill in 0.50 acres below the ordinary high water mark of several streams, discharge permanent fill in 19.49 acres and temporary fill in 4.46 acres of non-tidal wetlands, and permanently convert 2.42 acres of palustrine forested and scrub-shrub wetlands to palustrine emergent wetlands following tree clearing.

The work described above is to be completed in accordance with the plans affixed at the end of this permit instrument, titled “Presque Isle Bypass Phase 2, Aroostook County, Impact Plans,” in 36 sheets dated May 8, 2025, and “Presque Isle Bypass,” in 110 sheets dated November 3, 2024, May 7, 2025, and July 25, 2025.

Project Location:
A 300-foot-wide by 6.53-mile-long corridor extending from U.S. Route 1 in Westfield to Conant Road in Presque Isle, Aroostook County, Maine.

Approximate Coordinates:
Start: Latitude 46.59572°, Longitude -67.96537°
End: Latitude 46.67486°, Longitude -67.97101°

Permit Conditions

General Conditions:

1. The time limit for completing the work authorized ends on **September 30, 2030**. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.

2. You must maintain the activity authorize d by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity, or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and State coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature and the mailing address of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. You must comply with the conditions specified in the water quality certification issued by the State of Maine Department of Environmental Protection on August 1, 2025, as special conditions to this permit. For your convenience, a copy of the certification is attached (Attachment 6: (ME DEP # L-26876-TH-B-N).

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

1. The permittee shall complete and return the enclosed Work-Start Notification Form to this office at least two weeks prior to the anticipated construction start date.

2. The permittee shall complete and return the enclosed Compliance Certification Form to this office within one month following the completion of the authorized work.

3. The permittee shall ensure that a copy of this permit is at the work site (and the project office) whenever work is being performed, and that all personnel with operational control of the site ensure that all appropriate personnel performing work are fully aware of its terms and conditions. The entire permit shall be made a part of any and all contracts and sub-contracts for work that affects areas of USACE jurisdiction at the site of the work authorized by this permit. This shall be achieved by including the entire permit in the specifications for work. The term "entire permit" means this permit (including its drawings, plans, appendices and other attachments) and also includes permit modifications. If the permit is issued after the construction specifications, but before receipt of bids or quotes, the entire permit shall be included as an addendum to the specifications. If the permit is issued after receipt of bids or quotes, the entire permit shall be included in the contract or sub-contract. Although the permittee may assign various aspects of the work to different contractors or sub-contractors, all contractors and sub-contractors shall be obligated by contract to comply with all environmental protection provisions contained within the entire permit, and no contract or sub-contract shall require or allow unauthorized work in areas of USACE jurisdiction.

4. All construction shall be completed in accordance with the limits of construction and construction sequences detailed on the enclosed plan sets titled "Presque Isle Bypass Phase 2, Aroostook County, Impact Plans," in 36 sheets dated May 8, 2025, and "Presque Isle Bypass," in 110 sheets dated November 3, 2024, May 7, 2025, and July 25, 2025. If changes are made to the plans or construction methods for work within or adjacent to waters of the U.S, the permittee shall contact USACE immediately to discuss modification of this authorization. USACE must approve any changes before they are undertaken.

5. This project shall be performed in accordance with erosion control measures conforming with the latest versions of the *State of Maine Department of Transportation Standard Specifications* and the *Department of Transportation's Best Management Practices for Erosion and Sediment Control*.

6. To protect water quality and fish species, including the federally endangered Atlantic salmon (*Salmo salar*), all in-water work in streams shall be conducted during low-flow conditions between July 15 and September 30 of any year(s). In-water work may be conducted at any time within cofferdams or similar silt-containment structures, provided these structures are installed and removed during the required in-water work window.

7. All new and replacement stream crossing structures shall be designed and installed to allow the passage of fish and other aquatic organisms. Structures shall be installed and maintained to replicate the natural stream grade to avoid drops or perching.

8. If the authorized work is not complete before the monarch butterfly (*Danus plexippus*) is listed under the Endangered Species Act (ESA), the lead federal agency shall initiate ESA Section 7 consultation with the U.S. Fish and Wildlife Service. The permittee shall notify USACE to determine if the consultation will result in a need to modify the USACE permit.

9. If the authorized work is not complete before the tricolored bat (*Perimyotis subflavus*) is listed under the Endangered Species Act (ESA), the lead federal agency shall initiate ESA Section 7 consultation with the U.S. Fish and Wildlife Service. The permittee shall notify USACE to determine if the consultation will result in a need to modify the USACE permit.

10. All temporary fill in waters of the U.S. shall be in place for no more than one growing season. The temporary fill will be removed, and the wetland area will be stabilized, prior to the start of the second growing season following initial placement of the fill. Equipment in these areas will operate on timber mats or on frozen ground.

11. Prior to the start of construction impacting waters of the U.S., the permittee shall submit a plan to USACE to monitor site conditions and stream functions at the following three work areas during and after construction to ensure stream functions are not lost. Work shall not begin in these areas until USACE has provided written approval for the monitoring plan(s):
    a. New culvert on Clark Brook at project station 7344+00
    b. Replacement culvert on a Tributary to Merritt Brook (Stream 01W), at project station 328+00
    c. New culvert and relocated channel on a Tributary to Merritt Brook (Stream 01W), at project station 7613+00

12. Compensatory mitigation for aquatic resource impacts shall consist of purchasing 21.0546 In-Lieu-Fee (ILF) credits from the Maine Natural Resource Conservation Fund. The current cost to purchase these credits is $4,319,722.00, as calculated on the enclosed "In-Lieu Fee (ILF) project Impact Worksheet" and based on the fee schedule, which can be found at the following Maine Department of Environmental Protection (ME DEP) webpage: https://www.maine.gov/dep/land/nrpa/ILF_and_NRCP/ILF/fs-in-lieu-fee.pdf. The ILF amount is subject to change yearly and the exact cost is dependent on the date of purchase. The permittee must make a payment through internal billing to the ME DEP and notify the ILF Program Administrator (via e-mail at Marylisa.York@maine.gov or by mail to Attn: ILF Program Administrator, State House Station 17, Augusta, ME 04333). The payment and notification must include the USACE and ME DEP file numbers "NAE-2008-02480/ME DEP # ME DEP # L-26876-TH-B-N" and the statement: "For ILF account only." **No impacts authorized by this permit shall begin until ILF credits are purchased** and USACE receives confirmation from the ME DEP that the ME DEP has received the check and accepts responsibility for mitigation.

13. If the required monitoring of the three stream locations listed in Special Condition 11 results in findings of additional adverse impacts, corrective action shall be taken during the monitoring period. If corrective action is not taken for the additional adverse impact(s) during the monitoring period, additional ILF mitigation may be required.

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

( ) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403)

(☑) Section 404 of the Clean Water Act (33 U.S.C. 1344)

( ) Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413)

( ) Section 14 of the Rivers and Harbors Act of 1899 (33 U.S.C. 408)

2. Limits of this authorization.

   a. This permit does not obviate the need to obtain other Federal, State, or local authorizations required by law.

   b. This permit does not grant any property rights or exclusive privileges.

   c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal projects.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:
   a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

   b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

   c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

   d. Design or construction deficiencies associated with the permitted work.

   e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision: This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

   a. You fail to comply with the terms and conditions of this permit.
   b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (see 4 above).
   c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

   Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions: General Condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

(PERMITTEE) 09/02/2025 (DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

Date: 9/04/2025

For: Justin R. Pabis, P.E.
Colonel, EN
Commander, New England District
U.S. Army Corps of Engineers

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

_____ _____
(TRANSFEREE-SIGNATURE) (DATE)

_____
(NAME-PRINTED)

_____
(ADDRESS)

_____
(CITY, STATE, AND ZIP CODE)

Attachments to Department of the Army Permit Number NAE-2008-02480

1. WORK START NOTIFICATION FORM

2. COMPLIANCE CERTIFICATION FORM

3. ILF WORKSHEET

4. LOCATION MAP

5. PERMIT DRAWINGS:

    a. Presque Isle Bypass Phase 2, Aroostook County, Impact Plans, 36 sheets dated May 8, 2025
    b. Presque Isle Bypass, 110 sheets dated November 3, 2024, May 7, 2025, and July 25, 2025

6. WATER QUALITY CERTIFICATION (ME DEP # L-26876-TH-B-N): Specific Conditions of the water quality permit/certification in accordance with General Condition number 5 on page 2 of this DA permit.

7. PRELIMINARY JURISDICTIONAL DETERMINATION FORM

Work-Start Notification Form

File Number: NAE-2008-02480 State: Maine County: Aroostook

Permittee: Maine Department of Transportation
Date Permit Issued: August 28, 2025
Project Manager: Rachel Antieau

At least two weeks prior to commencing the activity authorized by this permit, sign this certification and return it to the following address:

US ARMY CORPS OF ENGINEERS
New England District
Attn: Jami MacNeil
696 Virginia Road
Concord, Massachusetts 01742
or
cenae-r-tu@usace.army.mil
978-778-6497

Please note that your permitted activity is subject to a compliance inspection by a U. S. Army Corps of Engineers (USACE) representative. Failure to comply with any terms or conditions of this authorization may result in the USACE suspending, modifying or revoking the authorization and/or issuing a Class I administrative penalty, or initiating other appropriate legal action.

The people (e.g. contractor) listed below will do the work, and they understand the permit's conditions and limitations.

Contractor Name/Contractor Firm: _____
Business Address: _____
_____
Contractor Phone and Email: _____

Proposed Construction Dates: Start: _____ Finish: _____

_____ _____
Signature of Permittee Date

U.S. Army Corps of Engineers (USACE)

CERTIFICATION OF COMPLIANCE WITH DEPARTMENT OF THE ARMY PERMIT

For use of this form, see Section 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act of 1899, and Section 103 of the Marine Protection, Research, and Sanctuaries Act; the proponent agency is CECW-COR.

Form Approved - OMB No. 0710-0003 Expires 2027-10-31

The Agency Disclosure Notice (ADN)

The Public reporting burden for this collection of information, 0710-0003, is estimated to average 10 minutes per response, including 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.

PURPOSE: This form is used by recipients of U.S. Army Corps of Engineer Regulatory permits to certify compliance with the permit terms and conditions.

Your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with this permit, you are subject to permit suspension, modification, or revocation.

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the U.S. Army Corps of Engineers. The certification can be submitted by email at cenae-r-tu@usace.army.mil or by mail at the below address:

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the U.S. Army Corps of Engineers, cenae-r-tu@usace.army.mil.

U.S. Army Corps of Engineers
New England District
Regulatory Division
696 Virginia Road
Concord, MA 01742-2751

COMPLETED BY THE CORPS

Corps Action Number:	NAE-2008-02480
Permit Type:	Standard Permit
General Permit Number and Name (*if applicable*):	
Name of Permittee:	Maine Department of Transportation
Project Name:	Presque Isle Bypass
Project Location (*physical address*):	Route 1, Westfield, ME, Lat/Long 46.59572, -67.96537, to Conant Rd, Presque Isle, ME, Lat/Long 46.67486, -67.97101°

PERMITTEE'S CERTIFICATION

Date Work Started: _____

Date Work Completed: _____

Enclose photographs showing the completed project (*if available*).

I _____ hereby certify that the work authorized by the above referenced permit has been completed in accordance with all of the permit terms and conditions, and that any required compensatory mitigation has been completed in accordance with the permit conditions.

Name	Date	Signature

ENG FORM 6285, DEC 2024 PREVIOUS EDITIONS ARE OBSOLETE

Plan Index: “Presque Isle Bypass” in 110 sheets dated 11/03/2024, 5/7/2025, and 07/25/2025.

Count	Sheet ID	Sheet # (of 687)	Sheet title	Subtitle	Date
1	-	1	Presque Isle, Presque Isle Bypass	Title Sheet	11/3/2024
2	G-2	2	Presque Isle, Presque Isle Bypass	Sheet Layout	11/3/2024
3-26	H-2 to H-25	106 to 129	Presque Isle, Presque Isle Bypass	Plan & Profile	7/25/2025
27	H-26	130	Presque Isle, Slip Lane	Plan & Profile	7/25/2025
28	H-27	131	Presque Isle, Southern Connector	Plan & Profile	7/25/2025
29	H-28	132	Presque Isle, Route 1 – Drive South	Plan & Profile	7/25/2025
30	H-29	133	Presque Isle, Route 1 – Remove Culvert	Plan & Profile	7/25/2025
31	H-30	134	Presque Isle, Conant Road	Plan & Profile	7/25/2025
32	H-31	135	Presque Isle, Conant Road	Plan & Profile	7/25/2025
33	H-32	136	Presque Isle, NB Off Ramp	Plan & Profile	7/25/2025
34	H-33	137	Presque Isle, NB On Ramp	Plan & Profile	7/25/2025
35	H-34	138	Presque Isle, SB Off Ramp	Plan & Profile	7/25/2025
36	H-35	139	Presque Isle, SB On Ramp	Plan & Profile	7/25/2025
37	H-36	132	Presque Isle, Bridge & Culvert Removal	Plan	11/3/2024
38	H-63	159	Presque Isle, Presque Isle Bypass	Cross Sections	11/3/2024
39	B-116	660	Presque Isle, Presque Isle Bypass	Arch Culvert Details	11/3/2024
40	B-117	661	Presque Isle, Presque Isle Bypass	Arch Culvert Details	11/3/2024
41	B-188	662	Presque Isle, Presque Isle Bypass	Arch Culvert Details	11/3/2024
42	H-71	167	Presque Isle, Presque Isle Bypass	Cross Sections	11/3/2024
43	B-119	663	Presque Isle, Presque Isle Bypass	Box Culvert Details	11/3/2024
44	B-120	664	Presque Isle, Presque Isle Bypass	Box Culvert Details	11/3/2024
45	B-121	665	Presque Isle, Presque Isle Bypass	Box Culvert Details	11/3/2024
46	H-89	185	Presque Isle, Presque Isle Bypass	Cross Sections	11/3/2024
47	H-92	188	Presque Isle, Presque Isle Bypass	Cross Sections	11/3/2024
48	H-94	190	Presque Isle, Presque Isle Bypass	Cross Sections	11/3/2024
49	H-97	193	Presque Isle, Presque Isle Bypass	Cross Sections	11/3/2024
50	H-99	195	Presque Isle, Presque Isle Bypass	Cross Sections	11/3/2024
51	H-100	196	Presque Isle, Presque Isle Bypass	Cross Sections	11/3/2024
52	H-106	202	Presque Isle, Presque Isle Bypass	Cross Sections	11/3/2024
53	H-112	208	Presque Isle, Presque Isle Bypass	Cross Sections	11/3/2024
54	B-122	666	Presque Isle, Presque Isle Bypass	Box Culvert Details	11/3/2024
55	B-123	667	Presque Isle, Presque Isle Bypass	Box Culvert Details	11/3/2024
56	B-124	668	Presque Isle, Presque Isle Bypass	Box Culvert Details	11/3/2024
57	H-117	213	Presque Isle, Presque Isle Bypass	Cross Sections	11/3/2024
58	H-122	218	Presque Isle, Presque Isle Bypass	Cross Sections	11/3/2024
59	H-136	232	Presque Isle, Presque Isle Bypass	Cross Sections	11/3/2024
60	H-147	243	Presque Isle, Presque Isle Bypass	Cross Sections	11/3/2024
61	H-149	245	Presque Isle, Presque Isle Bypass	Cross Sections	11/3/2024
62	H-157	253	Presque Isle, Presque Isle Bypass	Cross Sections	11/3/2024
63	H-182	278	Presque Isle, Presque Isle Bypass	Cross Sections	11/3/2024
64	H-183	279	Presque Isle, Presque Isle Bypass	Cross Sections	11/3/2024
65	B-125	669	Presque Isle, Presque Isle Bypass	Box Culvert Details	11/3/2024
66	B-126	670	Presque Isle, Presque Isle Bypass	Box Culvert Details	11/3/2024
67	B-127	671	Presque Isle, Presque Isle Bypass	Box Culvert Details	11/3/2024
68	H-190	286	Presque Isle, Presque Isle Bypass	Cross Sections	11/3/2024
69	H-232	238	Presque Isle, Presque Isle Bypass	Cross Sections	11/3/2024
70	H-241	337	Presque Isle, Presque Isle Bypass	Cross Sections	11/3/2024
71	H-287	383	Presque Isle, Presque Isle Bypass	Cross Sections	11/3/2024

72	H-292	388	Presque Isle, Presque Isle Bypass	Cross Sections	11/3/2024
73	H-299	395	Presque Isle, Presque Isle Bypass	Cross Sections	11/3/2024
74	B-128	672	Presque Isle, Presque Isle Bypass	Box Culvert Details	11/3/2024
75	B-129	673	Presque Isle, Presque Isle Bypass	Box Culvert Details	11/3/2024
76	B-130	674	Presque Isle, Presque Isle Bypass	Box Culvert Details	11/3/2024
77	H-321	417	Presque Isle, Presque Isle Bypass	Cross Sections	11/3/2024
78	B-131	675	Presque Isle, Conant Road	Box Culvert Details	11/3/2024
79	B132	676	Presque Isle, Conant Road	Box Culvert Details	11/3/2024
80	B-133	677	Presque Isle, Conant Road	Box Culvert Details	11/3/2024
81	H-400	496	Presque Isle, Conant Road	Cross Sections	11/3/2024
82	H-421	517	Presque Isle, Northbound On Ramp	Cross Sections	11/3/2024
83	S-4	37	Presque Isle, Stream Restoration	Merritt Brook	11/3/2024
84	S-5	38	Presque Isle, Stream Restoration	Clark Brook	5/7/2025
85	S-6	39	Presque Isle, Stream Restoration	Merritt Brook	11/3/2024
86 to 107	S-18 to S-39	51 to 72	Presque Isle, Merritt Brook	Cross Sections	11/3/2024
108	S-1	34	Presque Isle Stream Restoration	Details (1 of 3)	11/3/2024
109	S-2	35	Presque Isle Stream Restoration	Details (2 of 3)	11/3/2024
110	S-3	36	Presque Isle Stream Restoration	Details (3 of 3)	11/3/2024

MAINE IN-LIEU-FEE (ILF)
PROJECT IMPACT WORKSHEET

DEP Invoice #: *Filled in by ILF Administrator in Augusta*

Project Name: Presque Isle Bypass Phase 2

Permittee(s): Maine Department of Transportation

DEP Permit #: L-26876-TH-B-N Issued Date: 08-04-2025 *Attach a copy of DEP Permit*

USACE Permit # NAE-2008-02480 Issued Date: 08-29-2025 *Attach a copy of USACE Permit*

DEP/Corps Project Managers: Keegan Feero (DEP) / Rachel Antieau (USACE)

Project Address: Start: US Rt 1 Westfield, ME, Latitude 46.59572°, Longitude -67.96537°
End: Conant Rd, Presque Isle, ME, Latitude 46.67486°, Longitude -67.97101°

Biophysical Region – Section: Aroostook Hills and Lowlands

Biophysical Region – Subsection: Aroostook Lowlands Subsection

ILF Credits (credits to be purchased): USACE: 21.0546 credits

Credit Calculations (see examples below):
1 acre ILF in Aroostook County = $205,167.60
21.0546 x 205,167.60 = $4,319,721.75 ≈ $4,319,722.00

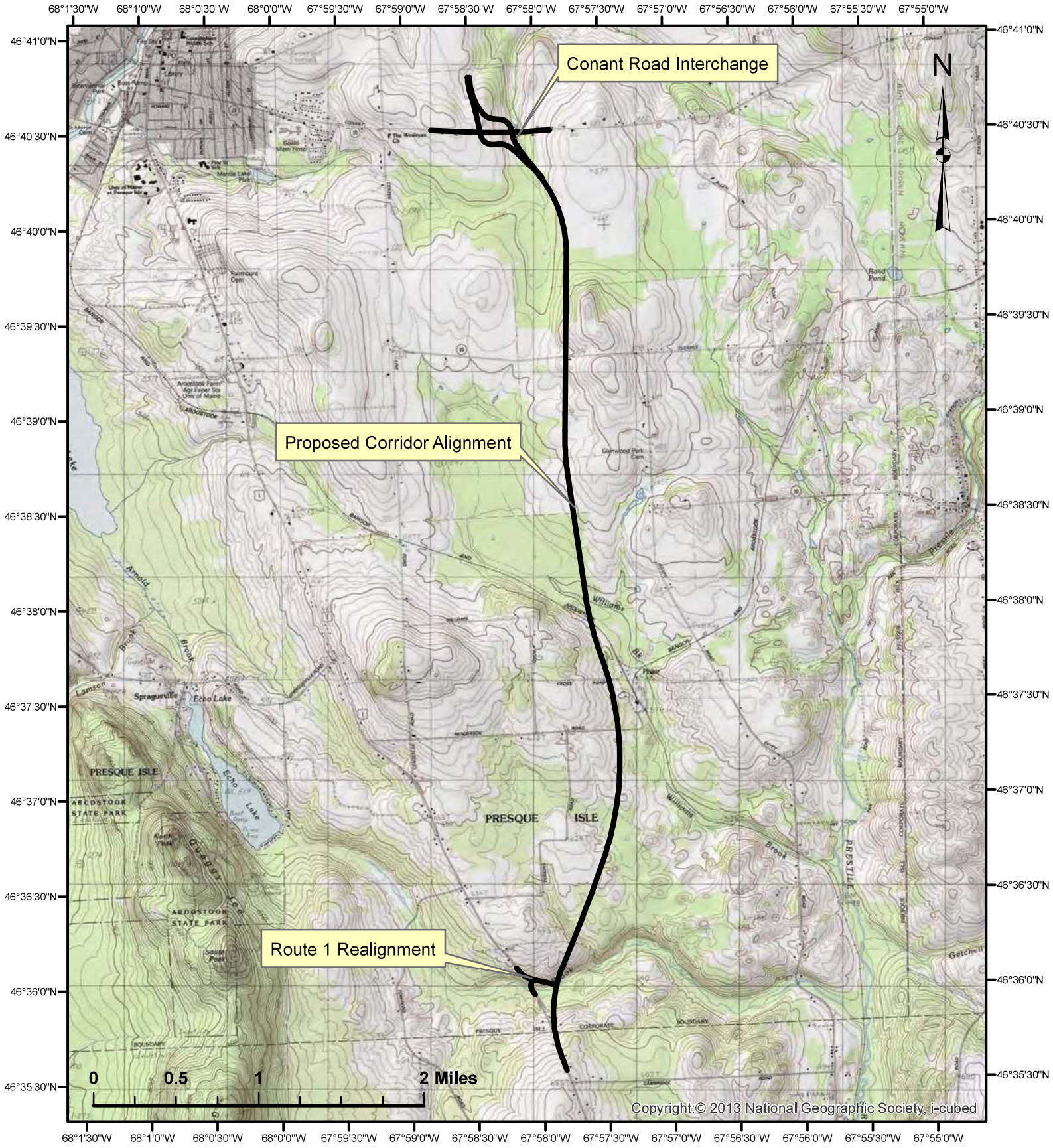
Check Date: Check Amount:

Resource Types (list all that apply, separate line for each resource)	**Types of Impacts** (list all that apply, by resource type)	**SF Impacted** (by resource type)	**Multiplier or Reduction** (if none, use 1 or N/A)	**Credit Required** (including multipliers & reductions)	**Linear FT of Streams Impacted** (for Corps use)
Phase 1: PFO	Permanent Fill	0.1139	1	0.1139	
Phase 2: PFO	Permanent Fill	14.7043	1	14.7043	
Phase 2: PSS	Permanent Fill	3.7214	1	3.7214	
Phase 2: PEM	Permanent Fill	0.0697	1	0.0697	
Phase 2: PUB	Permanent Fill	0.9900	1	0.9900	
Phase2: PFO	Permanent Conversion	2.2539	0.15	0.3381	
Phase 2: PSS	Permanent Conversion	0.0186	0.15	0.0028	
Phase 2: Streams	Permanent Stream Loss	0.2611	2	0.5222	1,071
Phase 2: Streams	Culvert <1.2x bfw, closed	0.0218	1.75	0.0382	167
Phase 2: Streams	Culvert >1.2x bfw, AOP, closed	0.1990	1.5	0.2985	525
Phase 2: Streams	Culvert >1.2x bfw, AOP, open	0.0474	1.25	0.0592	170
Phase 2: Streams	Channel Relocation	0.3927	0.5	0.1963	658
	Total SF Impacts:	22.7938	**Total Credits:**	21.0546	2,591

Resource Types: Wetlands by NWI Type (PEM, PFO, PSS, PUB, M1, M2, E1, E2, M1AB3*, etc.), significant vernal pool depression (SVP), significant vernal pool critical terrestrial habitat (VPCTH), shorebird feeding & staging habitat (shorebird), inland waterfowl & wading bird habitat (IWWH), Tidal waterfowl & wading bird habitat (TWWH), lake or pond (L1, L2), river/stream/brook (RSB)
Types of Impacts: May include filling, dredging, vegetation conversion (e.g. forested to shrub/scrub), excavation with associated discharge, etc.; bfw = bank-full width; AOP = aquatic organism passage; closed = closed-bottom structure; open = open-bottom structure

Credit Calculation examples: 1 credit = 1 acre (43,560 sq ft)
- For US Army Corps permit use Current ILF Fact Sheet effective at the time of payment. (See example below)
- If no US Army Corps permit is required and DEP specified a ILF amount in the permit, pay that amount.
- IF both US Army Corps permit and DEP permit are required, pay the higher of the two fees (the one specified in DEP permit or the one calculated according to the steps below based on the number of credits to be purchased).

Figure 1-1. Project Location



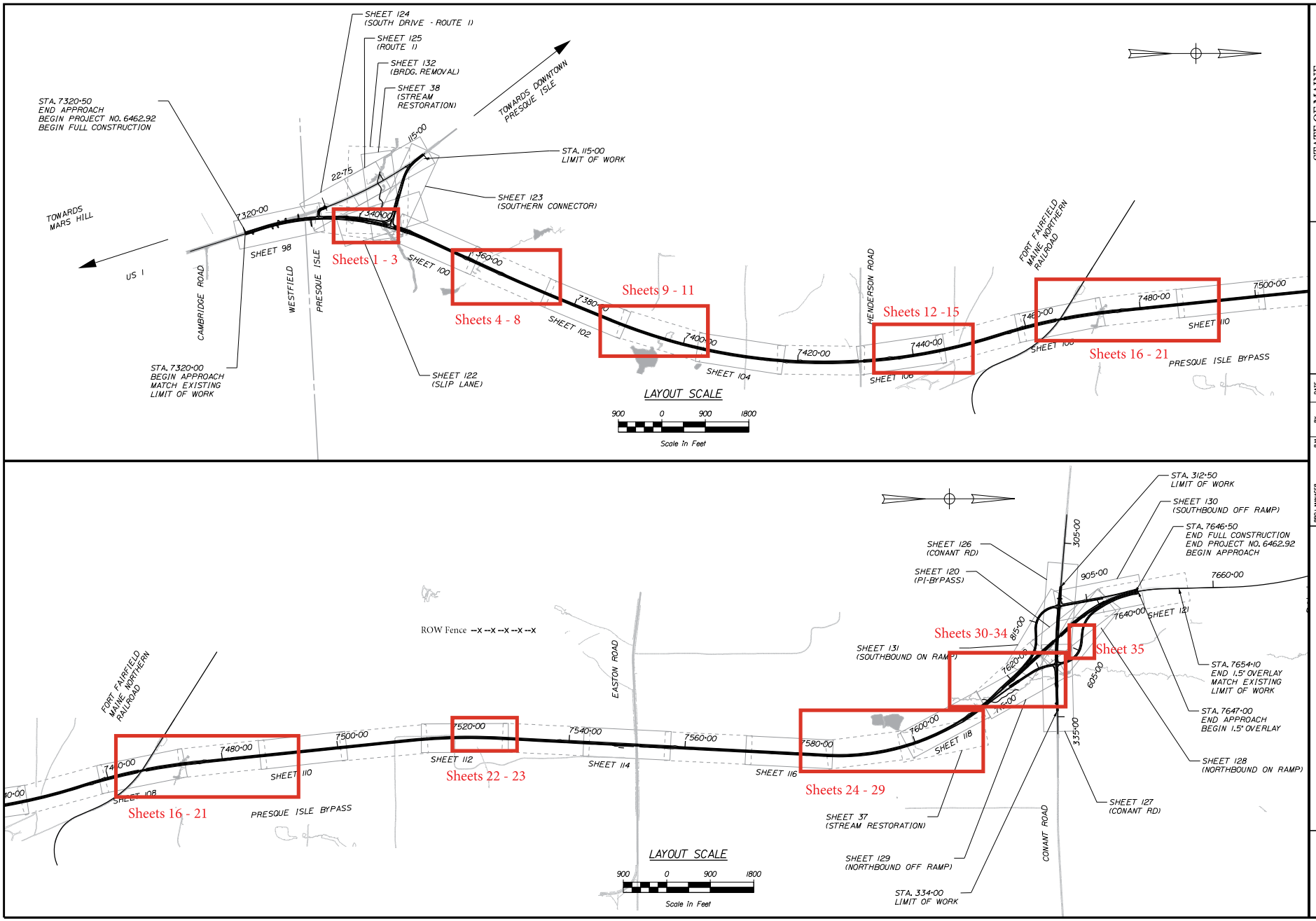
Project Location Map
Presque Isle Bypass - Phase 2
MaineDOT WIN 6462.92
Presque Isle, ME Aroostook County

Project Coordinates
Start (Route 1): 46.595716, -67.96537
End (Conant Road): 46.674864, -67.97101

Date: 2024-02-07

IMPACT PLANS KEY MAP
Plan Date: 05/08/2025

PRESQUE ISLE BYPASS PHASE 2, AROOSTOOK COUNTY, IMPACT PLANS



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
CAPITAL PROJECTS
WIN 6462.92
HIGHWAY PLANS

vhb

P.M.	BY	DATE
PROJ. MANAGER		
DESIGN DETAILER	ZRW	11/3/2024
QUALITY MANAGER	JBD	11/3/2024
DESIGN2 DETAILER2	AG	11/3/2024
DESIGN3 DETAILER3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

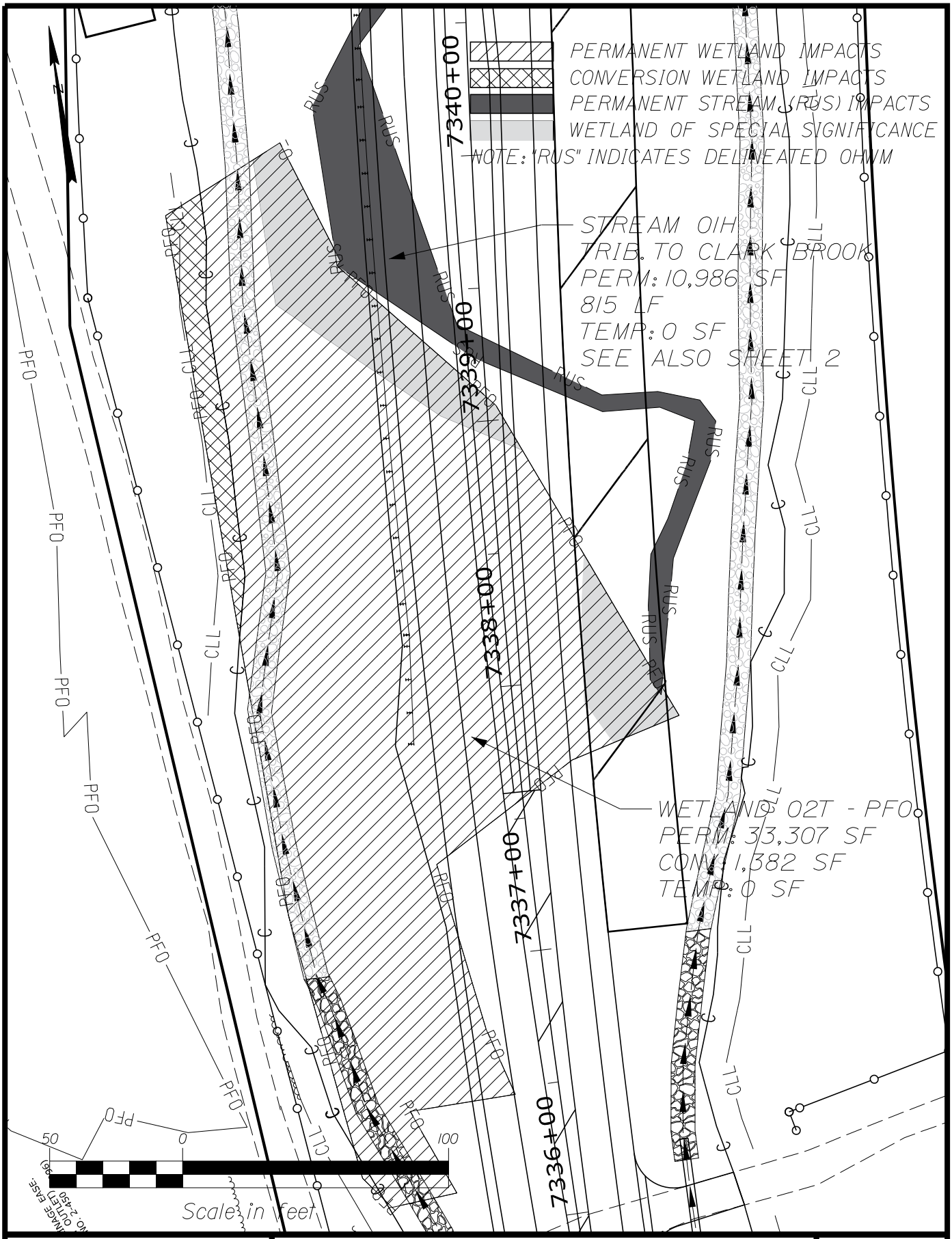
PRESQUE ISLE
PRESQUE ISLE BYPASS
SHEET LAYOUT

SHEET NUMBER
G-2
2
OF 687

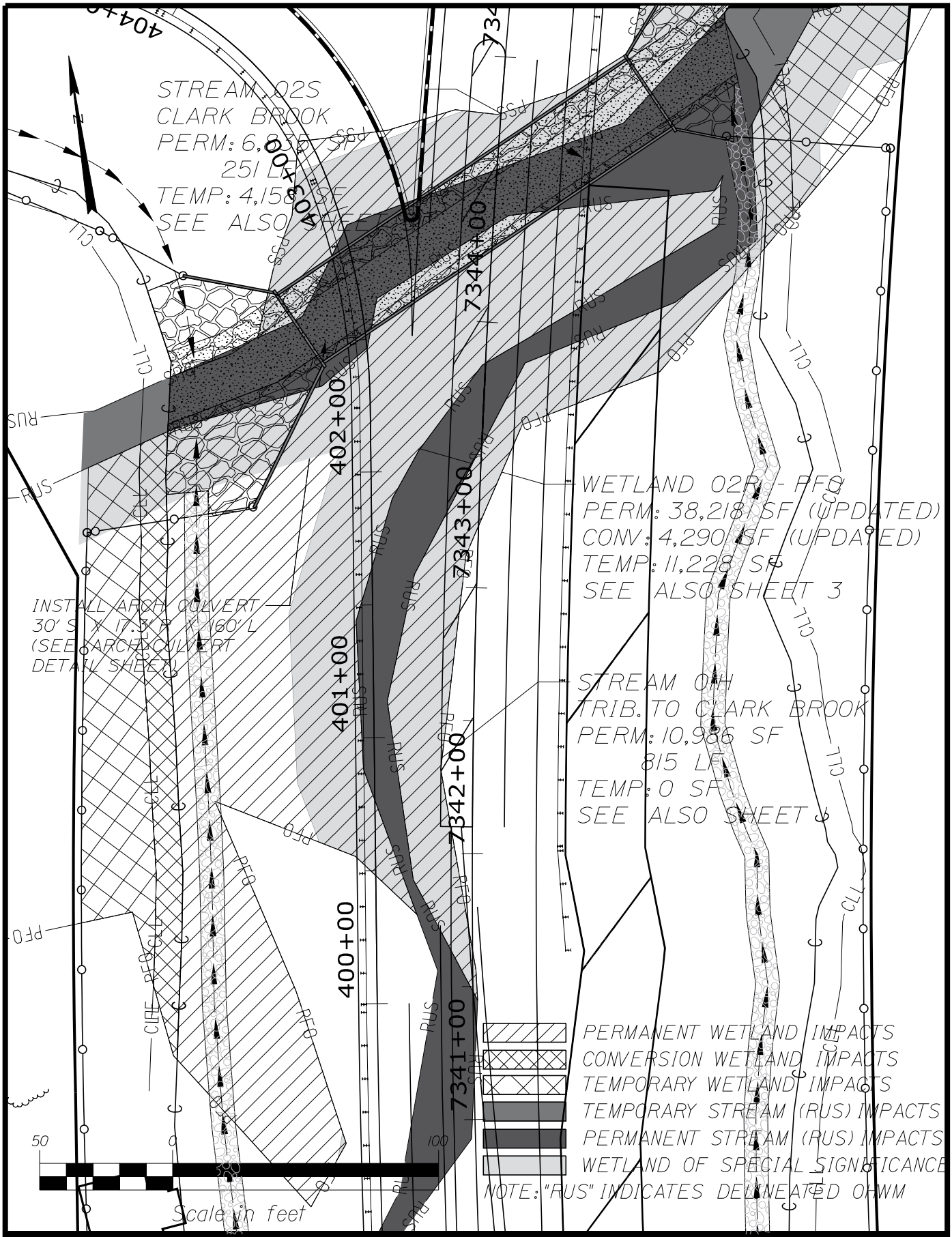
Filename: ...\MDOT\Planset\G2_Keys.dgn Division: HIGHWAY Username: jamesdavis Date:11/3/2024

400

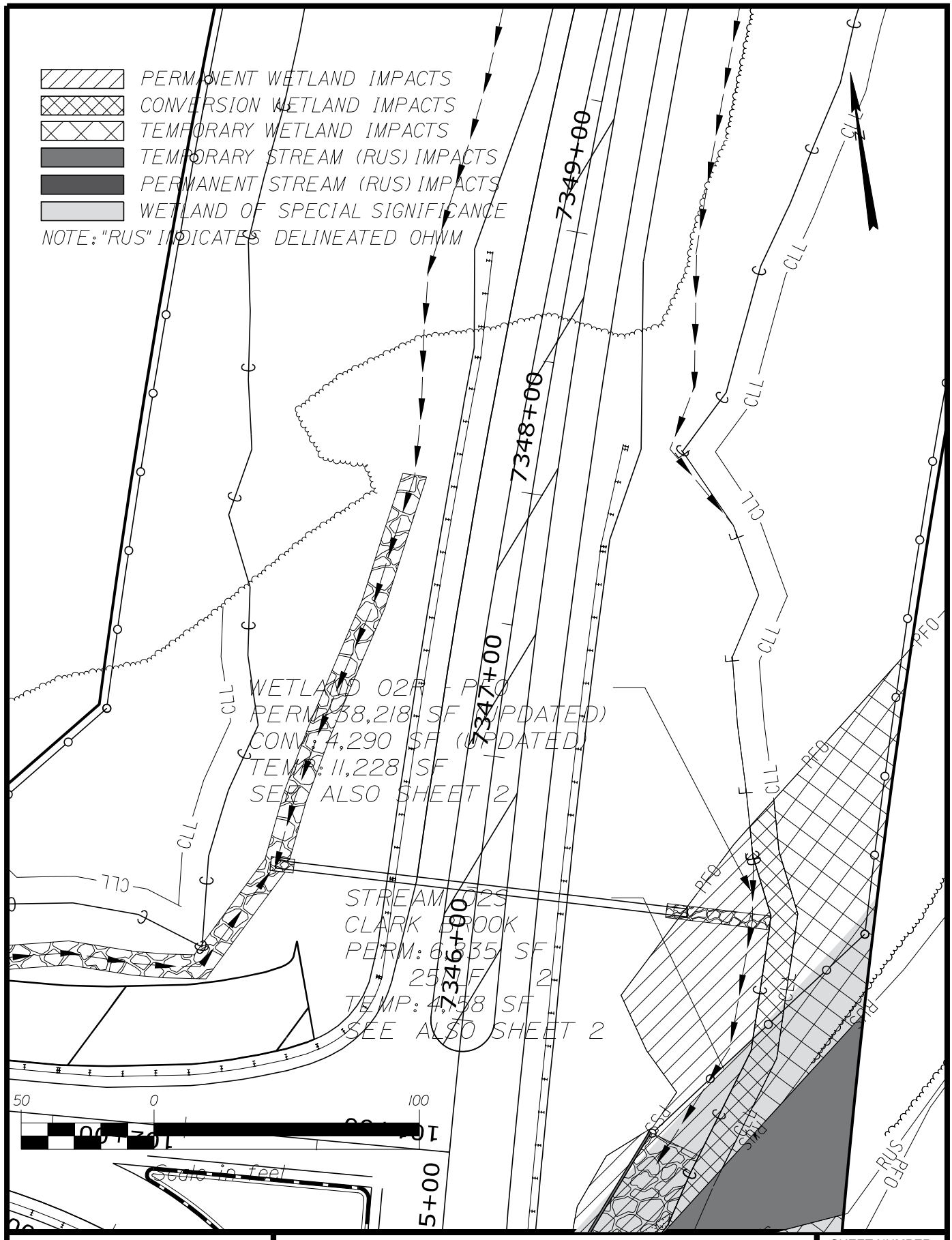
NAE-2008-02480
MaineDOT Presque Isle Bypass WIN 6462.00



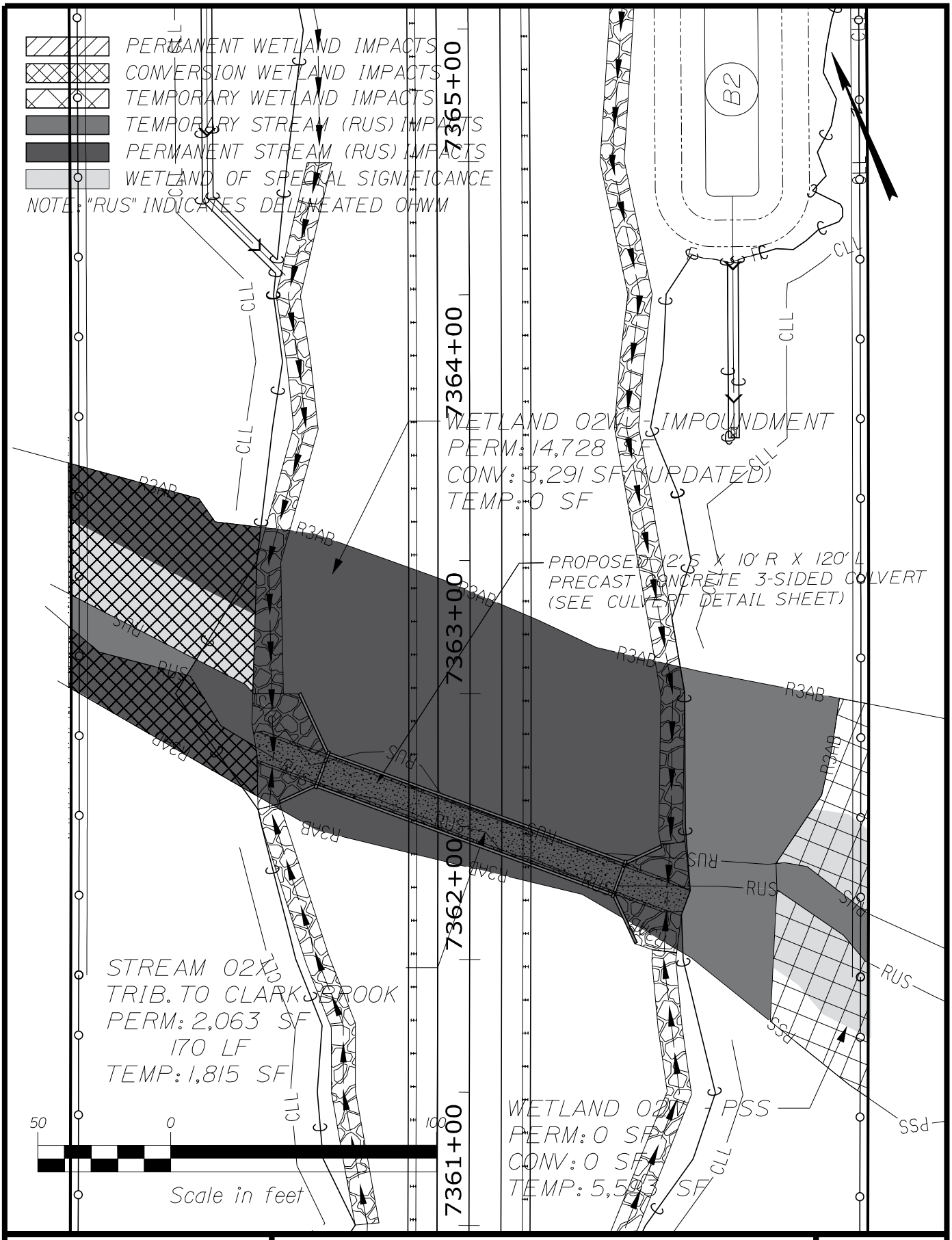
STATE OF MAINE DEPARTMENT OF TRANSPORTATION WIN# 6462.92	PRESQUE ISLE BYPASSPHASE 2 AROOSTOOK COUNTY	SHEET NUMBER 1
5/8/2025	IMPACT PLANS	OF 495



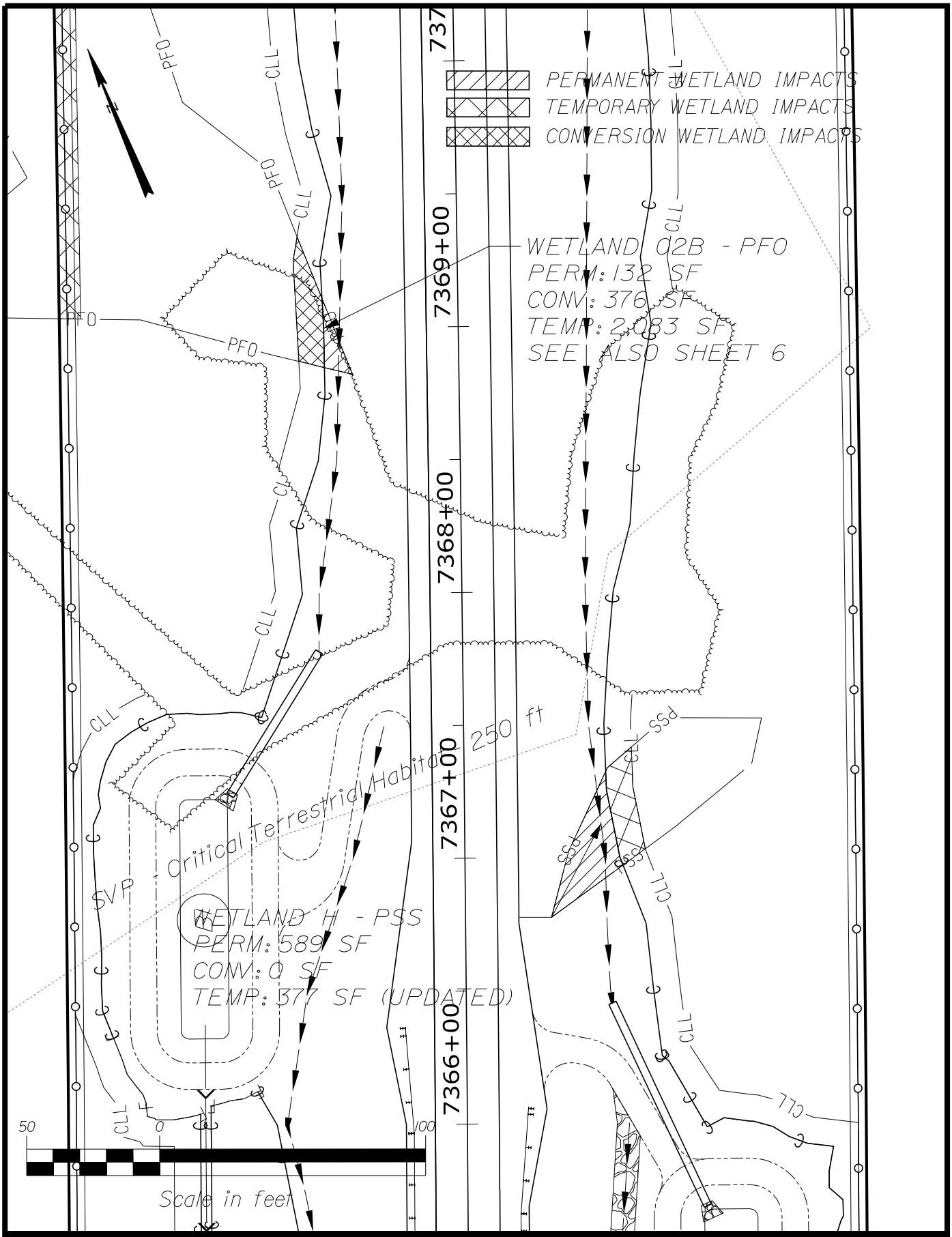
STATE OF MAINE DEPARTMENT OF TRANSPORTATION WIN# 6462.92	PRESQUE ISLE BYPASSPHASE 2 AROOSTOOK COUNTY	SHEET NUMBER 2
5/8/2025	IMPACT PLANS	OF 102



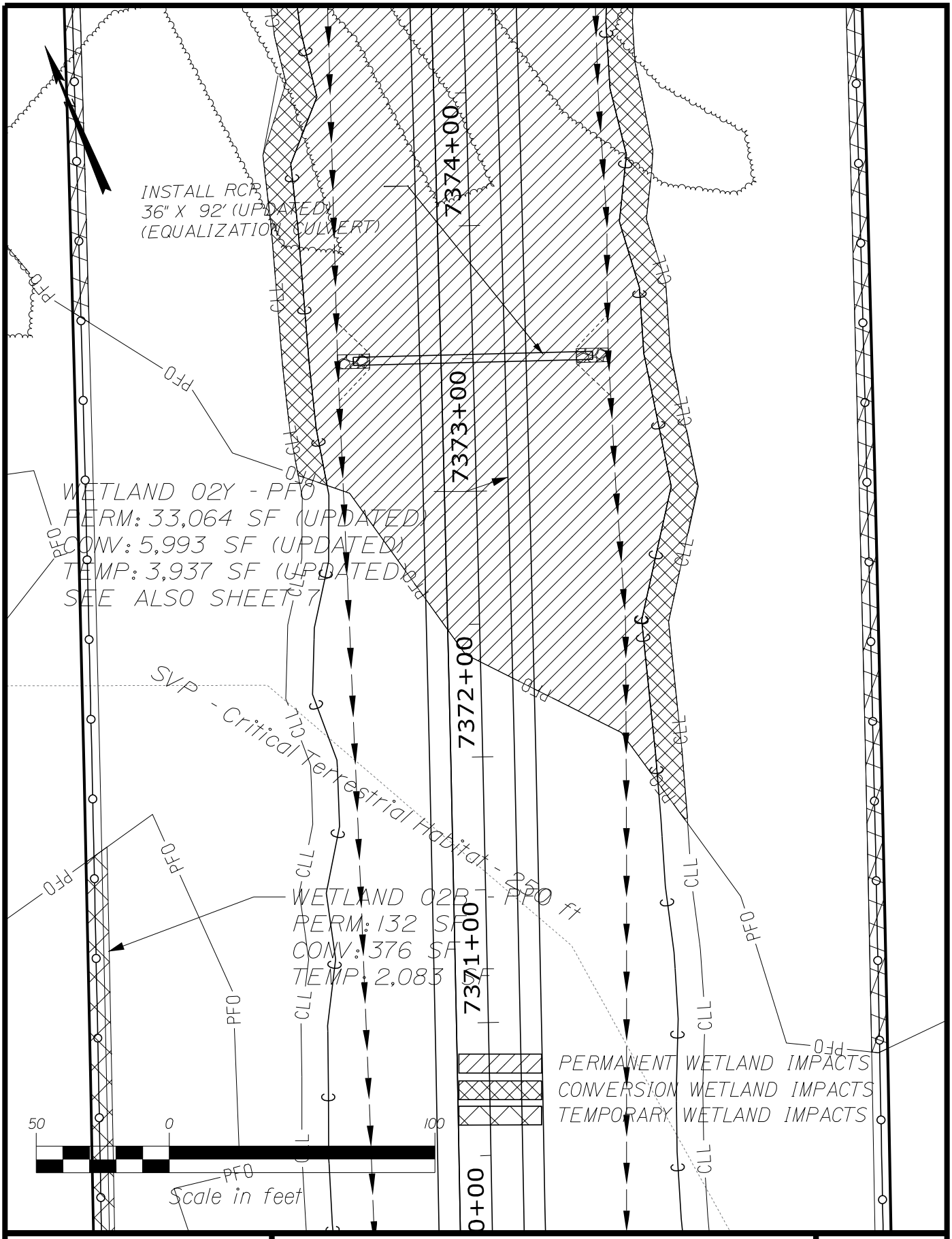
STATE OF MAINE DEPARTMENT OF TRANSPORTATION WIN# 6462.92	PRESQUE ISLE BYPASSPHASE 2 AROOSTOOK COUNTY	SHEET NUMBER 3
5/8/2025	IMPACT PLANS	OF 103



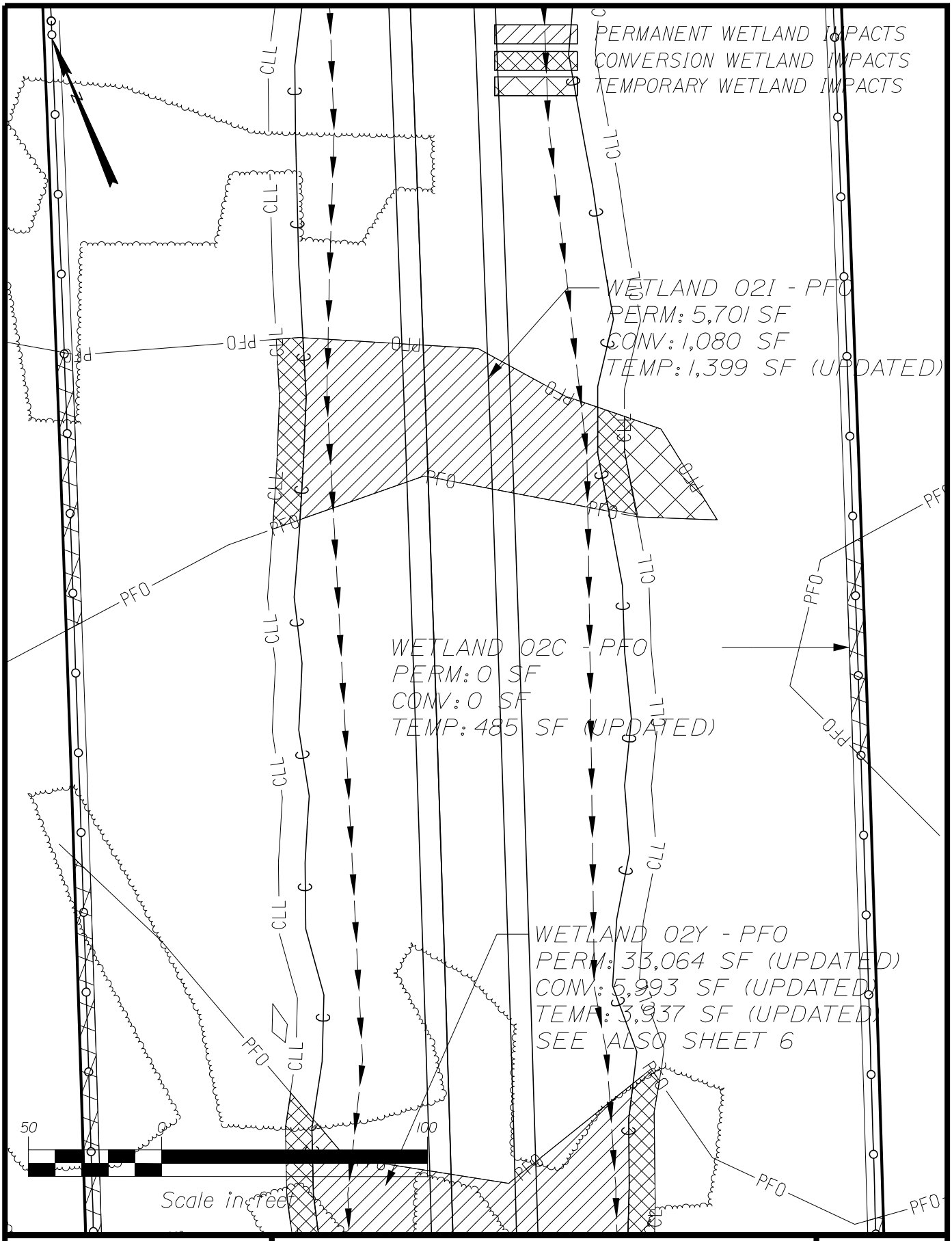
STATE OF MAINE DEPARTMENT OF TRANSPORTATION WIN# 6462.92	PRESQUE ISLE BYPASSPHASE 2 AROOSTOOK COUNTY	SHEET NUMBER 4
5/8/2025	IMPACT PLANS	OF 104



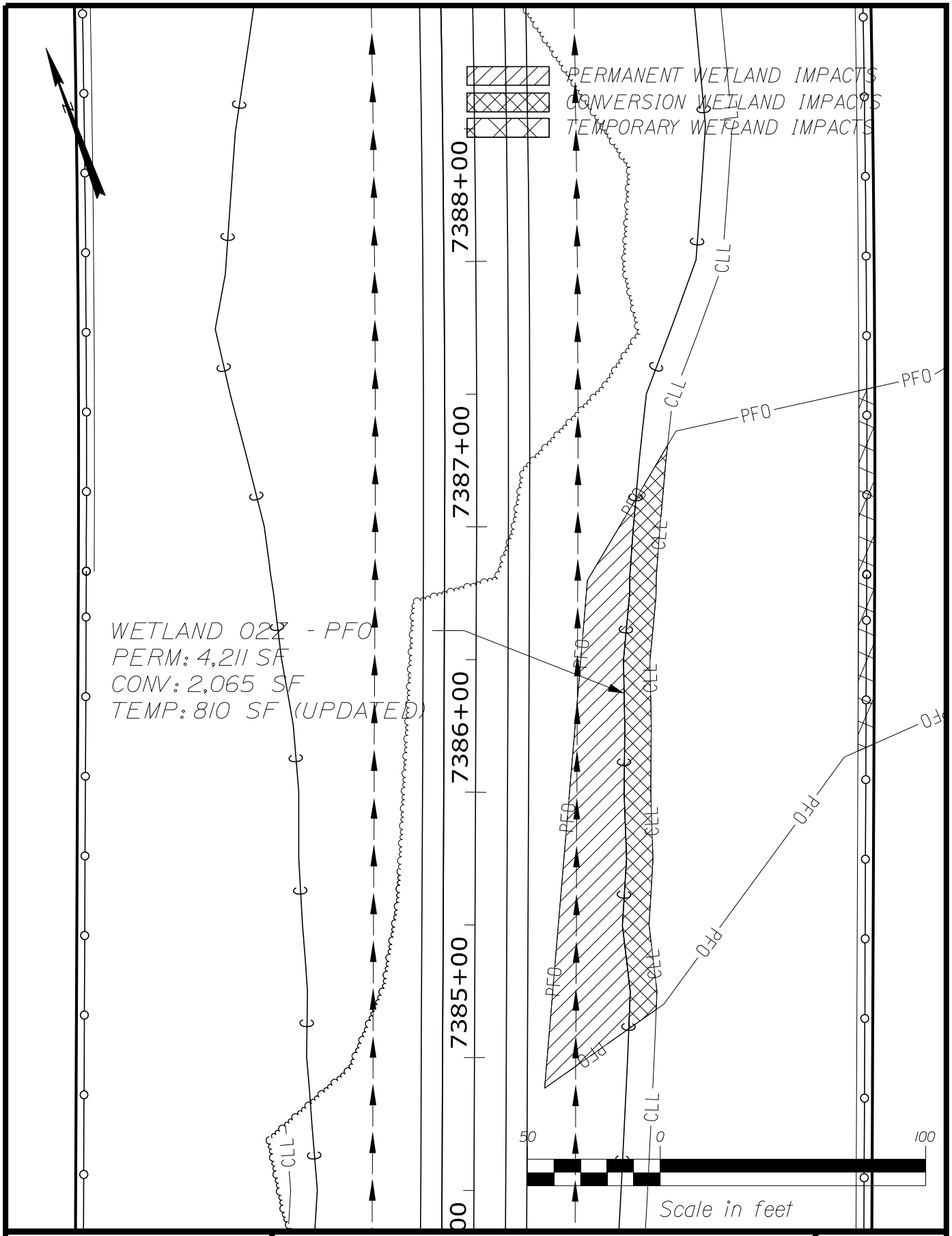
STATE OF MAINE DEPARTMENT OF TRANSPORTATION WIN# 6462.92	PRESQUE ISLE BYPASSPHASE 2 AROOSTOOK COUNTY	SHEET NUMBER 5
5/8/2025	IMPACT PLANS	OF 33



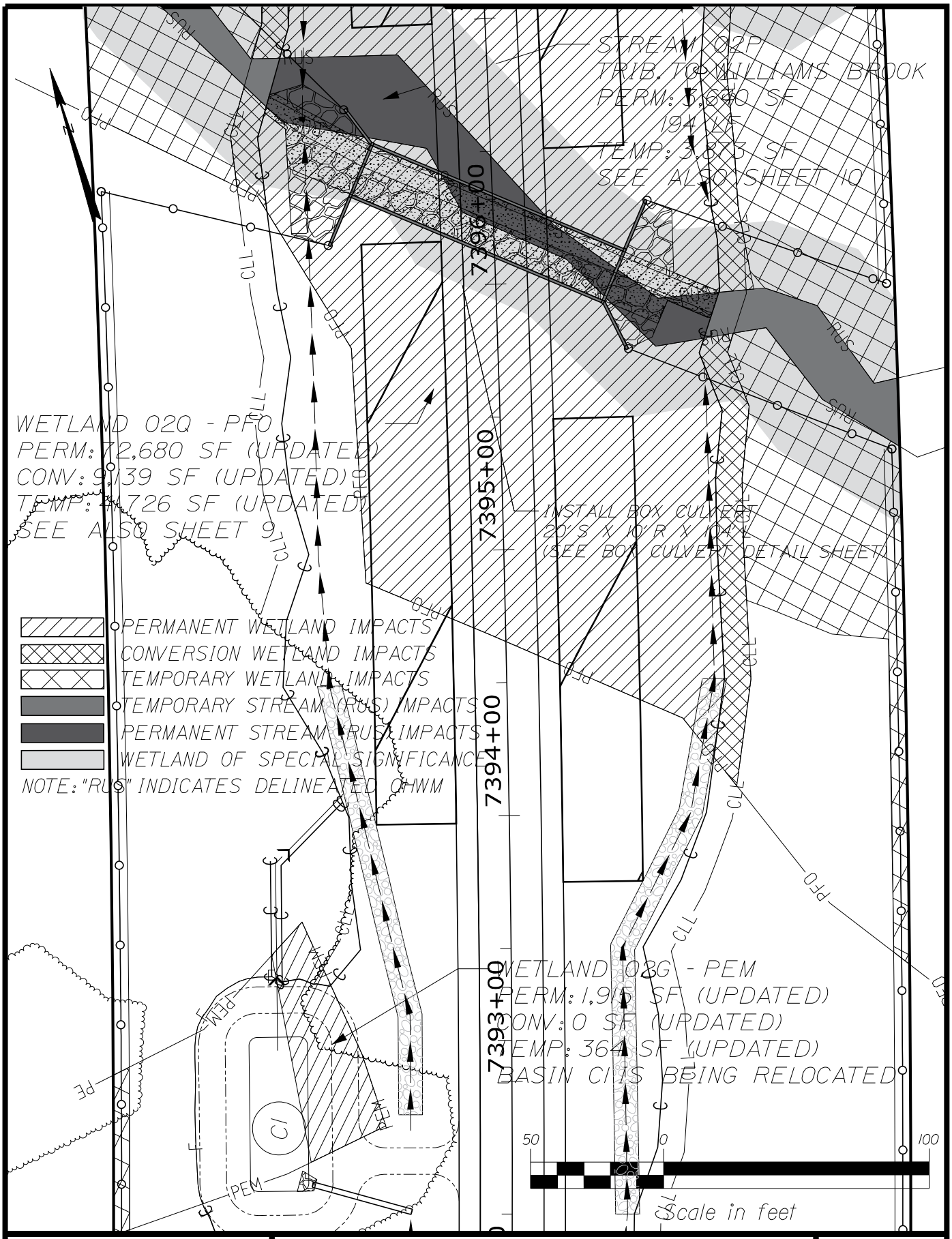
STATE OF MAINE DEPARTMENT OF TRANSPORTATION WIN# 6462.92	PRESQUE ISLE BYPASSPHASE 2 ARROSTOOK COUNTY	SHEET NUMBER 6
5/8/2025	IMPACT PLANS	OF 35



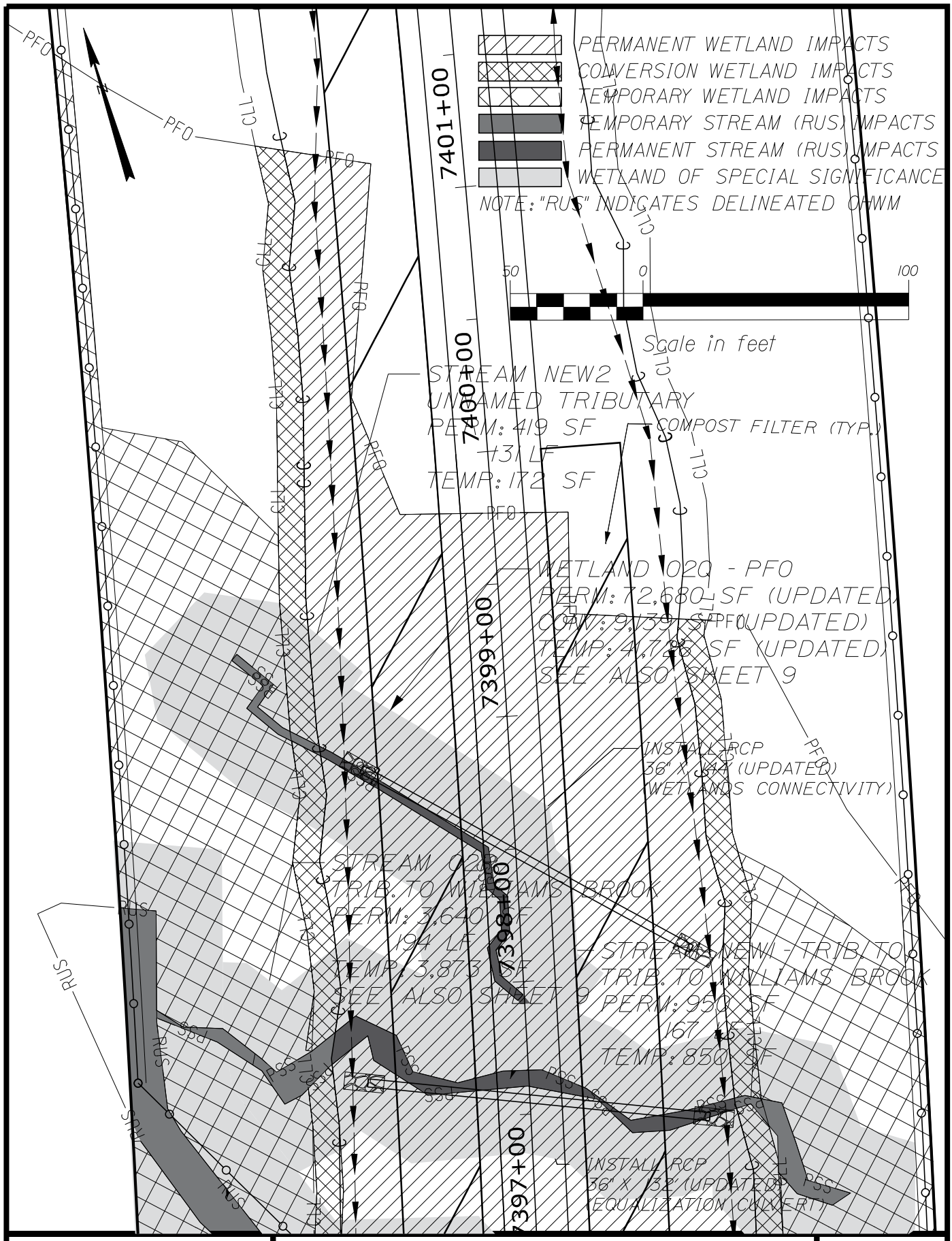
STATE OF MAINE DEPARTMENT OF TRANSPORTATION WIN# 6462.92	PRESQUE ISLE BYPASSPHASE 2 AROOSTOOK COUNTY	SHEET NUMBER 7
5/8/2025	IMPACT PLANS	OF 105



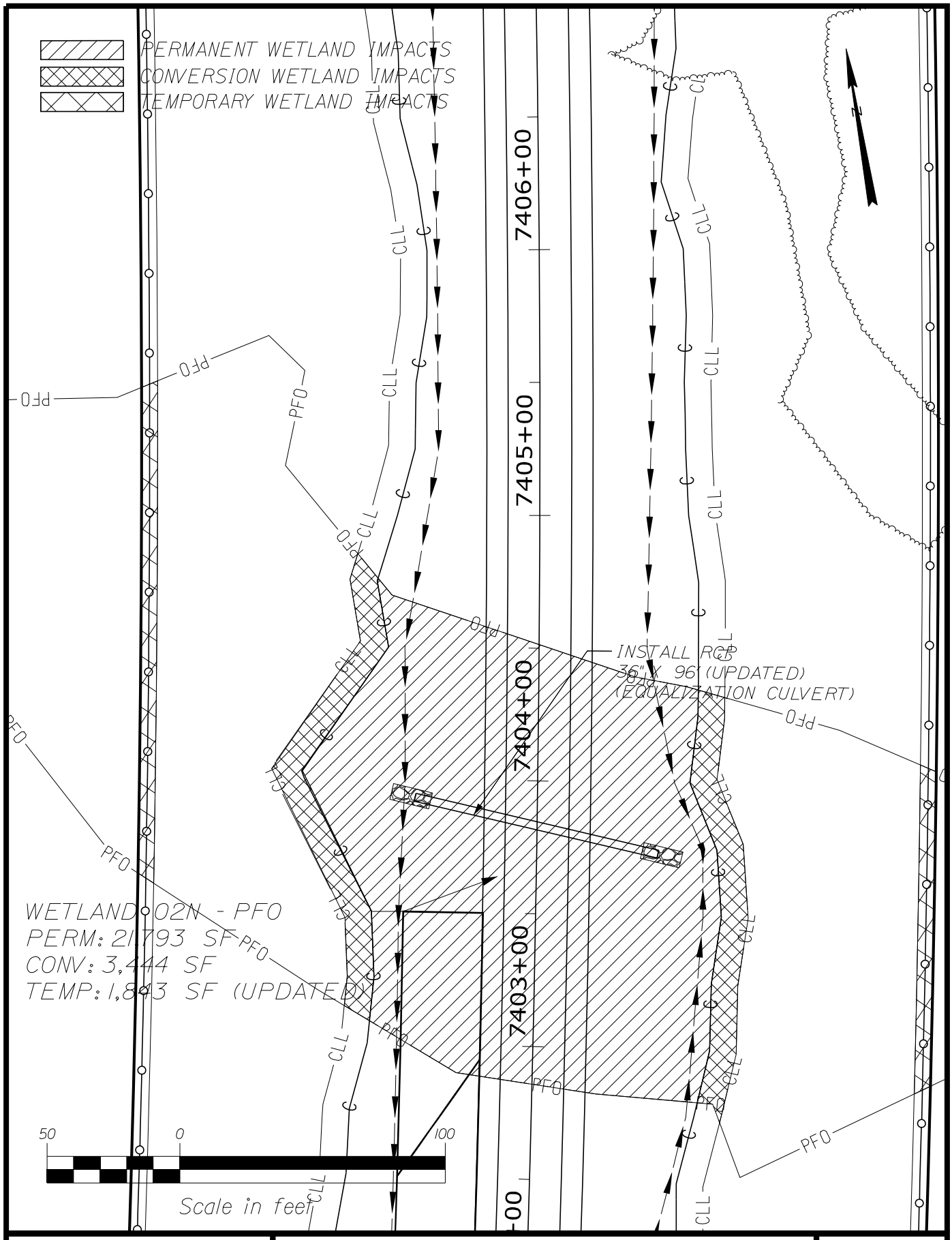
STATE OF MAINE DEPARTMENT OF TRANSPORTATION WIN# 6462.92	PRESQUE ISLE BYPASSPHASE 2 AROOSTOOK COUNTY	SHEET NUMBER 8
5/8/2025	IMPACT PLANS	OF 99



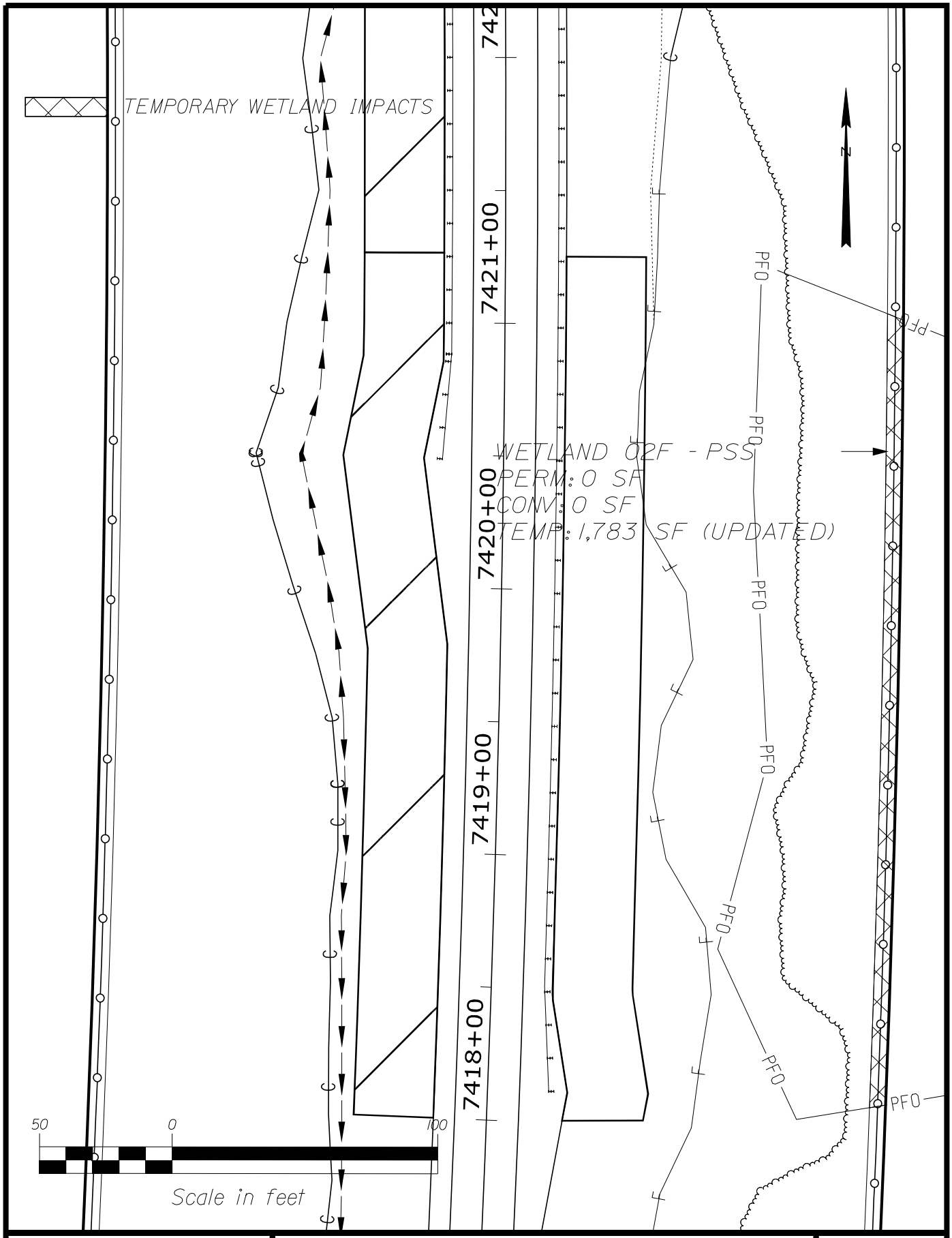
STATE OF MAINE DEPARTMENT OF TRANSPORTATION WIN# 6462.92	PRESQUE ISLE BYPASSPHASE 2 AROOSTOOK COUNTY	SHEET NUMBER 9
5/8/2025	IMPACT PLANS	OF 38



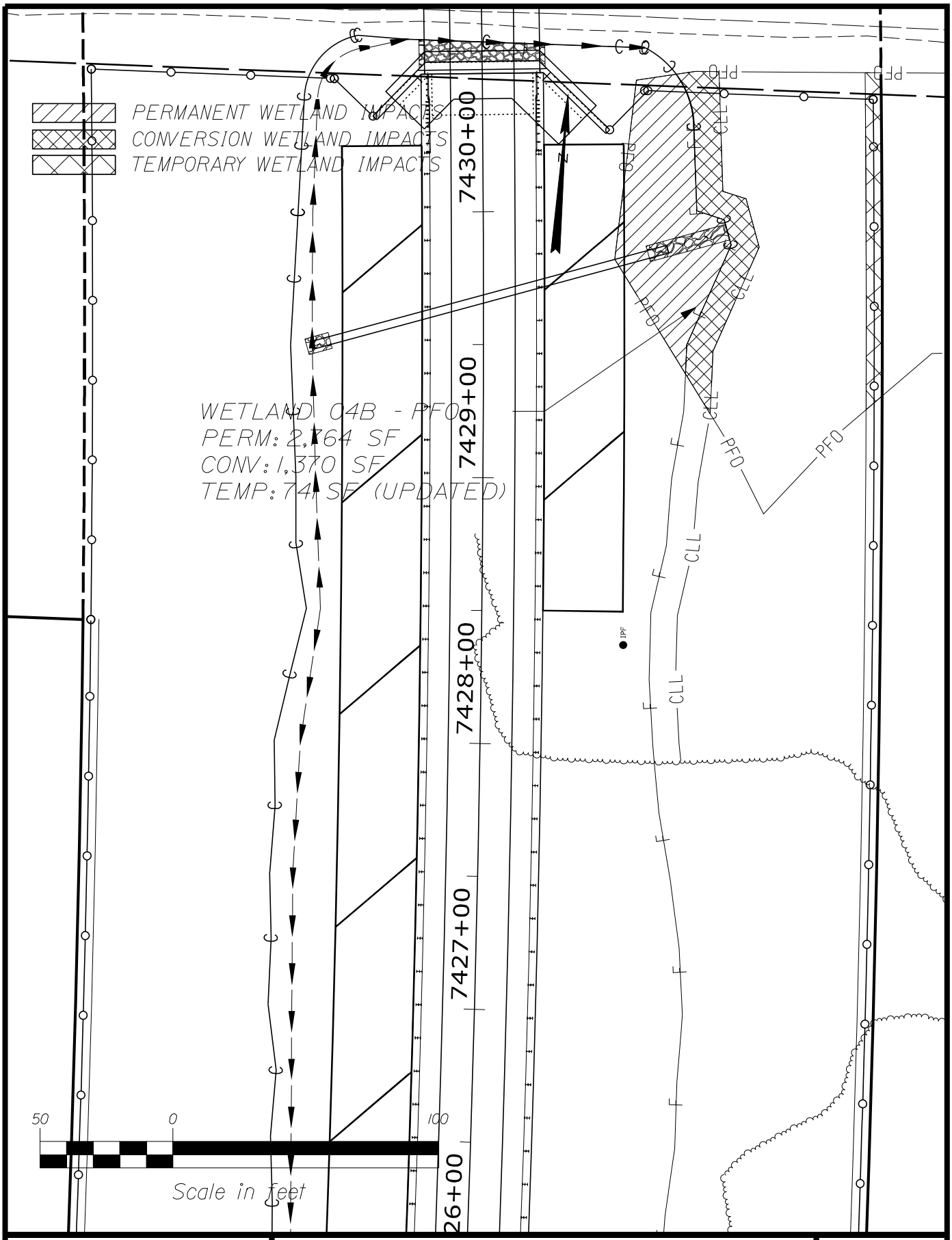
STATE OF MAINE DEPARTMENT OF TRANSPORTATION WIN# 6462.92	PRESQUE ISLE BYPASSPHASE 2 AROOSTOOK COUNTY	SHEET NUMBER 10
5/8/2025	IMPACT PLANS	OF 39



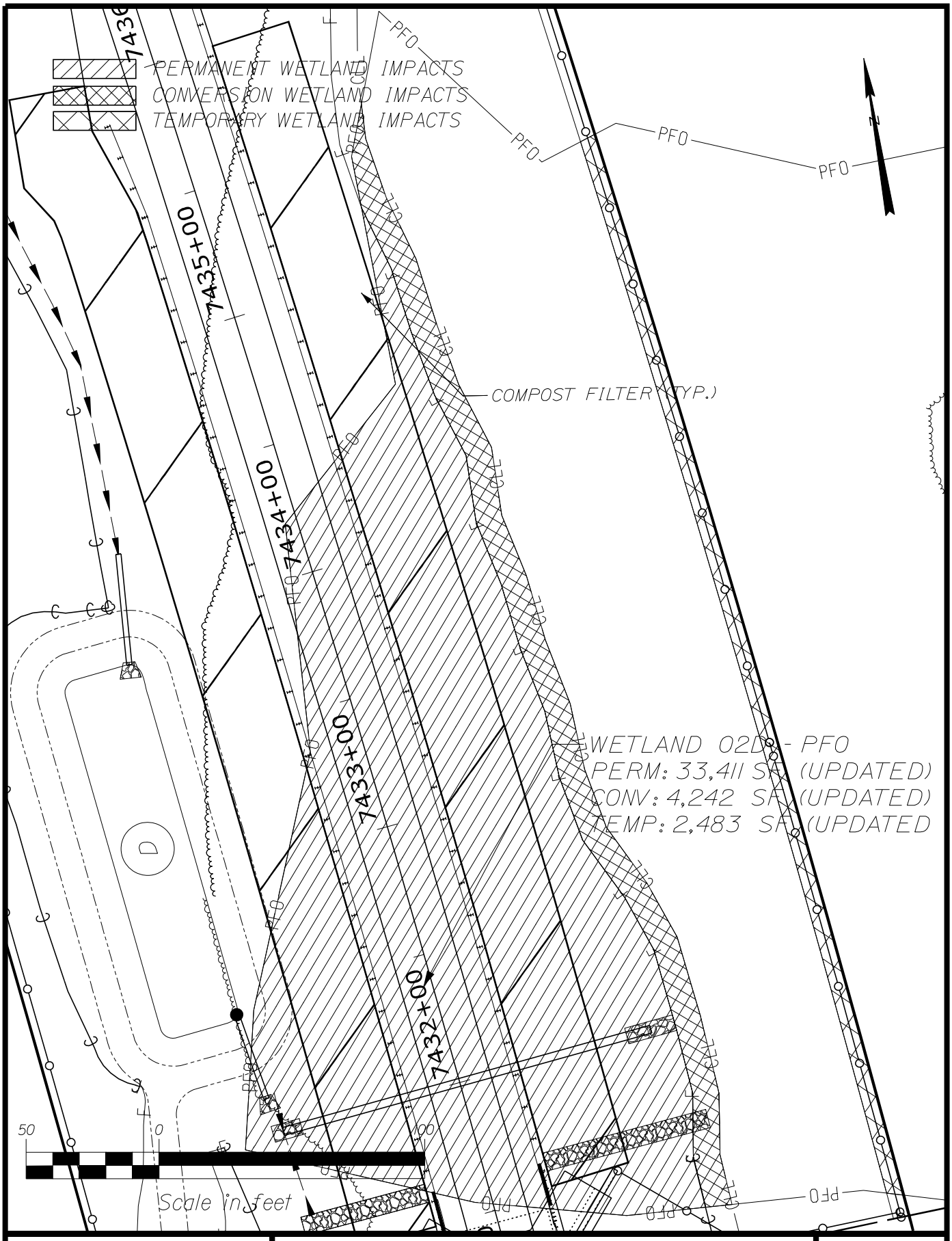
STATE OF MAINE DEPARTMENT OF TRANSPORTATION WIN# 6462.92	PRESQUE ISLE BYPASSPHASE 2 AROOSTOOK COUNTY	SHEET NUMBER 11
5/8/2025	IMPACT PLANS	OF 135



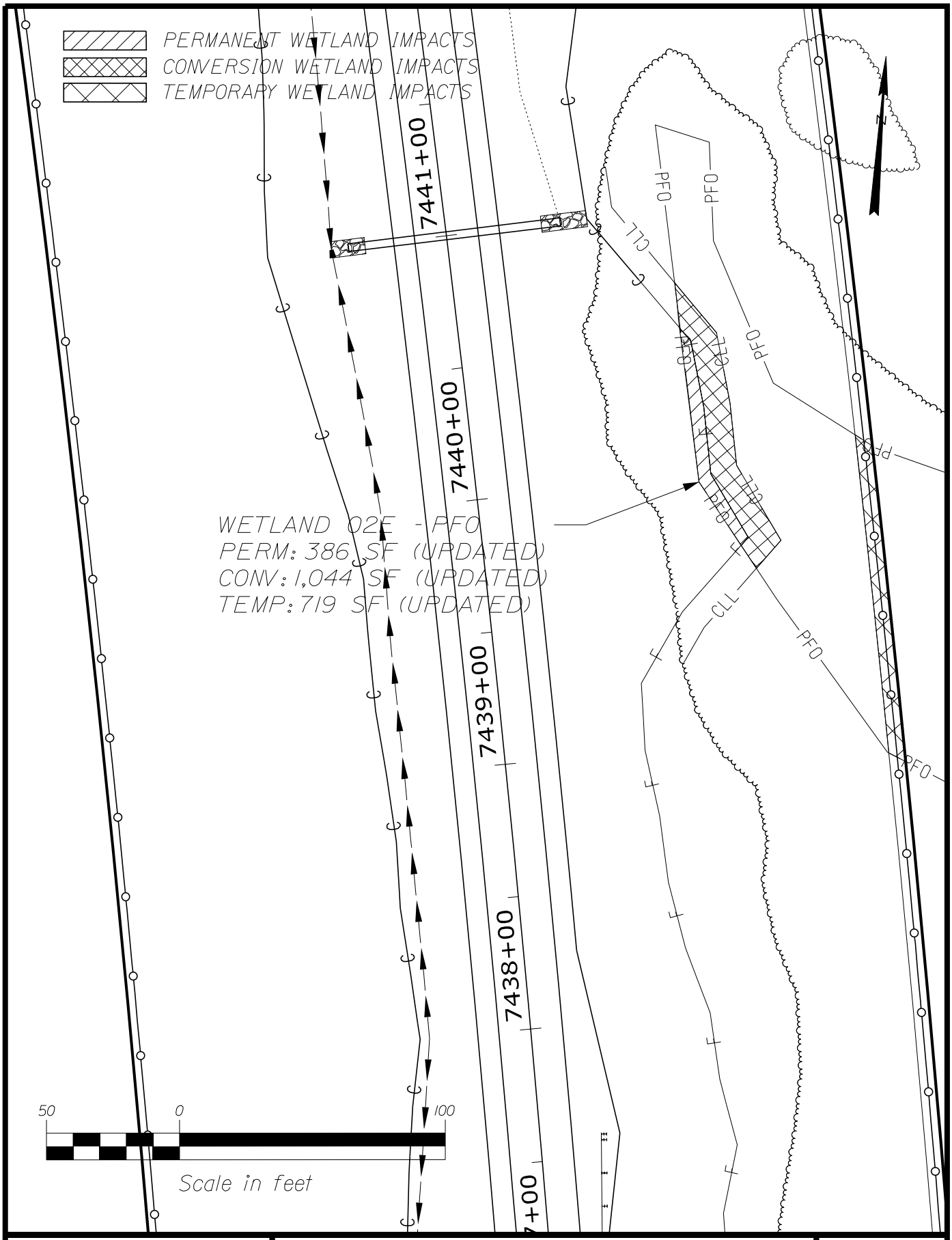
STATE OF MAINE DEPARTMENT OF TRANSPORTATION WIN# 6462.92	PRESQUE ISLE BYPASSPHASE 2 AROOSTOOK COUNTY	SHEET NUMBER 12 OF 13
5/8/2025	IMPACT PLANS	



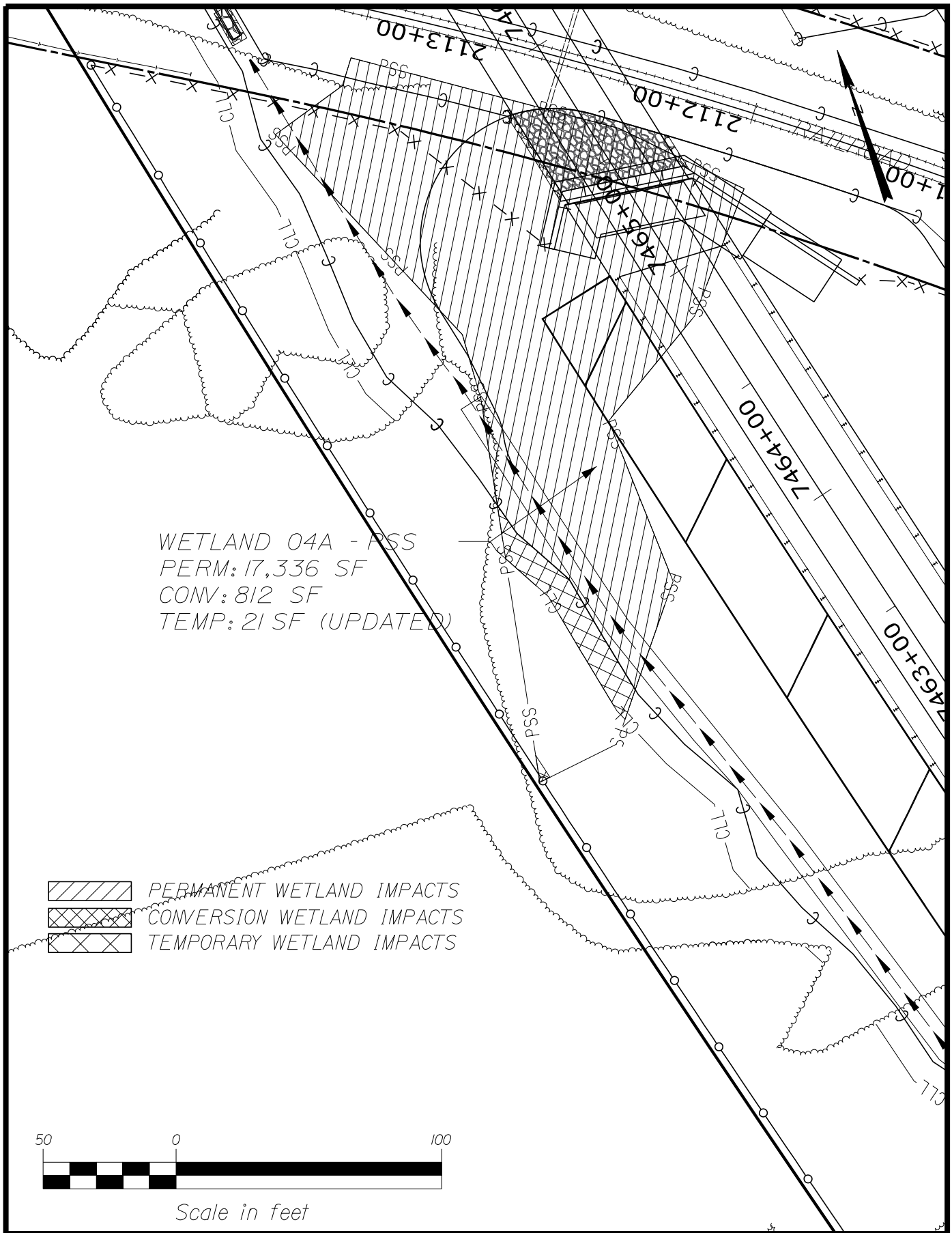
STATE OF MAINE DEPARTMENT OF TRANSPORTATION WIN# 6462.92	PRESQUE ISLE BYPASSPHASE 2 AROOSTOOK COUNTY	SHEET NUMBER 13
5/8/2025	IMPACT PLANS	OF 18



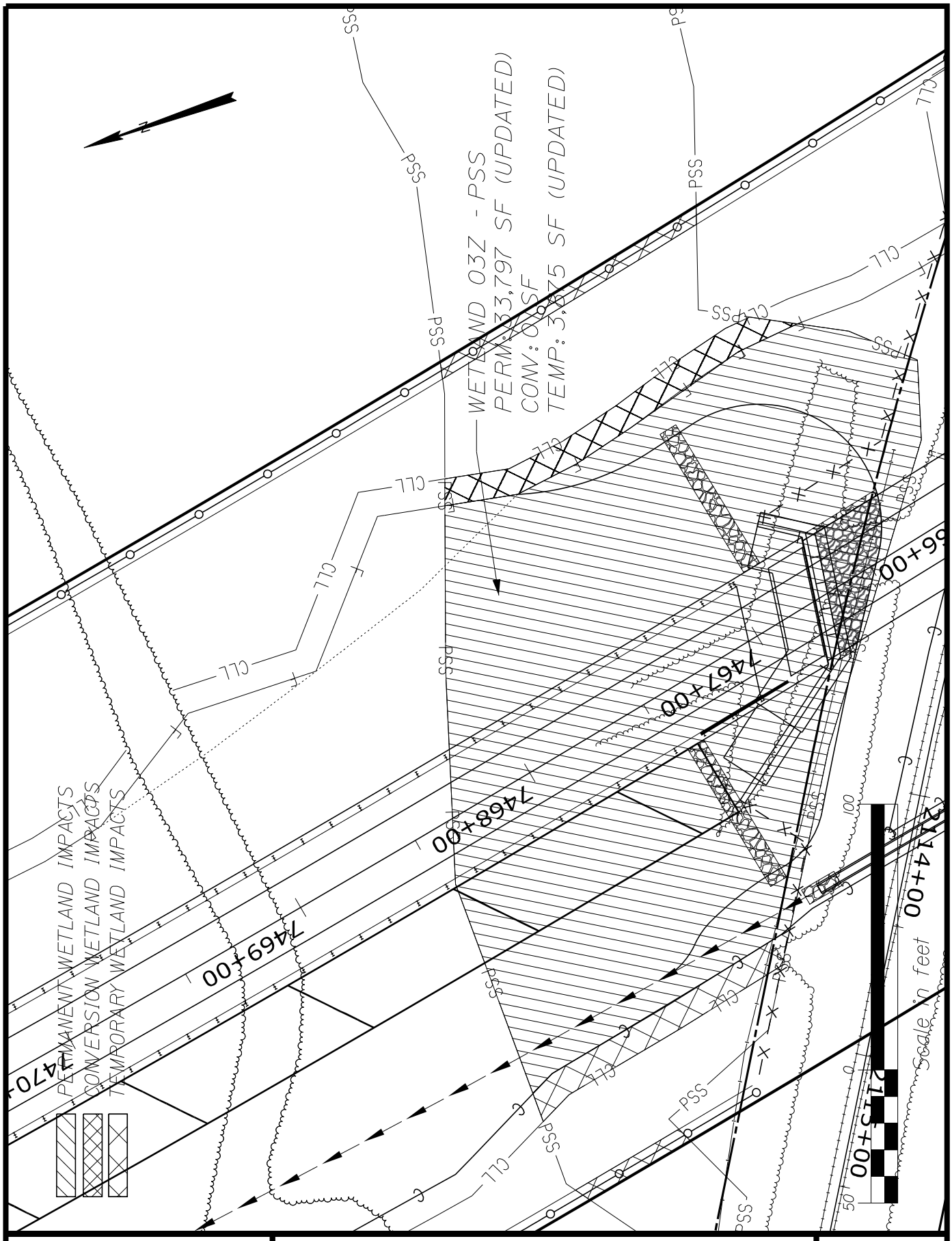
STATE OF MAINE DEPARTMENT OF TRANSPORTATION WIN# 6462.92	PRESQUE ISLE BYPASSPHASE 2 AROOSTOOK COUNTY	SHEET NUMBER 14
5/8/2025	IMPACT PLANS	OF 134



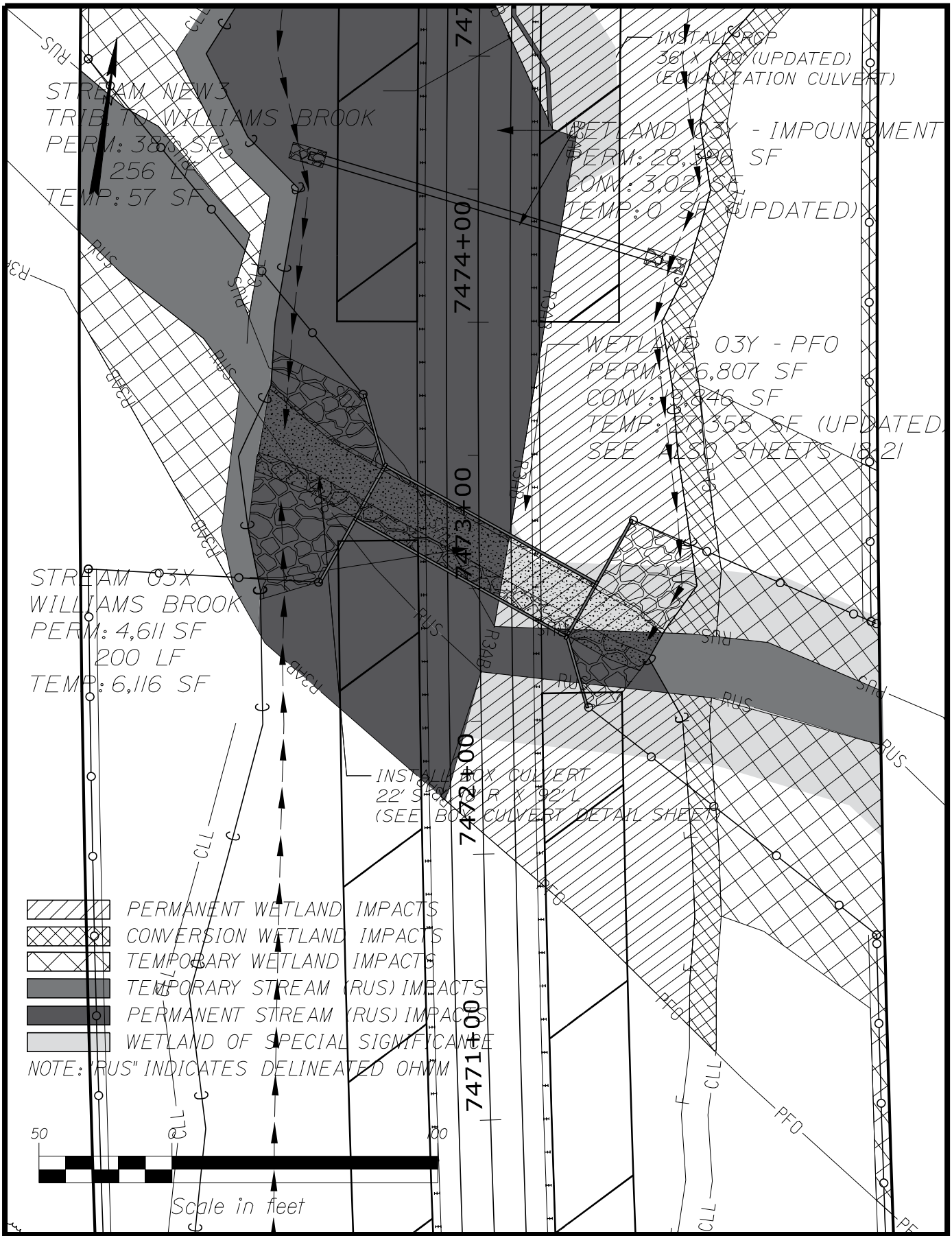
STATE OF MAINE DEPARTMENT OF TRANSPORTATION WIN# 6462.92	PRESQUE ISLE BYPASSPHASE 2 AROOSTOOK COUNTY	SHEET NUMBER 15
5/8/2025	IMPACT PLANS	OF 35



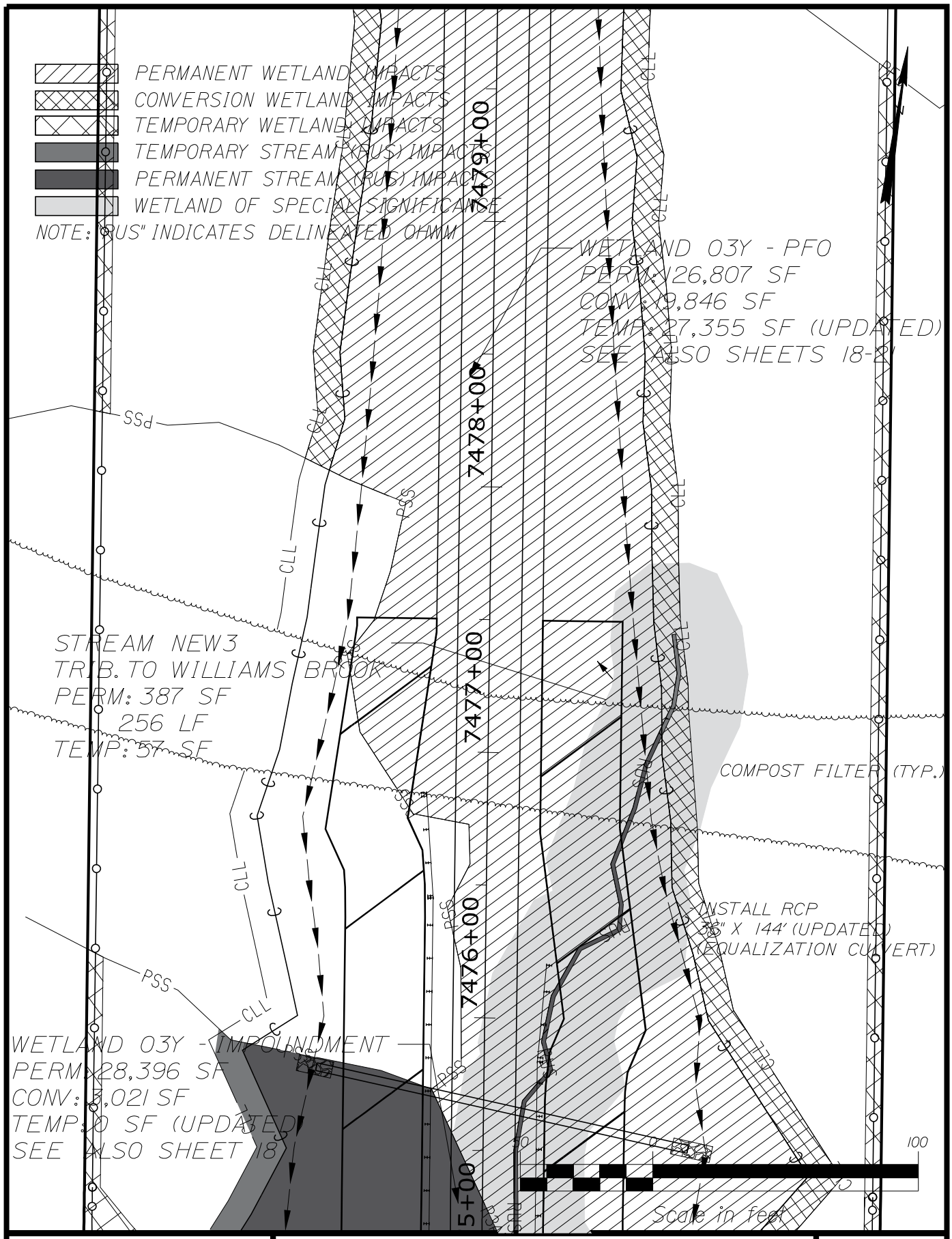
STATE OF MAINE DEPARTMENT OF TRANSPORTATION WIN# 6462.92	PRESQUE ISLE BYPASSPHASE 2 AROOSTOOK COUNTY	SHEET NUMBER 16 OF 16
5/8/2025	IMPACT PLANS	



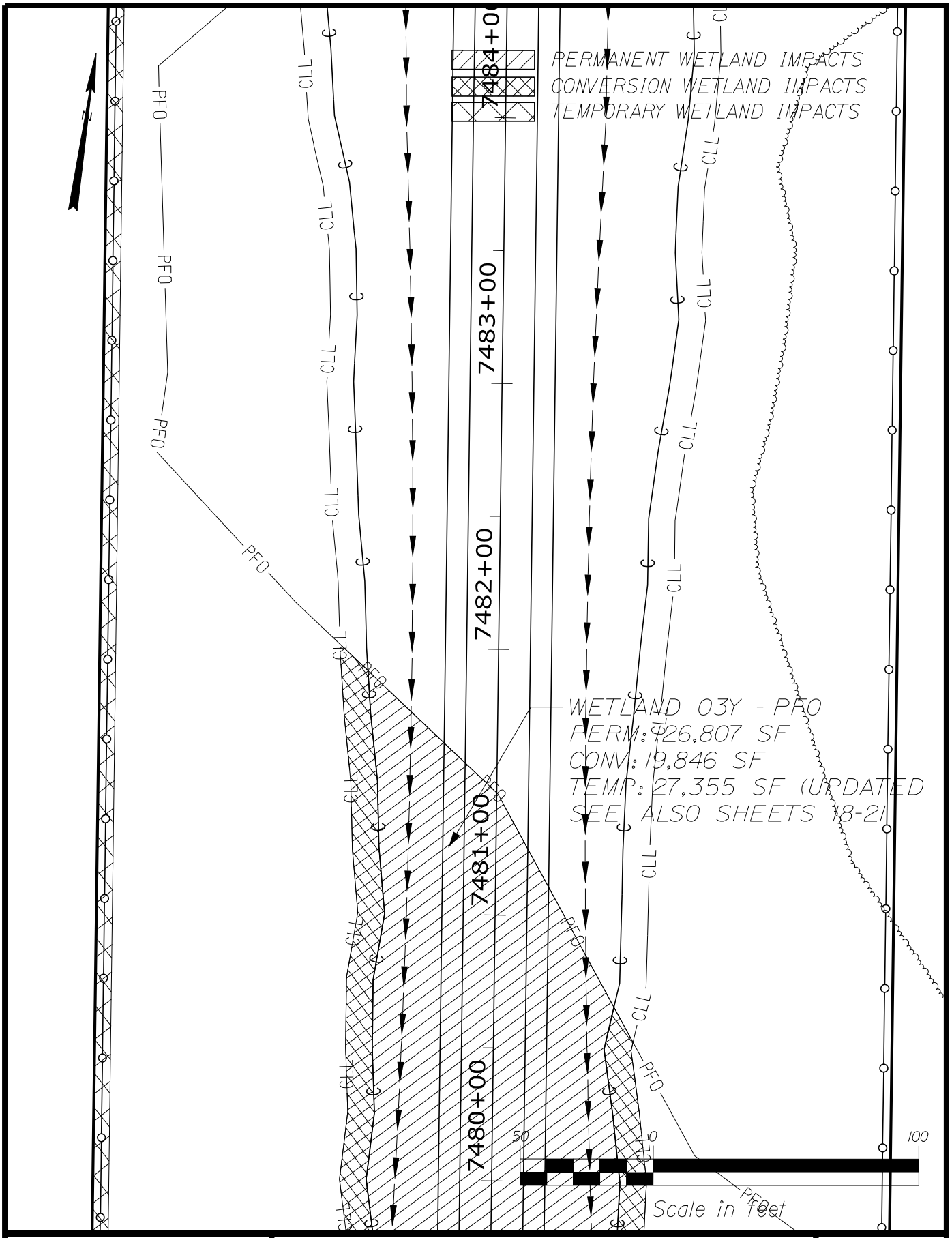
STATE OF MAINE DEPARTMENT OF TRANSPORTATION WIN# 6462.92	PRESQUE ISLE BYPASSPHASE 2 AROOSTOOK COUNTY	SHEET NUMBER 17 OF 17
5/8/2025	IMPACT PLANS	



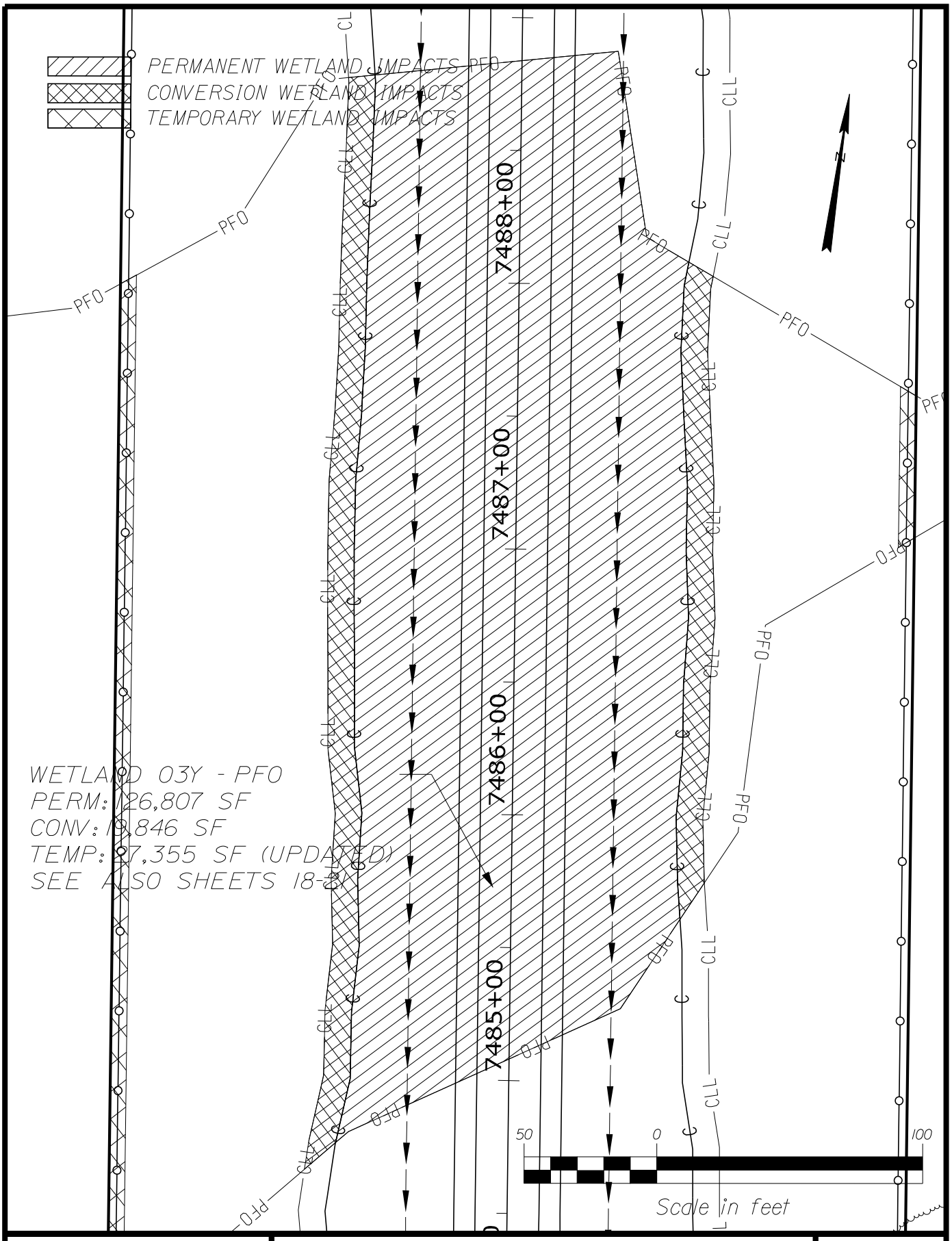
STATE OF MAINE DEPARTMENT OF TRANSPORTATION WIN# 6462.92	PRESQUE ISLE BYPASSPHASE 2 AROOSTOOK COUNTY	SHEET NUMBER 18
5/8/2025	IMPACT PLANS	OF 138



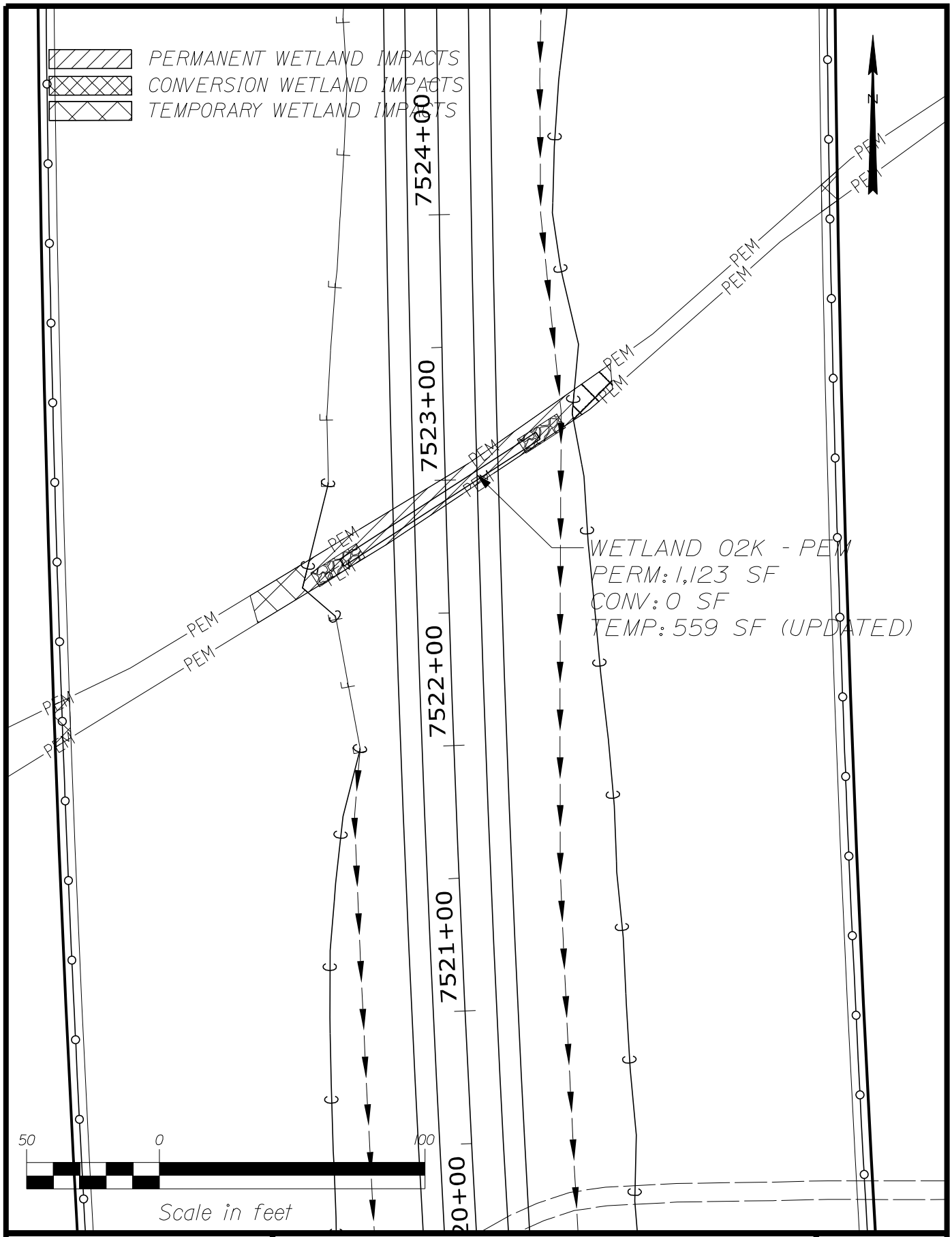
STATE OF MAINE DEPARTMENT OF TRANSPORTATION WIN# 6462.92	PRESQUE ISLE BYPASS PHASE 2 AROOSTOOK COUNTY	SHEET NUMBER 19
5/8/2025	IMPACT PLANS	OF 119



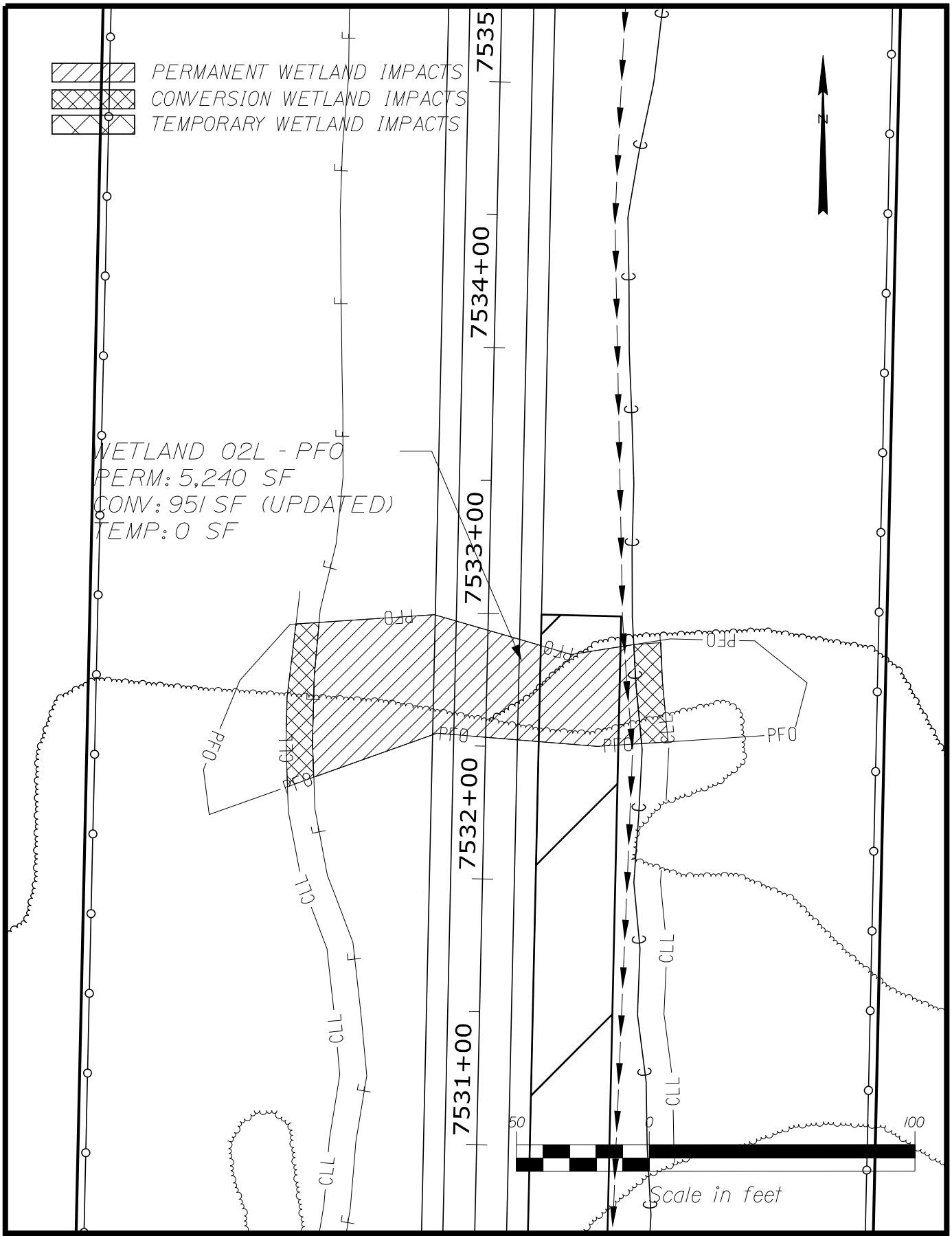
STATE OF MAINE DEPARTMENT OF TRANSPORTATION WIN# 6462.92	PRESQUE ISLE BYPASSPHASE 2 AROOSTOOK COUNTY	SHEET NUMBER 20
5/8/2025	IMPACT PLANS	OF 35 420



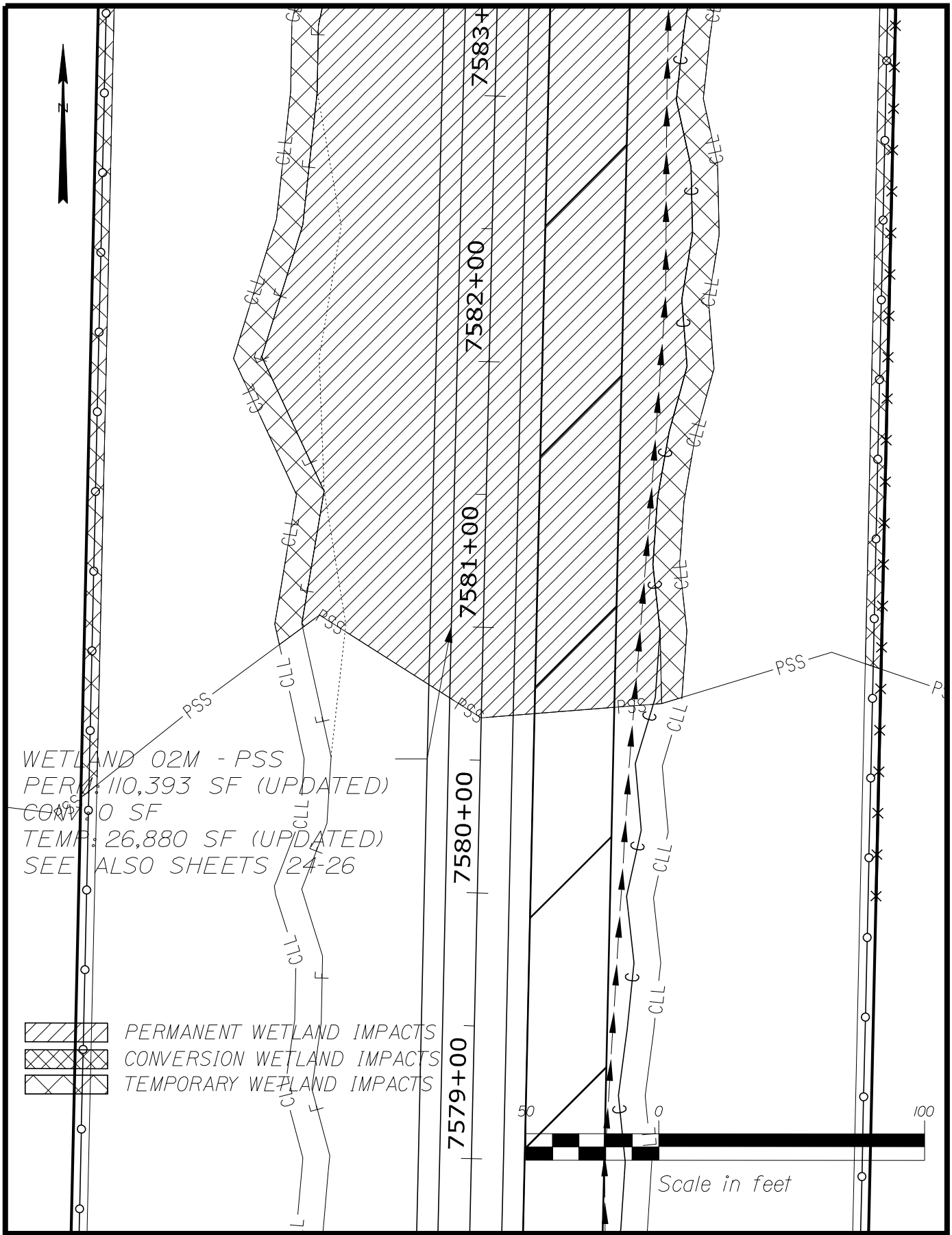
STATE OF MAINE DEPARTMENT OF TRANSPORTATION WIN# 6462.92	PRESQUE ISLE BYPASSPHASE 2 AROOSTOOK COUNTY	SHEET NUMBER 21
5/8/2025	IMPACT PLANS	OF 125



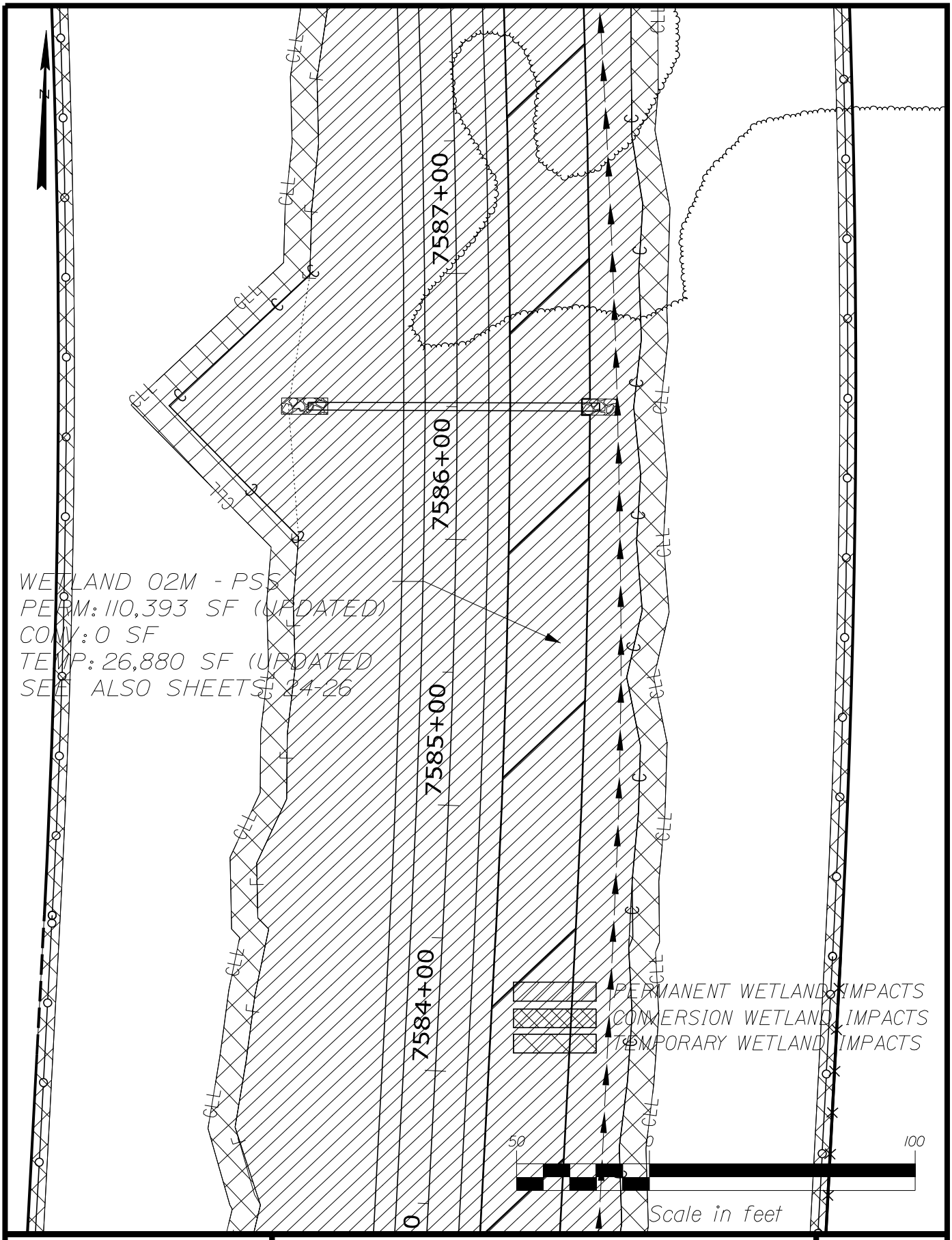
STATE OF MAINE DEPARTMENT OF TRANSPORTATION WIN# 6462.92	PRESQUE ISLE BYPASSPHASE 2 AROOSTOOK COUNTY	SHEET NUMBER 22
5/8/2025	IMPACT PLANS	OF 35



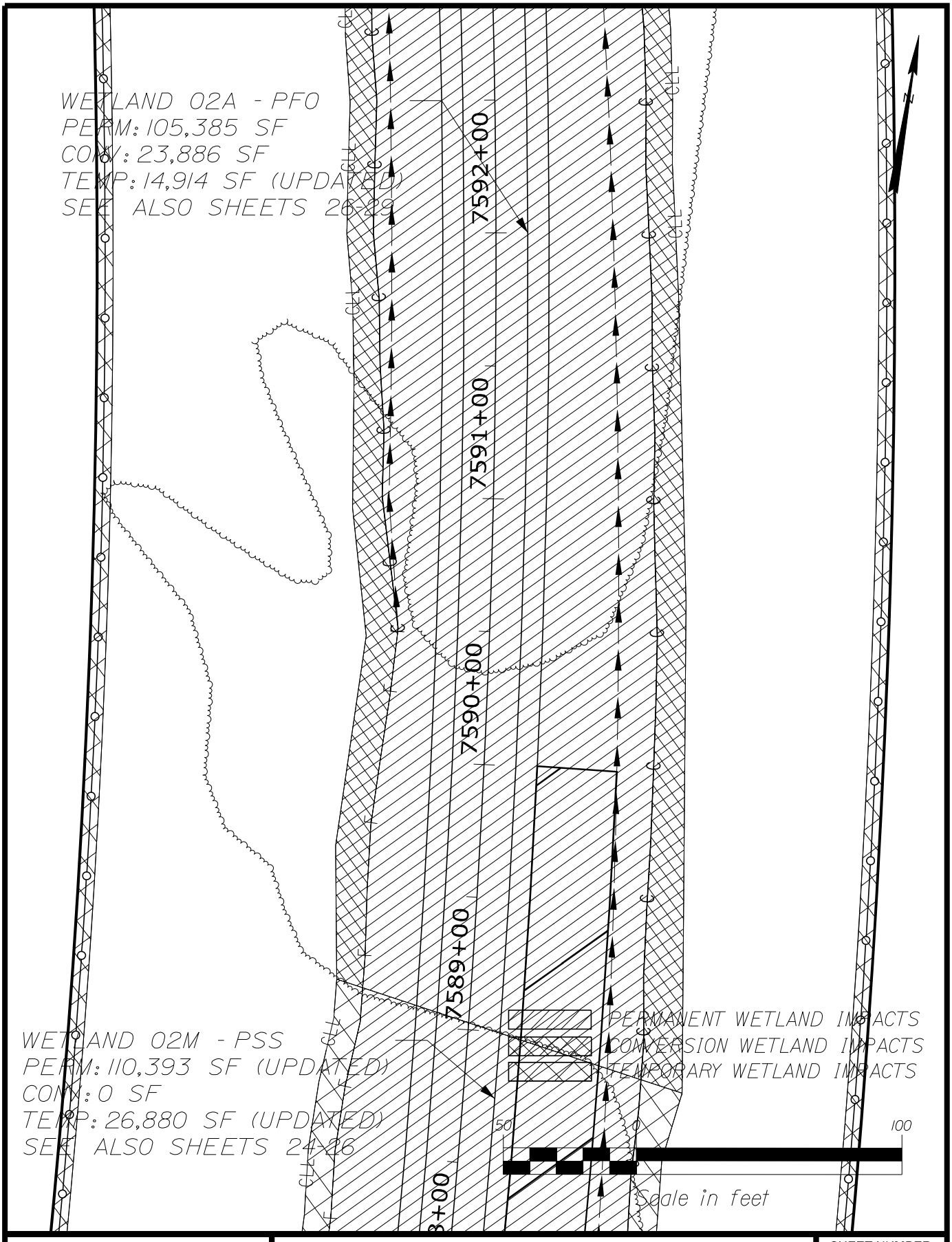
STATE OF MAINE DEPARTMENT OF TRANSPORTATION WIN# 6462.92	PRESQUE ISLE BYPASSPHASE 2 AROOSTOOK COUNTY	SHEET NUMBER 23
5/8/2025	IMPACT PLANS	OF 35



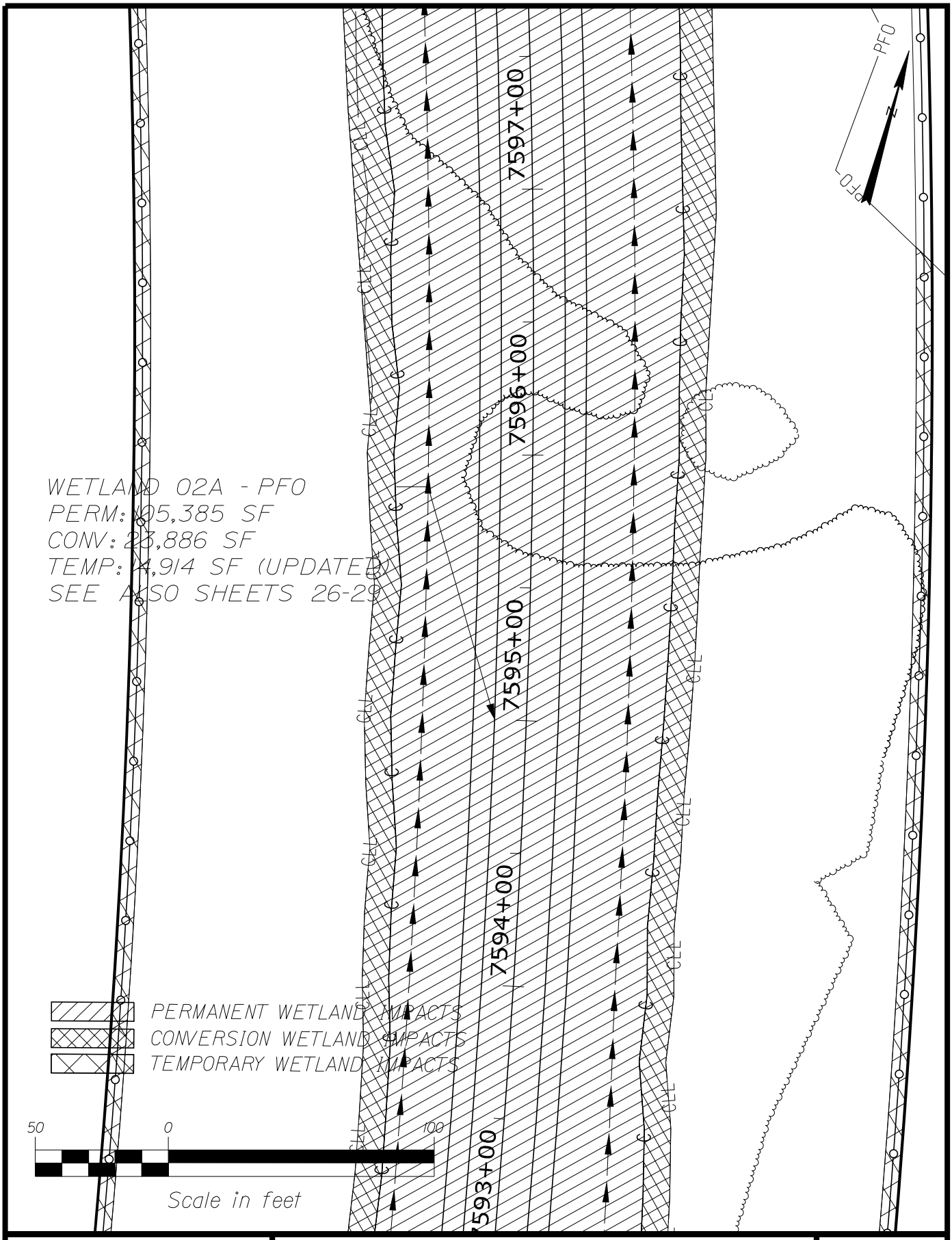
STATE OF MAINE DEPARTMENT OF TRANSPORTATION WIN# 6462.92	PRESQUE ISLE BYPASS PHASE2 AROOSTOOK COUNTY	SHEET NUMBER 24
5/8/2025	IMPACT PLANS	OF 33



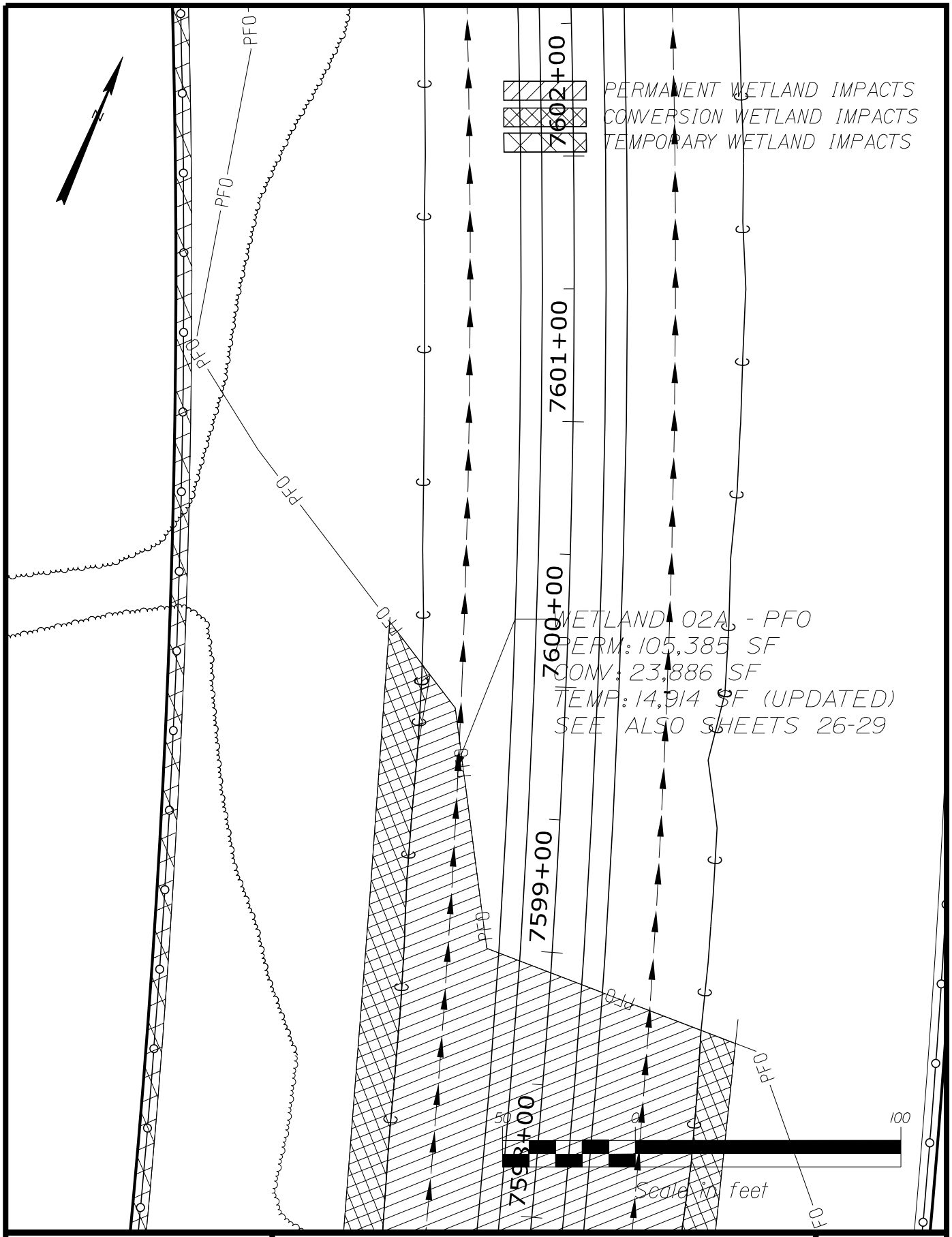
STATE OF MAINE DEPARTMENT OF TRANSPORTATION WIN# 6462.92	PRESQUE ISLE BYPASSPHASE 2 AROOSTOOK COUNTY	SHEET NUMBER 25
5/8/2025	IMPACT PLANS	OF 125



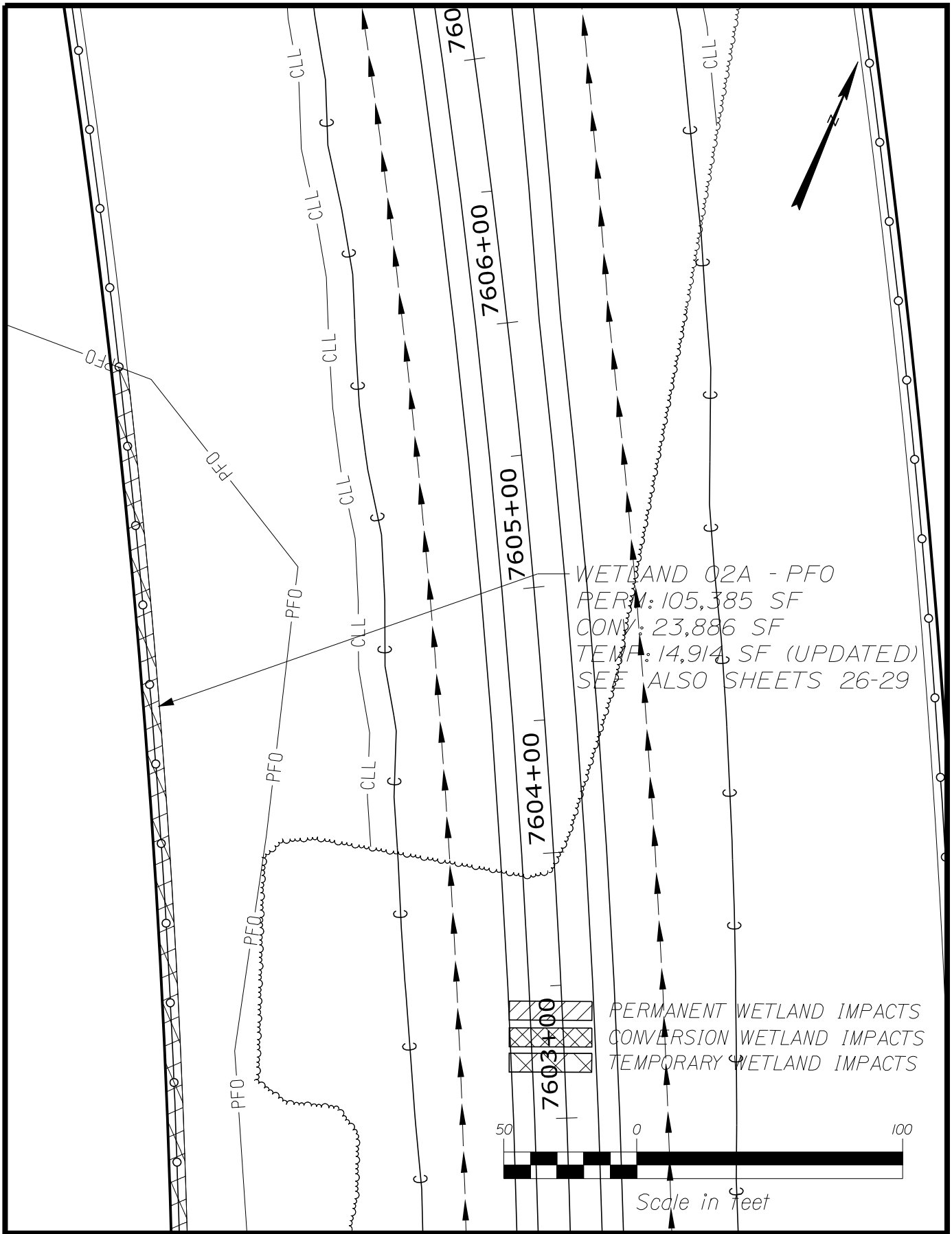
STATE OF MAINE DEPARTMENT OF TRANSPORTATION WIN# 6462.92	PRESQUE ISLE BYPASSPHASE 2 AROOSTOOK COUNTY	SHEET NUMBER 26
5/8/2025	IMPACT PLANS	OF 426



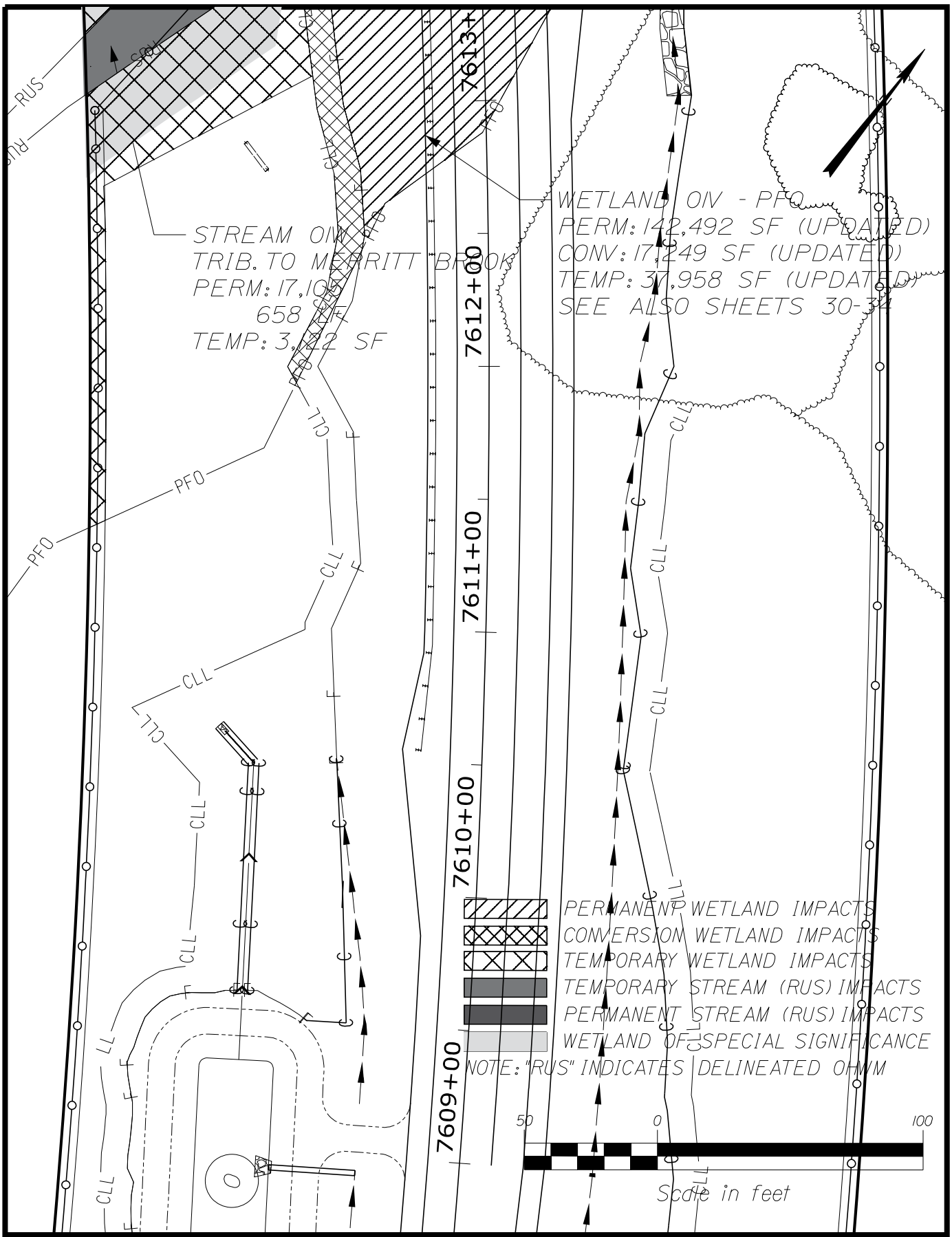
STATE OF MAINE DEPARTMENT OF TRANSPORTATION WIN# 6462.92	PRESQUE ISLE BYPASSPHASE 2 AROOSTOOK COUNTY	SHEET NUMBER 27 OF 125
5/8/2025	IMPACT PLANS	



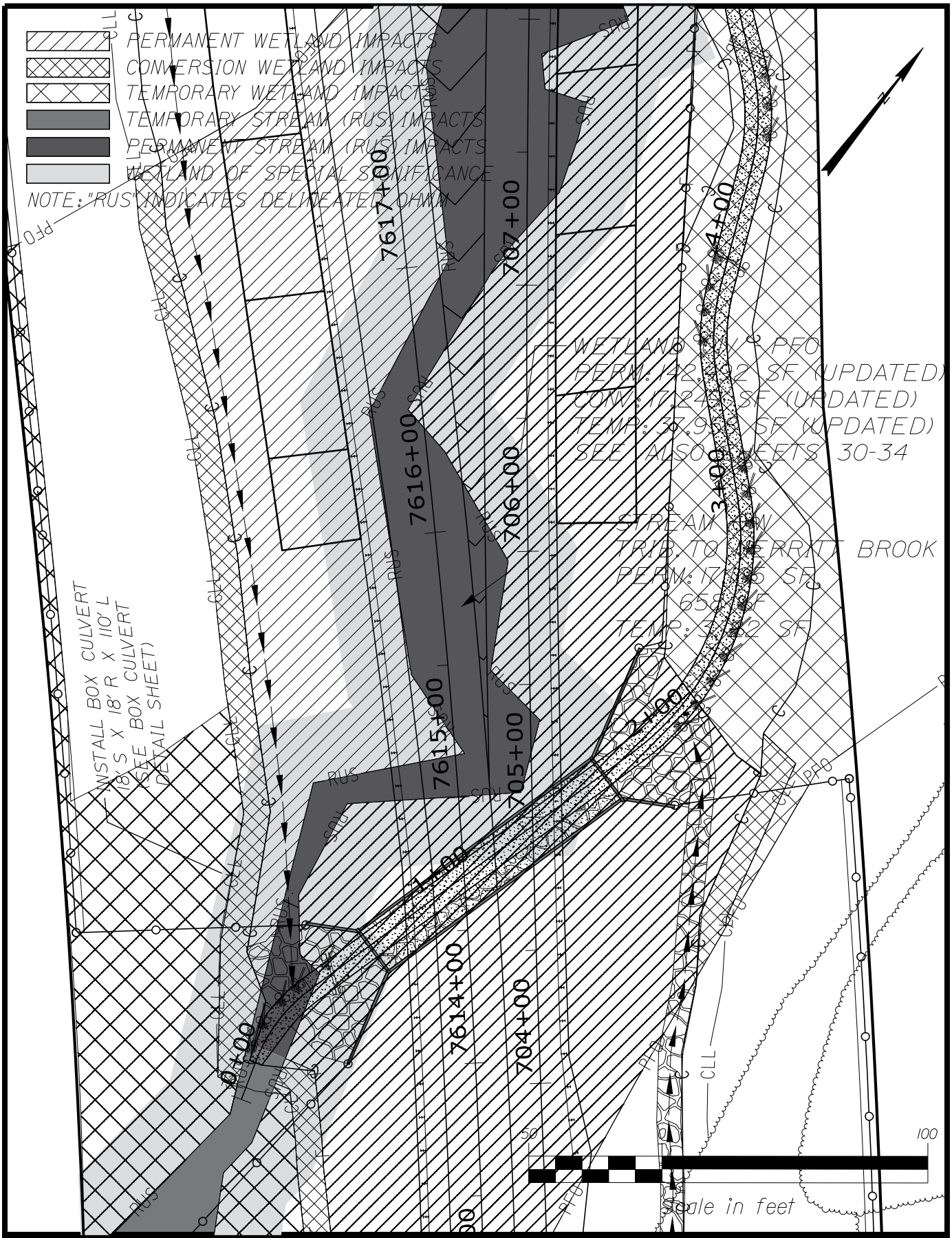
STATE OF MAINE DEPARTMENT OF TRANSPORTATION WIN# 6462.92	PRESQUE ISLE BYPASSPHASE 2 AROOSTOOK COUNTY	SHEET NUMBER 28
5/8/2025	IMPACT PLANS	OF 38



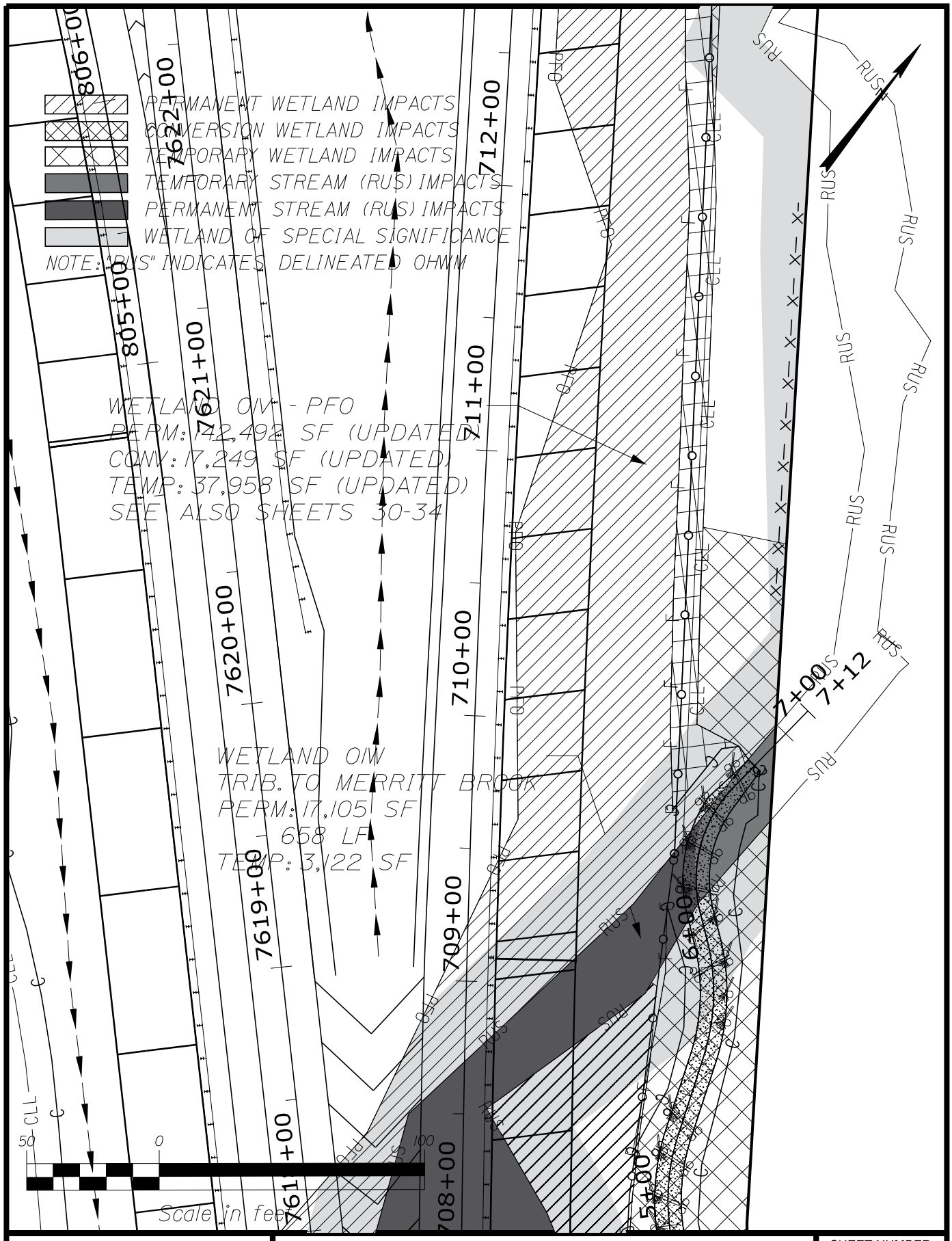
STATE OF MAINE DEPARTMENT OF TRANSPORTATION WIN# 6462.92	PRESQUE ISLE BYPASSPHASE 2 AROOSTOOK COUNTY	SHEET NUMBER 29
5/8/2025	IMPACT PLANS	OF 429



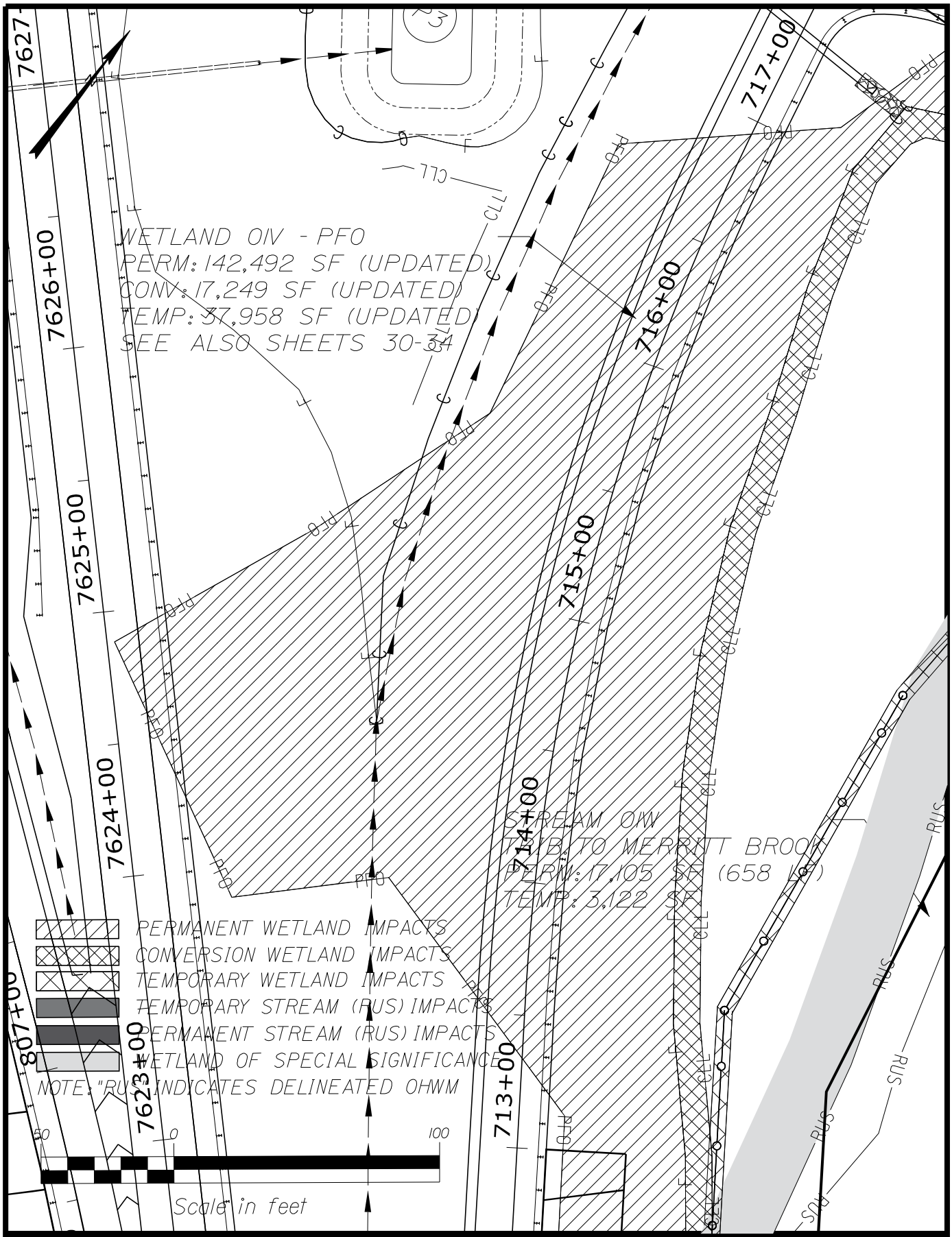
STATE OF MAINE DEPARTMENT OF TRANSPORTATION WIN# 6462.92	PRESQUE ISLE BYPASSPHASE 2 AROOSTOOK COUNTY	SHEET NUMBER 30
5/8/2025	IMPACT PLANS	OF 35



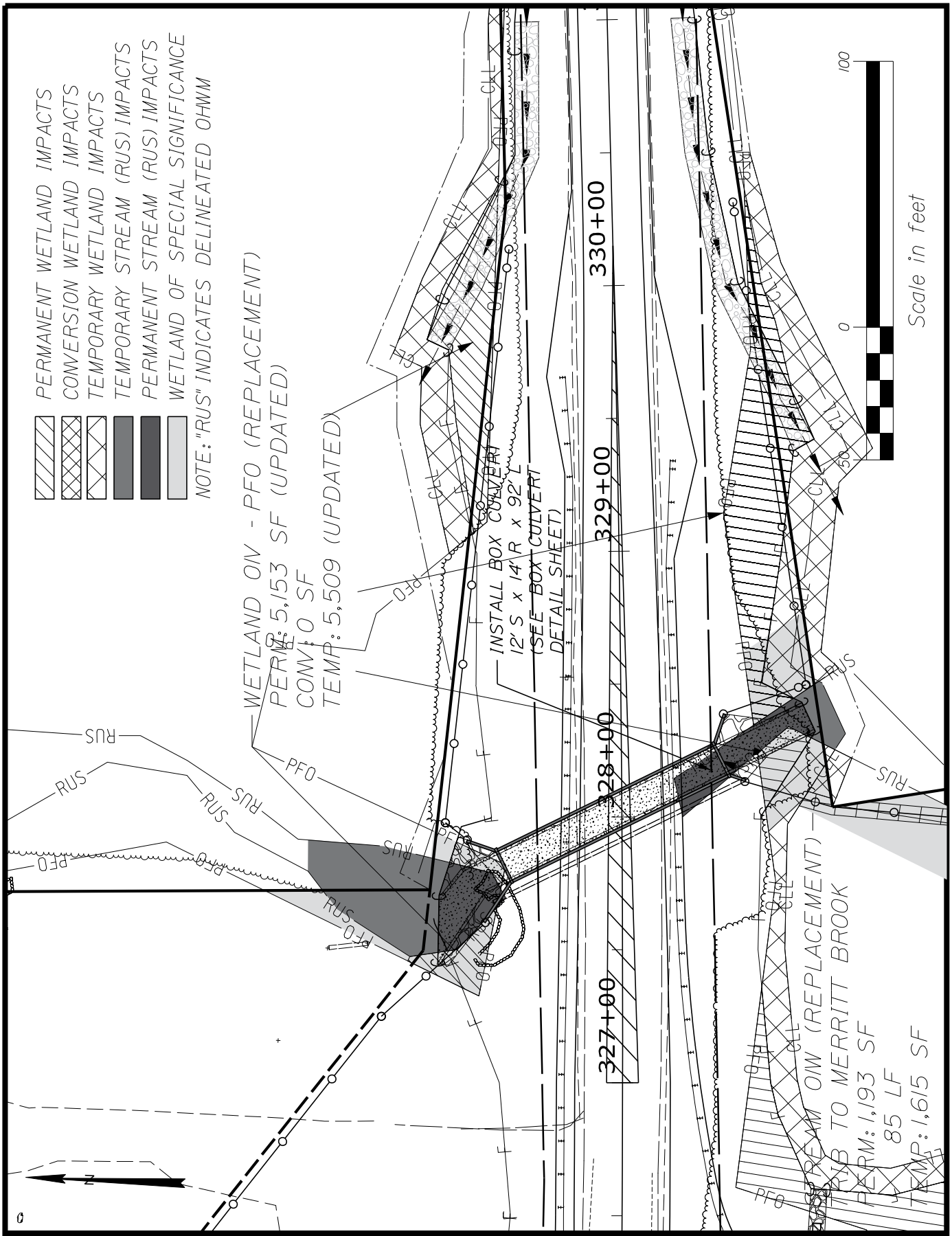
STATE OF MAINE DEPARTMENT OF TRANSPORTATION WIN# 6462.92	PRESQUE ISLE BYPASSPHASE 2 AROOSTOOK COUNTY	SHEET NUMBER 31
5/8/2025	IMPACT PLANS	OF 35



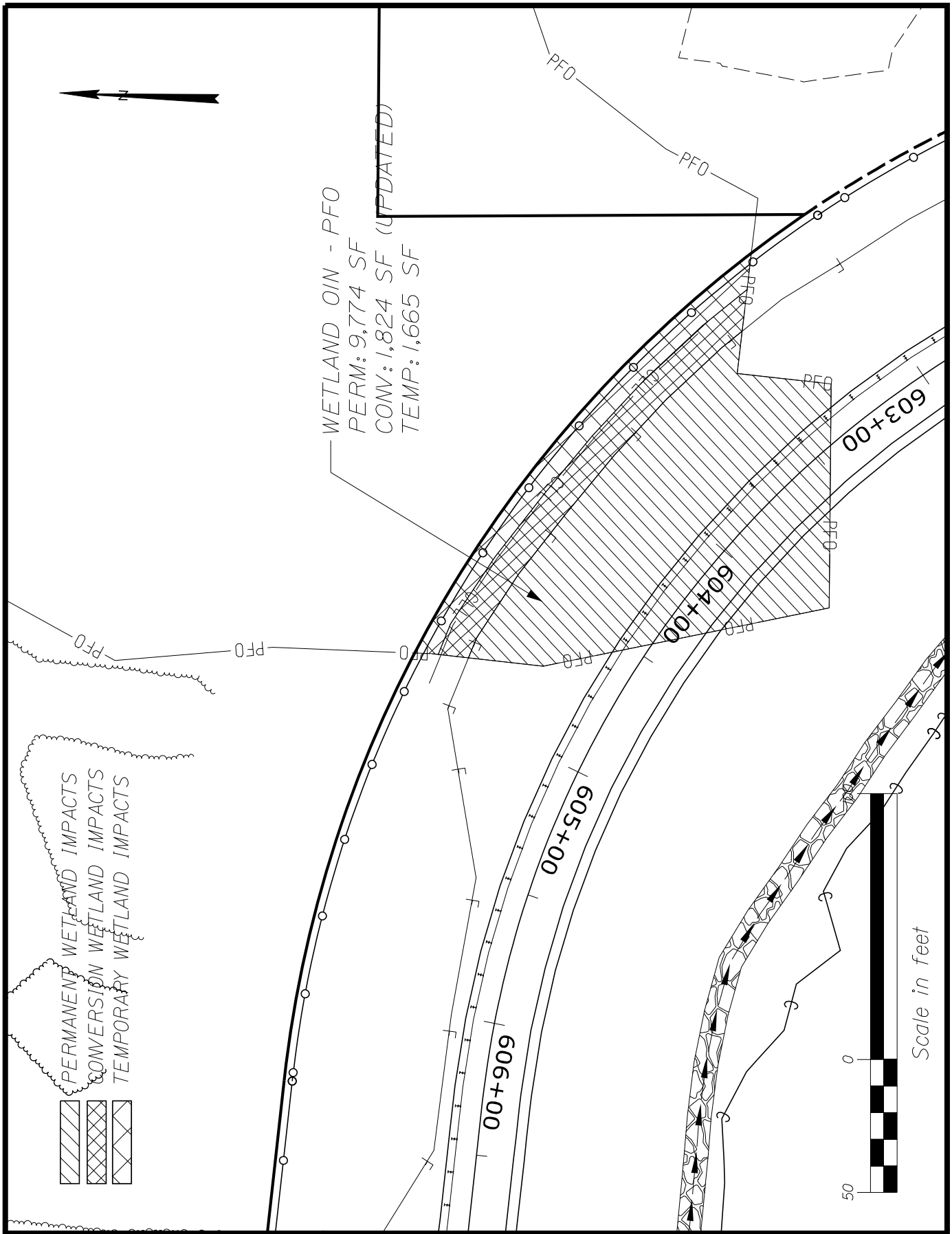
STATE OF MAINE DEPARTMENT OF TRANSPORTATION WIN# 6462.92	PRESQUE ISLE BYPASS PHASE 2 AROOSTOOK COUNTY	SHEET NUMBER 32
5/8/2025	IMPACT PLANS	OF 432



STATE OF MAINE DEPARTMENT OF TRANSPORTATION WIN# 6462.92	PRESQUE ISLE BYPASSPHASE 2 AROOSTOOK COUNTY	SHEET NUMBER 33 OF 438
5/8/2025	IMPACT PLANS	



STATE OF MAINE DEPARTMENT OF TRANSPORTATION WIN# 6462.92	PRESQUE ISLE BYPASSPHASE 2 AROOSTOOK COUNTY	SHEET NUMBER 34
5/8/2025	IMPACT PLANS	OF 35



STATE OF MAINE DEPARTMENT OF TRANSPORTATION WIN# 6462.92	PRESQUE ISLE BYPASSPHASE 2 AROOSTOOK COUNTY	SHEET NUMBER 35 OF 435
5/8/2025	IMPACT PLANS	

DRAFT PS&E
NOT FOR CONSTRUCTION
11/3/2024

PLANS PREPARED BY:

vhb 225 East Robinson Street, Suite 300 Benchmark Center Two Orlando, FL 32801

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PRESQUE ISLE

AROOSTOOK COUNTY

PRESQUE ISLE BYPASS

SECTION I - PHASE II CONSTRUCTION

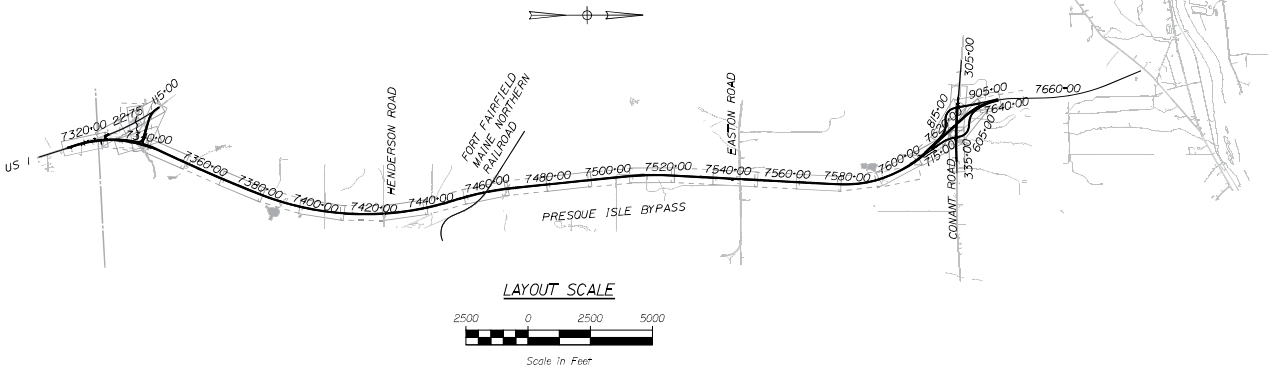
HPP-6462(920)

PROJECT LENGTH : 6.17 MILES

VOLUME 1

PLAN LEGEND

Town, County, State		Centerline-Existing	
Property Lines		Centerline-Proposed	
R/W Lines-Existing		Travelway-Existing	
R/W Lines-Proposed		Travelway-Proposed	
Culvert-Existing		Railroad	
Culvert Proposed		Catch Basins	Existing ■ Proposed
Curbing	Existing Proposed	Manholes	Existing ● Proposed
Type 1		Proposed Underdrain	
Type 3		Proposed Ditch	
Type 5		Existing Ditch	
Outline of Bodies of Water		Utility Poles	Existing ♦ Proposed
Boring	HB-XXX-###	Fire Hydrants	Existing ⊕ Proposed
Pavement Core	PC-#	Existing Water Line	
Test Pit	TP-XXX-###	Existing San. Sewer	
Probe	P-#.#X	Existing San. Sewer Manhole	
#.# = Depth		Guardrail-Existing	
X = W (Weathered Rock)		Guardrail-Proposed	
R (Refusal)		Guardrail-Cable, Other	
NR (No Refusal)		Exposed Bedrock	
		Buildings	
		Trees	Conifer Deciduous
		Tree Line	
		Clearing Limit Line	



LAYOUT SCALE

2500 0 2500 5000

Scale In Feet

TRAFFIC DATA

Current (2015) AADT	4100
Future (2035) AADT	4500
DHV - % of AADT	9%
Design Hour Volume	395
% Heavy Trucks (AADT)	13%
% Heavy Trucks (DHV)	13%
Directional Distribution (DHV)	51%
18 kip Equivalent P 2.0	442
18 kip Equivalent P 2.5	421
Design Speed (mph)	55
Functional Class:	PRINCIPAL ARTERIAL
Corridor Priority	1

PROJECT LOCATION:	PROJECT BEGINS 0.60 MILES SOUTH OF THE PRESQUE ISLE - WESTFIELD TOWN LINE AND INCLUDES A NEW 2-LANE CONTROLLED ACCESS (BYPASS) PRINCIPAL ARTERIAL EXTENDING NORTH FOR APPROXIMATELY 6.17 MILES CONNECTING TO CONANT ROAD.
PROGRAM AREA:	HIGHWAY PROGRAM
SCOPE OF WORK:	HIGHWAY LIGHTING STANDARDS, FOUNDATIONS, CONDUIT, LED LUMINAIRES, WIRING AND INCIDENTALS.

INDEX OF SHEETS

	Section	Page
GENERAL SHEETS		
Title Sheet	G	1
Key Sheets	G	2
Typical Sections	G	3-16
Superelevation Tables	G	17
Estimated Quantities	G	18
Drainage Sheet	G	19
General Notes	G	20
Construction Notes	G	21-23
Earthwork Summary	G	24
STORMWATER		
BMP Details	W	25-27
BMP Grading	W	28-33
STREAM RELOCATION		
Typicals/Details	S	34-36
Plan & Profiles	S	37-38
Lanscape Plans	S	39-40
Cross Sections	S	41-72
TRAFFIC & ITS		
Sign Summary Sheets	T	73-74
Signing, Striping Plans & ITS Plans	T	75-92
PVMS Details	T	93
PVMS Sign Locations	T	94
RWIS Details	T	95
RWIS Equipment Plan		96
HIGHWAY		
Curb Geometrics	H	97
Plans & Profiles	H	98-131
Bridge & Culvert Removal	H	132
Conant Road Phasing	H	133-139
Cross Sections		
Bypass	H	140-443
Slip lane	H	444-450
Southern Connector	H	451-468
Rte. 1 Drive South	H	469-482
Conant Road	H	483-502
NB Off Ramp	H	503-512
NB On Ramp	H	513-526
SB Off Ramp	H	527-532
SB On Ramp	H	533-544
BRIDGE		
Henderson Rd	B	545-571
Montreal RR	B	572-601
Easton Rd	B	602-628
Conant Rd	B	629-659
Large Culverts	B	660-680
LIGHTING		
Details	L	681
Wiring Schedule	L	682
Plans	L	683-687
RIGHT OF WAY		
Right of Way Maps	R	X

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
APPROVED
DATE
COMMISSIONER:
CHIEF ENGINEER:

PROJECT INFORMATION

PROGRAM	HIGHWAY	SIGNATURE	
PROJECT MANAGER	RACHEL MOULTON		
DESIGNER	AGECI	P.E. NUMBER	
CONSULTANT	VHB		
PROJECT RESIDENT		DATE	
CONTRACTOR			
PROJECT COMPLETION DATE			

WIN 6462.92 HPP-6462(920)

PRESQUE ISLE
PRESQUE ISLE BYPASS

TITLE SHEET

SHEET NUMBER
1
OF 687

Filename: ...\MDOT\Planset\G1_Title.dgn Division: HIGHWAY Username: jamesdavis Date:11/3/2024

436

NAE-2008-02480
MaineDOT Presque Isle Bypass WIN 6462.00

PROJ. MANAGER	R.M.			
DESIGN-DETAILED	TBW			
CHECKED-DETAILED	CLT	10/3/2024		
DESIGN-DETAILED2	RS	10/3/2024		
DESIGN-DETAILED3				
REVISIONS 1				
REVISIONS 2				
REVISIONS 3				
REVISIONS 4				
FIELD CHANGES				

PRESQUE ISLE BYPASS

SHEET LAYOUT

SHEET NUMBER G-2 2 OF 687

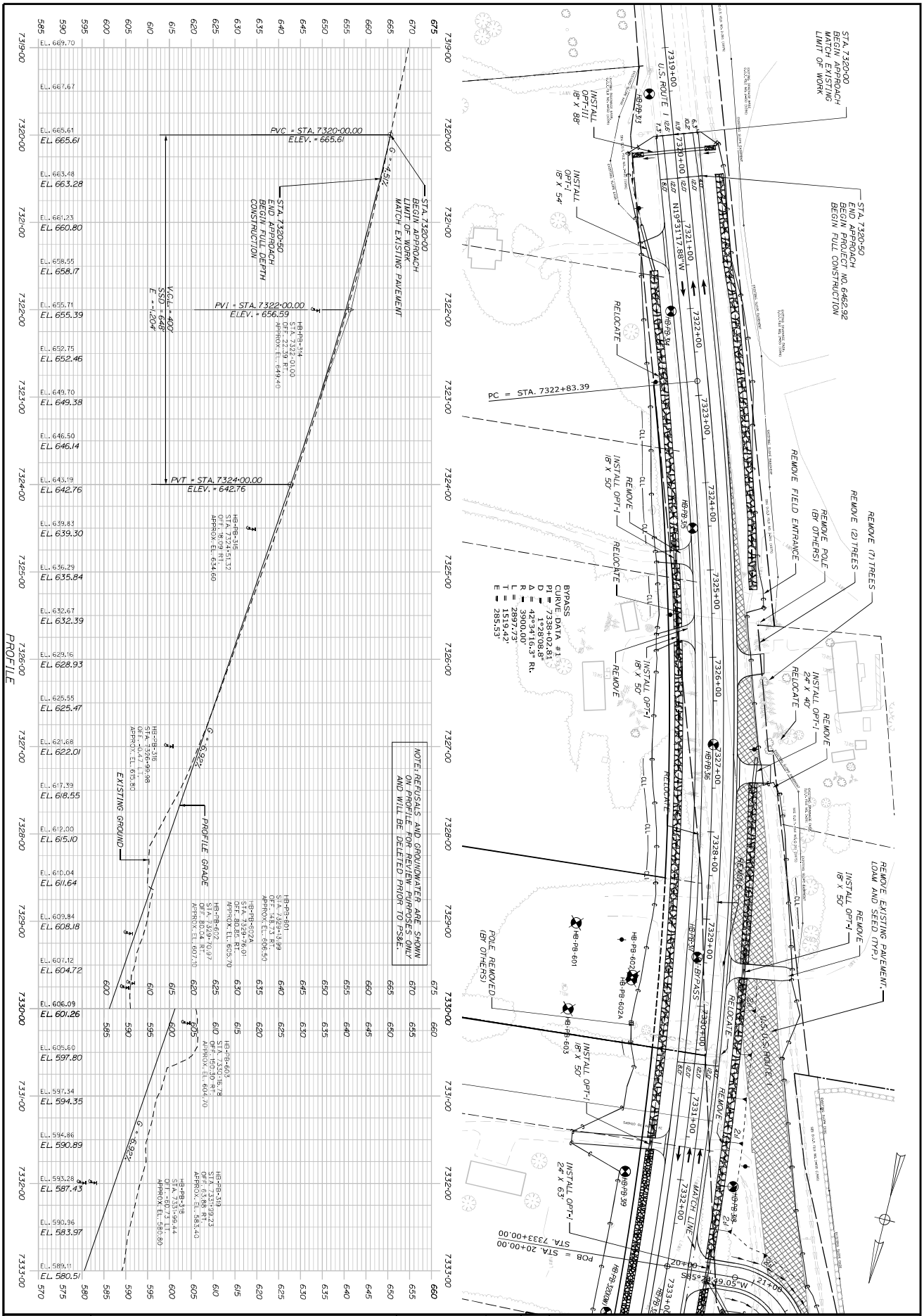
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

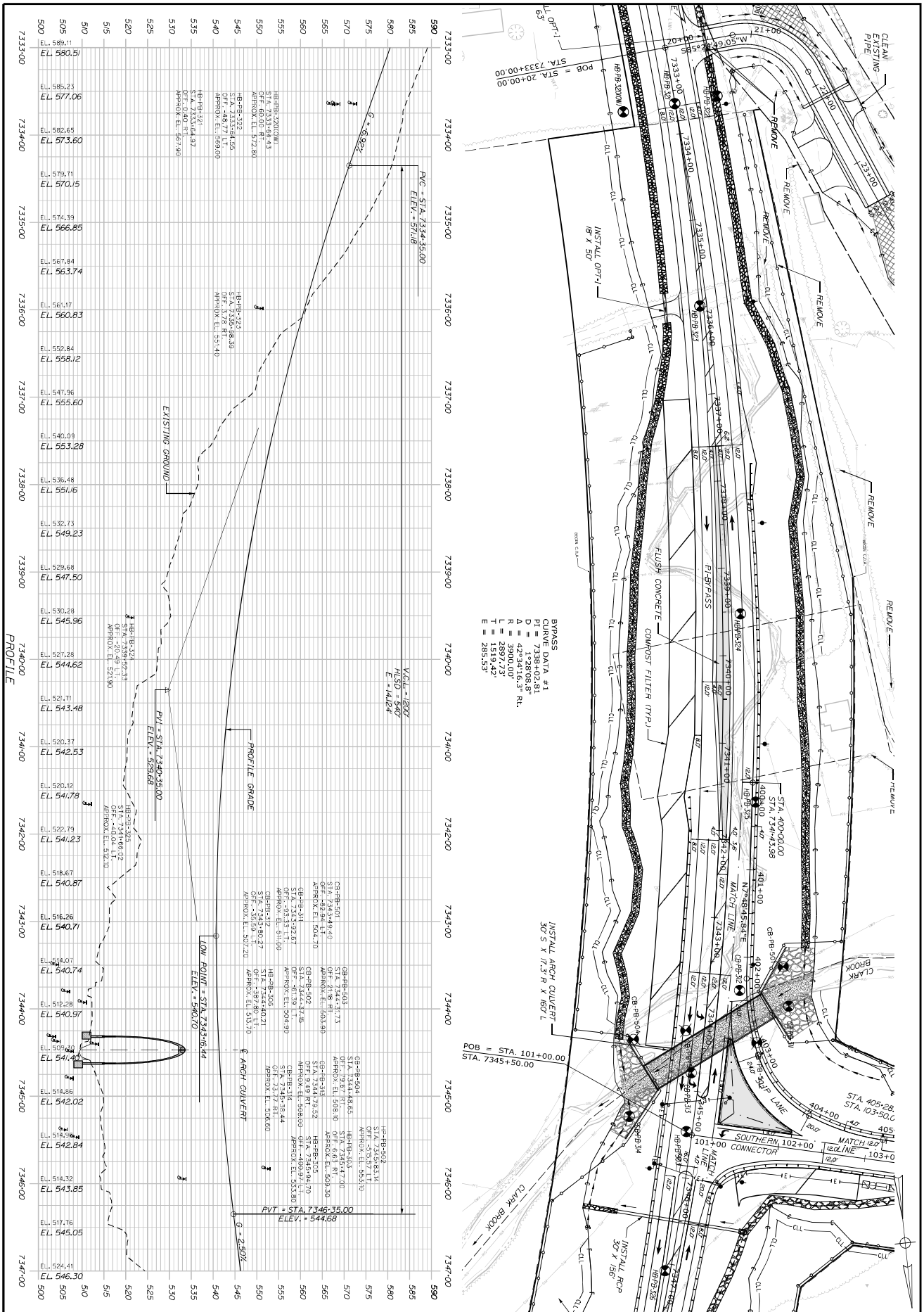
CAPITAL PROJECTS

WIN 6462.92

HIGHWAY PLANS

Filename: ...\MSTA\Planset\G2_Keys.dgn Division: HIGHWAY Username: jamesdavis Date: 11/3/2024


PROFILE
EXISTING GROUND
PROFILE GRADE
NOTE: REFUSALS AND GROUNDWATER ARE SHOWN ON PROFILE FOR REVIEW PURPOSES ONLY AND WILL BE DELETED PRIOR TO PS&E.
PVC = STA. 7320+00.00
ELEV. = 665.61
PVI = STA. 7322+00.00
ELEV. = 656.59
PVT = STA. 7324+00.00
ELEV. = 642.76
G = -4.5%
G = -6.9%
G = +6.9%
V.C.L. = 400'
SSD = 648'
E = -1,204'
STA. 7320+00
BEGIN APPROACH
LIMIT OF WORK
MATCH EXISTING PAVEMENT
STA. 7320+50
END APPROACH
BEGIN FULL DEPTH CONSTRUCTION
STA. 7320+50
END APPROACH
BEGIN PROJECT NO. 6462.92
BEGIN FULL CONSTRUCTION
PC = STA. 7322+83.39
POB = STA. 20+00.00
STA. 7333+00.00
N19°51'17.88"W
S89°39.05"W
BYPASS
CURVE DATA #1
PI = 7338+02.81
D = 1°28'08.8"
A = 42°34'16.3" Rt.
R = 3900.00'
L = 2897.73'
T = 1519.42'
E = 285.53'
REMOVE (7) TREES
REMOVE (2) TREES
REMOVE FIELD ENTRANCE
REMOVE POLE (BY OTHERS)
REMOVE EXISTING PAVEMENT, LOAM AND SEED (TYP.)
POLE REMOVED (BY OTHERS)
INSTALL OPT-I 18" X 88'
INSTALL OPT-I 18" X 54'
INSTALL OPT-I 18" X 50'
INSTALL OPT-I 24" X 40'
INSTALL OPT-I 24" X 63'
RELOCATE
REMOVE
MATCH LINE
U.S. ROUTE 1
HB-PB-33
HB-PB-34
HB-PB-35
HB-PB-36
HB-PB-37
HB-PB-38
HB-PB-39
HB-PB-601
HB-PB-602
HB-PB-602A
HB-PB-603
HB-PB-604
HB-PB-605
HB-PB-606
HB-PB-607
HB-PB-608
HB-PB-609
HB-PB-610
HB-PB-611
HB-PB-612
HB-PB-613
HB-PB-614
HB-PB-615
HB-PB-616
HB-PB-617
HB-PB-618
HB-PB-619
HB-PB-620
HB-PB-621
HB-PB-622
HB-PB-623
HB-PB-624
HB-PB-625
HB-PB-626
HB-PB-627
HB-PB-628
HB-PB-629
HB-PB-630
HB-PB-631
HB-PB-632
HB-PB-633
HB-PB-634
HB-PB-635
HB-PB-636
HB-PB-637
HB-PB-638
HB-PB-639
HB-PB-640
HB-PB-641
HB-PB-642



PROJ. MANAGER	R.M.	BY	DATE
DESIGN-DETAILED	ZBW	JBD	7/25/2025
CHECKED-REVIEWED	ECF	AC	7/25/2025
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

PRESQUE ISLE
PRESQUE ISLE BYPASS

PLAN & PROFILE

SHEET NUMBER
H-3
107
OF 703

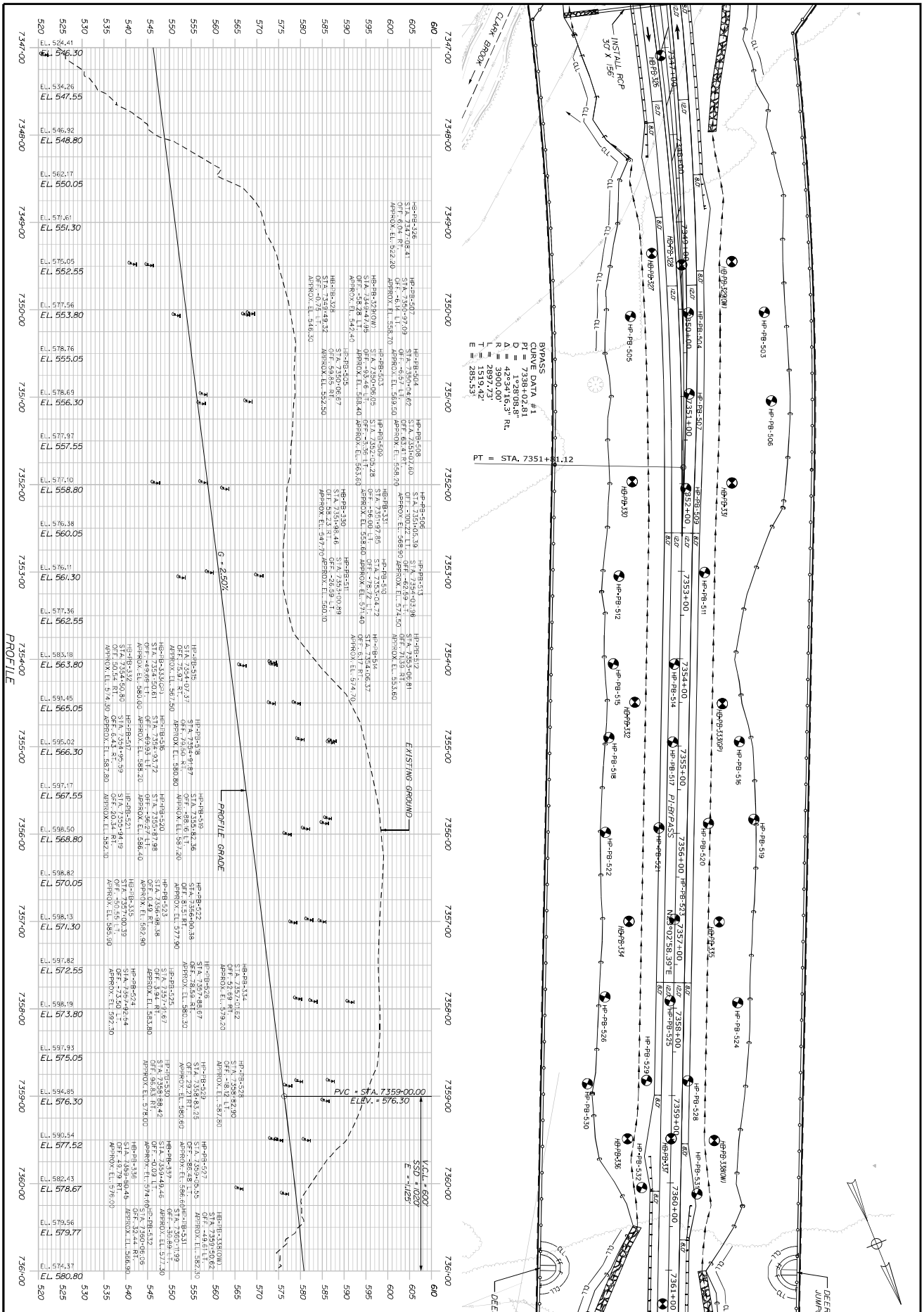
vhb

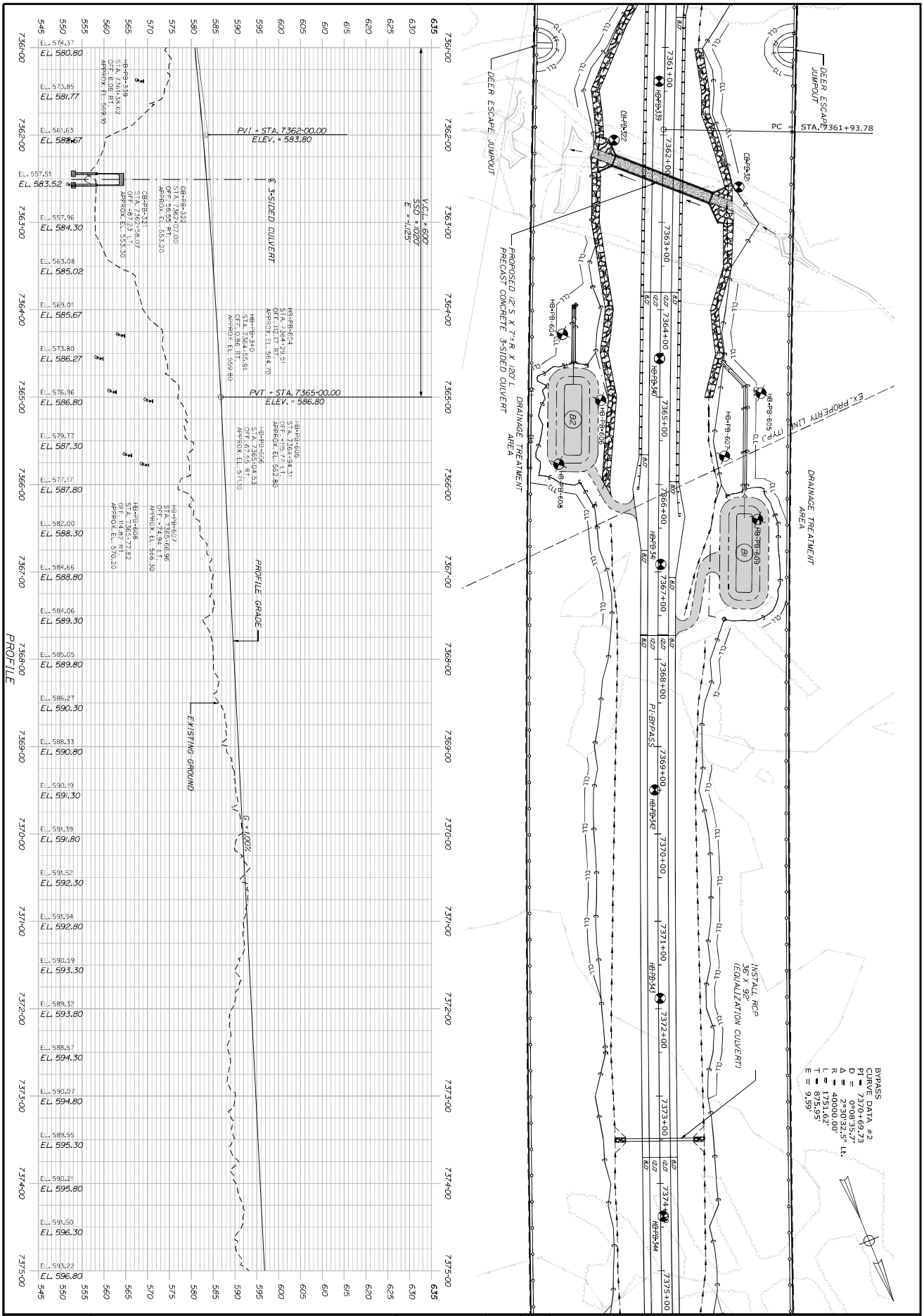
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN
6462,92

HIGHWAY PLANS


PROFILE
EXISTING GROUND
PROFILE GRADE
PI-BYPASS
G = -2.50%
PVC - STA. 7359+00.00
ELEV. = 576.30
V.C.L. = 600'
S = -1.125%
PT = STA. 7351+81.12
BYPASS
CURVE DATA #1
PI = STA. 7338+02.81
D = 1°28'08.8"
Δ = 42°34'16.3" Rt.
R = 3900.00'
L = 2897.73'
T = 1519.42'
E = 285.53'
CLARK BROOK
INSTALL RCP 30" X 156'
DEER JUMP
DEER JUMP
HP-PB-501
HP-PB-502
HP-PB-503
HP-PB-504
HP-PB-505
HP-PB-506
HP-PB-507
HP-PB-508
HP-PB-509
HP-PB-510
HP-PB-511
HP-PB-512
HP-PB-513
HP-PB-514
HP-PB-515
HP-PB-516
HP-PB-517
HP-PB-518
HP-PB-519
HP-PB-520
HP-PB-521
HP-PB-522
HP-PB-523
HP-PB-524
HP-PB-525
HP-PB-526
HP-PB-527
HP-PB-528
HP-PB-529
HP-PB-530
HP-PB-531
HP-PB-532
HP-PB-533
HP-PB-534
HP-PB-535
HP-PB-536
HP-PB-537
HP-PB-538
HP-PB-539
HP-PB-540



PROJ. MANAGER	R.M.	BY	DATE
DESIGNED-DETAILED	ZBW	JBD	7/25/2025
CHECKED-REVIEWED	ECF	AC	7/25/2025
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SHEET NUMBER H-5 109 OF 703

PRESQUE ISLE
PRESQUE ISLE BYPASS

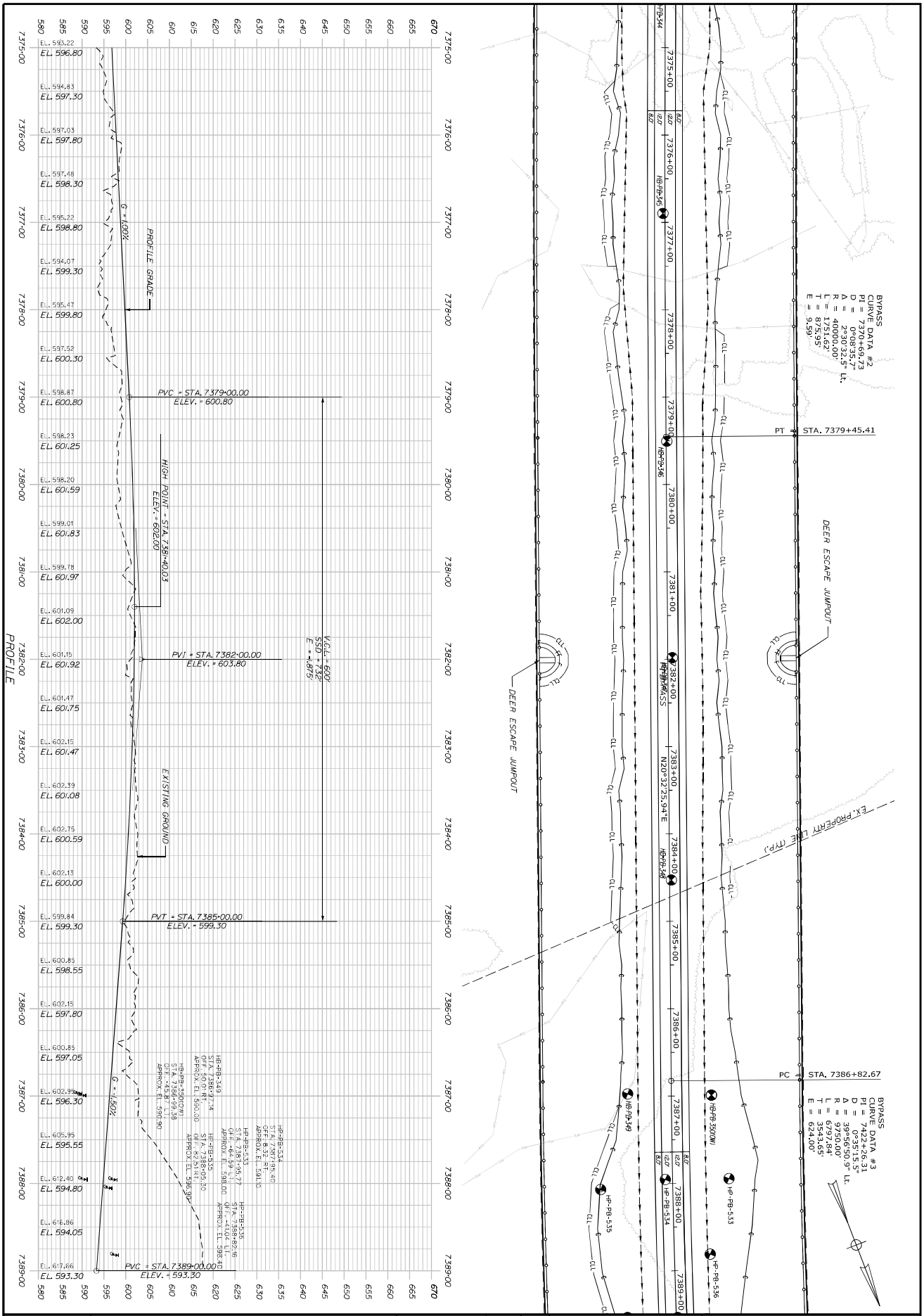
PLAN & PROFILE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN 6462.92

HIGHWAY PLANS



PROJ. MANAGER	R.M.	BY	DATE
DESIGN-DETAILED	ZBW	JBD	7/25/2025
CHECKED-REVIEWED	ECF	AC	7/25/2025
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SHEET NUMBER
H-6
110
OF 703

PRESQUE ISLE
PRESQUE ISLE BYPASS

PLAN & PROFILE

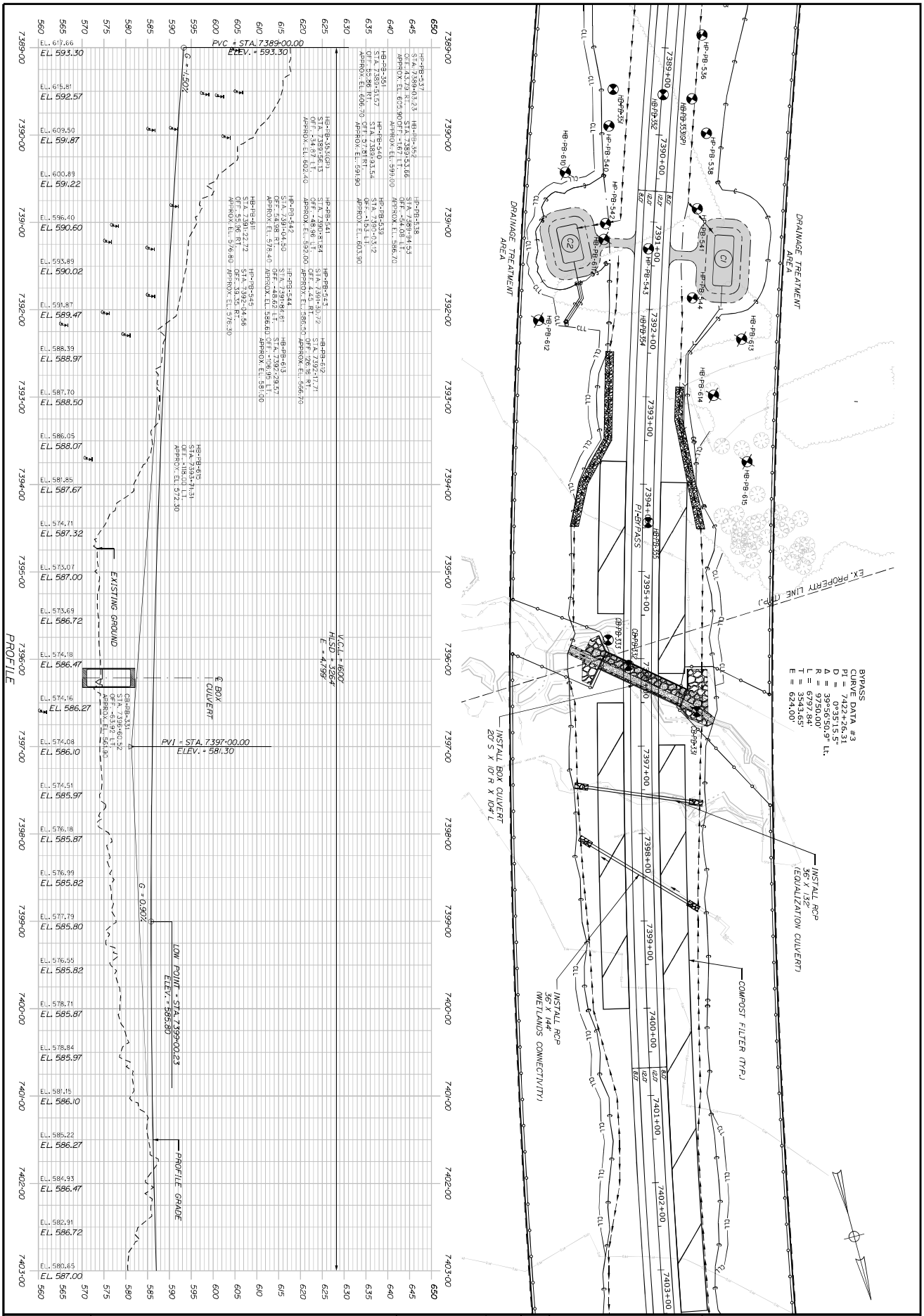
vhb

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN
6462,92

HIGHWAY PLANS



PROJ. MANAGER	R.M.	BY	DATE
DESIGNED-DETAILED	ZBW	JBD	7/25/2025
CHECKED-REVIEWED	ECF	AC	7/25/2025
DESIGNS-DETAILED2			
DESIGNS-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SHEET NUMBER
H-7
111
OF 703

PRESQUE ISLE
PRESQUE ISLE BYPASS

PLAN & PROFILE

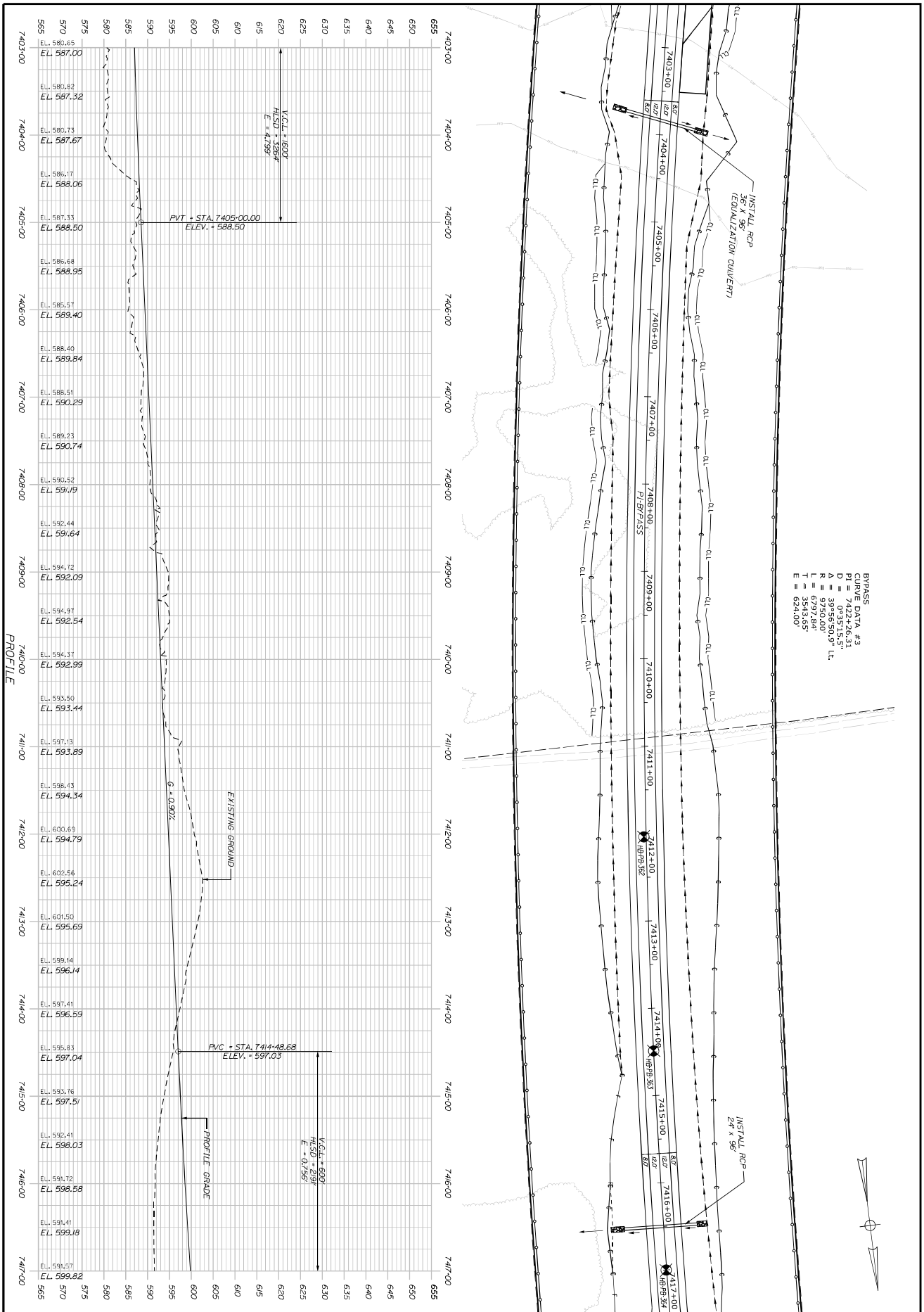
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN
6462.92

HIGHWAY PLANS

444



PRESQUE ISLE
PRESQUE ISLE BYPASS

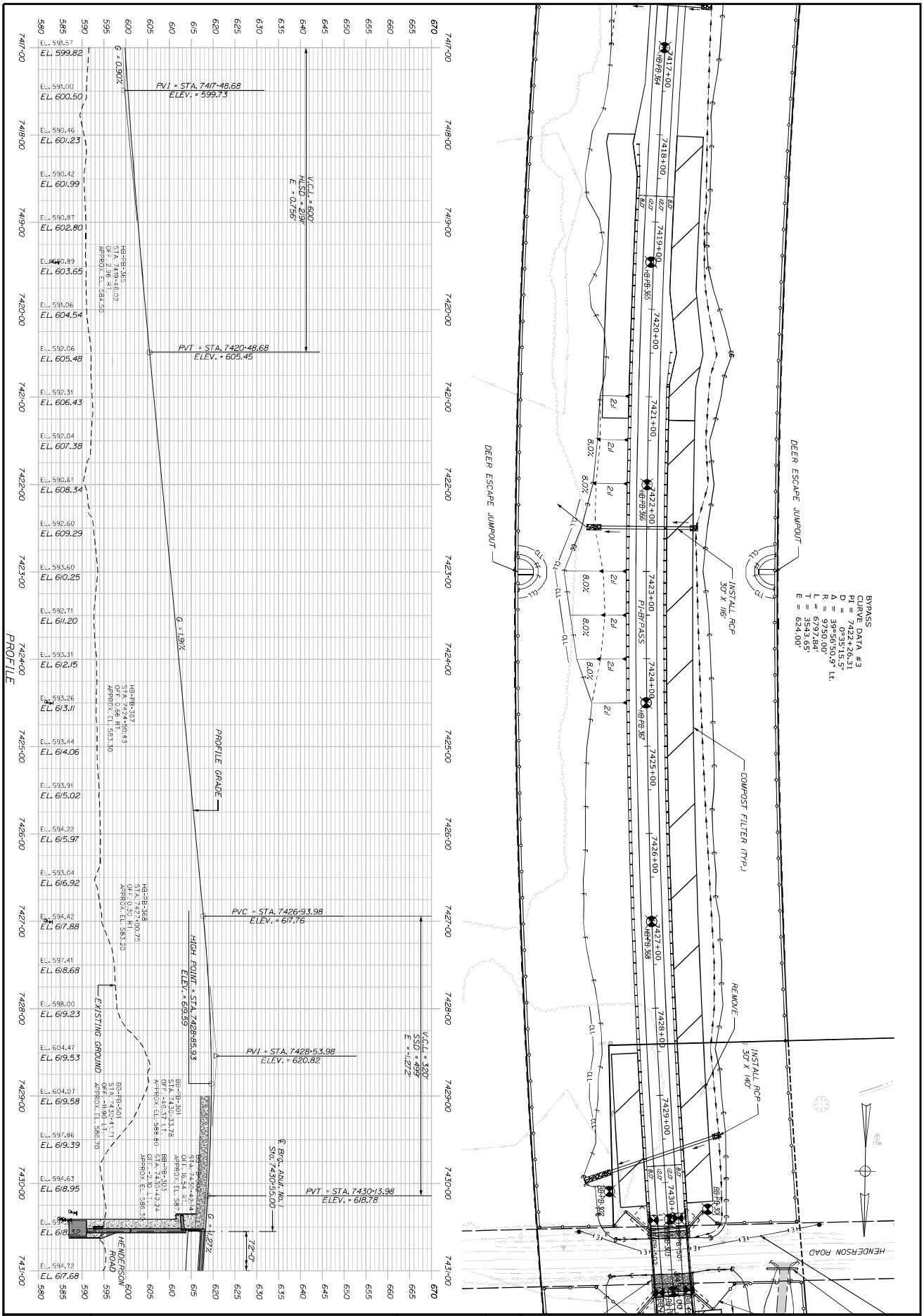
PLAN & PROFILE

PROJ. MANAGER	R.M.	BY	DATE
DESIGN-DETAILED	ZBW	JBD	7/25/2025
CHECKED-REVIEWED	ECF	AC	7/25/2025
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SHEET NUMBER
H-8
112
OF 703

vhb

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
CAPITAL PROJECTS
WIN
6462.92
HIGHWAY PLANS



PROJ. MANAGER	R.M.	BY	DATE
DESIGNED-DETAILED	ZBW	JBD	7/25/2025
CHECKED-REVIEWED	ECF	AC	7/25/2025
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SHEET NUMBER H-9 113 OF 703

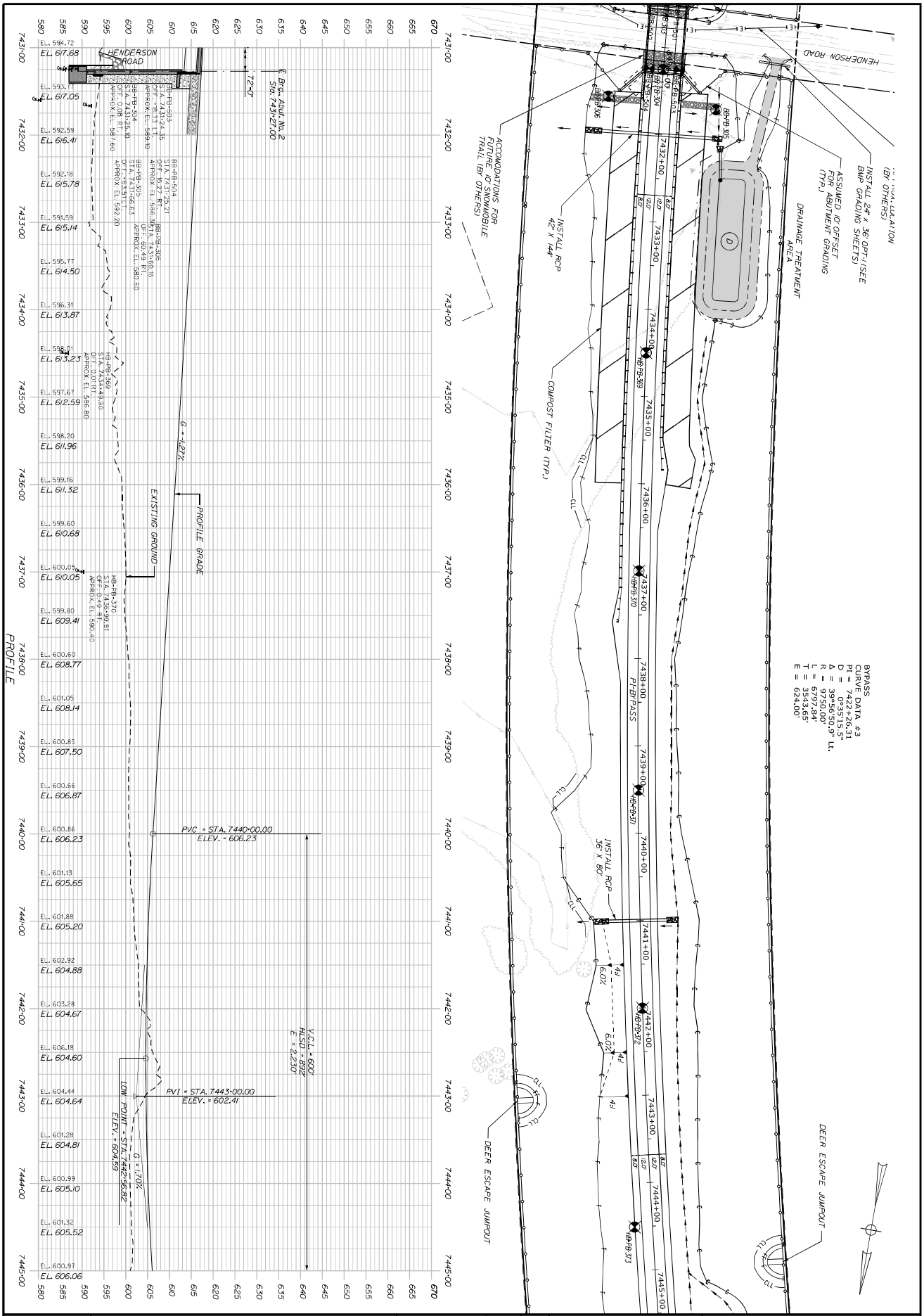
PRESQUE ISLE
PRESQUE ISLE BYPASS

PLAN & PROFILE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN 6462.92 HIGHWAY PLANS



PRESQUE ISLE
PRESQUE ISLE BYPASS

PLAN & PROFILE

PROJ. MANAGER	R.M.	BY	DATE
DESIGNED-DETAILED	ZBW	JBD	7/25/2025
CHECKED-REVIEWED	ECF	AG	7/25/2025
DESIGNER-DETAILED2			
DESIGNER-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

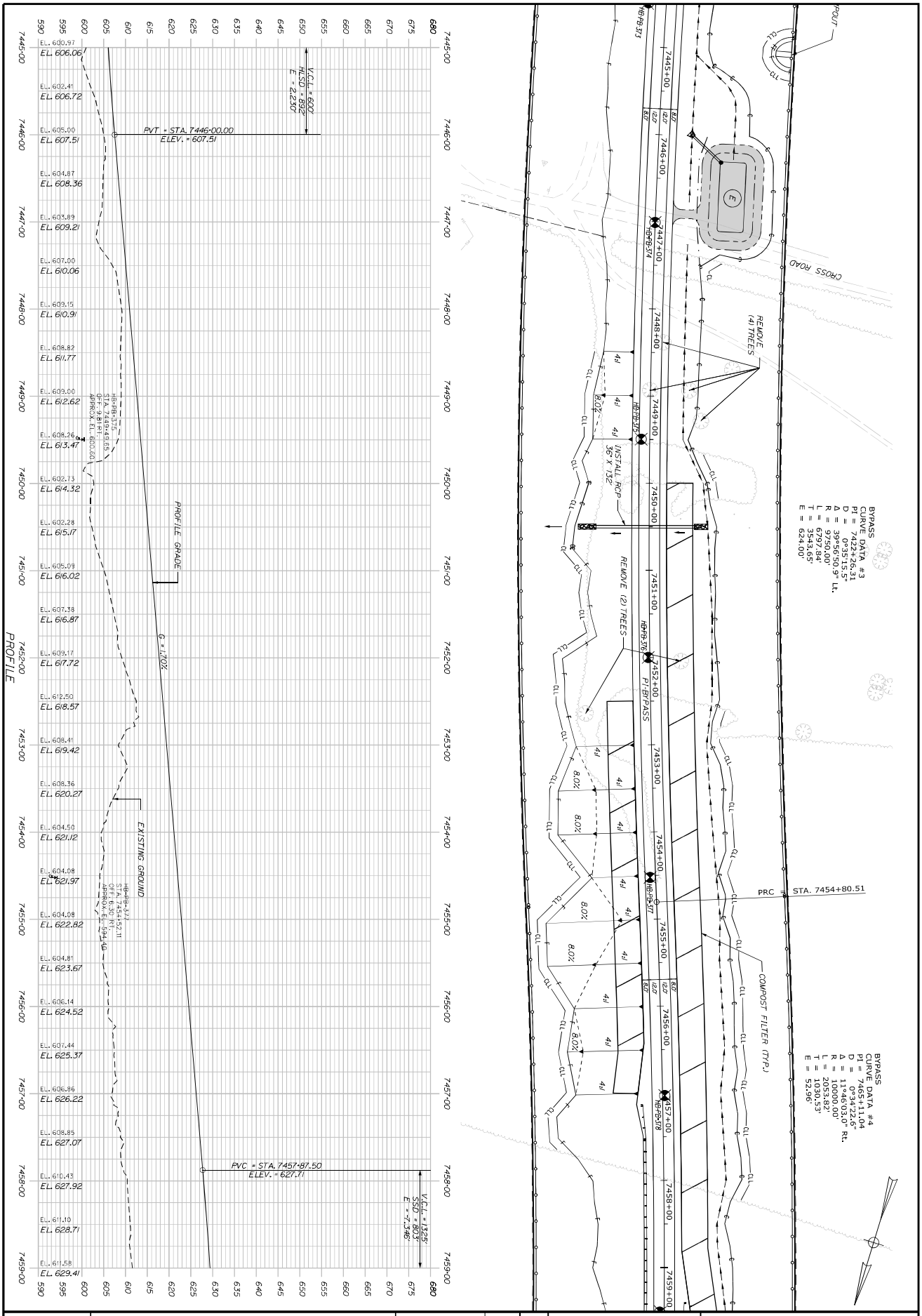
SHEET NUMBER H-10 114 OF 703

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN 6462.92

HIGHWAY PLANS



PROJ. MANAGER	R.M.	BY	DATE
DESIGN-DETAILED	ZBW	JBD	7/25/2025
CHECKED-REVIEWED	ECF	AC	7/25/2025
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SHEET NUMBER H-11 115 OF 703

PRESQUE ISLE
PRESQUE ISLE BYPASS

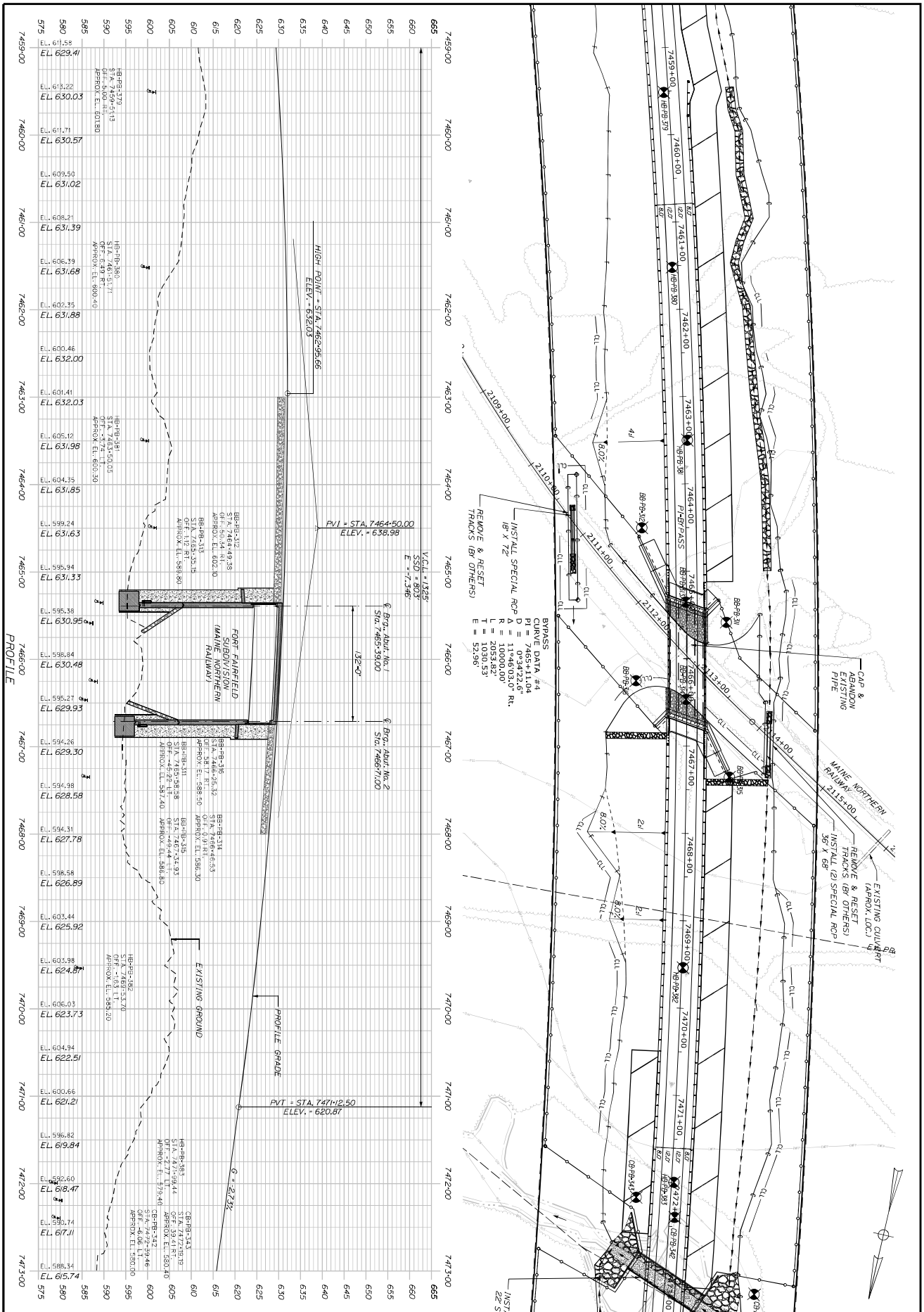
PLAN & PROFILE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN
6462.92

HIGHWAY PLANS



PROJ. MANAGER	R.M.	BY	DATE
DESIGN-DETAILED	ZBW	JBD	7/25/2025
CHECKED-REVIEWED	ECF	AG	7/25/2025
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SHEET NUMBER H-12 116 OF 703

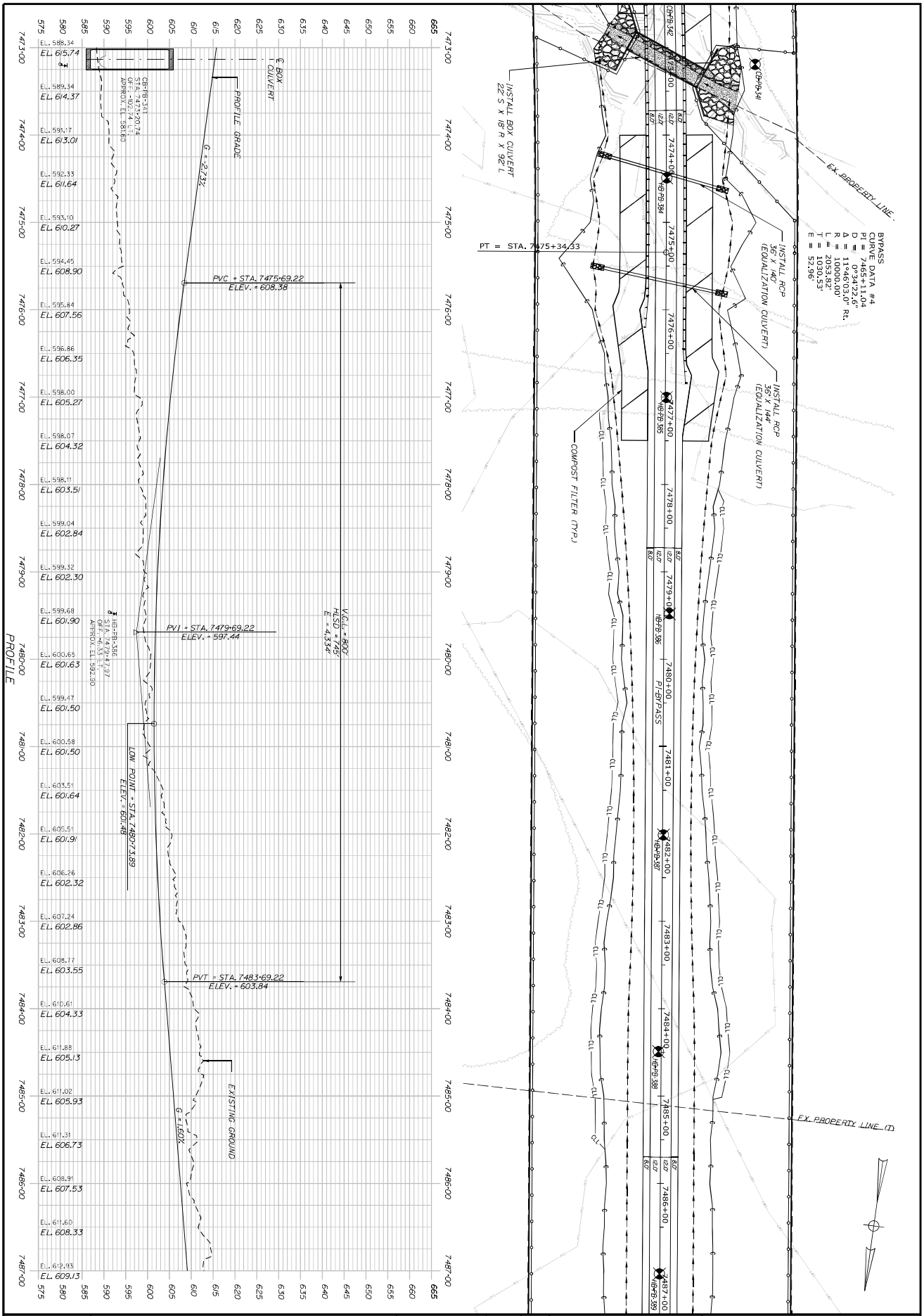
PRESQUE ISLE
PRESQUE ISLE BYPASS

PLAN & PROFILE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN 6462,92 HIGHWAY PLANS



SHEET NUMBER	H-13
	117
	OF 703

PRESQUE ISLE
PRESQUE ISLE BYPASS

PLAN & PROFILE

PROJ. MANAGER	R.M.	BY	DATE
DESIGN-DETAILED	ZBW	JBD	7/25/2025
CHECKED-REVIEWED	ECF	AC	7/25/2025
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

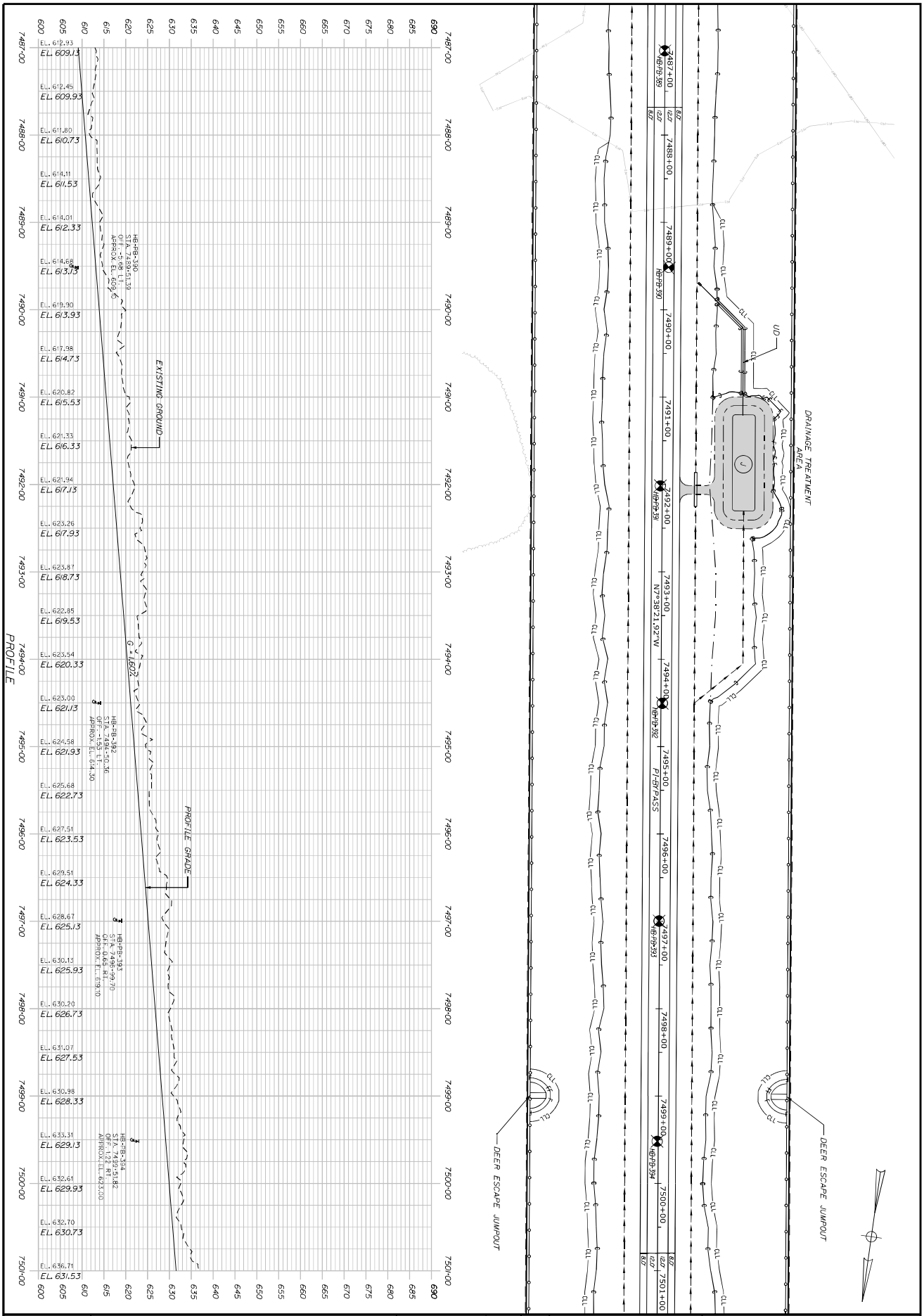
vhb

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN
6462.92

HIGHWAY PLANS



SHEET NUMBER H-14 118 OF 703

PRESQUE ISLE
PRESQUE ISLE BYPASS

PLAN & PLOT

PROJ. MANAGER	R.M.	BY	DATE
DESIGN-DETAILED	ZBW	JBD	7/25/2025
CHECKED-REVIEWED	ECF	AC	7/25/2025
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

vhb

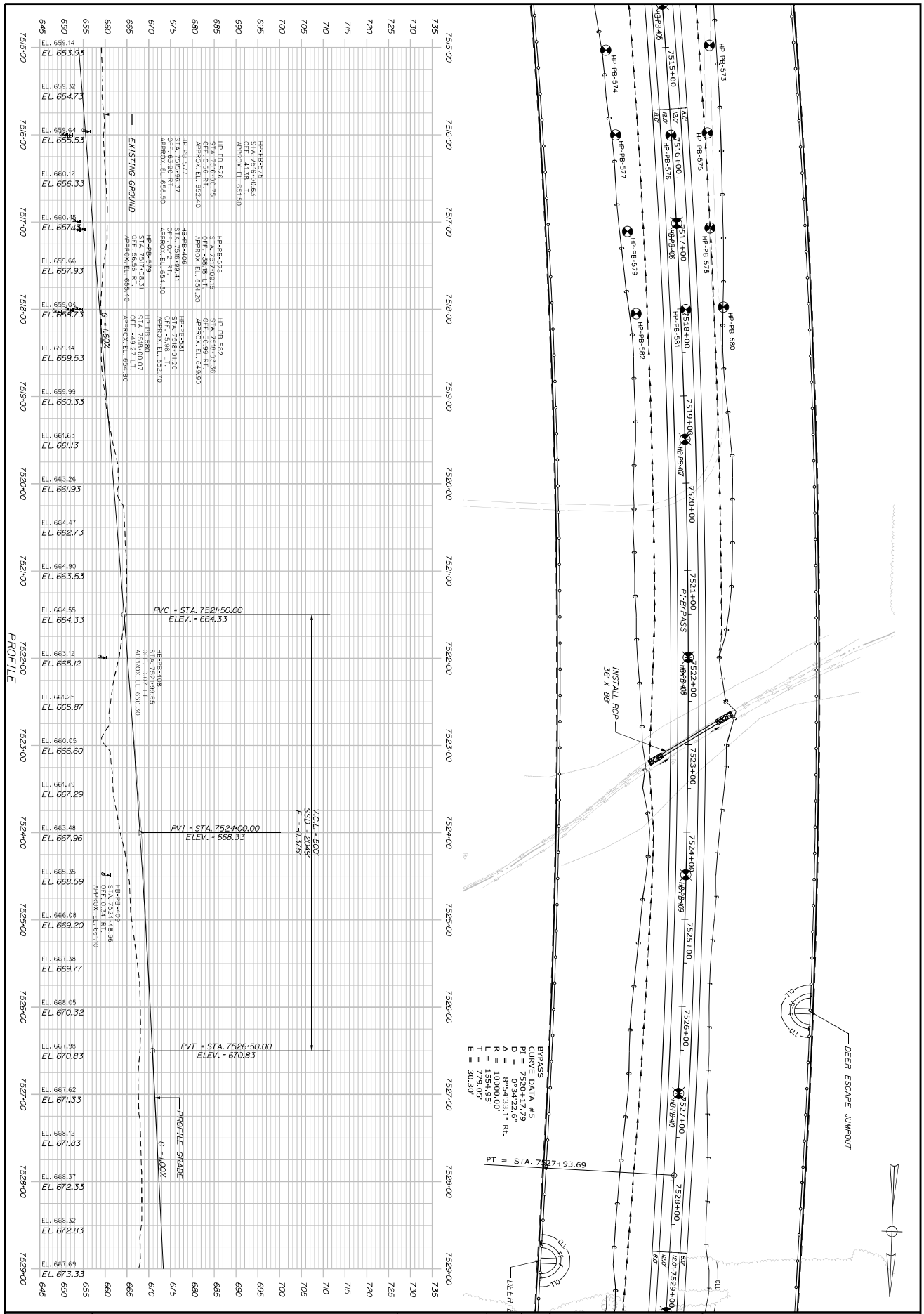
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN
6462,92

HIGHWAY PLANS

PRESQUE ISLE BYPASS
PLAN & PROFILE
SHEET NUMBER H-15 119 OF 703
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
CAPITAL PROJECTS
WIN 6462.92
HIGHWAY PLANS
PROJ. MANAGER
DESIGN-DETAILED
CHECKED-DETAILED
DESIGN-DETAILED
REVISIONS 1
REVISIONS 2
REVISIONS 3
REVISIONS 4
FIELD CHANGES
BY
DATE
7/25/2025
AD
7/25/2025
MJ
7/25/2025
EX. PROPERTY LINE
HP-PB-546
HP-PB-547
HP-PB-548
HP-PB-549
HP-PB-550
HP-PB-551
HP-PB-552
HP-PB-553
HP-PB-554
HP-PB-555
HP-PB-556
HP-PB-557
HP-PB-558
HP-PB-559
HP-PB-560
HP-PB-561
HP-PB-562
HP-PB-563
HP-PB-564
HP-PB-565
HP-PB-566
HP-PB-567
HP-PB-568
HP-PB-569
HP-PB-570
HP-PB-571
HP-PB-572
HP-PB-573
HP-PB-574
HB-PB-395
HB-PB-396
HB-PB-397
HB-PB-398
HB-PB-399(NW)
HB-PB-399(SW)
HB-PB-400
HB-PB-401
HB-PB-402
HB-PB-403
HB-PB-404
HB-PB-405
7501+00
7502+00
7503+00
7504+00
7505+00
7506+00
7507+00
7508+00
7509+00
7510+00
7511+00
7512+00
7513+00
7514+00
7515+00
BYPASS
PC = STA. 7512+38.74
CURVE DATA #5
PI = 7520+17.79
D = 0°34'22.6"
Δ = 8°54'33.1" Rt.
R = 10000.00'
L = 1554.95'
T = 779.05'
E = 30.30'
EXISTING GROUND
PROFILE GRADE
G = 1.60%
PROFILE
EL. 636.71
EL. 638.89
EL. 639.53
EL. 641.99
EL. 642.19
EL. 644.68
EL. 644.80
EL. 645.52
EL. 646.32
EL. 646.53
EL. 646.79
EL. 647.40
EL. 649.27
EL. 649.36
EL. 650.22
EL. 650.34
EL. 651.03
EL. 651.04
EL. 651.37
EL. 652.79
EL. 653.47
EL. 654.92
EL. 656.87
EL. 658.94
EL. 660.14
EL. 660.92
EL. 661.39
EL. 663.10
EL. 664.35
EL. 665.53
EL. 666.74
EL. 668.79
EL. 669.22
EL. 669.53
EL. 669.93
EL. 670.93
EL. 671.99
EL. 672.73
EL. 673.93
EL. 674.73
EL. 675.53
EL. 676.33
EL. 677.13
EL. 677.53
EL. 678.32
EL. 679.12
EL. 679.53
EL. 679.92
EL. 680.06
EL. 680.10
EL. 680.53
EL. 681.39
EL. 682.33
EL. 683.53
EL. 684.73
EL. 685.53
EL. 686.33
EL. 687.13
EL. 687.53
EL. 687.93
EL. 688.33
EL. 688.73
EL. 689.13
EL. 689.53
EL. 689.93
EL. 690.33
EL. 690.73
EL. 691.13
EL. 691.53
EL. 691.93
EL. 692.33
EL. 692.73
EL. 693.13
EL. 693.53
EL. 693.93
EL. 694.33
EL. 694.73
EL.



PROJ. MANAGER	R.M.	BY	DATE
DESIGN-DETAILED	ZBW	JBD	7/25/2025
CHECKED-REVIEWED	ECF	AC	7/25/2025
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SHEET NUMBER H-16 120 OF 703

PRESQUE ISLE
PRESQUE ISLE BYPASS

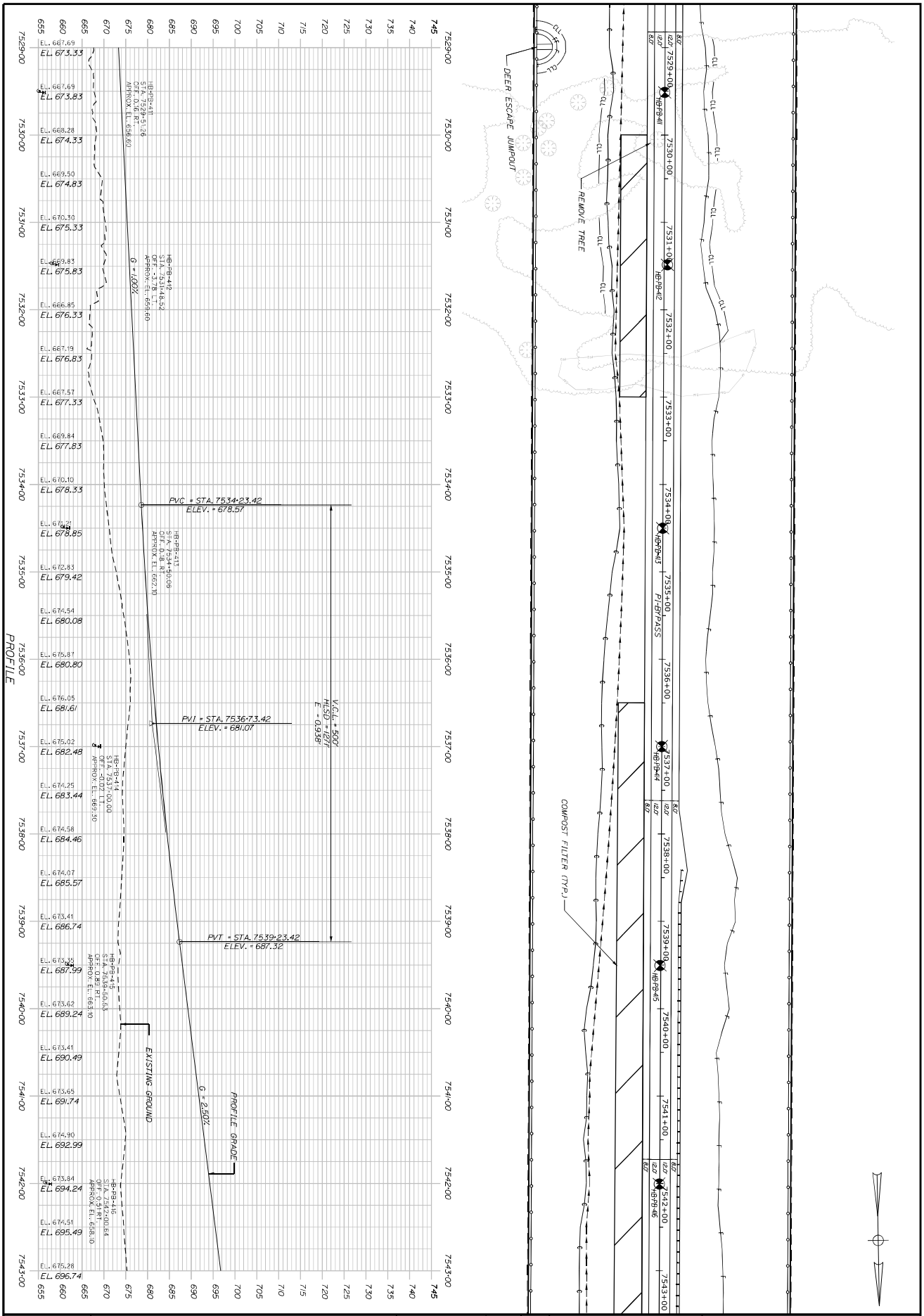
PLAN & PROFILE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN 6462.92

HIGHWAY PLANS



PRESQUE ISLE
PRESQUE ISLE BYPASS

PLAN & PROFILE

SHEET NUMBER
H-17
121
OF 703

PROJ. MANAGER	R.M.	BY	DATE
DESIGN-DETAILED	ZBW	JBD	7/25/2025
CHECKED-REVIEWED	ECF	AC	7/25/2025
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

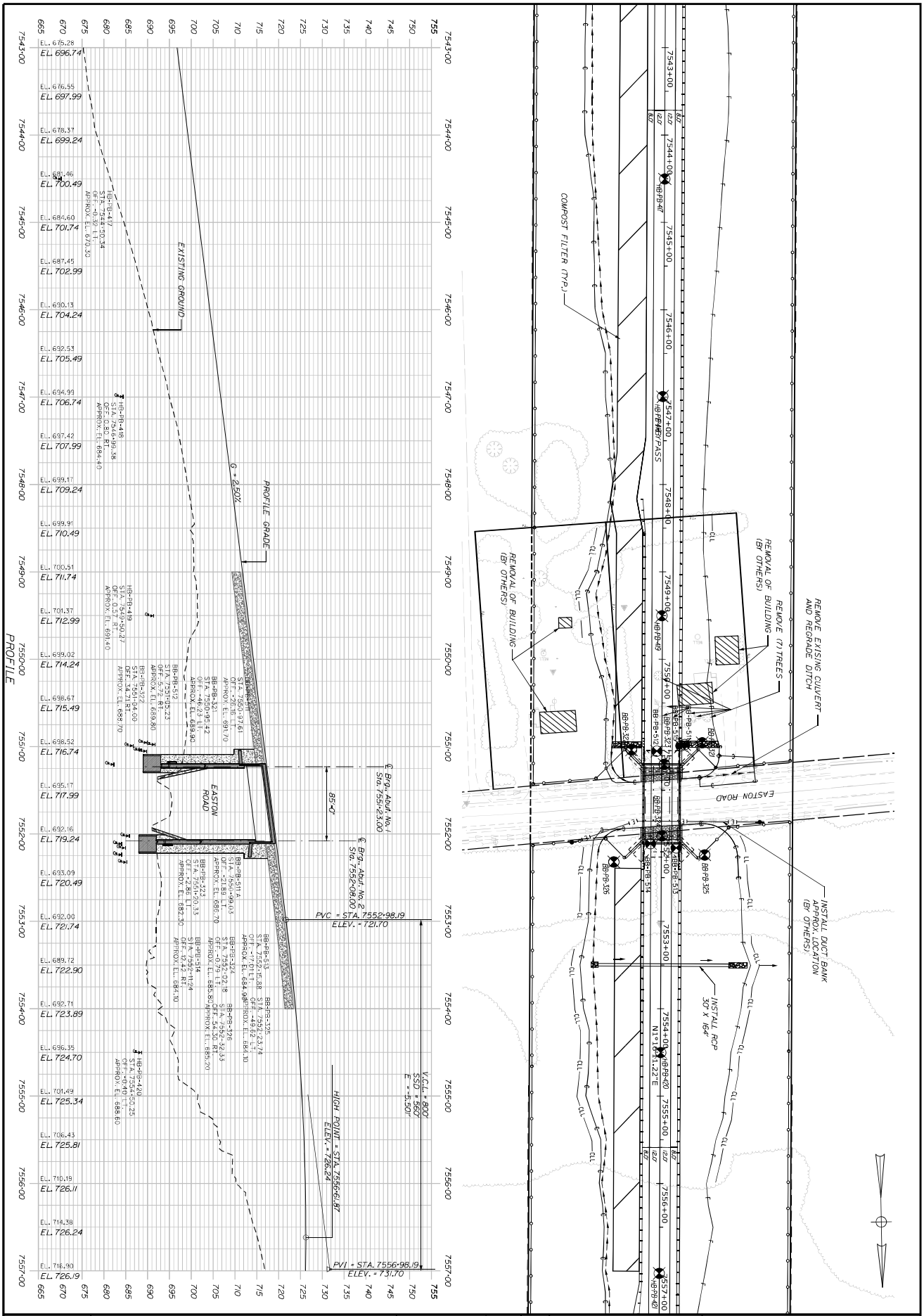
vhb

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN
6462.92

HIGHWAY PLANS



PROJ. MANAGER	R.M.	BY	DATE
DESIGN-DETAILED	ZBW	JBD	7/25/2025
CHECKED-REVIEWED	ECF	AC	7/25/2025
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SHEET NUMBER H-18 122 OF 703

PRESQUE ISLE
PRESQUE ISLE BYPASS

PLAN & PROFILE

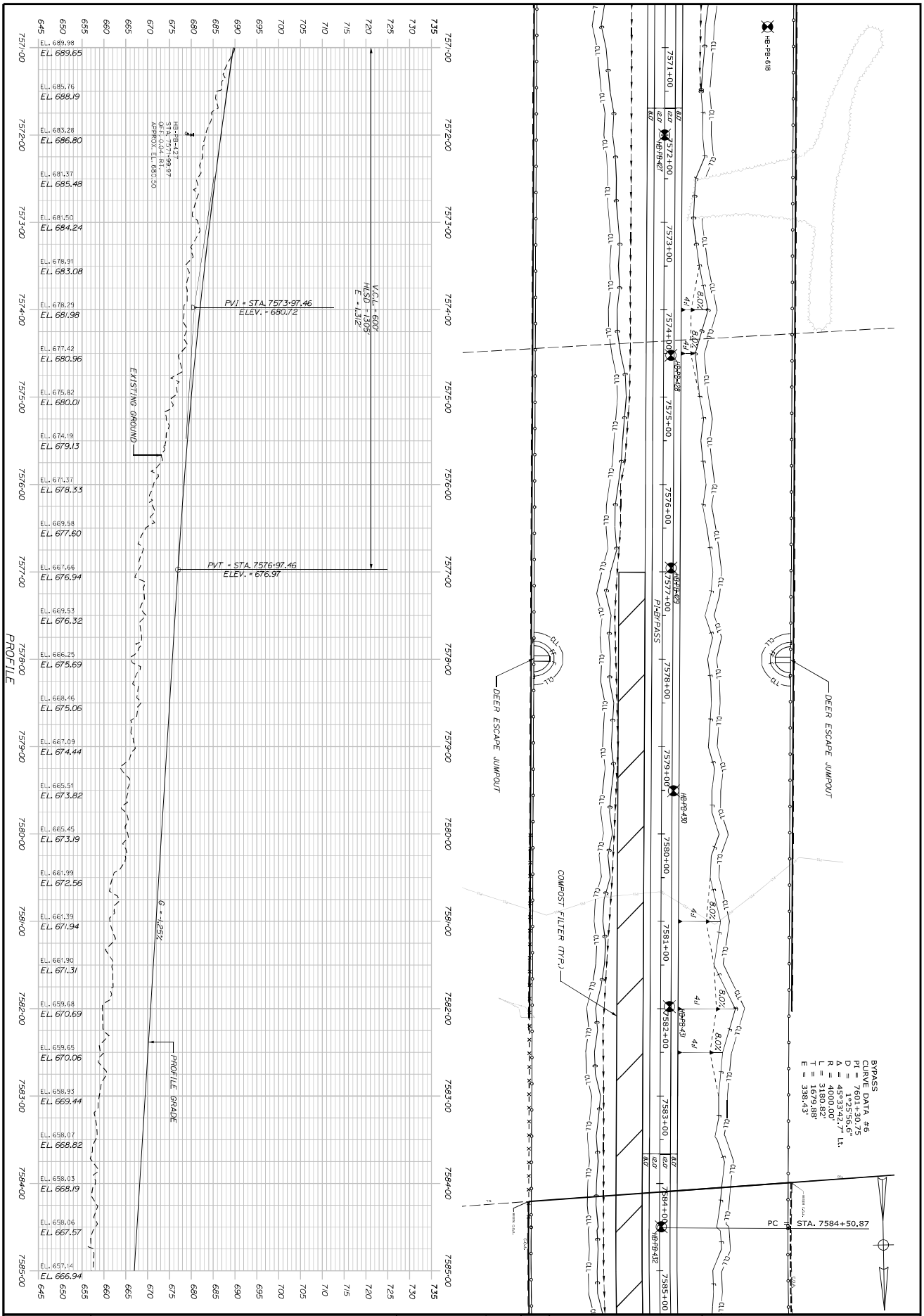
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN 6462,92

HIGHWAY PLANS

Filename: ...\H4_Plans and Profiles.dgn Division: HIGHWAY Username: btomic Date:7/25/2025



PROJ. MANAGER	R.M.	BY	DATE
DESIGN-DETAILED	ZBW	JBD	7/25/2025
CHECKED-REVIEWED	ECF	AC	7/25/2025
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SHEET NUMBER H-20 124 OF 703

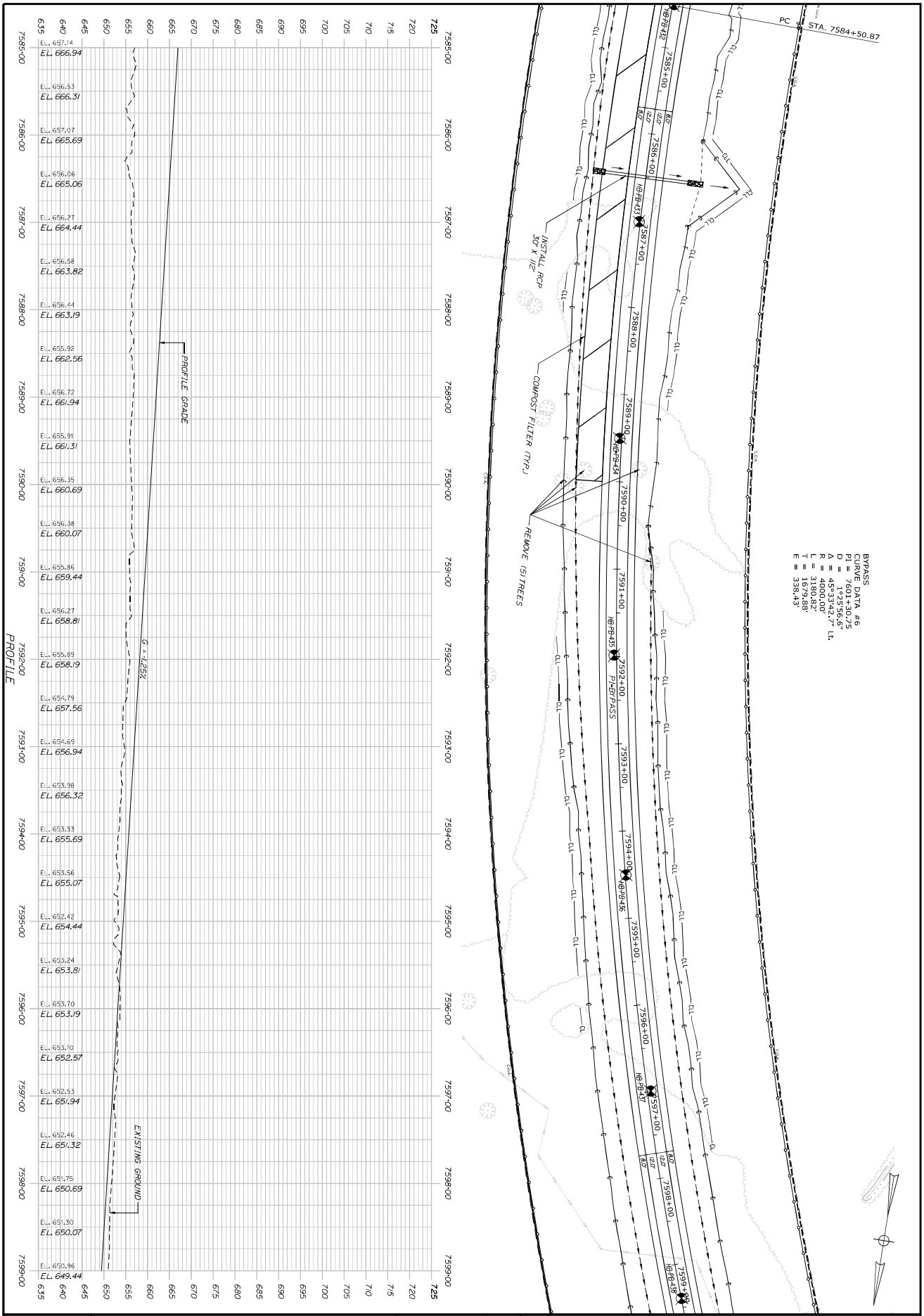
PRESQUE ISLE
PRESQUE ISLE BYPASS

PLAN & PROFILE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN 6462.92 HIGHWAY PLANS



PROJ. MANAGER	R.M.	BY	DATE
DESIGN-DETAILED	ZBW	JBD	7/25/2025
CHECKED-REVIEWED	ECF	AC	7/25/2025
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SHEET NUMBER H-21 125 OF 703

PRESQUE ISLE
PRESQUE ISLE BYPASS

PLAN & PROFILE

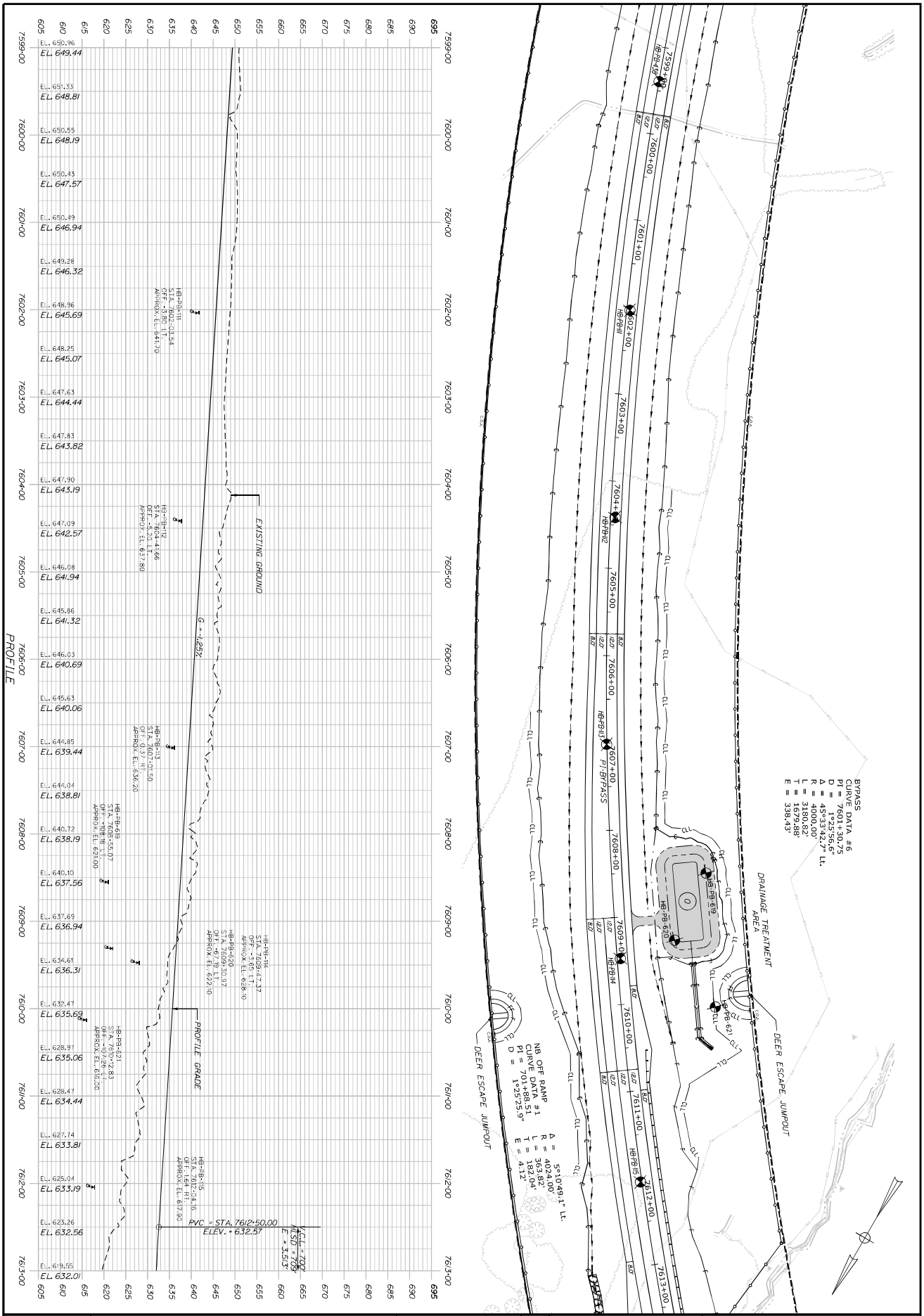
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

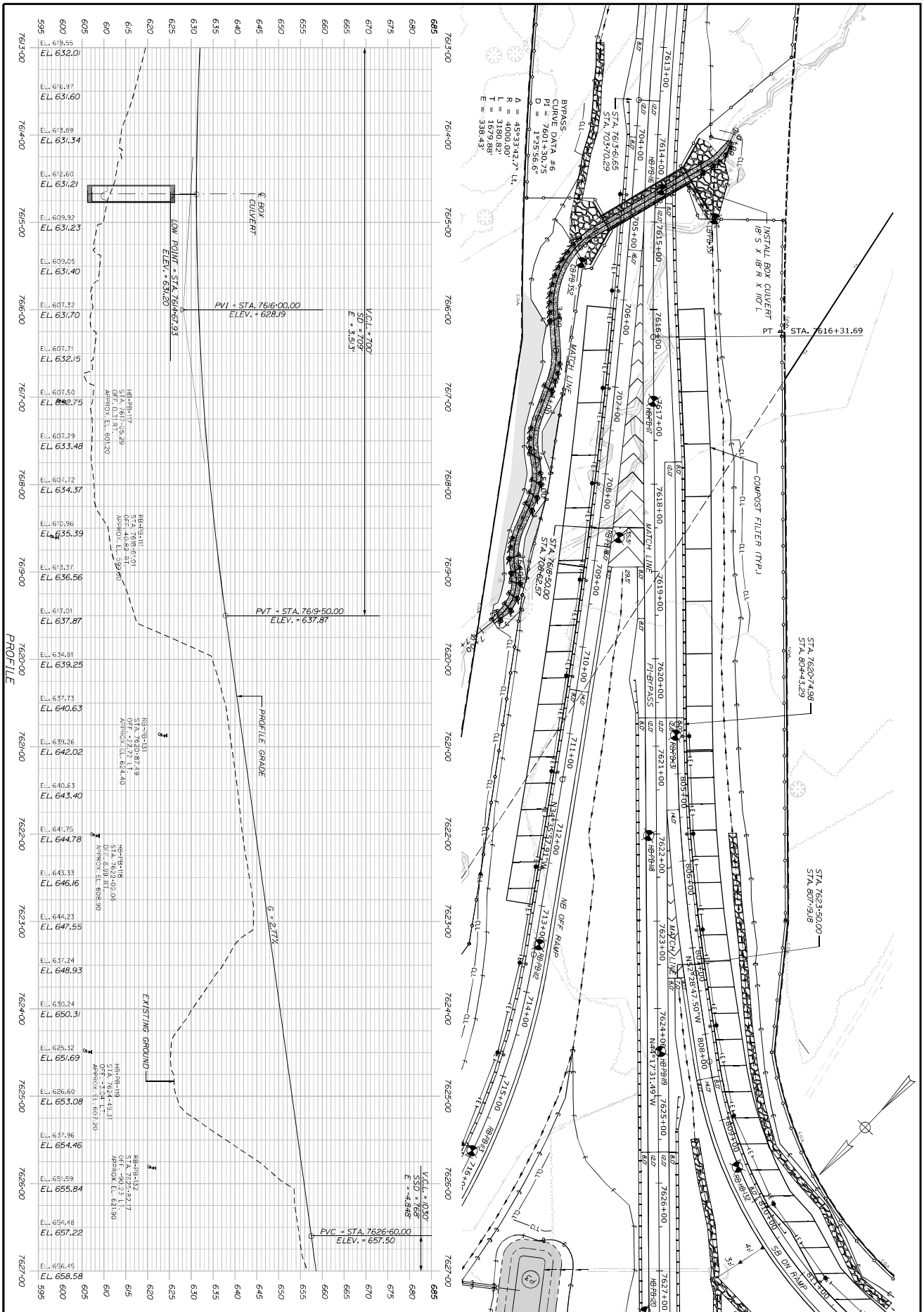
CAPITAL PROJECTS

WIN 6462.92

HIGHWAY PLANS

458


PROFILE
EXISTING GROUND
PROFILE GRADE
G = -1.82%
PVC - STA. 7612+50.00
ELEV. = 632.57
HB-PB-111
STA. 7602+03.54
OFF. - 5.86' LT.
APPROX. EL. 641.70
HB-PB-112
STA. 7604+41.66
OFF. 0.37' RT.
APPROX. EL. 637.80
HB-PB-113
STA. 7607+20.50
OFF. 0.37' RT.
APPROX. EL. 636.20
HB-PB-114
STA. 7608+55.07
OFF. - 108.18' LT.
APPROX. EL. 621.00
HB-PB-520
STA. 7609+30.97
OFF. - 5.71' LT.
APPROX. EL. 622.10
HB-PB-115
STA. 7612+04.16
OFF. 1.64' RT.
APPROX. EL. 617.90
HB-PB-521
STA. 7611+72.83
OFF. - 107.26' LT.
APPROX. EL. 616.00
NB OFF RAMP
CURVE DATA #1
PI = 701+88.51
D = 1°25'5.9"
Δ = 5°10'49.1" Lt.
R = 4024.00'
L = 363.82'
T = 182.04'
E = 4.12'
BYPASS
CURVE DATA #6
PI = 7601+30.75
D = 1°25'56.6"
Δ = 45°33'42.7" Lt.
R = 4000.00'
L = 3180.82'
T = 1679.88'
E = 338.43'
PI BYPASS
DRAINAGE TREATMENT AREA
DEER ESCAPE JUMPOUT
DEER ESCAPE JUMPOUT
HB-PB-619
HB-PB-620
HB-PB-621
HB-PB-622
HB-PB-623
HB-PB-624
HB-PB-625
HB-PB-626
HB-PB-627
HB-PB-628
HB-PB-629
HB-PB-630
HB-PB-631
HB-PB-632
HB-PB-633
HB-PB-634
HB-PB-635
HB-PB-636
HB-PB-637
HB-PB-638
HB-PB-639
HB-PB-640
HB-PB-641
HB-PB-642
HB-PB-643
HB-PB-644
HB-PB-645
HB-PB-646
HB-PB-647
HB-PB-648
HB-PB-649
HB-PB-650
HB-PB-651
HB-PB-652
HB-PB-653
HB-PB-654
HB-PB-655
HB-PB-656
HB-PB-657
HB-PB-658



PROJ. MANAGER	R.M.	BY	DATE
DESIGN-DETAILED	ZBW	JBD	7/25/2025
CHECKED-REVIEWED	ECF	AC	7/25/2025
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SHEET NUMBER H-23
127 OF 703

PRESQUE ISLE
PRESQUE ISLE BYPASS

PLAN & PROFILE

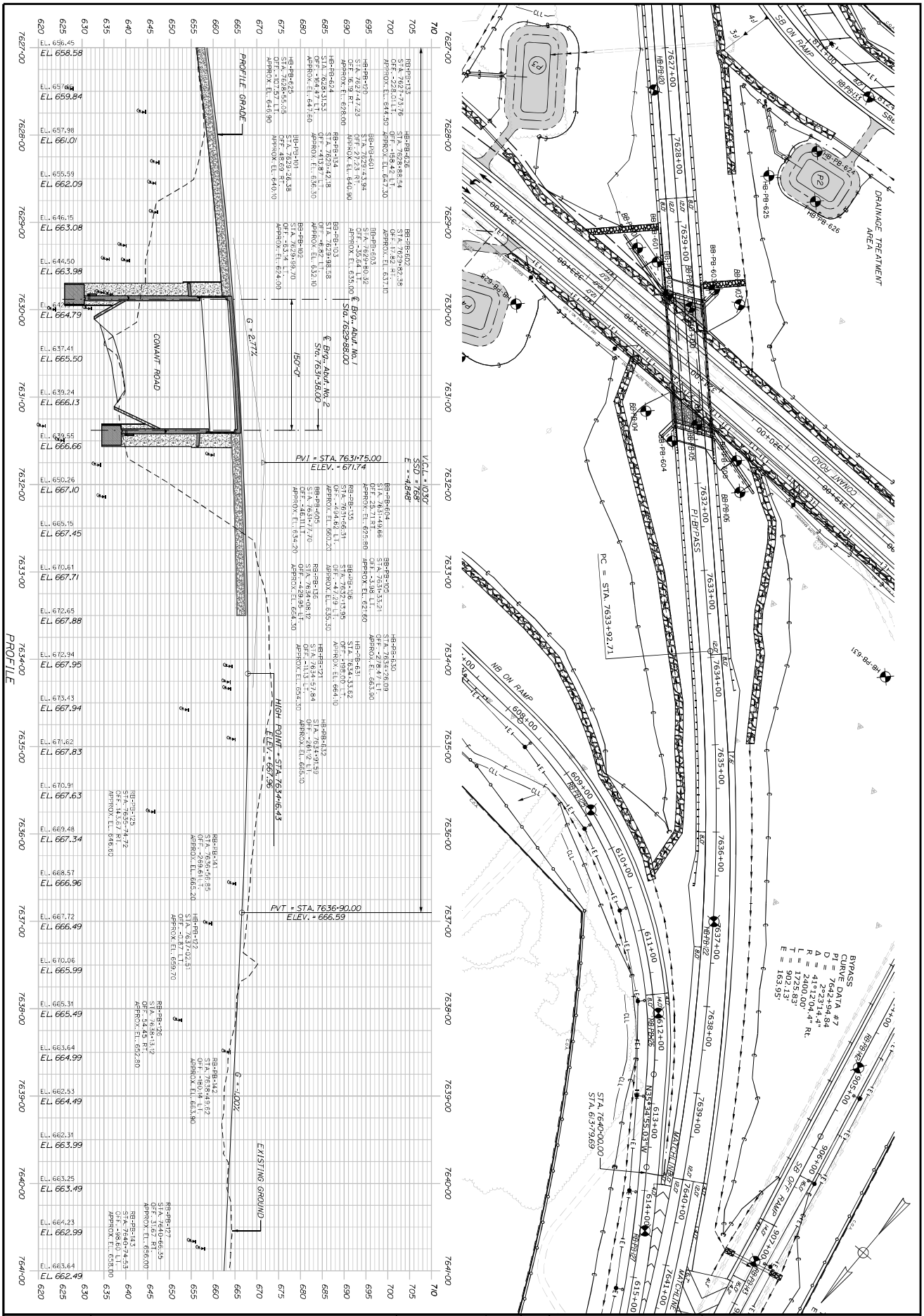
vhb

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN 6462.92

HIGHWAY PLANS



PROJ. MANAGER	R.M.	BY	DATE
DESIGN-DETAILED	ZBW	JBD	7/25/2025
CHECKED-REVIEWED	ECF	AC	7/25/2025
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

PRESQUE ISLE
PRESQUE ISLE BYPASS

PLAN & PROFILE

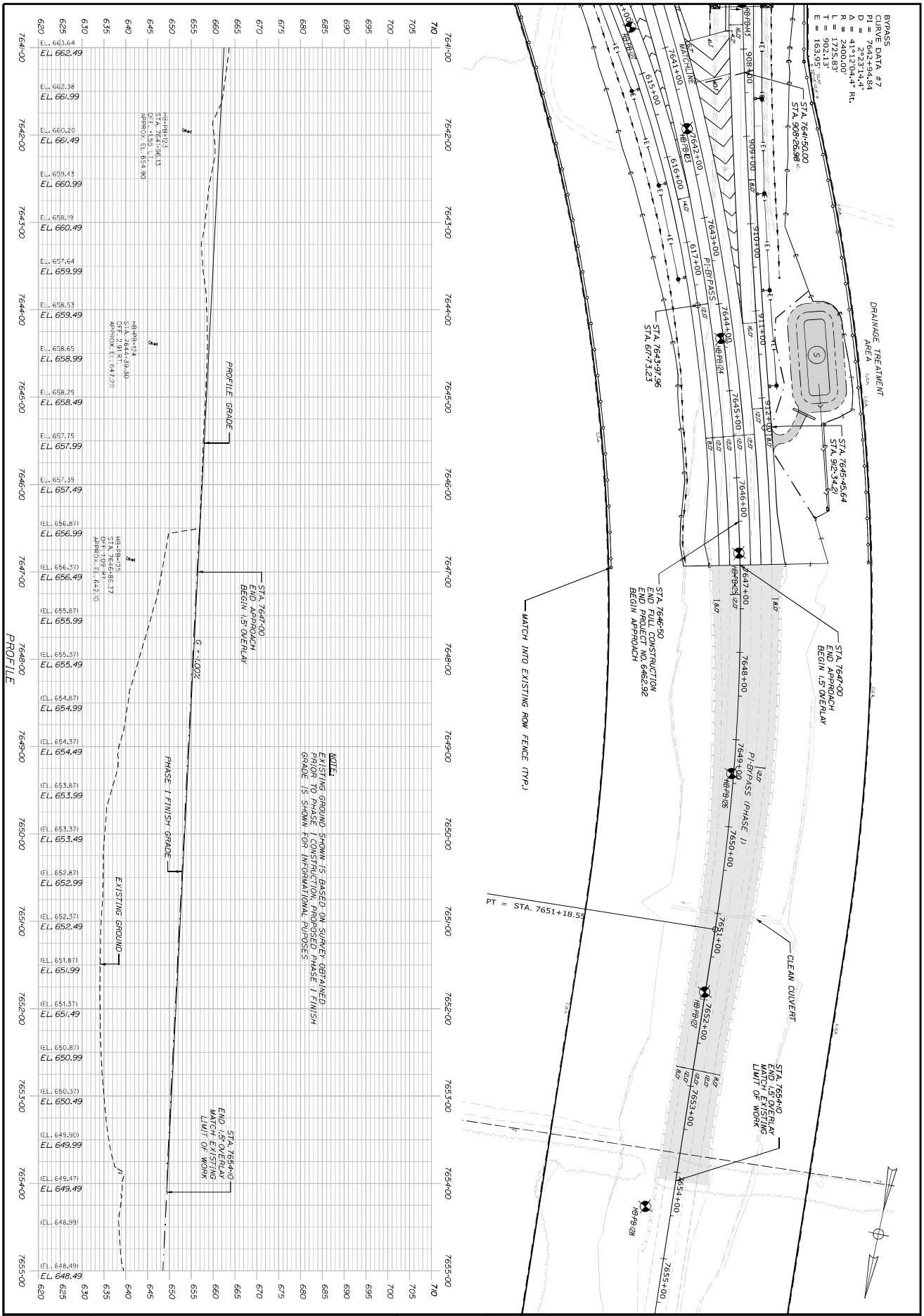
SHEET NUMBER
H-24
128
OF 703

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN
6462.92

HIGHWAY PLANS



PRESQUE ISLE
PRESQUE ISLE BYPASS

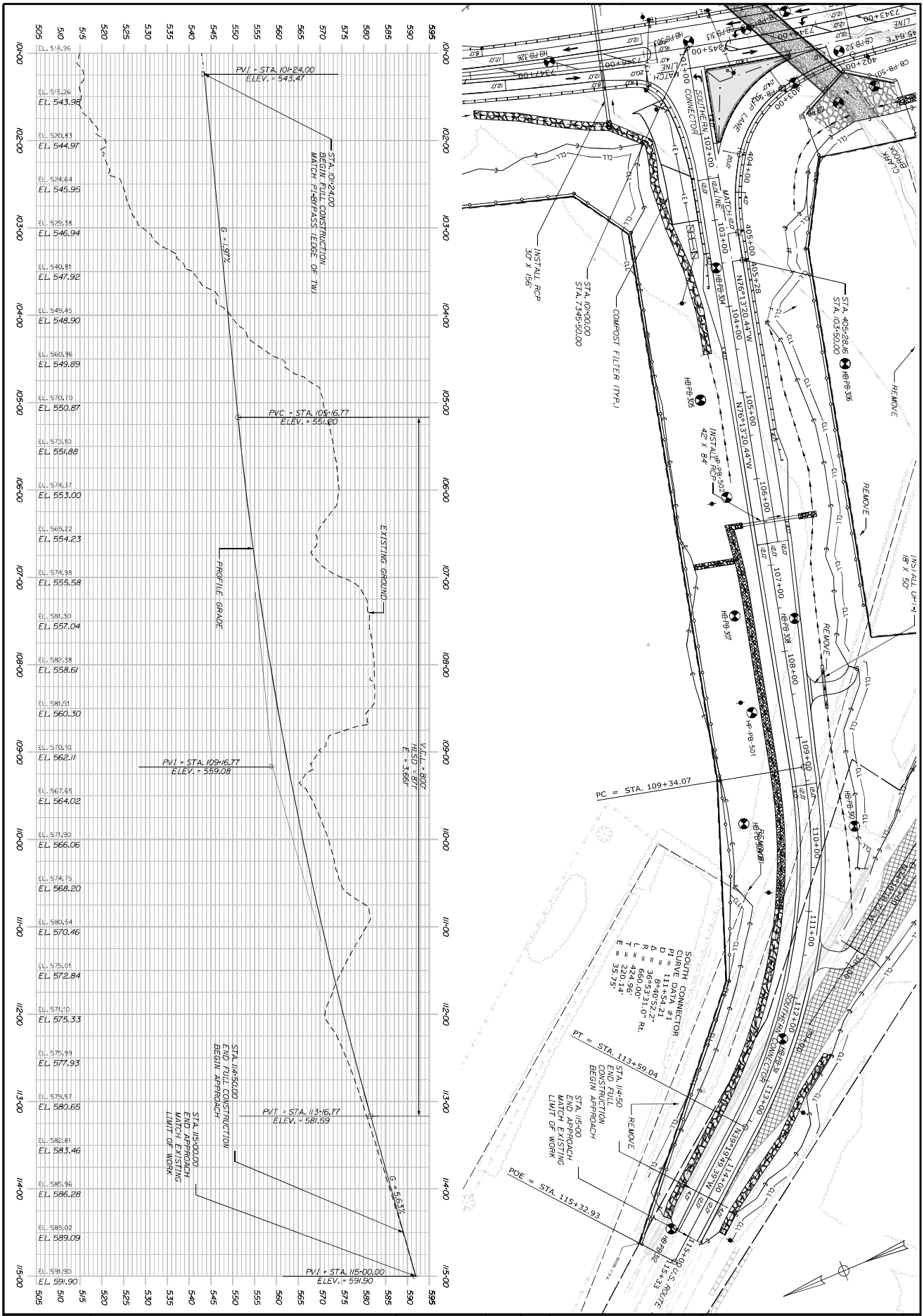
PLAN & PROFILE

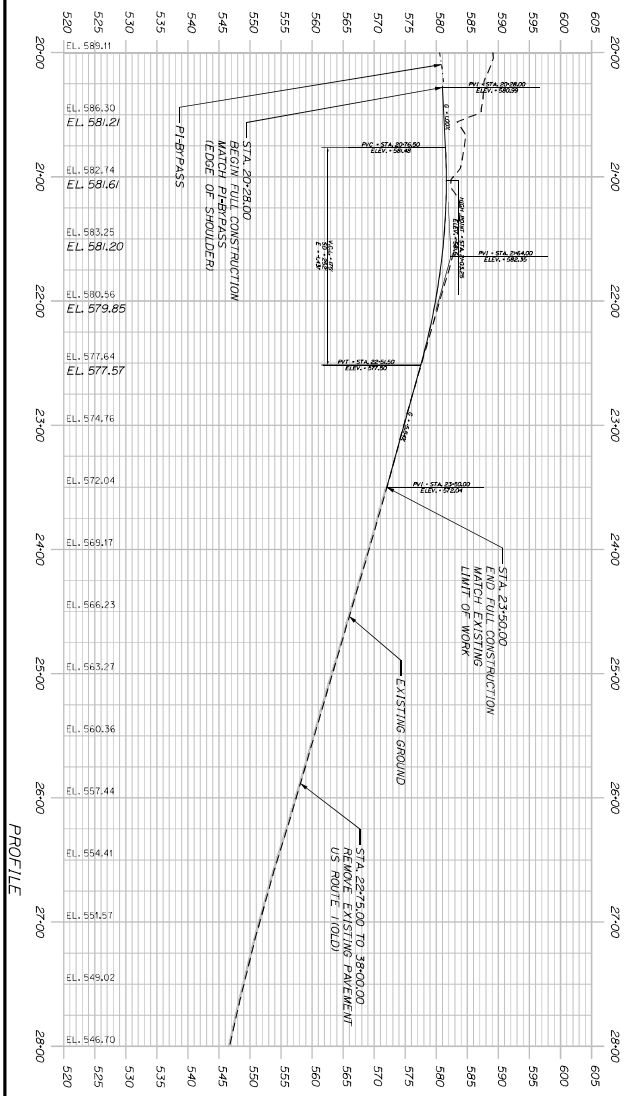
PROJ. MANAGER	R.M.	BY	DATE
DESIGN-DETAILED	ZBW	JBD	7/25/2025
CHECKED-REVIEWED	ECF	AC	7/25/2025
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

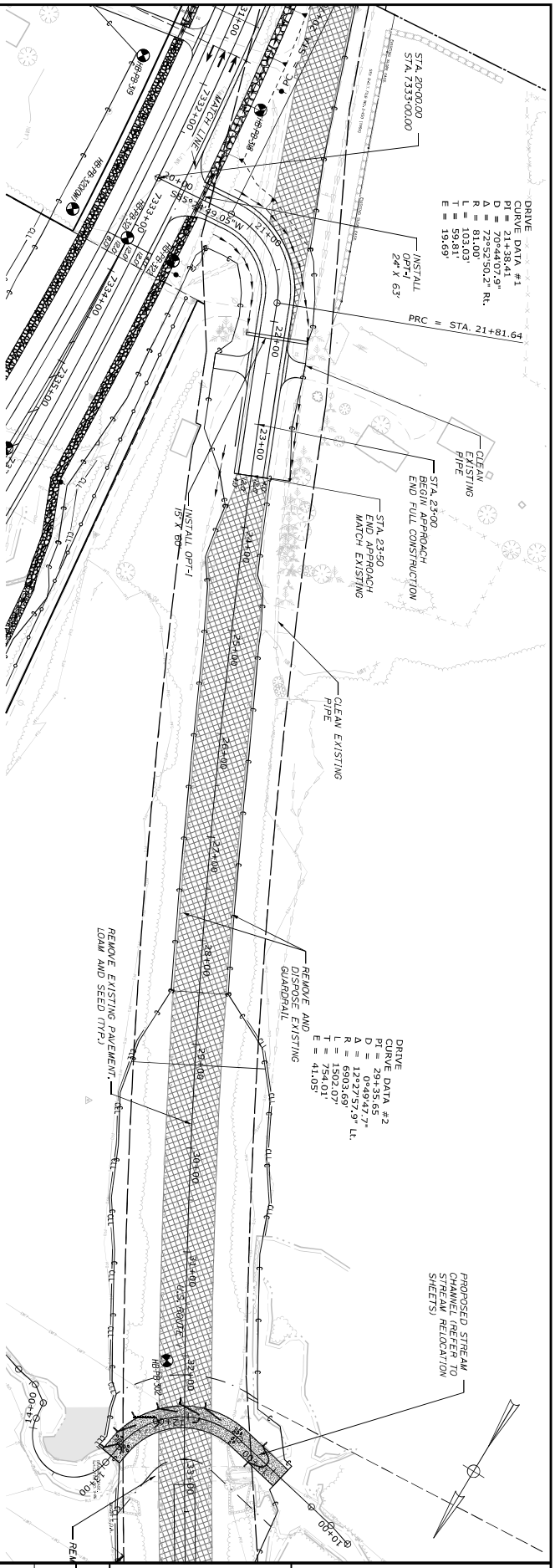
SHEET NUMBER
H-25
129
OF 703

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
CAPITAL PROJECTS
WIN
6462.92
HIGHWAY PLANS

Filename: ...\H4_Plans and Profiles.dgn Division: HIGHWAY Username: btomic Date:7/25/2025


PVI = STA. 101+24.00
ELEV. = 543.47
STA. 101+24.00
BEGIN FULL CONSTRUCTION
MATCH EXISTING BYPASS LEDGE OF TW
G = -1.97%
PVC = STA. 105+16.77
ELEV. = 551.20
EXISTING GROUND
PROFILE GRADE
PVI = STA. 109+16.77
ELEV. = 559.08
V.C.L. = 800'
HSD = 800'
E = 3.68'
PVT = STA. 113+16.77
ELEV. = 581.59
STA. 114+50.00
END FULL CONSTRUCTION
BEGIN APPROACH
STA. 115+00.00
END APPROACH
MATCH EXISTING
LIMIT OF WORK
G = 5.63%
PVI = STA. 115+00.00
ELEV. = 591.90
PC = STA. 109+34.07
PT = STA. 113+59.04
POE = STA. 115+32.93
SOUTH CONNECTOR
CURVE DATA
PI = 111+54.21
D = 8°40'52.2"
Δ = 36°53'31.0" Rt.
R = 660.00'
L = 424.96'
T = 218.44'
E = 35.75'
SOUTHERN CONNECTOR
SOUTHERN CONNECTOR
SOUTHERN CONNECTOR

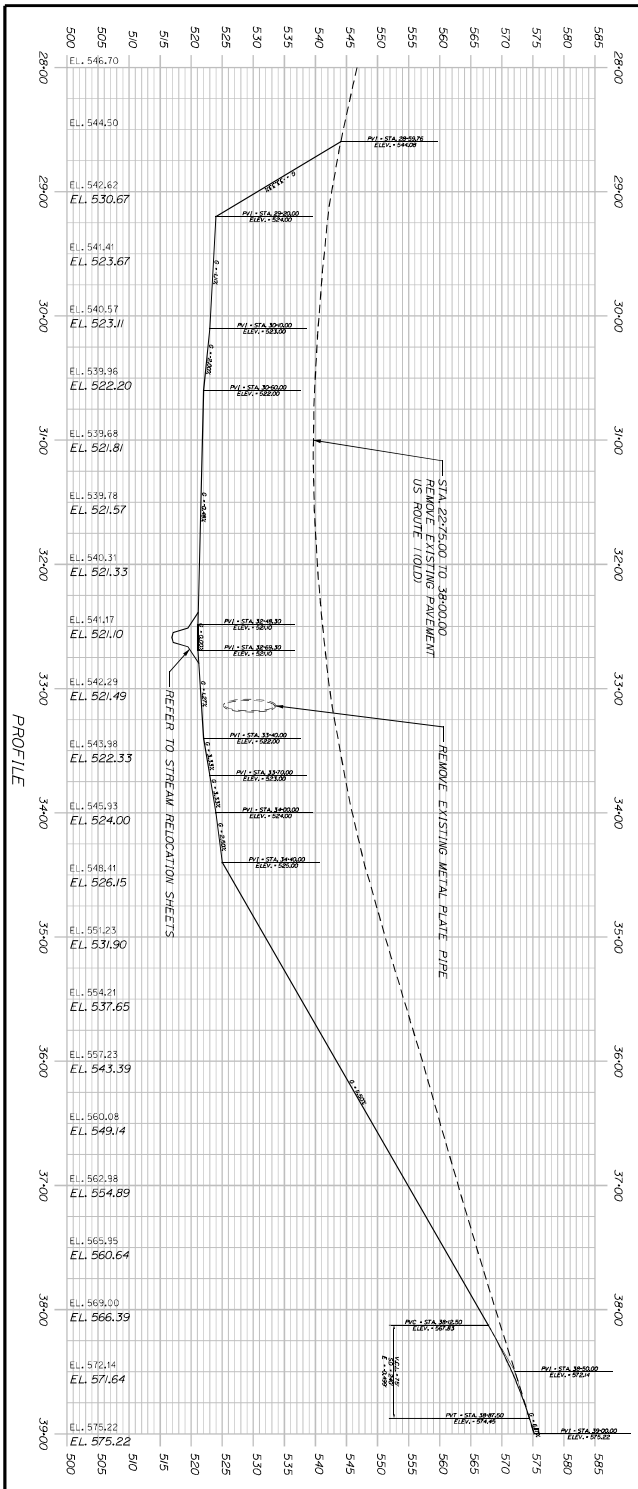


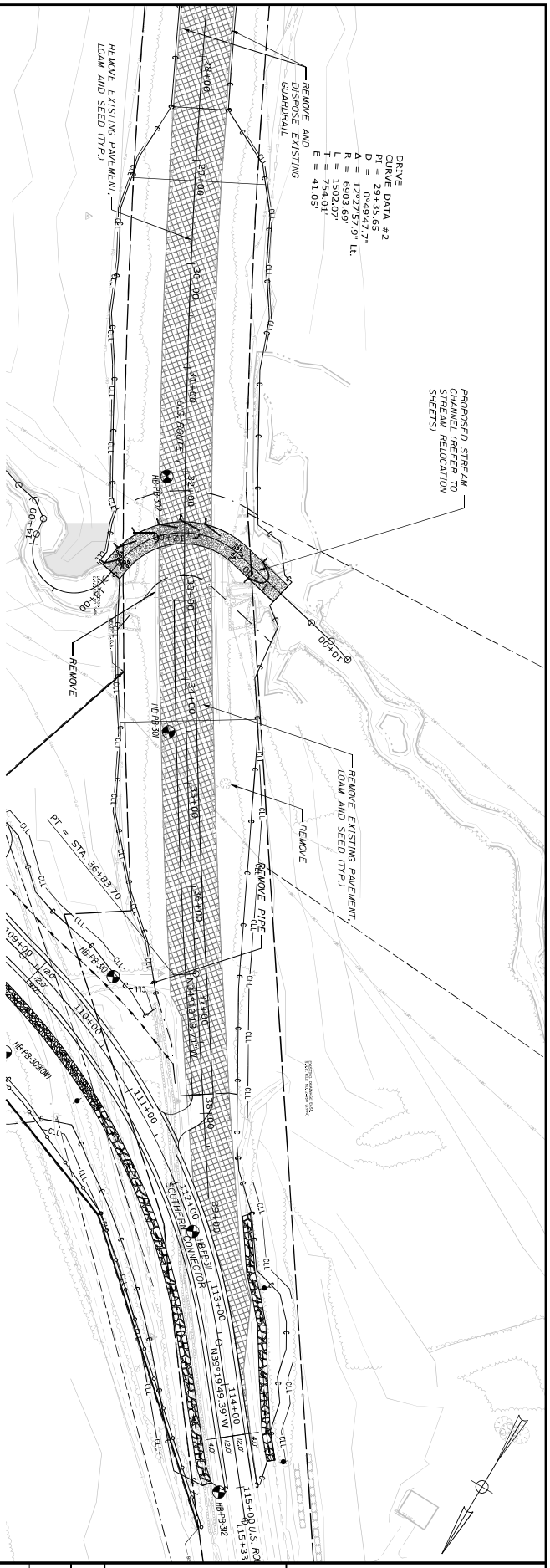


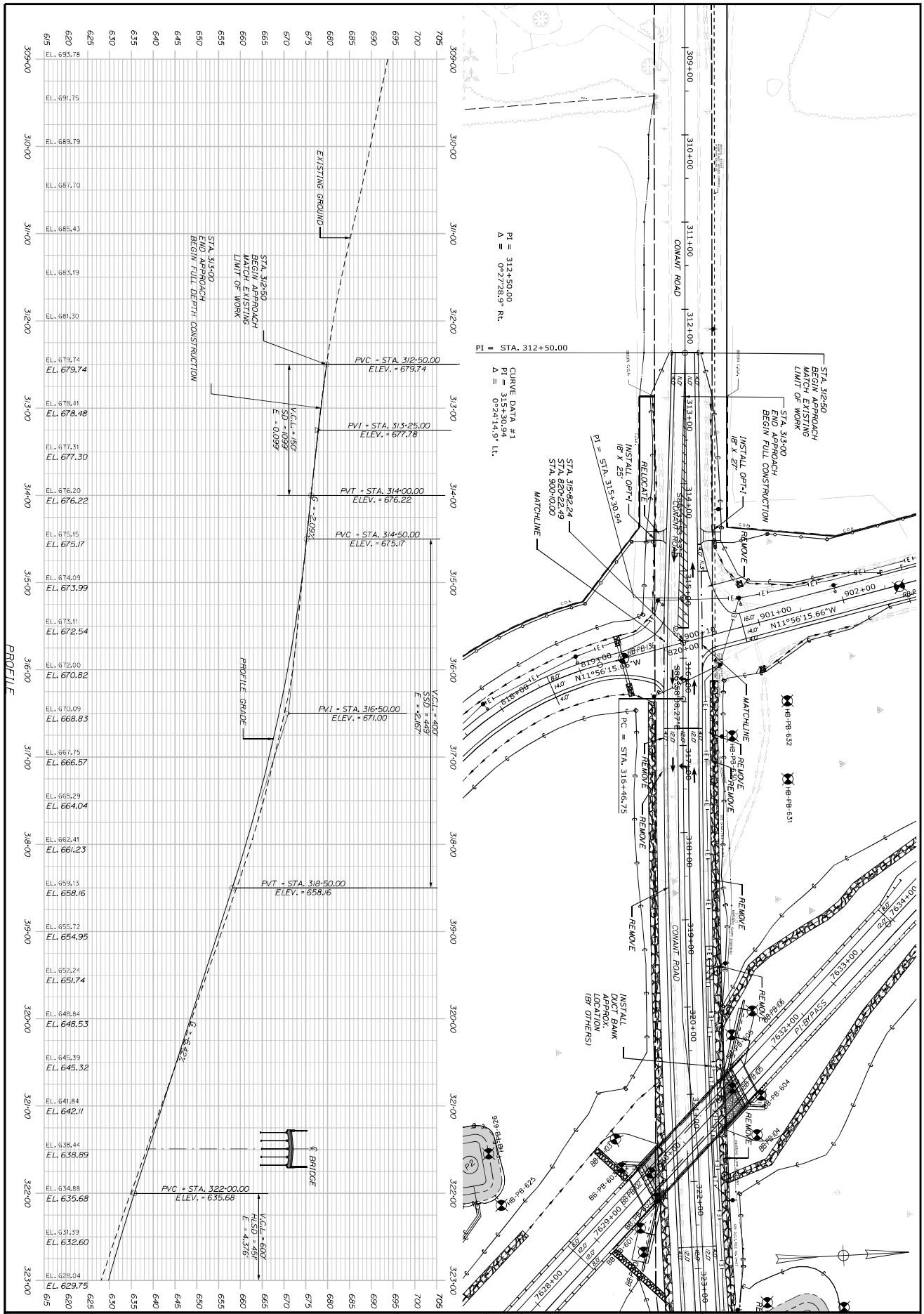
SHEET NUMBER H-28 132 OF 703	PRESQUE ISLE ROUTE 1 - DRIVE SOUTH PLAN & PROFILE	PROJ. MANAGER: R.M.	BY: DATE
		DESIGN=DETAILED	ZBW: JBD: 7/25/2025
		CHECKED=REVIEWED	ECT: AC: 7/25/2025
		DESIGN2=DETAILED2	
		DESIGN3=DETAILED3	
		REVISIONS 1	
		REVISIONS 2	
		REVISIONS 3	
		REVISIONS 4	
		FIELD CHANGES	

vhb

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
CAPITAL PROJECTS
WIN 6462.92
HIGHWAY PLANS


PROFILE
EL. 546.70
EL. 544.50
EL. 542.62
EL. 530.67
EL. 541.41
EL. 523.67
EL. 540.57
EL. 523.11
EL. 539.96
EL. 522.20
EL. 539.68
EL. 521.81
EL. 539.78
EL. 521.57
EL. 540.31
EL. 521.33
EL. 541.17
EL. 521.10
EL. 542.29
EL. 521.49
EL. 543.98
EL. 522.33
EL. 545.93
EL. 524.00
EL. 548.41
EL. 526.15
EL. 551.23
EL. 531.90
EL. 554.21
EL. 537.65
EL. 557.23
EL. 543.39
EL. 560.08
EL. 549.14
EL. 562.98
EL. 554.89
EL. 565.95
EL. 560.64
EL. 569.00
EL. 566.39
EL. 572.14
EL. 571.64
EL. 575.22
EL. 575.22
REFER TO STREAM RELOCATION SHEETS
REMOVE EXISTING METAL PLATE PIPE
STA. 22+75.00 TO 38+00.00
REMOVE EXISTING PAVEMENT
US ROUTE 1 (OLD)


REMOVE EXISTING PAVEMENT, LOAM AND SEED (TYP.)
REMOVE AND DISPOSE EXISTING GUARDRAIL
DRIVE
CURVE DATA #2
PI = STA. 29+35.65
D = 0°45'47.7"
Δ = 12°27'57.9" Lt.
R = 6903.69'
L = 1502.07'
T = 754.01'
E = 41.05'
PROPOSED STREAM CHANNEL (REFER TO STREAM RELOCATION SHEETS)
US ROUTE 1
REMOVE
REMOVE EXISTING PAVEMENT, LOAM AND SEED (TYP.)
PT = STA. 36+83.70
REMOVE PIPE
SOUTHERN CONNECTOR
HB-PB-30
HB-PB-31
HB-PB-32
HB-PB-33
HB-PB-34
HB-PB-35
HB-PB-36
HB-PB-37
HB-PB-38
HB-PB-39
HB-PB-40
HB-PB-41
HB-PB-42
HB-PB-43
HB-PB-44
HB-PB-45
HB-PB-46
HB-PB-47
HB-PB-48
HB-PB-49
HB-PB-50
HB-PB-51
HB-PB-52
HB-PB-53
HB-PB-54
HB-PB-55
HB-PB-56
HB-PB-57
HB-PB-58
HB-PB-59
HB-PB-60
HB-PB-61
HB-PB-62
HB-PB-63
HB-PB-64
HB-PB-65
HB-PB-66
HB-PB-67
HB-PB-68
HB-PB-69



PROJ. MANAGER		R.M.	BY	DATE
DESIGN-DETAILED		ZBW	JBD	7/25/2025
CHECKED-REVIEWED		ECF	AC	7/25/2025
DESIGN2-DETAILED2				
DESIGN3-DETAILED3				
REVISIONS 1				
REVISIONS 2				
REVISIONS 3				
REVISIONS 4				
FIELD CHANGES				

SHEET NUMBER
H-30
134
OF 703

PRESQUE ISLE
CONANT ROAD

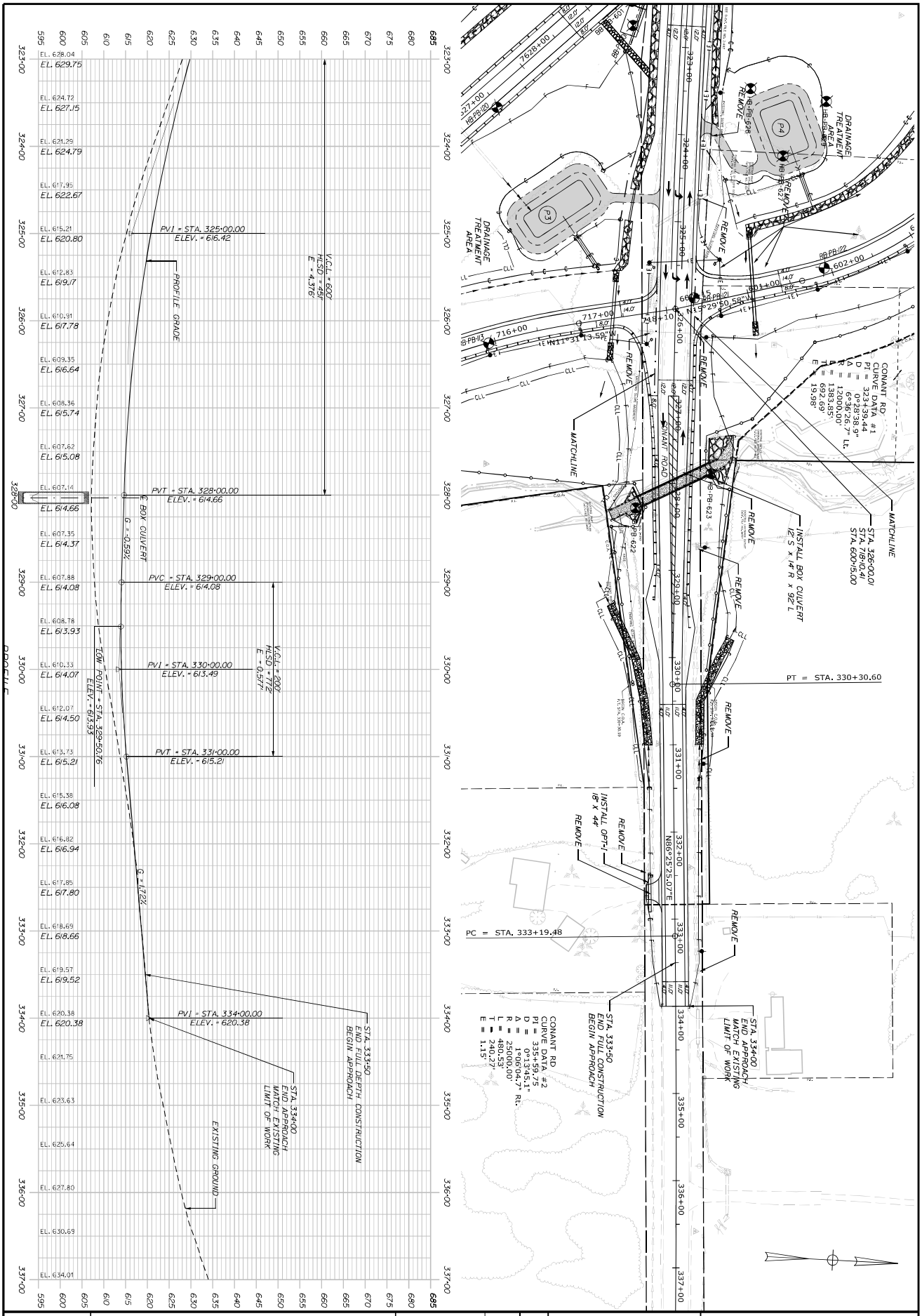
PLAN & PROFILE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN
6462.92

HIGHWAY PLANS



SHEET NUMBER
H-31
135
OF 703

PRESQUE ISLE
CONANT ROAD

PLAN & PROFILE

PROJ. MANAGER	R.M.	BY	DATE
DESIGN-DETAILED	ZBW	JBD	7/25/2025
CHECKED-REVIEWED	ECF	AC	7/25/2025
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

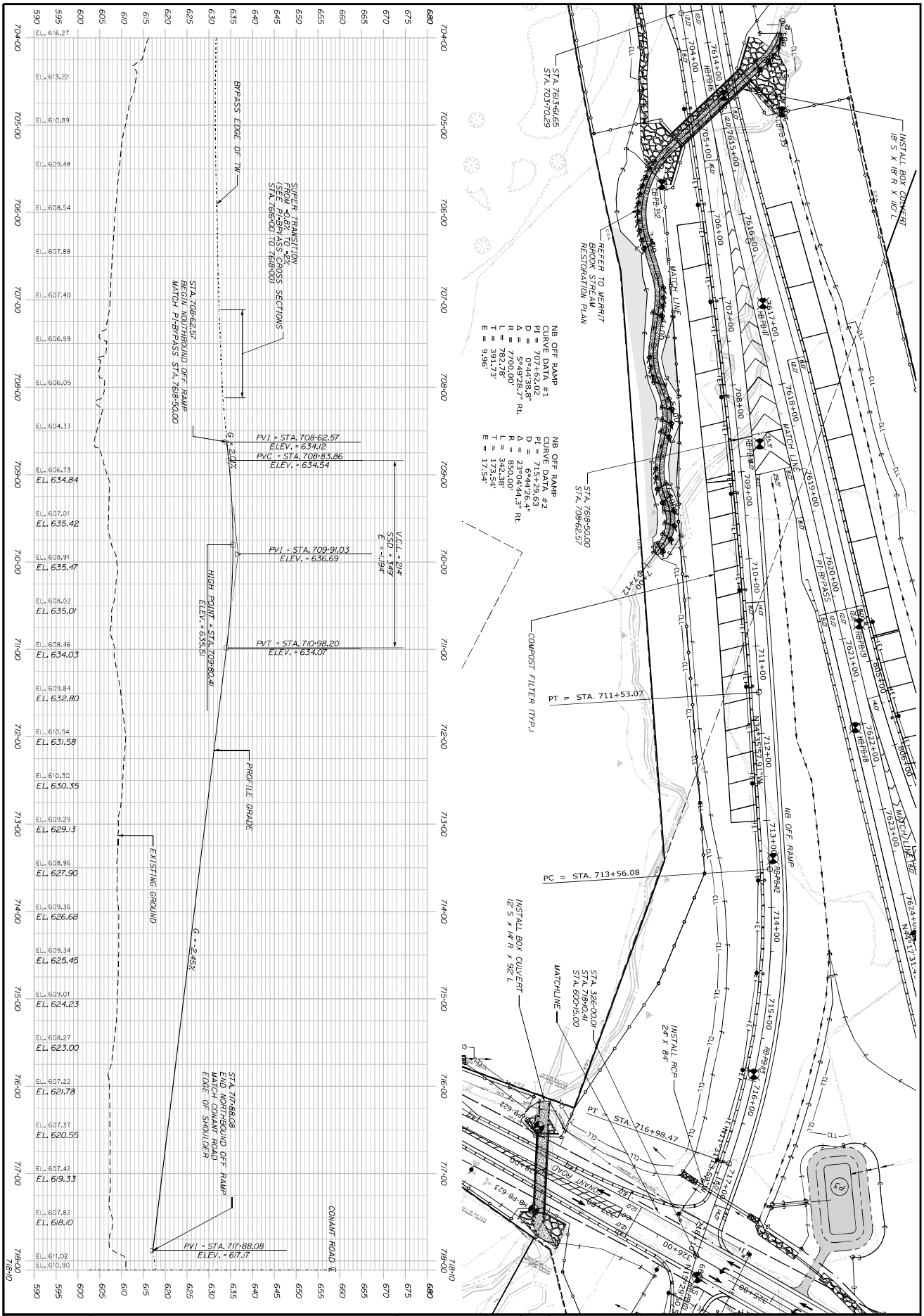
vhb

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN
6462.92

HIGHWAY PLANS



SHEET NUMBER	H-32
	136
	OF 703

PRESQUE ISLE
NB OFF RAMP

PLAN & PROFILE

PROJ. MANAGER	R.M.	BY	DATE
DESIGN=DETAILED	ZBW	JBD	7/25/2025
CHECKED=REVIEWED	ECF	AC	7/25/2025
DESIGN2=DETAILED2			
DESIGN3=DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

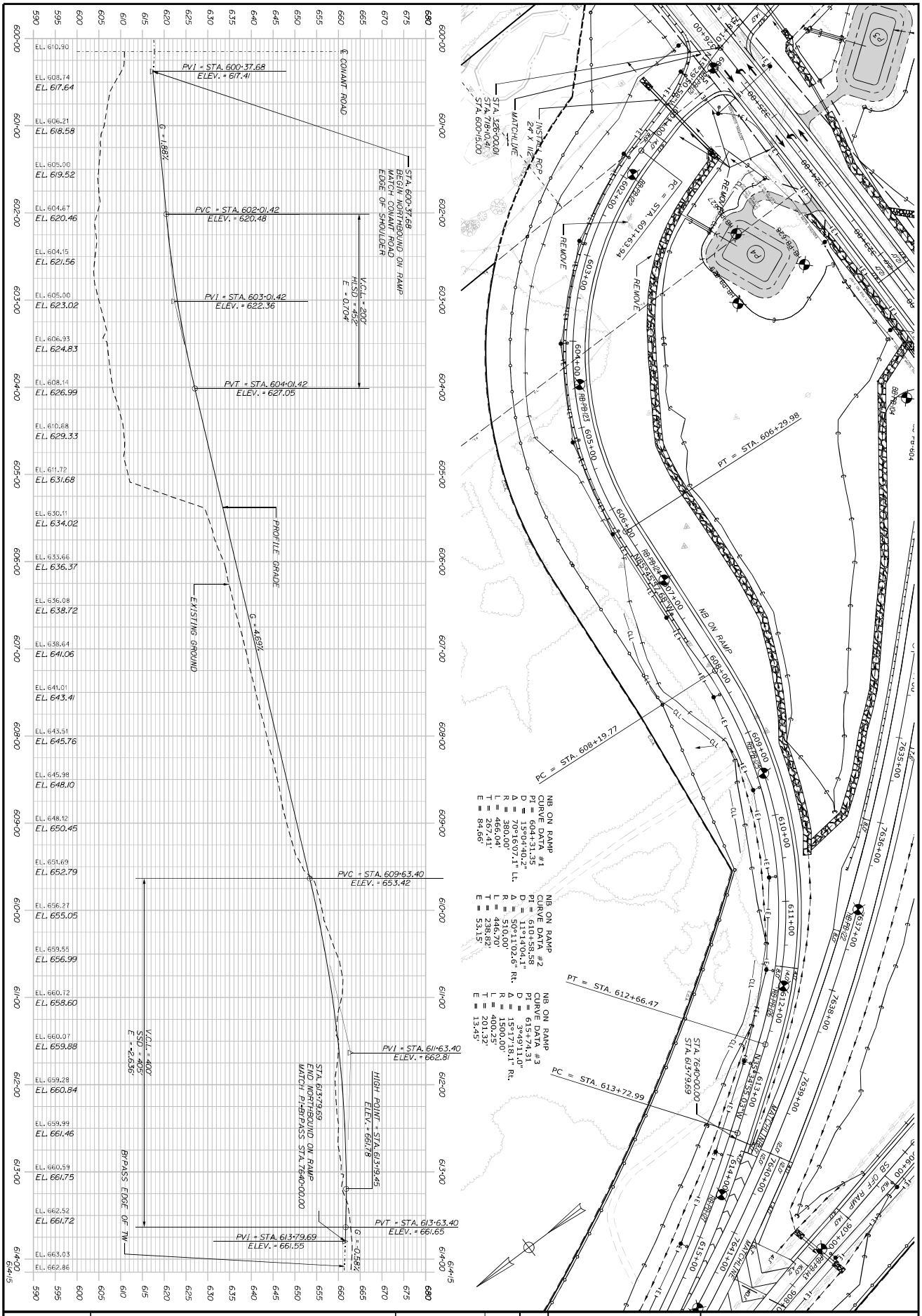
vhb

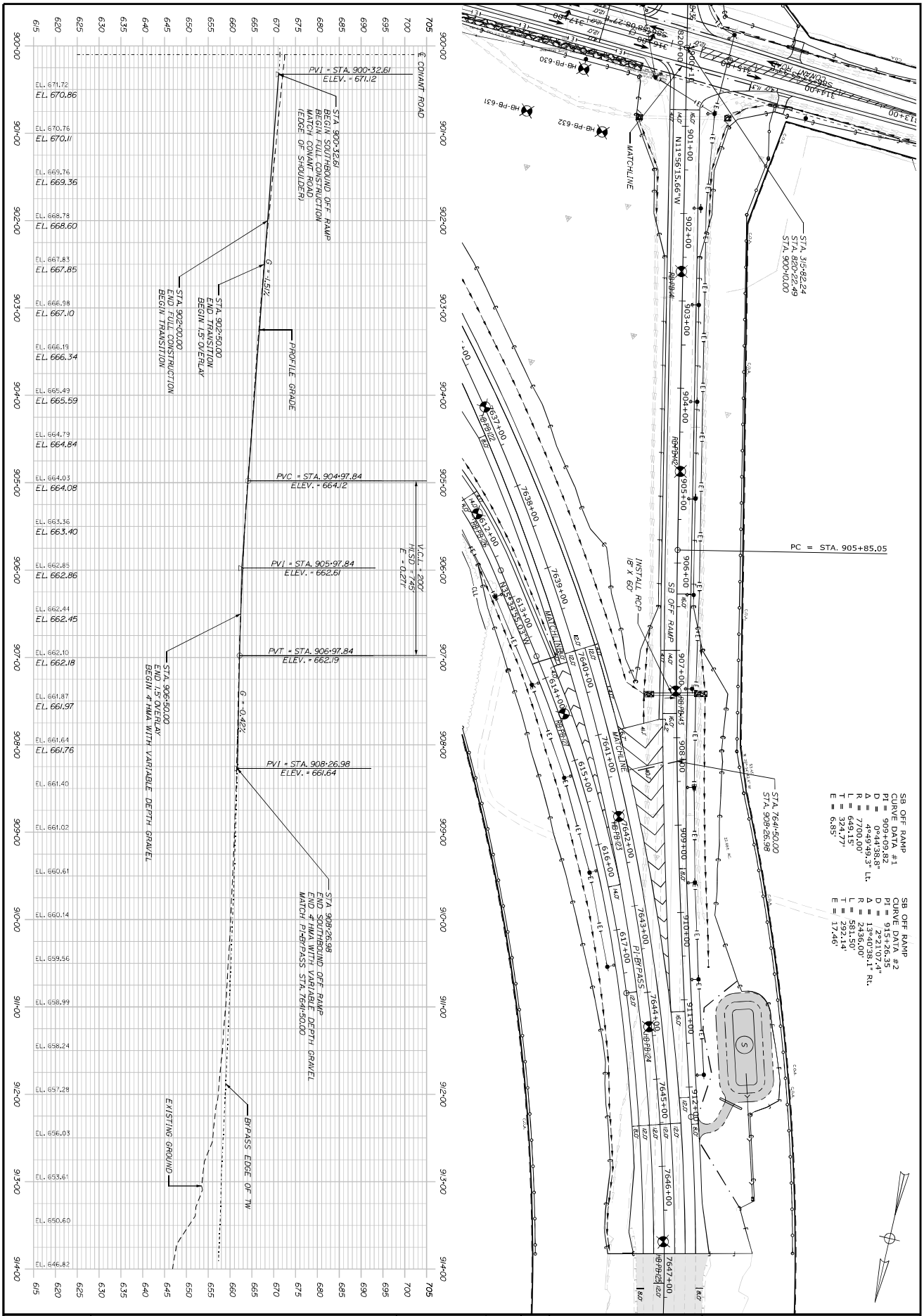
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN
6462.92

HIGHWAY PLANS


PVI = STA. 600+37.68
ELEV. = 617.41
G = -1.88%
PVC = STA. 602+01.42
ELEV. = 620.48
PVI = STA. 603+01.42
ELEV. = 622.36
PVT = STA. 604+01.42
ELEV. = 627.05
G = 4.69%
PVC = STA. 609+63.40
ELEV. = 653.42
PVI = STA. 611+63.40
ELEV. = 662.81
PVT = STA. 613+63.40
ELEV. = 661.65
PVI = STA. 613+79.69
ELEV. = 661.55
G = -0.58%
HIGH POINT = STA. 613+19.45
ELEV. = 661.78
STA. 600+37.68
BEGIN NORTHBOUND ON RAMP
MATCH CONANT ROAD
EDGE OF SHOULDER
STA. 613+79.69
END NORTHBOUND ON RAMP
MATCH PI-BYPASS STA. 764+00.00
V.C.L. = 200'
ESD = 602+21.42
E = 0.70%
V.C.L. = 400'
SSD = 609+63.40
E = -2.63%
PROFILE GRADE
EXISTING GROUND
BY-PASS EDGE OF TW
E. CONANT ROAD
EL. 610.90
EL. 608.74
EL. 617.64
EL. 606.21
EL. 618.58
EL. 605.00
EL. 619.52
EL. 604.67
EL. 620.46
EL. 604.15
EL. 621.56
EL. 605.00
EL. 623.02
EL. 606.93
EL. 624.83
EL. 608.14
EL. 626.99
EL. 610.68
EL. 629.33
EL. 611.72
EL. 631.68
EL. 630.11
EL. 634.02
EL. 633.66
EL. 636.37
EL. 636.08
EL. 638.72
EL. 638.64
EL. 641.06
EL. 641.01
EL. 643.41
EL. 643.51
EL. 645.76
EL. 645.98
EL. 648.10
EL. 648.12
EL. 650.45
EL. 651.69
EL. 652.79
EL. 656.27
EL. 655.05
EL. 659.55
EL. 656.99
EL. 660.72
EL. 658.60
EL. 660.07
EL. 659.88
EL. 659.28
EL. 660.84
EL. 659.99
EL. 661.46
EL. 660.59
EL. 661.75
EL. 662.52
EL. 661.72
EL. 663.03
EL. 662.86
600+00
601+00
602+00
603+00
604+00
605+00
606+00
607+00
608+00
609+00
610+00
611+00
612+00
613+00
614+00
615+00
616+00
617+00
618+00
619+00
620+00
621+00
622+00
623+00
624+00
625+00
626+00
627+00
628+00
629+00
630+00
631+00
632+00
633+00
634+00
635+00
636+00
637+00
638+00
639+00



SHEET NUMBER
H-34
138
OF 703

PRESQUE ISLE
SB OFF RAMP

PLAN & PROFILE

PROJ. MANAGER	R.M.	BY	DATE
DESIGN-DETAILED	ZBW	JBD	7/25/2025
CHECKED-REVIEWED	ECF	AG	7/25/2025
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

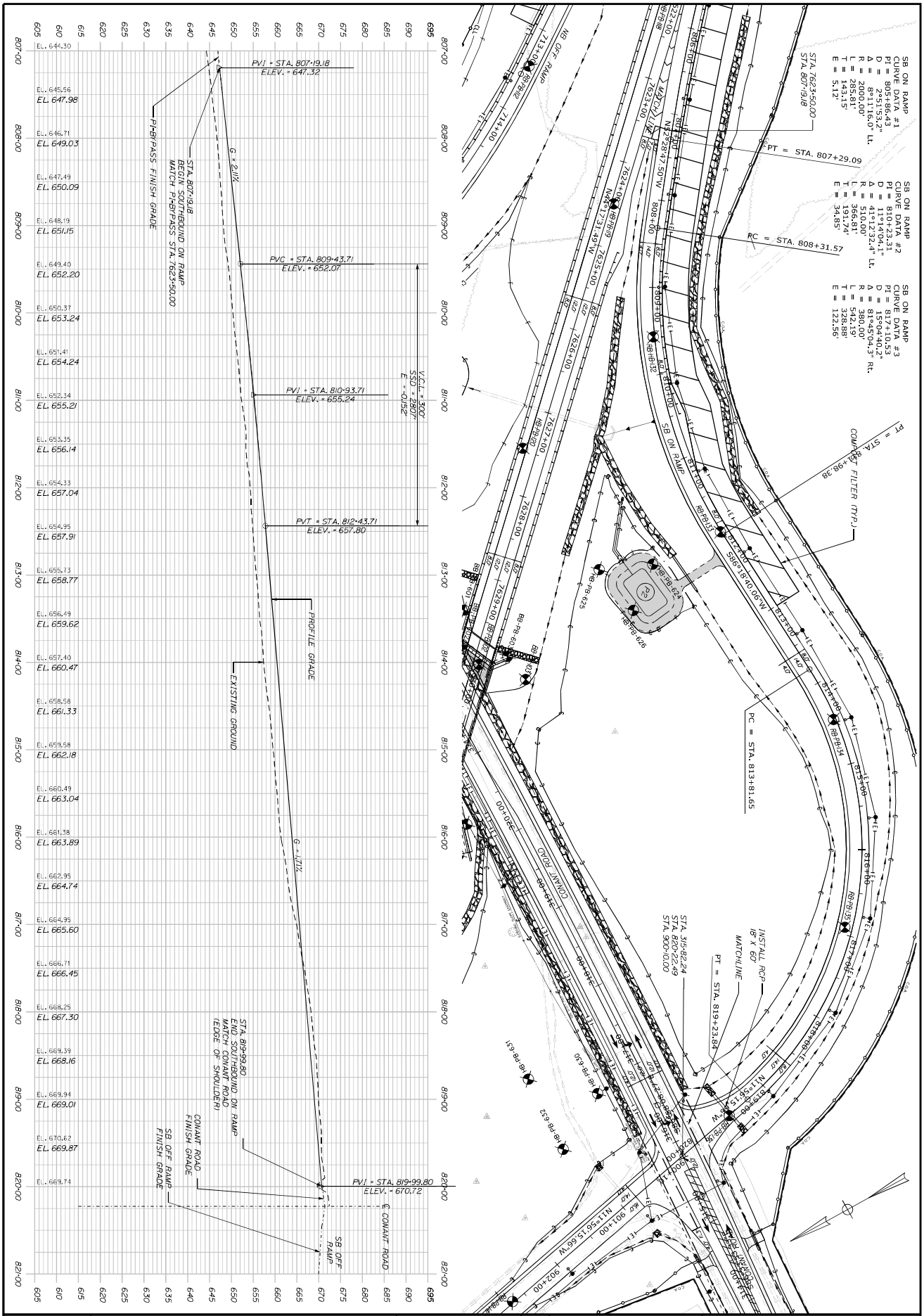
vhb

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN
6462.92

HIGHWAY PLANS



PRESQUE ISLE
SB ON RAMP

PLAN & PROFILE

PROJ. MANAGER	R.M.	BY	DATE
DESIGN-DETAILED	ZBW	JBD	7/25/2025
CHECKED-REVIEWED	ECF	AC	7/25/2025
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

vhb

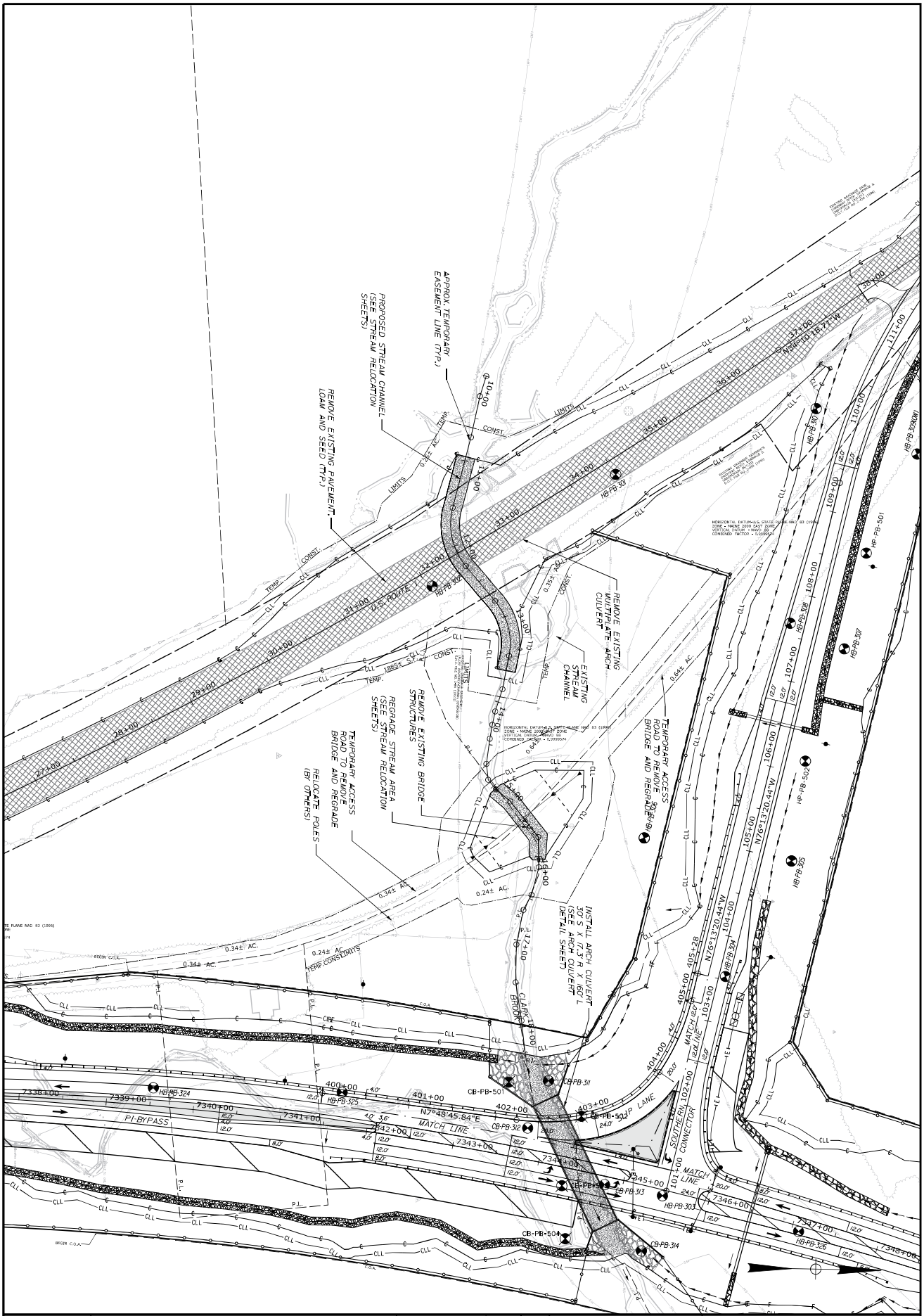
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN
6462.92

HIGHWAY PLANS

SHEET NUMBER
H-35
139
OF 703

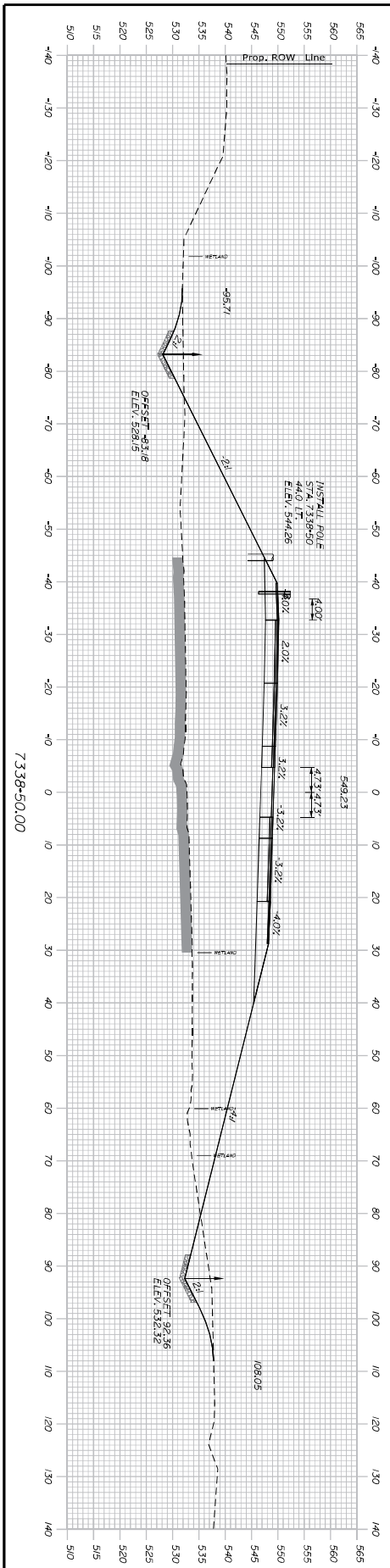


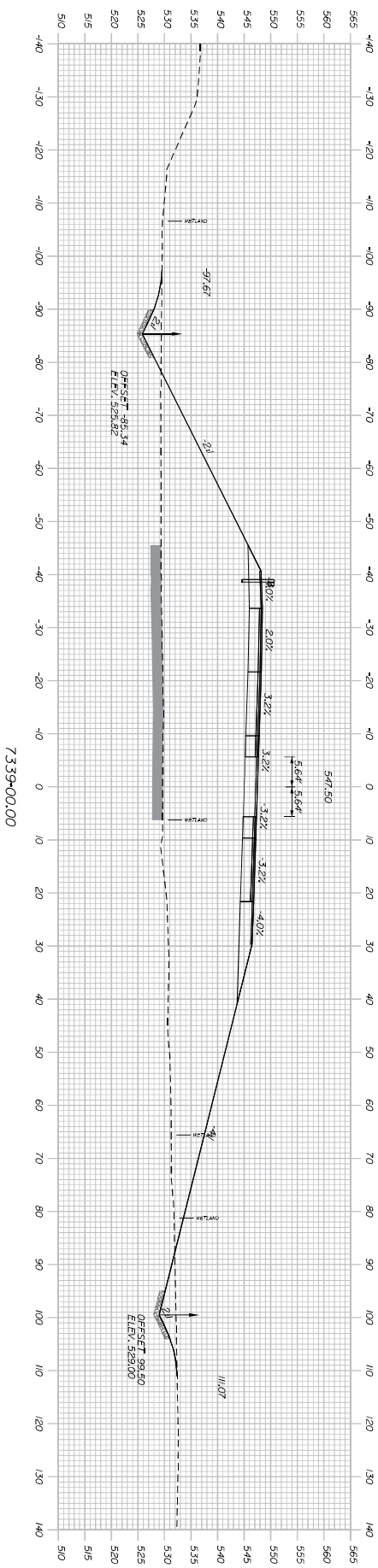
SHEET NUMBER H-36 132 OF 687	PRESQUE ISLE BRIDGE & CULVERT REMOVAL	PROJ. MANAGER	PLAN
		DESIGN-DETAILED	
		CHECKED-REVIEWED	
		DESIGN2-DETAILED2	
		DESIGN3-DETAILED3	
		REVISIONS 1	
		REVISIONS 2	
		REVISIONS 3	
		REVISIONS 4	
		FIELD CHANGES	

PROJ. MANAGER	P.M.	BY	DATE
DESIGN-DETAILED	JBW	BD	11/3/2024
CHECKED-REVIEWED	ECF	AG	11/3/2024
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

vhb

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
CAPITAL PROJECTS
WIN 6462,92 HIGHWAY PLANS





PRESQUE ISLE
PRESQUE ISLE BYPASS

CROSS SECTIONS

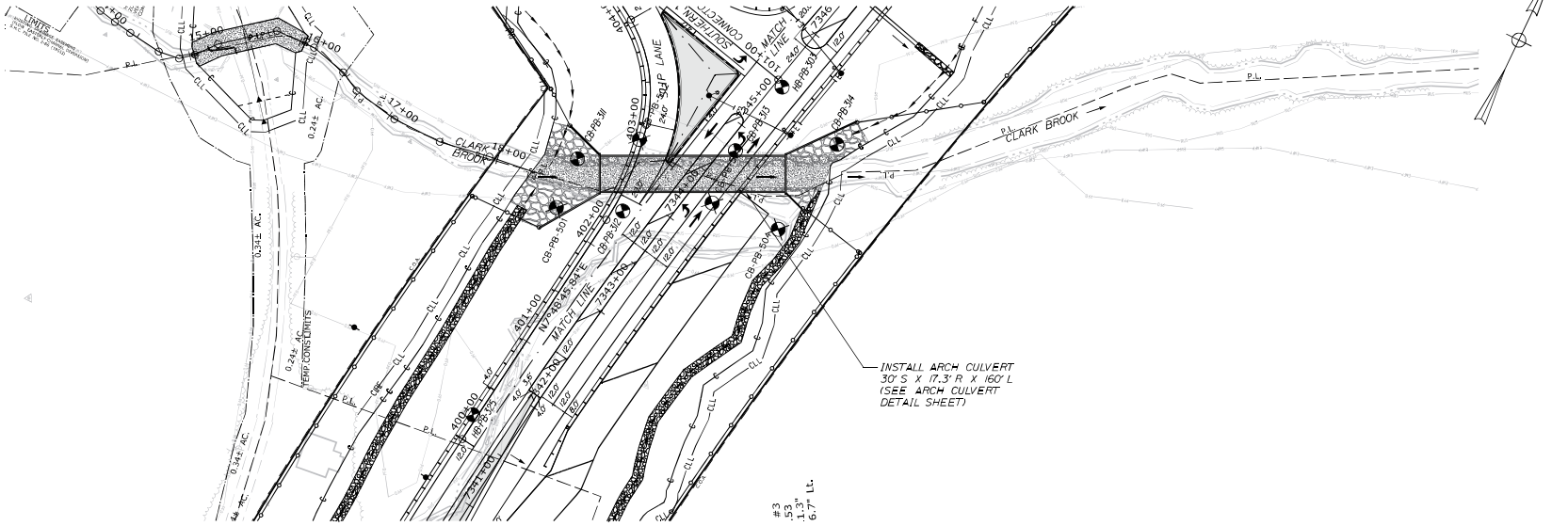
PROJ. MANAGER		R.M.	BY	DATE
DESIGN-DETAILED	ZBW		BD	11/3/2024
CHECKED-REVIEWED	ECF		AG	11/3/2024
DESIGN2-DETAILED2				
DESIGN3-DETAILED3				
REVISIONS 1				
REVISIONS 2				
REVISIONS 3				
REVISIONS 4				
FIELD CHANGES				

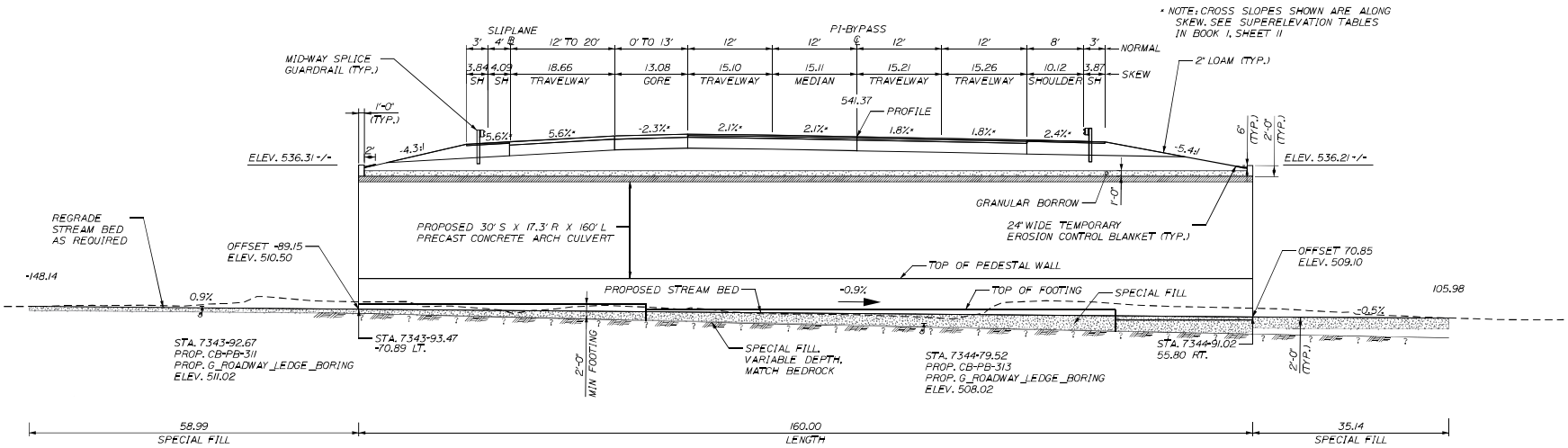
SHEET NUMBER
H-63
159
OF 687

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
CAPITAL PROJECTS
WIN
6462.92
HIGHWAY PLANS

Sta. 7338+50.00 to Sta. 7339+00.00

CLARK BROOK ARCH CULVERT - STA 7344+47.04 (SKEWED 37°-43'-24")





PROPOSED CONCRETE ARCH SKEWED TRANSVERSE ROADWAY SECTION

(ALONG CENTERLINE OF CONCRETE BOX)
NOT TO SCALE
(SKEW 37.84°)

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
CAPITAL PROJECTS
WIN 6462.92
HIGHWAY PLANS

vhb

PROJ. MANAGER		BY	DATE
DESIGNED/REVISED	TMW	JEL	10/3/2024
DRAWN/CHECKED	EJF	AS	10/3/2024
DESIGN DETAILED			
DESIGN DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

PRESQUE ISLE
PRESQUE ISLE BYPASS
ARCH CULVERT DETAILS

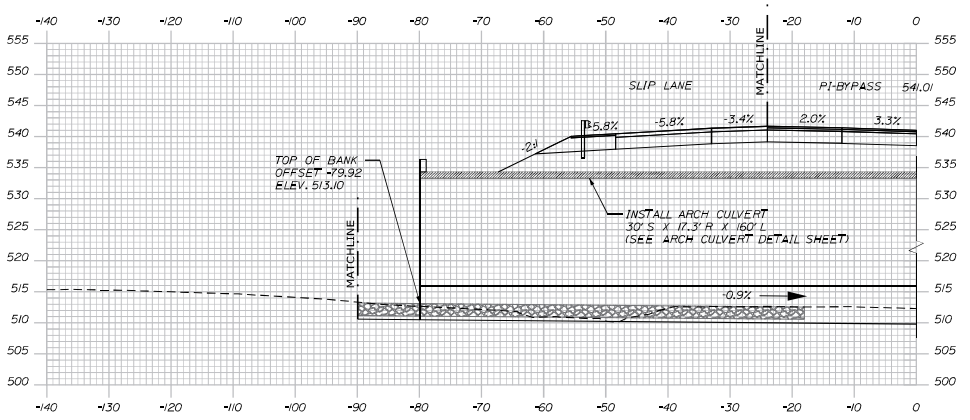
SHEET NUMBER
B-116
660
OF 687

Filename: ...\H3_Box_Culverts_Plans.dgn Division: HIGHWAY Username: jamesdavis Date:11/3/2024

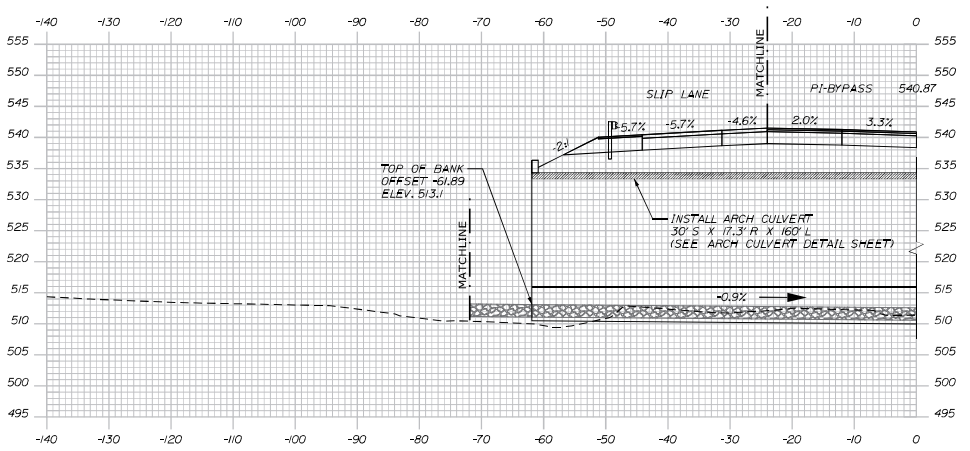
474

Sta. 7319+00.00 to Sta. 7333+00.00

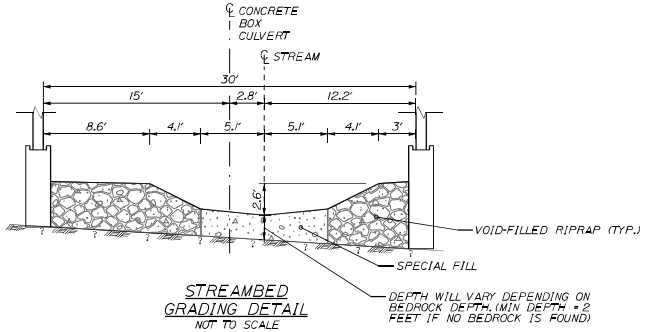
CLARK BROOK ARCH CULVERT - STA 7344+47.04 (SKEWED 37°-43'-24")



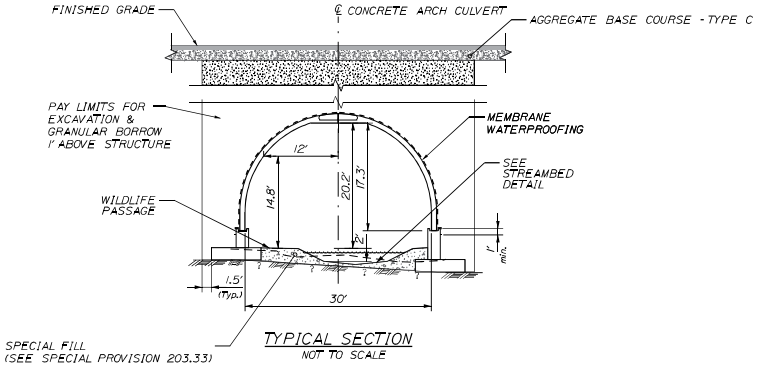
7344-05.22



7343-81.67



STREAMBED GRADING DETAIL
NOT TO SCALE



TYPICAL SECTION
NOT TO SCALE

PRECAST CONCRETE ARCH CULVERT NOTES:

1. THE CONSTRUCTION, HANDLING, AND ASSEMBLY OF THE PRECAST UNITS SHALL BE IN ACCORDANCE WITH SECTION 534, PRECAST STRUCTURAL CONCRETE, AND WITH THE MANUFACTURER'S SPECIFICATIONS AS APPLICABLE.

2. THE PRECAST UNITS SHALL BE DESIGNED TO CARRY CONSTRUCTION LOADINGS WITH A MINIMUM FILL COVER OF 36 INCHES OVER THE TOP OF THE UNITS.

3. INSTALL STANDARD MEMBRANE WATERPROOFING OVER THE TOP AND TO 12 INCHES DOWN THE EXTERIOR SIDES OF THE PRECAST UNITS.

4. REFERENCE SPECIAL PROVISION 203.33 - SPECIAL FILL FOR ADDITIONAL REQUIREMENTS.

5. FOR THE STRENGTH LIMIT STATE THE APPLIED FACTORED BEARING PRESSURE FOR THE PRECAST CONCRETE BOX CULVERT SHALL NOT EXCEED THE FACTORED BEARING RESISTANCE OF 14 KSF. FOR THE SERVICE LIMIT STATE THE APPLIED FACTORED BEARING PRESSURE FOR THE PRECAST CONCRETE BOX CULVERT SHALL NOT EXCEED THE FACTORED BEARING RESISTANCE OF 14 KSF.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
CAPITAL PROJECTS
WIN 6462.92
HIGHWAY PLANS

vhb

PROJ. MANAGER			
DESIGNED BY	TKW	JEL	10/3/2024
DRAWN BY	EJF	AS	10/3/2024
DESIGN DETAILED			
DESIGN DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

PRESQUE ISLE
PRESQUE ISLE BYPASS
ARCH CULVERT DETAILS

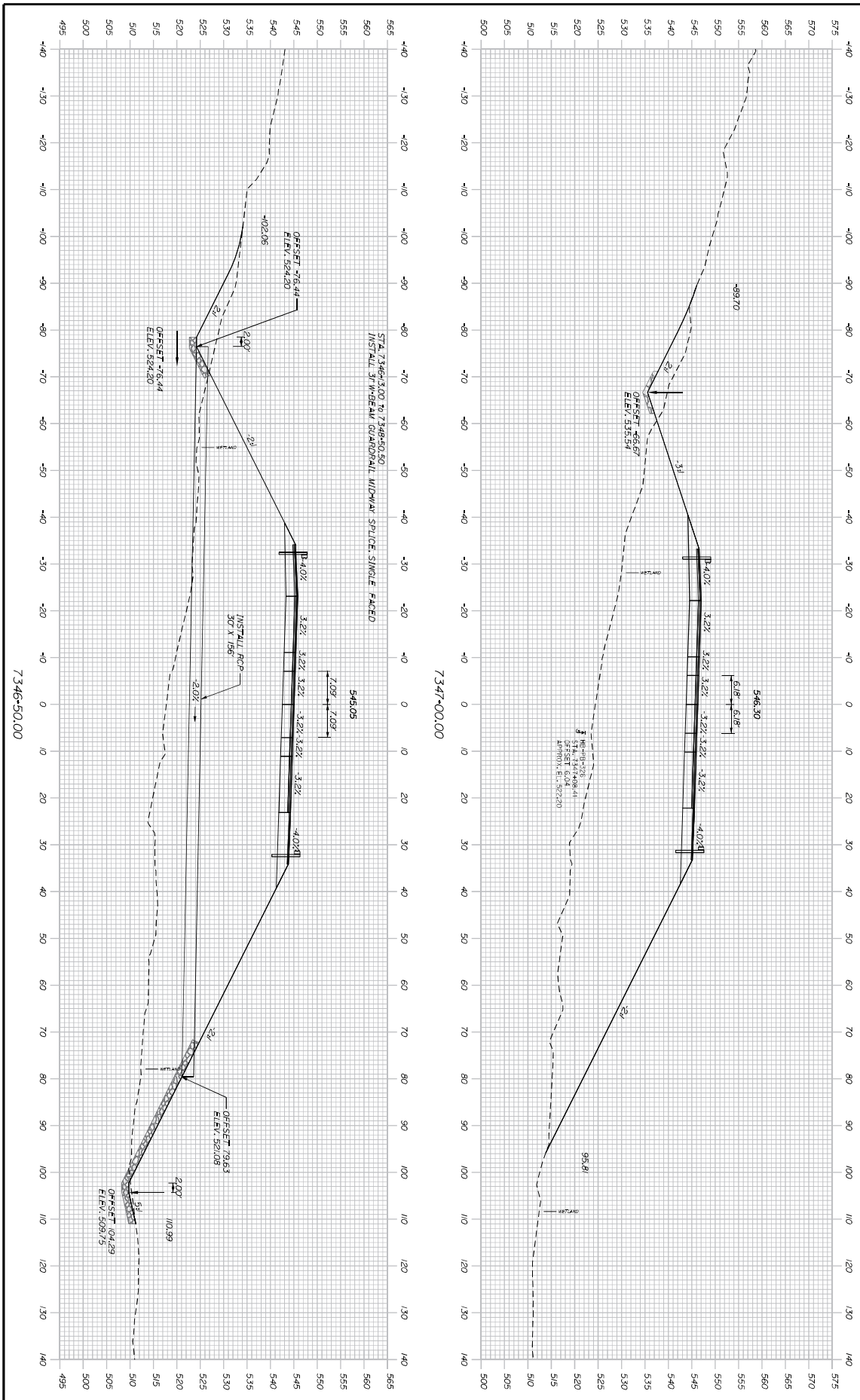
SHEET NUMBER
B-117
661
OF 687

Filename: ...\H3_Box_Culverts_Plans.dgn Division: HIGHWAY Username: jamesdavis Date:11/3/2024

475

CLARK BROOK ARCH CULVERT - STA 7344+47.04 (SKEWED 37°-43'-24")

Filename: ...\H3_Box_Culverts_Plans.dgn Division: HIGHWAY Username: jamesdavis Date:11/3/2024



PROJ. MANAGER		BY	DATE
DESIGN-DETAILED	ZBW	BD	11/3/2024
CHECKED-REVIEWED	ECF	AG	11/3/2024
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SHEET NUMBER
H-71
167
OF 687

PRESQUE ISLE
PRESQUE ISLE BYPASS

CROSS SECTIONS

vhb

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN
6462.92

HIGHWAY PLANS

Sta. 7346+50.00 to Sta. 7347+00.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN 6462.92 HIGHWAY PLANS

DESIGN-DETAILED	TBW	10/3/2024	
CHECKED-REVIEWED	CCF	10/3/2024	
DESIGN-DETAILED2			
DESIGN-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			
PROJ. MANAGER	R.W.	BY	DATE

PRESQUE ISLE
PRESQUE ISLE BYPASS
BOX CULVERT DETAILS

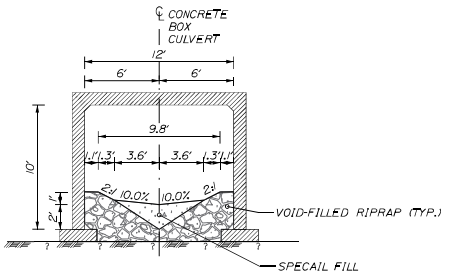
SHEET NUMBER B-119 663 OF 667

TRIBUTARY TO CLARK BROOK 3-SIDED CULVERT - STA 7362+50.9 (SKEWED)

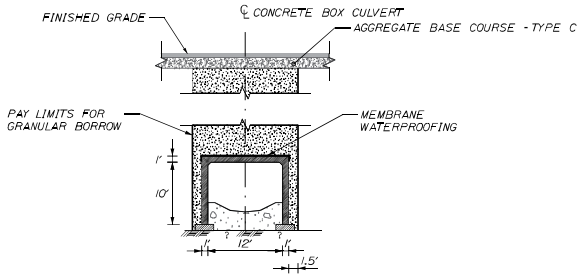
PROPOSED CONCRETE BOX TRANSVERSE ROADWAY SECTION
(ALONG CENTERLINE OF CONCRETE BOX)
NOT TO SCALE
(SKEW 20.09°)

Filename: ...\H3_Box_Culverts_Plans.dgn Division: HIGHWAY Username: jamesdavis Date:11/3/2024

TRIBUTARY TO CLARK BROOK 3-SIDED CULVERT - STA 7362+50.9 (SKEWED)



STREAMBED GRADING DETAIL
NOT TO SCALE



TYPICAL SECTION
NOT TO SCALE

PRECAST CONCRETE BOX NOTES:

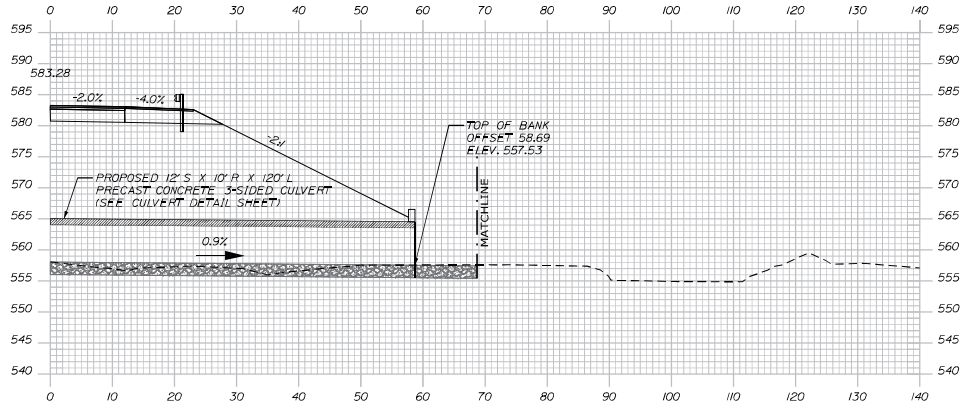
1. THE CONSTRUCTION, HANDLING, AND ASSEMBLY OF THE PRECAST UNITS SHALL BE IN ACCORDANCE WITH SECTION 534, PRECAST STRUCTURAL CONCRETE, AND WITH THE MANUFACTURER'S SPECIFICATIONS AS APPLICABLE.

2. THE PRECAST UNITS SHALL BE DESIGNED TO CARRY CONSTRUCTION LOADINGS WITH A MINIMUM FILL COVER OF 36 INCHES OVER THE TOP OF THE UNITS.

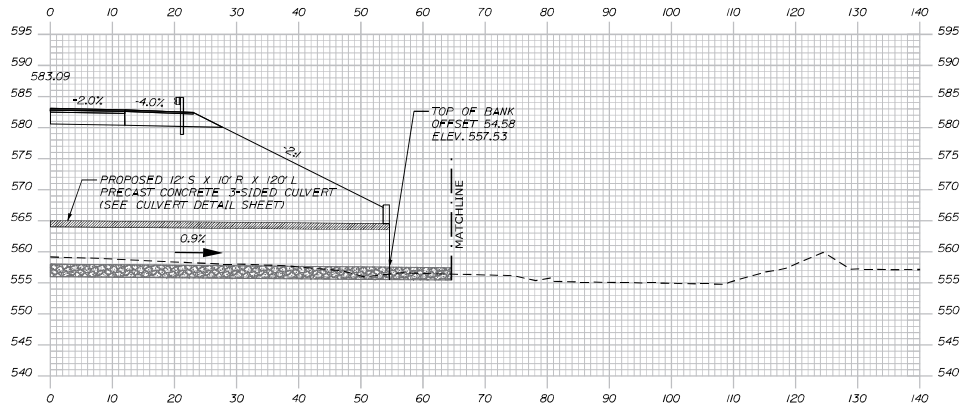
3. INSTALL STANDARD MEMBRANE WATERPROOFING OVER THE TOP AND TO 12 INCHES DOWN THE EXTERIOR SIDES OF THE PRECAST UNITS.

4. REFERENCE SPECIAL PROVISION 203.33 - SPECIAL FILL FOR ADDITIONAL REQUIREMENTS.

5. FOR THE STRENGTH LIMIT STATE THE APPLIED FACTORED BEARING PRESSURE FOR THE PRECAST CONCRETE BOX CULVERT SHALL NOT EXCEED THE FACTORED BEARING RESISTANCE OF 7 KSF. FOR THE SERVICE LIMIT STATE THE APPLIED FACTORED BEARING PRESSURE FOR THE PRECAST CONCRETE BOX CULVERT SHALL NOT EXCEED THE FACTORED BEARING RESISTANCE OF 7.5 KSF.



7362+35.89



7362+24.63

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN 6462.92

HIGHWAY PLANS

vhb

PROJ. MANAGER			
DESIGNED/DRAWN	TKW	JEL	10/3/2024
CHECKED/APPROVED	EJF	AS	10/3/2024
DESIGN DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

PRESQUE ISLE
PRESQUE ISLE BYPASS

BOX CULVERT DETAILS

SHEET NUMBER
B-120
664
OF 687

Filename: ...\H3_Box_Culverts_Plans.dgn Division: HIGHWAY Username: jamesdavis Date:11/3/2024

479

PRESQUE ISLE BYPASS

BOX CULVERT DETAILS

SHEET NUMBER B-121 665 OF 667

PROJ. MANAGER	R.M.	BY	DATE
DESIGN-DETAILED	TBW	EE	10/3/2024
CHECKED-REVIEWED	CCF	RS	10/3/2024
DESIGNED-DETAILED2			
DESIGNED-DETAILED1			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

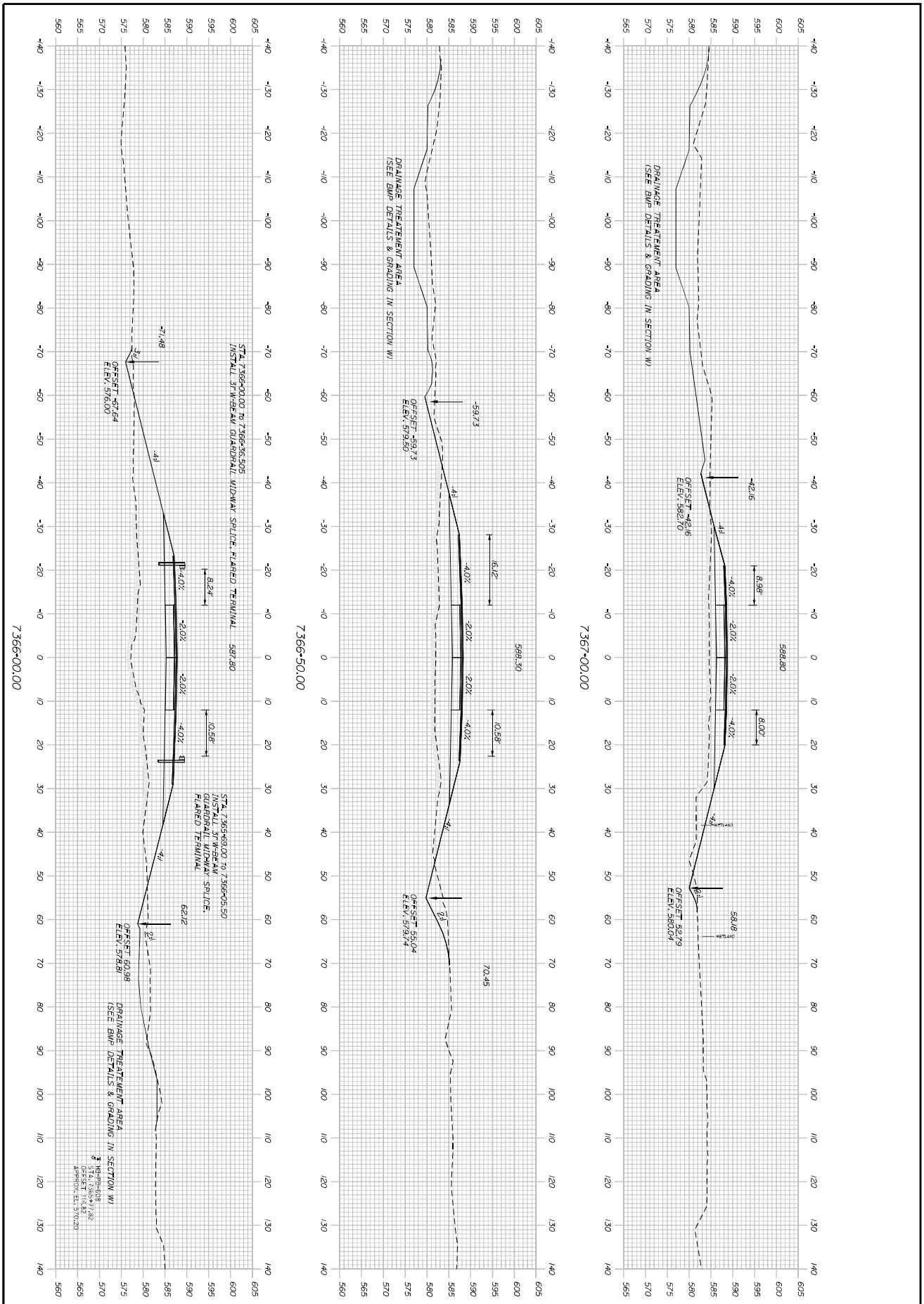
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN 6462.92 HIGHWAY PLANS

Filename: ...\H3_Box_Culverts_Plans.dgn Division: HIGHWAY Username: jamesdavis Date:11/3/2024

Filename: ...\H5_01_Xsects_PL_BYPASS.dgn
Division: HIGHWAY
Username: jamesdavis
Date:11/3/2024
Sta. 7363+00.00 to Sta. 7363+50.00
481
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
CAPITAL PROJECTS
WIN
6462.92
HIGHWAY PLANS
PRESQUE ISLE BYPASS
CROSS SECTIONS
SHEET NUMBER
H-89
185
OF 687
PROJ. MANAGER
DESIGN-DETAILED
DESIGNED
CHECKED-REVIEWED
DESIGNED-DETAILED
REVISIONS 1
REVISIONS 2
REVISIONS 3
REVISIONS 4
FIELD CHANGES
BY
DATE
TJW
11/3/2024
CLF
11/3/2024
AS
11/3/2024
7363+00.00
7363+50.00
584.30
585.02
83.08
80.73
80.16
-10.77
OFFSET 76.23
ELEV. 557.00
OFFSET -74.61
ELEV. 557.81
OFFSET 67.67
ELEV. 562.00
OFFSET -75.66
ELEV. 558.00
-4.0%
-2.0%
-2.0%
-4.0%
-2%
-2%
-2%
-2%
-2.6%
3:1
3:1
3:1
3:1
MATLAND



PROJ. MANAGER	R.M.	BY	DATE
DESIGN-DETAILED	ZBW	BD	11/3/2024
CHECKED-REVIEWED	ECF	AG	11/3/2024
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

PRESQUE ISLE
PRESQUE ISLE BYPASS

CROSS SECTIONS

SHEET NUMBER
H-92
188
OF 687

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
CAPITAL PROJECTS
WIN
6462.92
HIGHWAY PLANS

Sta. 7366+00.00 to Sta. 7367+00.00

CROSS SECTIONS
PRESQUE ISLE BYPASS
PRESQUE ISLE
SHEET NUMBER
H-94
190
OF 687
PROJ. MANAGER
DESIGN-DETAILED
CHECKED-DETAILED
DESIGNED-DETAILED
REVISIONS 1
REVISIONS 2
REVISIONS 3
REVISIONS 4
FIELD CHANGES
BY
DATE
RJW
JBW
10/3/2024
AS
10/3/2024
EE
10/3/2024
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
CAPITAL PROJECTS
WIN
6462.92
HIGHWAY PLANS
Sta. 7369+00.00 to Sta. 7370+00.00
7369+00.00
7369+50.00
7370+00.00
OFFSET -44.69
ELEV. 594.06
OFFSET -42.95
ELEV. 585.00
OFFSET -41.95
ELEV. 585.25
OFFSET 48.20
ELEV. 583.19
OFFSET 49.16
ELEV. 583.45
OFFSET 50.13
ELEV. 583.71
WETLAND
-50.59
-47.11
-58.34
590.80
591.30
591.80
72.57
73.53
73.14
4H
2H
4.0%
2.0%
Filename: ...\HS_01_Xsects_PL_BYPASS.dgn
Division: HIGHWAY
Username: jamesdavis
Date:11/3/2024

Sta. 7373+50.00 to Sta. 7374+50.00

PROJ. MANAGER	R.M.	BY		
DESIGN-DETAILED	JBW	BY	11/3/2024	DATE
CHECKED-REVIEWED	CCF	RS	11/3/2024	
DESIGN2-DETAILED2				
DESIGN3-DETAILED3				
REVISIONS 1				
REVISIONS 2				
REVISIONS 3				
REVISIONS 4				
FIELD CHANGES				

PRESQUE ISLE BYPASS

CROSS SECTIONS

SHEET NUMBER H-97 193 OF 687

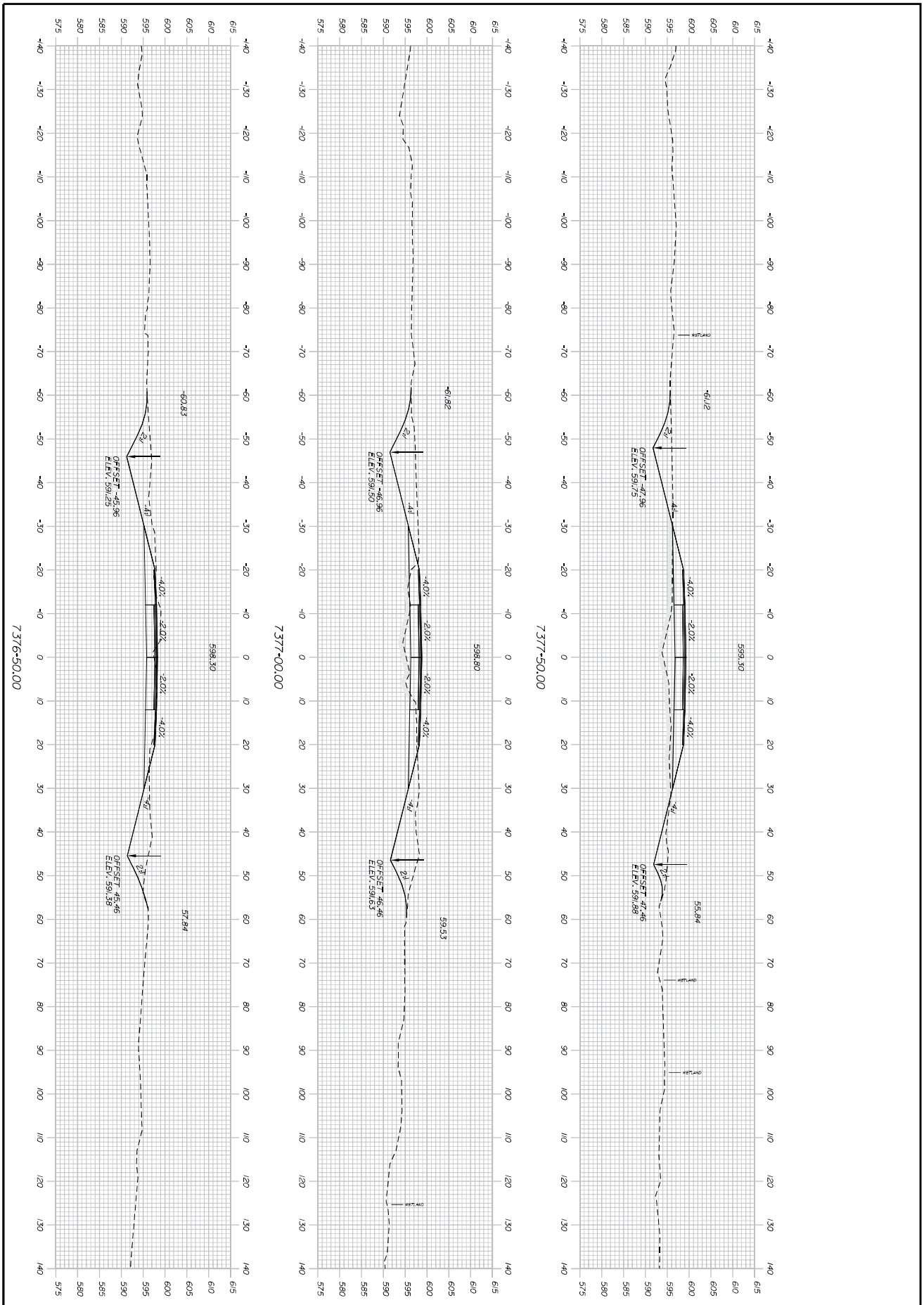
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN 6462.92 HIGHWAY PLANS

Filename: ...\H6_01_Xsects_PL_BYPASS.dgn Division: HIGHWAY Username: jamesdavis Date:11/3/2024

Filename: ...\H5_01_Xsects_PI_BYPASS.dgn Division: HIGHWAY Username: jamesdavis Date:11/3/2024



PROJ. MANAGER	R.M.	BY	DATE
DESIGN-DETAILED	ZBW	BD	11/3/2024
CHECKED-REVIEWED	ECF	AG	11/3/2024
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

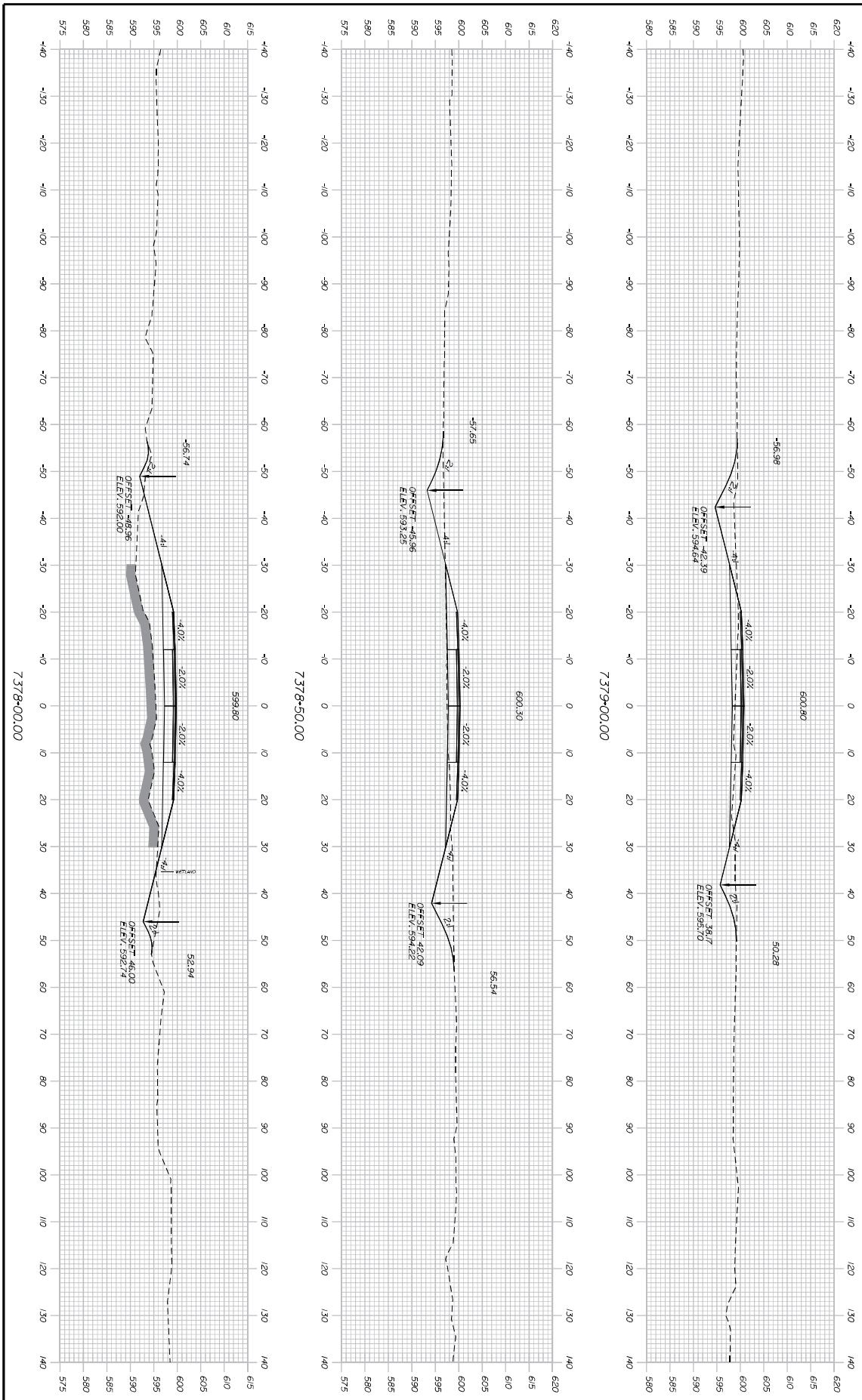
PRESQUE ISLE
PRESQUE ISLE BYPASS

CROSS SECTIONS

SHEET NUMBER
H-99
195
OF 687

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
CAPITAL PROJECTS
WIN
6462.92
HIGHWAY PLANS

Sta. 7376+50.00 to Sta. 7377+50.00



Sta. 7378+00.00 to Sta. 7379+00.00

PRESQUE ISLE
PRESQUE ISLE BYPASS

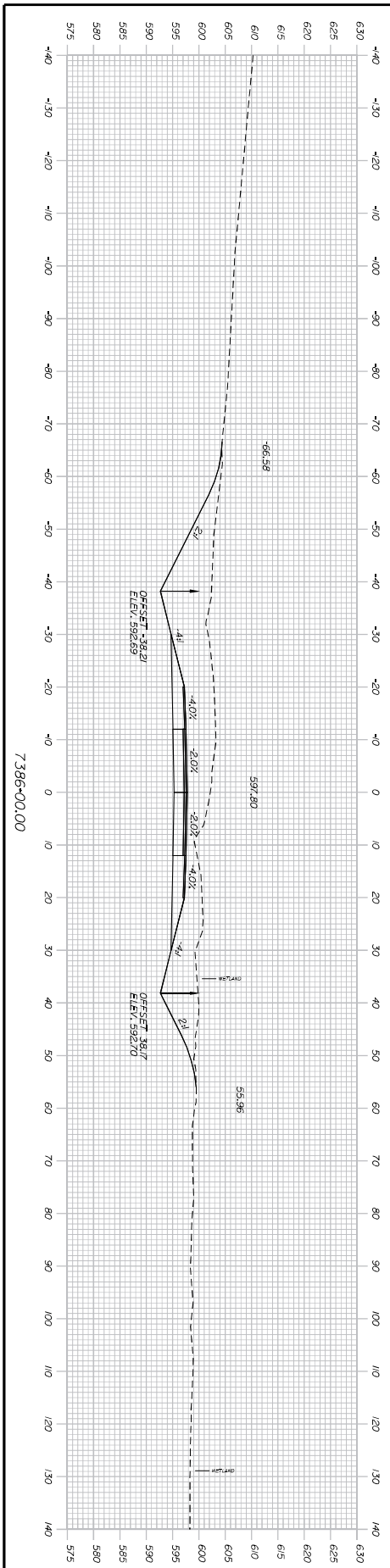
CROSS SECTIONS

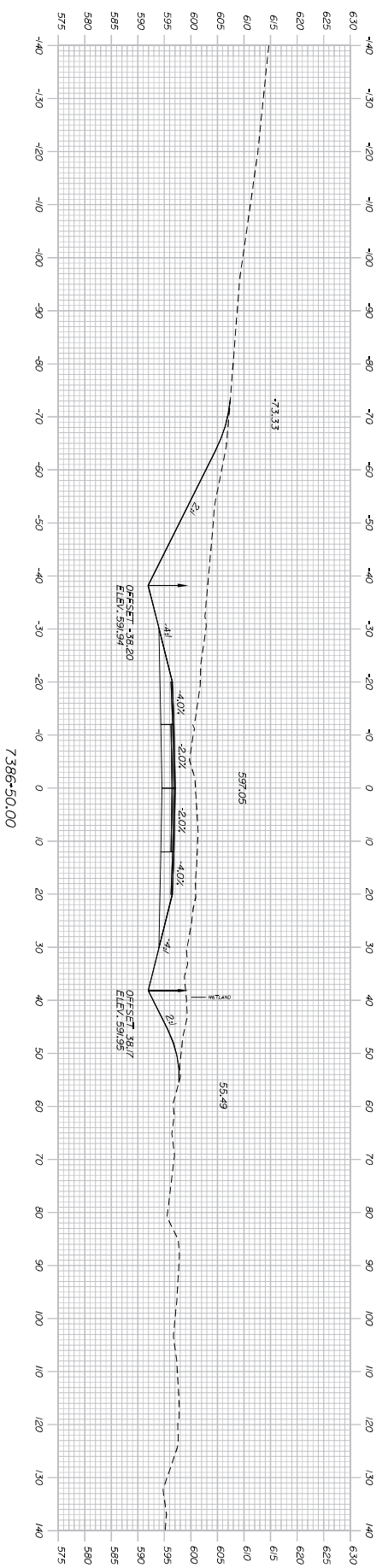
PROJ. MANAGER		R.M.	BY	DATE
DESIGN-DETAILED		ZBW	BD	11/3/2024
CHECKED-REVIEWED		ECF	AG	11/3/2024
DESIGN2-DETAILED2				
DESIGN3-DETAILED3				
REVISIONS 1				
REVISIONS 2				
REVISIONS 3				
REVISIONS 4				
FIELD CHANGES				

SHEET NUMBER
H-100
196
OF 687

vhb

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
CAPITAL PROJECTS
WIN
6462.92
HIGHWAY PLANS





PRESQUE ISLE
PRESQUE ISLE BYPASS

CROSS SECTIONS

PROJ. MANAGER		R.M.	BY	DATE
DESIGN-DETAILED	ZBW		BD	11/3/2024
CHECKED-REVIEWED	ECF		AS	11/3/2024
DESIGN2-DETAILED2				
DESIGN3-DETAILED3				
REVISIONS 1				
REVISIONS 2				
REVISIONS 3				
REVISIONS 4				
FIELD CHANGES				

SHEET NUMBER
H-106
202
OF 687

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
CAPITAL PROJECTS
WIN
6462.92
HIGHWAY PLANS

Sta. 7386+00.00 to Sta. 7386+50.00

Sta. 7392+00.00 to Sta. 7392+50.00

PRESQUE ISLE BYPASS

CROSS SECTIONS

SHEET NUMBER H-112 208 OF 687

PROJ. MANAGER	R.M.	BY	DATE
DESIGN-DETAILED	TBW	EE	11/3/2024
CHECKED-DETAILED	CCF	AS	11/3/2024
DESIGN2-DETAILED2			
DESIGN2-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN 6462.92 HIGHWAY PLANS

Filename: ...\HS_01_Xsects_PL_BYPASS.dgn Division: HIGHWAY Username: jamesdavis Date:11/3/2024

PRESQUE ISLE BYPASS

BOX CULVERT DETAILS

SHEET NUMBER B-122 666 OF 667

PROJ. MANAGER	R.M.	BY	DATE
DESIGN-DETAILED	TBW	EJE	10/3/2024
CHECKED-REVIEWED	EJE	AS	10/3/2024
DESIGNED-DETAILED			
DESIGNED-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

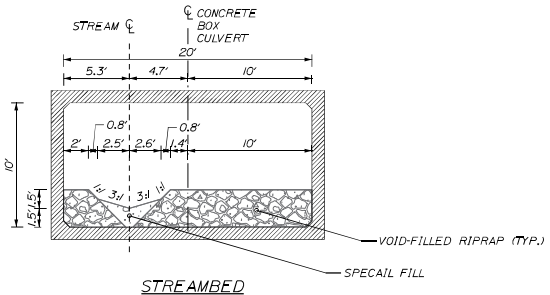
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN 6462.92 HIGHWAY PLANS

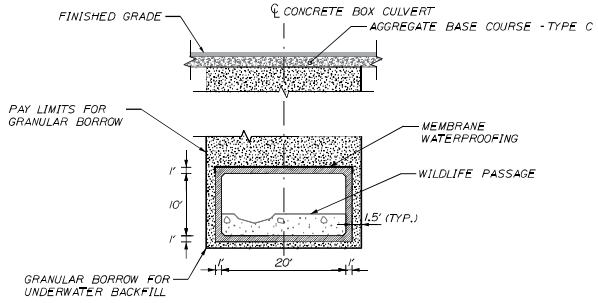
Filename: ...\H3_Box_Culverts_Plans.dgn Division: HIGHWAY Username: jamesdavis Date:11/3/2024

TRIBUTARY TO WILLIAMS BROOK BOX CULVERT - STA 7396+27.83 (SKEWED)



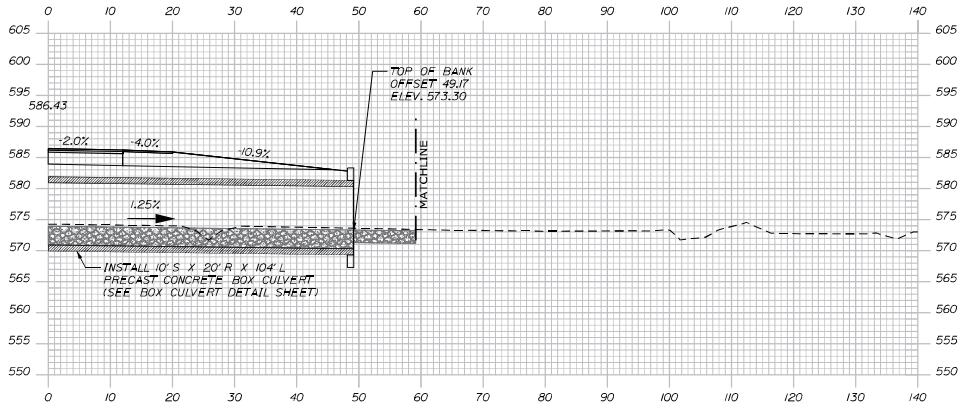
STREAMBED GRADING DETAIL

NOT TO SCALE

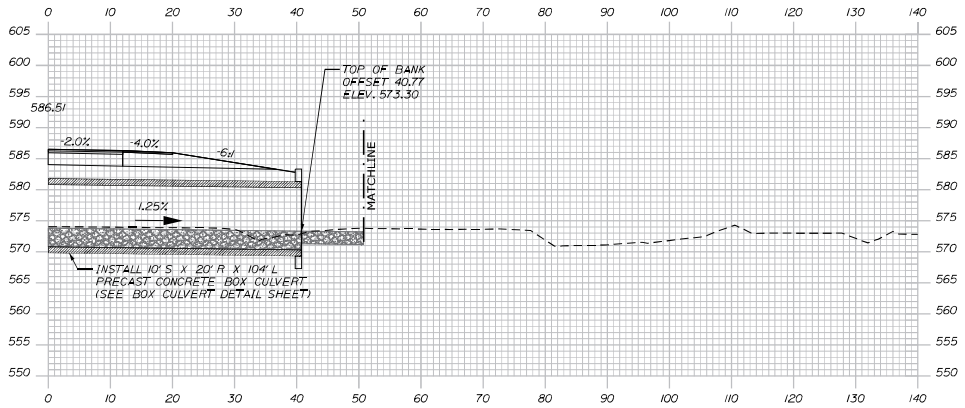


TYPICAL SECTION

NOT TO SCALE



7396+10.29



7395+92.22

PRECAST CONCRETE BOX NOTES:

1. THE CONSTRUCTION, HANDLING, AND ASSEMBLY OF THE PRECAST UNITS SHALL BE IN ACCORDANCE WITH SECTION 534, PRECAST STRUCTURAL CONCRETE, AND WITH THE MANUFACTURER'S SPECIFICATIONS AS APPLICABLE.

2. THE PRECAST UNITS SHALL BE DESIGNED TO CARRY CONSTRUCTION LOADINGS WITH A MINIMUM FILL COVER OF 36 INCHES OVER THE TOP OF THE UNITS.

3. INSTALL STANDARD MEMBRANE WATERPROOFING OVER THE TOP AND TO 12 INCHES DOWN THE EXTERIOR SIDES OF THE PRECAST UNITS.

4. REFERENCE SPECIAL PROVISION 203.33 - SPECIAL FILL FOR ADDITIONAL REQUIREMENTS.

5. FOR THE STRENGTH LIMIT STATE THE APPLIED FACTORED BEARING PRESSURE FOR THE PRECAST CONCRETE BOX CULVERT SHALL NOT EXCEED THE FACTORED BEARING RESISTANCE OF 5 KSF. FOR THE SERVICE LIMIT STATE THE APPLIED FACTORED BEARING PRESSURE FOR THE PRECAST CONCRETE BOX CULVERT SHALL NOT EXCEED THE FACTORED BEARING RESISTANCE OF 9 KSF.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN 6462.92

HIGHWAY PLANS

vhb

PROJ. MANAGER	BY	DATE
DESIGNED/DRAWN	JEW	10/3/2024
QUALITY CHECKED	EJT	10/3/2024
DESIGN DETAILED	AS	
DESIGN DETAILED		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

PRESQUE ISLE
PRESQUE ISLE BYPASS

BOX CULVERT DETAILS

SHEET NUMBER
B-123
667
OF 687

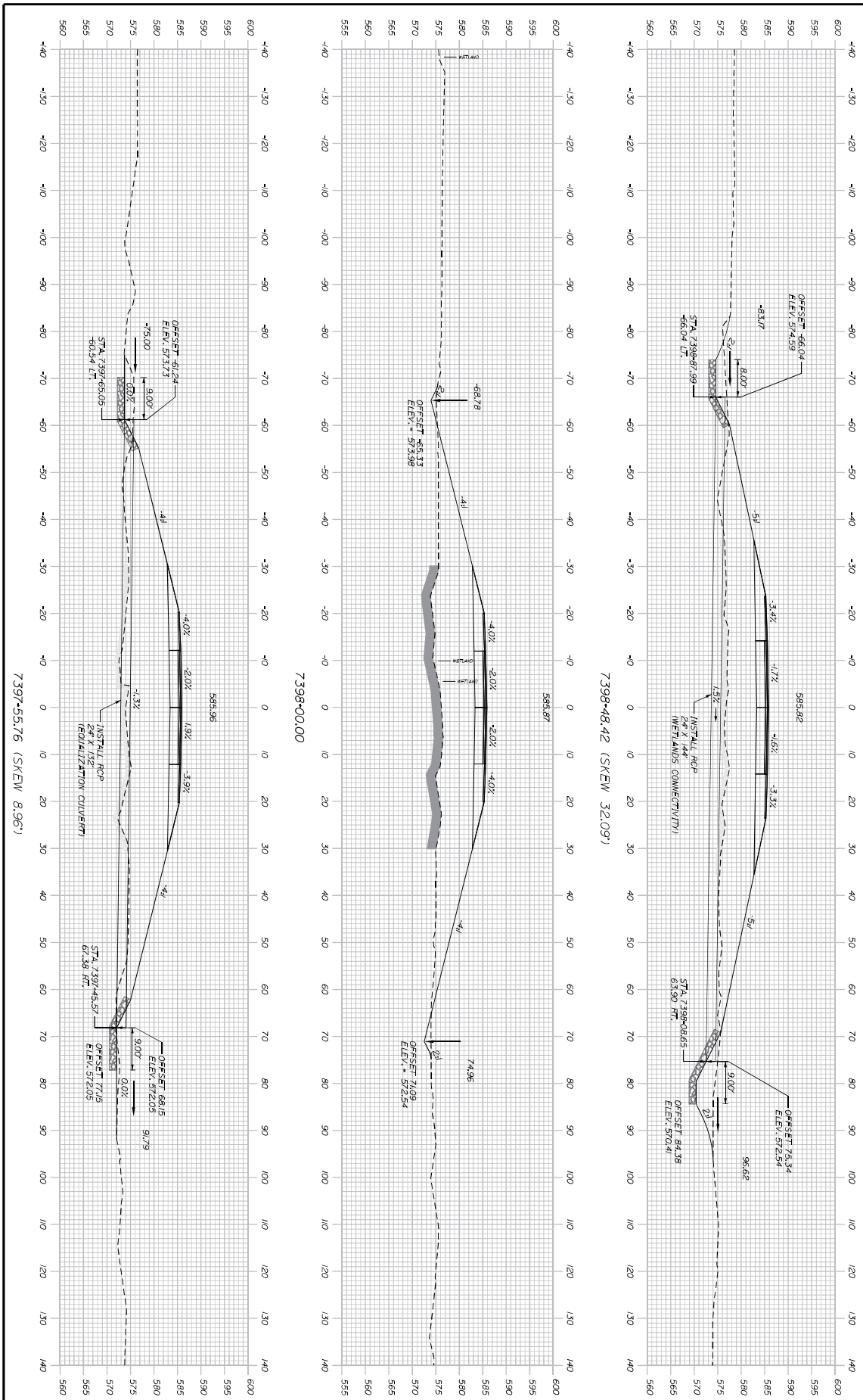
Filename: ...\H3_Box_Culverts_Plans.dgn Division: HIGHWAY Username: jamesdavis Date:11/3/2024

490

PROJ. MANAGER	R.M.	BY	DATE
DESIGN-DETAILED	TBW	EE	10/3/2024
CHECKED-REVIEWED	CCF	RS	10/3/2024
DESIGN-DETAILED2			
DESIGN-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

TRIBUTARY TO WILLIAMS BROOK BOX CULVERT - STA 7396+27.83 (SKEWED)

Filename: ...\H3_Box_Culverts_Plans.dgn Division: HIGHWAY Username: jamesdavis Date:11/3/2024



Sta. 7397+55.76 to Sta. 7398+48.42

PROJ. MANAGER		BY	DATE
DESIGN-DETAILED	ZBW	BD	11/3/2024
CHECKED-REVIEWED	ECF	AG	11/3/2024
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

PRESQUE ISLE
PRESQUE ISLE BYPASS

CROSS SECTIONS

SHEET NUMBER
H-117
213
OF 687

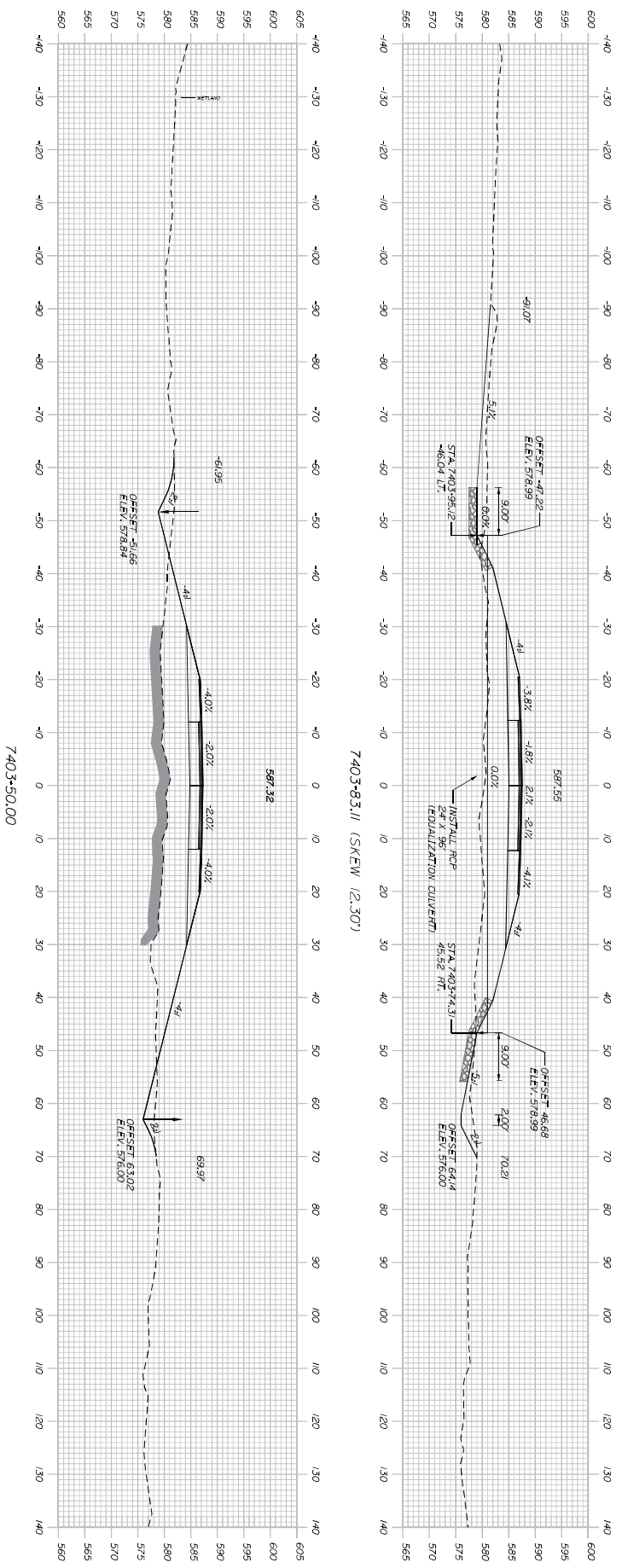
vhb

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN
6462.92

HIGHWAY PLANS



SHEET NUMBER
H-122
218
OF 687

PRESQUE ISLE
PRESQUE ISLE BYPASS

CROSS SECTIONS

PROJ. MANAGER		BY	DATE
DESIGN-DETAILED	ZBW	BD	11/3/2024
CHECKED-REVIEWED	ECF	AS	11/3/2024
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

vhb

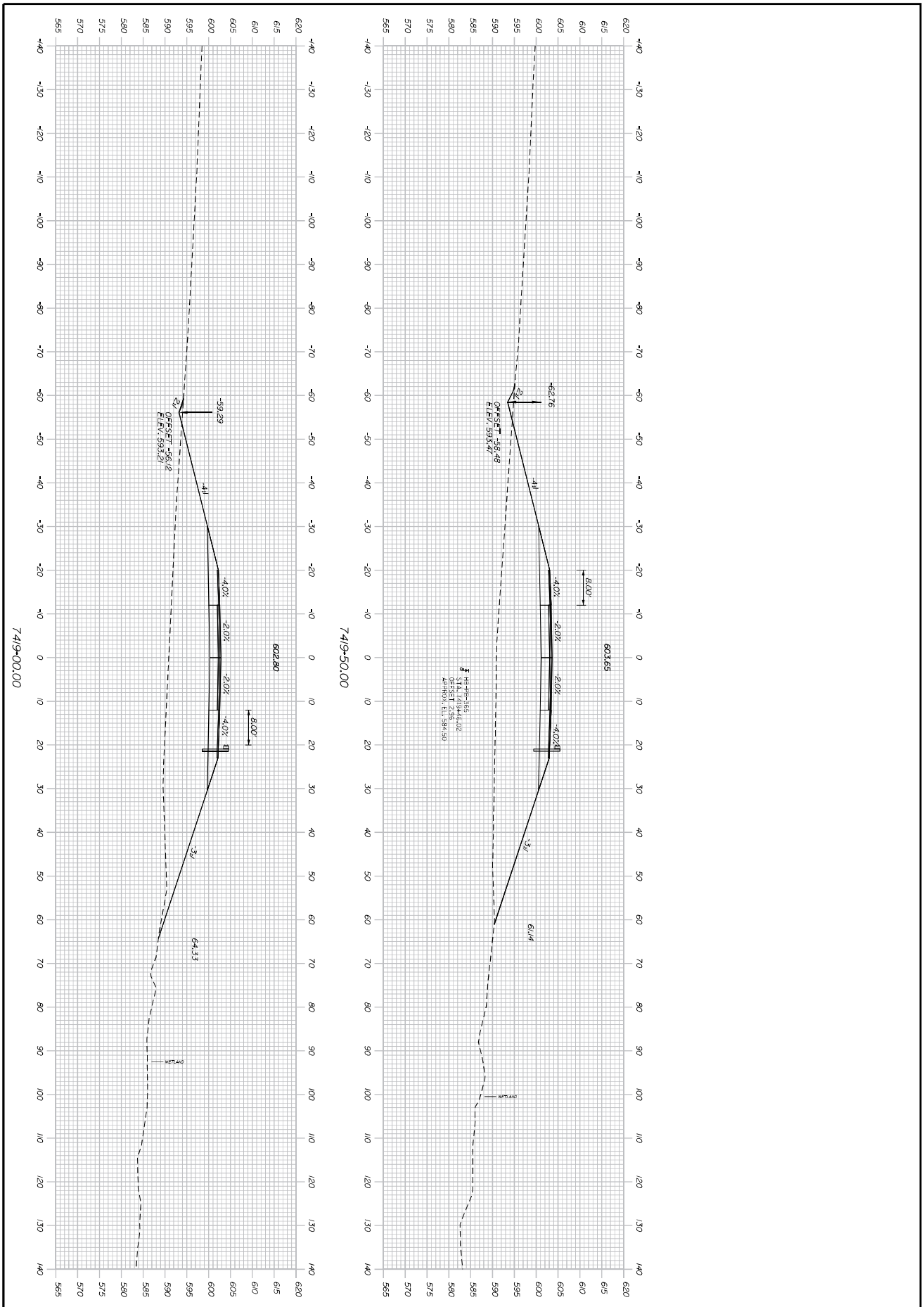
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN
6462.92

HIGHWAY PLANS

Sta. 7403+50.00 to Sta. 7403+83.11



PRESQUE ISLE
PRESQUE ISLE BYPASS

CROSS SECTIONS

PROJ. MANAGER		R.M.	BY	DATE
DESIGN-DETAILED	ZBW		BD	11/3/2024
CHECKED-REVIEWED	ECF		AG	11/3/2024
DESIGN2-DETAILED2				
DESIGN3-DETAILED3				
REVISIONS 1				
REVISIONS 2				
REVISIONS 3				
REVISIONS 4				
FIELD CHANGES				

vhb

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

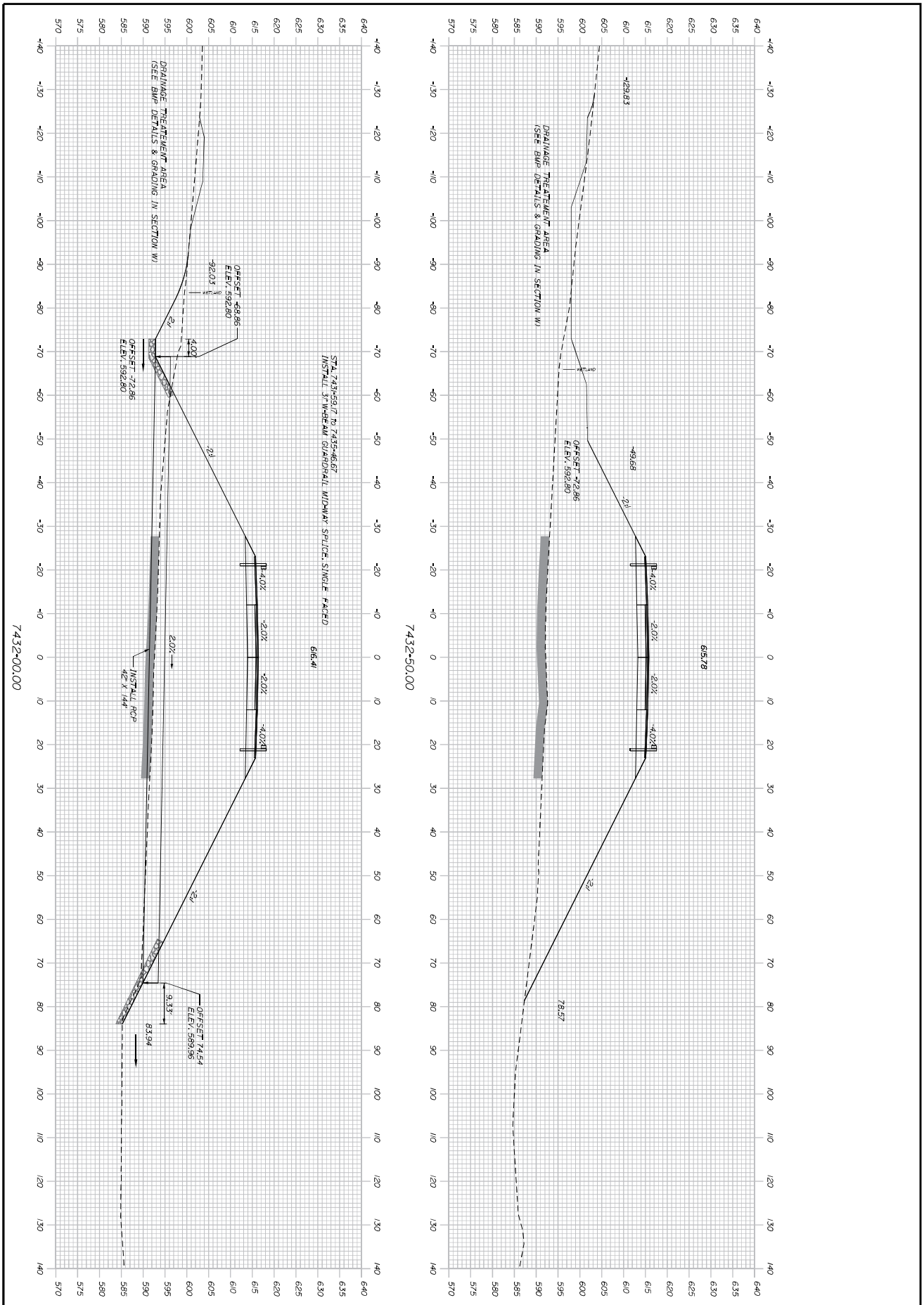
WIN
6462.92

HIGHWAY PLANS

SHEET NUMBER
H-136
232
OF 687

Sta. 7419+00.00 to Sta. 7419+50.00

Filename: ...\H6_01_Xsects_PL_BYPASS.dgn Division: HIGHWAY Username: jamesdavis Date:11/3/2024



SHEET NUMBER	PRESQUE ISLE PRESQUE ISLE BYPASS	STATE OF MAINE DEPARTMENT OF TRANSPORTATION	
H-149 245 OF 687	CROSS SECTIONS	CAPITAL PROJECTS	
		WIN 6462,92	HIGHWAY PLANS

PROJ. MANAGER		R.M.	BY	DATE
DESIGN-DETAILED	ZBW		BD	11/3/2024
CHECKED-REVIEWED	ECF		AG	11/3/2024
DESIGN2-DETAILED2				
DESIGN3-DETAILED3				
REVISIONS 1				
REVISIONS 2				
REVISIONS 3				
REVISIONS 4				
FIELD CHANGES				

vhb

Sta. 7432+00.00 to Sta. 7432+50.00

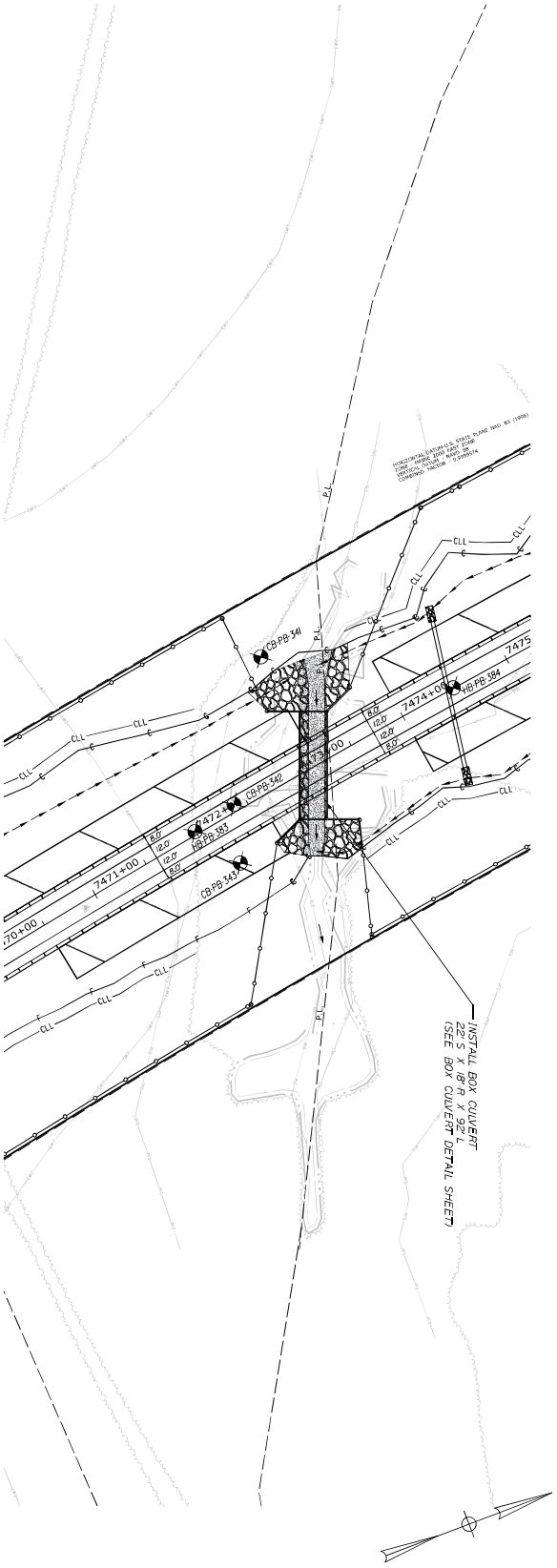
Sta. 7440+00.00 to Sta. 7440+50.00

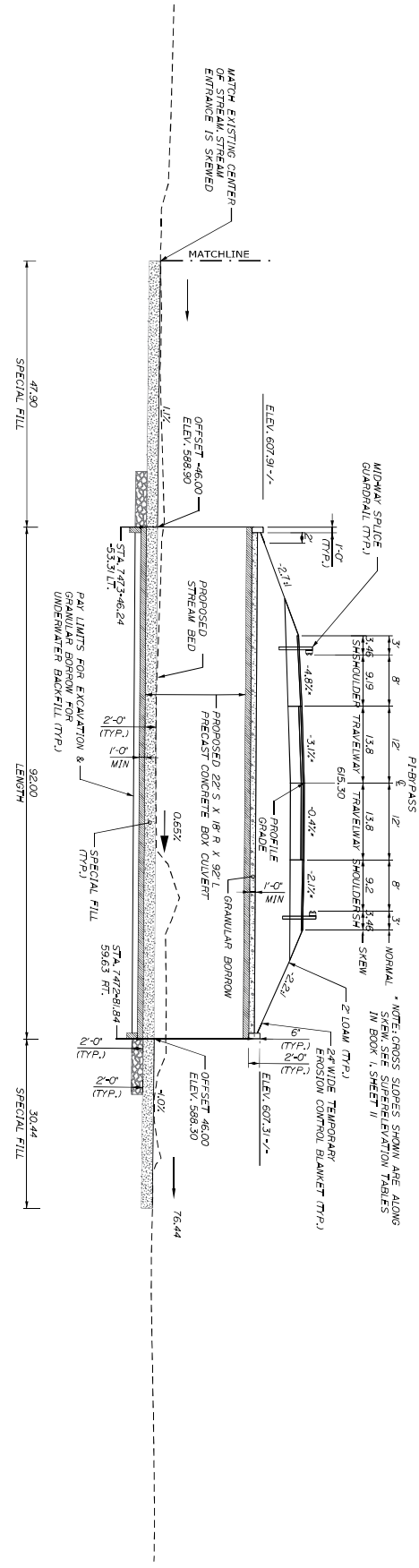
Filename: ...\HS_01_Xsects_PL_BYPASS.dgn Division: HIGHWAY Username: jamesdavis Date:11/3/2024

Sta. 7467+00.00 to Sta. 7467+50.00

Filename: ...\H6_01_Xsects_PL_BYPASS.dgn Division: HIGHWAY Username: jamesdavis Date:11/3/2024

WILLIAMS BROOK BOX CULVERT - STA 7473+16.0 (SKEWED)





PRESQUE ISLE
PRESQUE ISLE BYPASS

BOX CULVERT DETAILS

PROJ. MANAGER		R.M.	BY	DATE
DESIGN-DETAILED		ZBW	EID	11/3/2024
CHECKED-REVIEWED		ECF	AG	11/3/2024
DESIGN2-DETAILED2				
DESIGN3-DETAILED3				
REVISIONS 1				
REVISIONS 2				
REVISIONS 3				
REVISIONS 4				
FIELD CHANGES				

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

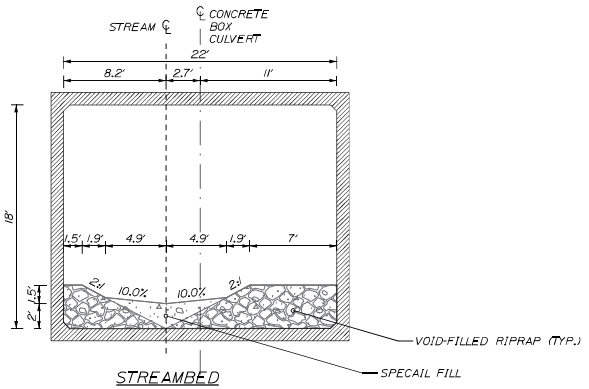
CAPITAL PROJECTS

WIN
6462.92

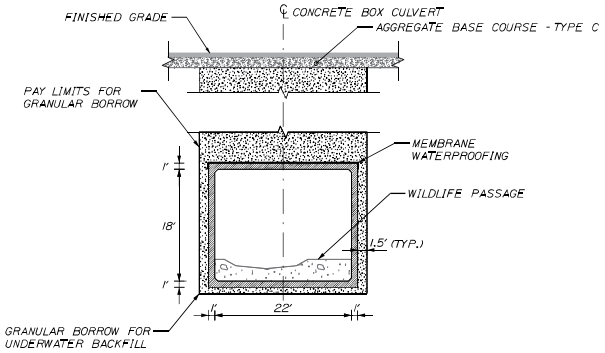
HIGHWAY PLANS

SHEET NUMBER
B-125
669
OF 687

WILLIAMS BROOK BOX CULVERT - STA 7473+16.0 (SKEWED)



STREAMBED GRADING DETAIL
NOT TO SCALE



TYPICAL SECTION
NOT TO SCALE

PRECAST CONCRETE BOX NOTES:

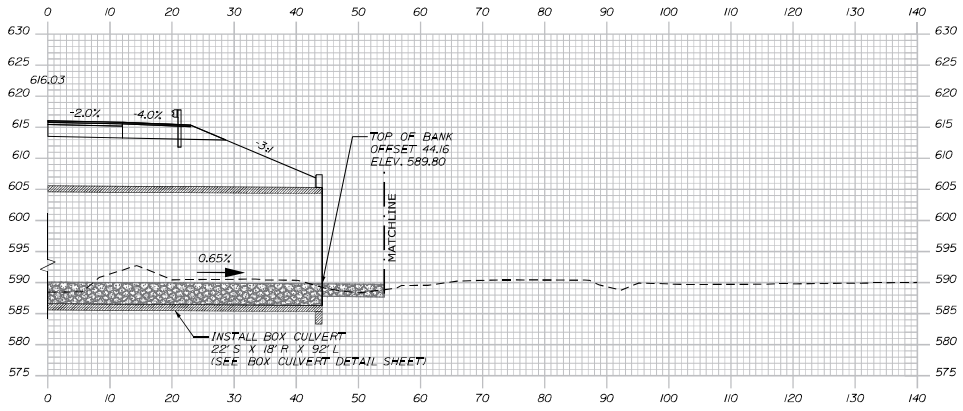
1. THE CONSTRUCTION, HANDLING, AND ASSEMBLY OF THE PRECAST UNITS SHALL BE IN ACCORDANCE WITH SECTION 534, PRECAST STRUCTURAL CONCRETE, AND WITH THE MANUFACTURER'S SPECIFICATIONS AS APPLICABLE.

2. THE PRECAST UNITS SHALL BE DESIGNED TO CARRY CONSTRUCTION LOADINGS WITH A MINIMUM FILL COVER OF 36 INCHES OVER THE TOP OF THE UNITS.

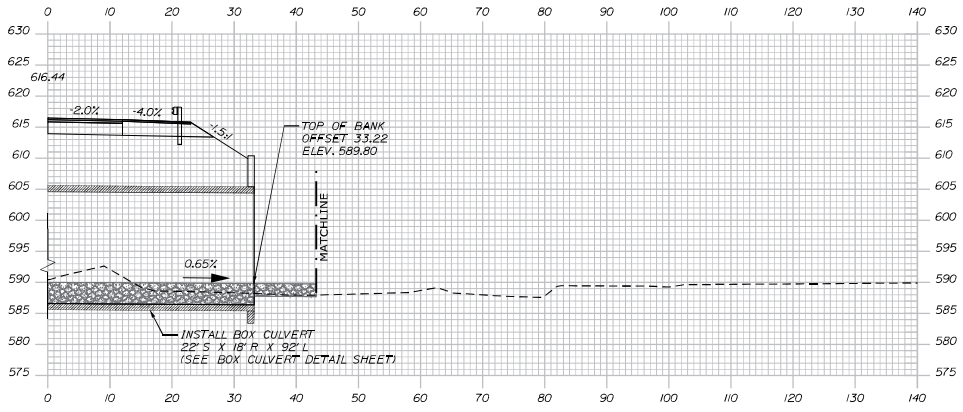
3. INSTALL STANDARD MEMBRANE WATERPROOFING OVER THE TOP AND TO 12 INCHES DOWN THE EXTERIOR SIDES OF THE PRECAST UNITS.

4. REFERENCE SPECIAL PROVISION 203.33 - SPECIAL FILL FOR ADDITIONAL REQUIREMENTS.

5. FOR THE STRENGTH LIMIT STATE THE APPLIED FACTORED BEARING PRESSURE FOR THE PRECAST CONCRETE BOX CULVERT SHALL NOT EXCEED THE FACTORED BEARING RESISTANCE OF 8.5 KSF. FOR THE SERVICE LIMIT STATE THE APPLIED FACTORED BEARING PRESSURE FOR THE PRECAST CONCRETE BOX CULVERT SHALL NOT EXCEED THE FACTORED BEARING RESISTANCE OF 6 KSF.



7472+89.25



7472+74.42

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
CAPITAL PROJECTS
WIN 6462.92
HIGHWAY PLANS

vhb

PROJ. MANAGER			
DESIGNED/DRAWN	TKW	JEL	10/3/2024
CHECKED/APPROVED	EJF	AS	10/4/2024
DESIGN DETAILED			
DESIGN DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

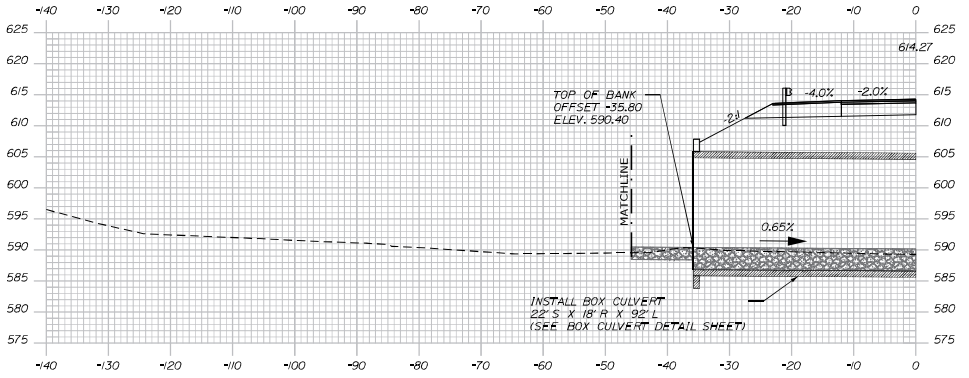
PRESQUE ISLE
PRESQUE ISLE BYPASS
BOX CULVERT DETAILS

SHEET NUMBER
B-126
670
OF 687

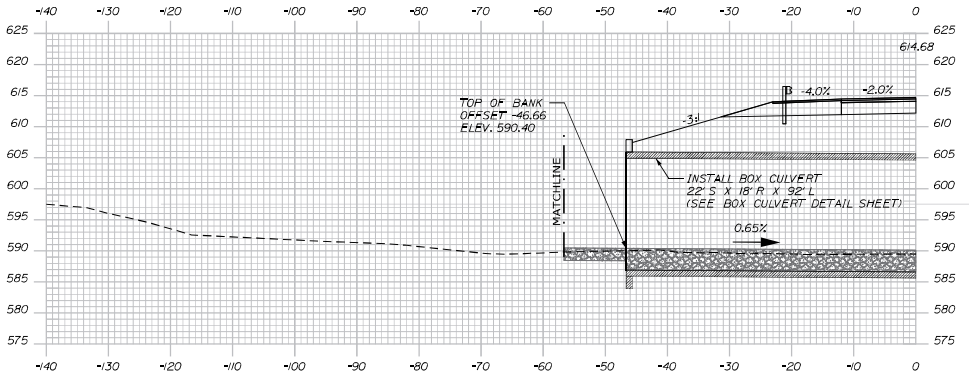
Filename: ...\H3_Box_Culverts_Plans.dgn Division: HIGHWAY Username: jamesdavis Date:11/3/2024

501

WILLIAMS BROOK BOX CULVERT - STA 7473+16.0 (SKEWED)



7473+53.60



7473+38.88

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN
6462.92

HIGHWAY PLANS

vhb

	PM	BY	DATE
PROJ. MANAGER			
DESIGN DETAILED	TKW	JEL	10/3/2024
DESIGN CHECKED	EJT	AS	10/3/2024
DESIGN DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

PRESQUE ISLE
PRESQUE ISLE BYPASS

BOX CULVERT DETAILS

SHEET NUMBER
B-127
671
OF 687

Filename: ...\H3_Box_Culverts_Plans.dgn Division: HIGHWAY Username: jamesdavis Date:11/3/2024

PROJ. MANAGER	R.M.	BY	DATE	STATE OF MAINE	
DESIGN-DETAILED	TBW	EE	11/3/2024	DEPARTMENT OF TRANSPORTATION	
CHECKED-REVIEWED	CCF	AS	11/3/2024	CAPITAL PROJECTS	
DESIGNED-DETAILED				WIN 6462.92	HIGHWAY PLANS
DESIGNED-DETAILED					
REVISIONS 1					
REVISIONS 2					
REVISIONS 3					
REVISIONS 4					
FIELD CHANGES					

PRESQUE ISLE BYPASS
CROSS SECTIONS

SHEET NUMBER H-190 286 OF 687

Sta. 7473+53.60 to Sta. 7474+00.00

Filename: ...\H6_01_Xsects_PL_BYPASS.dgn Division: HIGHWAY Username: jamesdavis Date:11/3/2024

PROJ. MANAGER	R.M.	BY	DATE		
DESIGN-DETAILED	TBW	EE	10/3/2024		
CHECKED-REVIEWED	CCF	AS	10/3/2024		
DESIGN2-DETAILED2					
DESIGN1-DETAILED1					
REVISIONS 1					
REVISIONS 2					
REVISIONS 3					
REVISIONS 4					
FIELD CHANGES					

PRESQUE ISLE BYPASS

CROSS SECTIONS

SHEET NUMBER H-232 328 OF 687

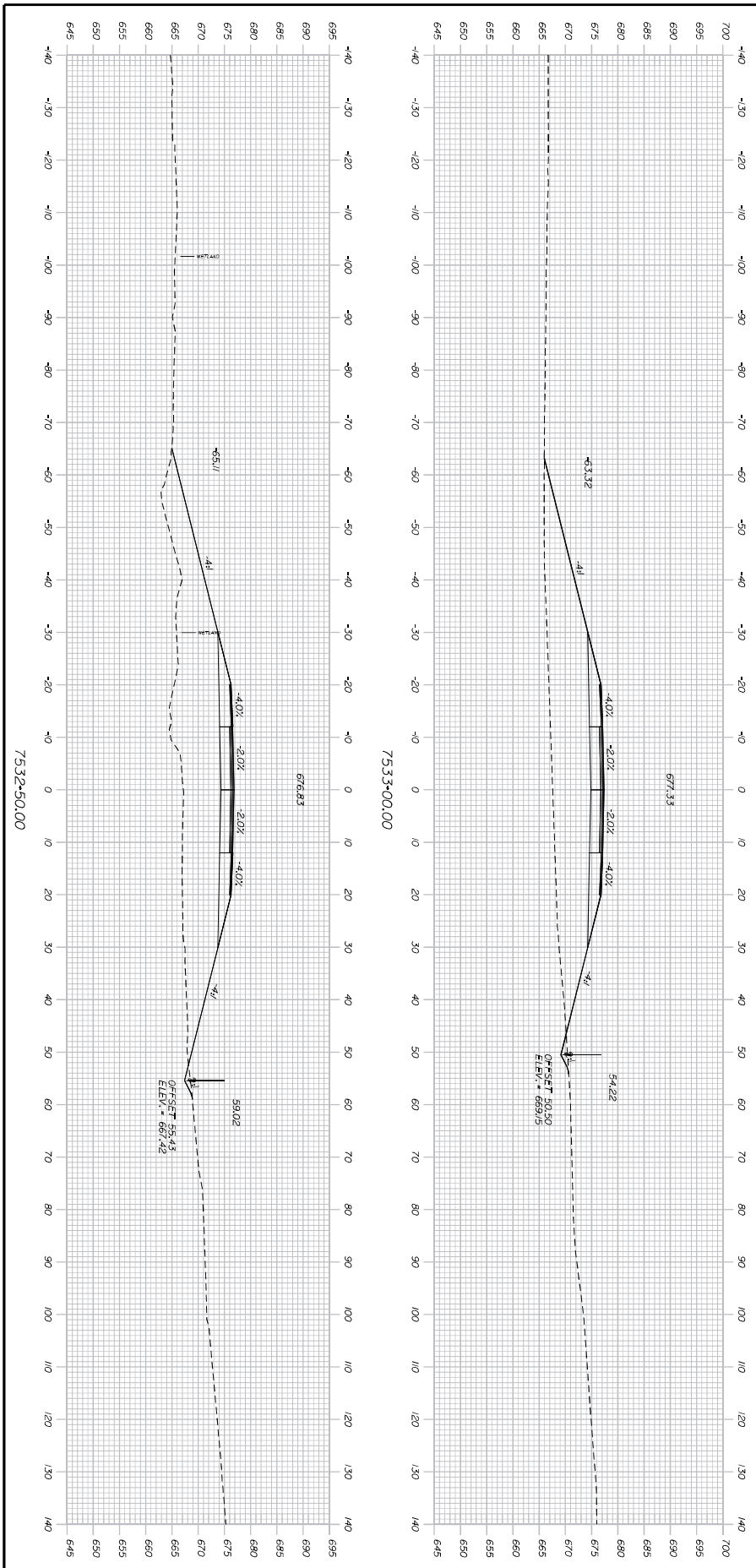
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN 6462.92 HIGHWAY PLANS

Filename: ...\H6_01_Xsects_PL_BYPASS.dgn Division: HIGHWAY Username: jamesdavis Date:11/3/2024

505



Sta. 7532+50.00 to Sta. 7533+00.00

PRESQUE ISLE
PRESQUE ISLE BYPASS

CROSS SECTIONS

PROJ. MANAGER		R.M.	BY	DATE
DESIGN-DETAILED	ZBW		BD	11/3/2024
CHECKED-REVIEWED	ECF		AG	11/3/2024
DESIGN2-DETAILED2				
DESIGN3-DETAILED3				
REVISIONS 1				
REVISIONS 2				
REVISIONS 3				
REVISIONS 4				
FIELD CHANGES				

vhb

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN
6462,92

HIGHWAY PLANS

SHEET NUMBER
H-241
337
OF 687

CROSS SECTIONS
PRESQUE ISLE BYPASS
PRESQUE ISLE BYPASS
SHEET NUMBER H-287 383 OF 687
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
CAPITAL PROJECTS
WIN 6462.92
HIGHWAY PLANS
PROJ. MANAGER
DESIGN-DETAILED
CHECKED-DETAILED
DESIGNED-DETAILED
REVISIONS 1
REVISIONS 2
REVISIONS 3
REVISIONS 4
FIELD CHANGES
BY
DATE
7580+00.00
7580+50.00
7581+00.00
Sta. 7580+00.00 to Sta. 7581+00.00
Filename: ...\H6_01_Xsects_PL_BYPASS.dgn
Division: HIGHWAY
Username: jamesdavis
Date:11/3/2024

Sta. 7586+00.00 to Sta. 7586+50.00

PROJ. MANAGER	R.M.	BY	DATE	STATE OF MAINE	CAPITAL PROJECTS
DESIGN-DETAILED	TBW	EE	11/3/2024	DEPARTMENT OF TRANSPORTATION	WIN 6462.92
CHECKED-REVIEWED	CLT	AS	11/3/2024		HIGHWAY PLANS
DESIGNS-DETAILED3					
DESIGNS-DETAILED2					
REVISIONS 1					
REVISIONS 2					
REVISIONS 3					
REVISIONS 4					
FIELD CHANGES					

PRESQUE ISLE
PRESQUE ISLE BYPASS
CROSS SECTIONS

SHEET NUMBER H-292 388 OF 687

Filename: ...\H6_01_Xsects_PL_BYPASS.dgn Division: HIGHWAY Username: jamesdavis Date:11/3/2024

Sta. 7596+00.00 to Sta. 7597+00.00

PRESQUE ISLE BYPASS

CROSS SECTIONS

SHEET NUMBER H-299 395 OF 687

PROJ. MANAGER	R.M.	BY	DATE
DESIGN-DETAILED	JBW	EE	10/3/2024
CHECKED-REVIEWED	CCF	AS	10/3/2024
DESIGNED-DETAILED2			
DESIGNED-DETAILED1			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN 6462.92 HIGHWAY PLANS

Filename: ...\HS_01_Xsects_PL_BYPASS.dgn Division: HIGHWAY Username: jamesdavis Date:11/3/2024

PRESQUE ISLE BYPASS

BOX CULVERT DETAILS

SHEET NUMBER B-128 672 OF 667

PROJ. MANAGER	R.M.		
DESIGN-DETAILED	TBW	10/3/2024	DATE
CHECKED-REVIEWED	CCF	10/3/2024	
DESIGN-DETAILED2	AS	10/3/2024	
DESIGN-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

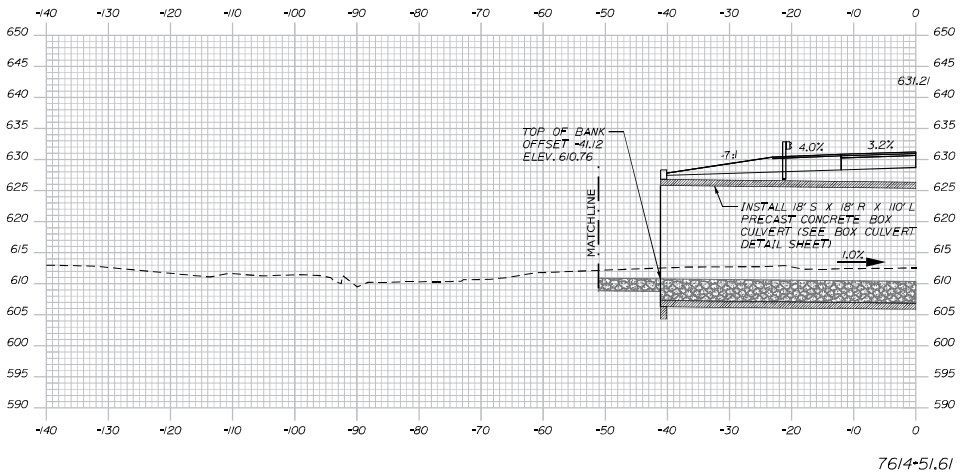
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

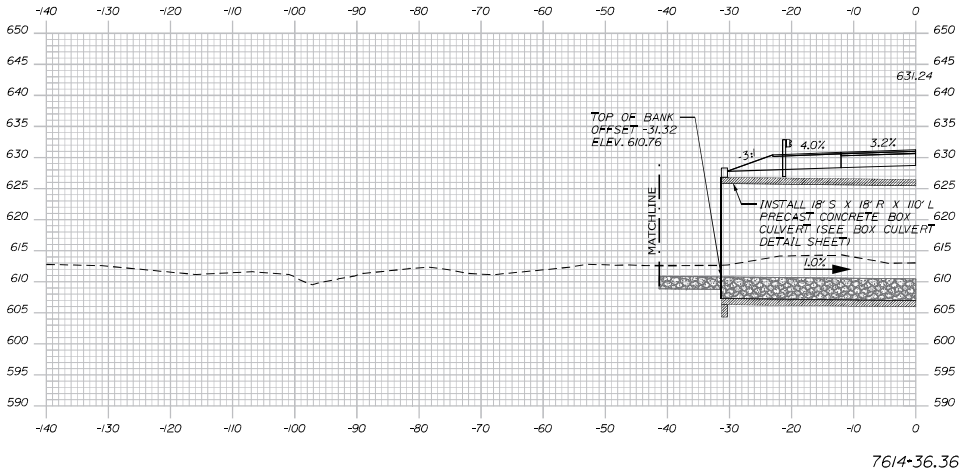
WIN 6462.92 HIGHWAY PLANS

Filename: ...\H3_Box_Culverts_Plans.dgn Division: HIGHWAY Username: jamesdavis Date:11/3/2024

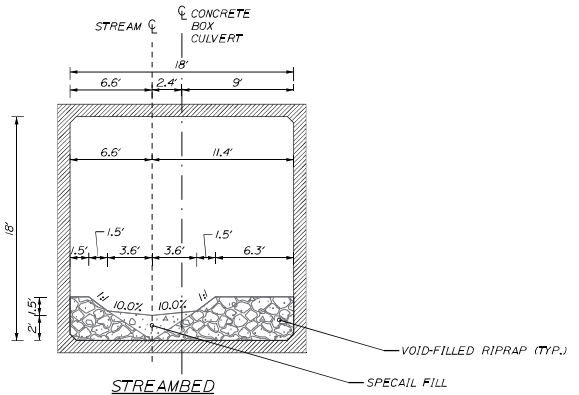
TRIBUTARY TO MERRITT BROOK BOX CULVERT - STA 7614+70.3 (SKEWED)



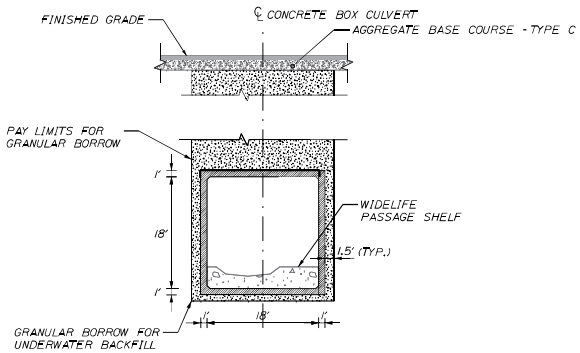
7614-51.61



7614-36.36



STREAMBED GRADING DETAIL
NOT TO SCALE



TYPICAL SECTION
NOT TO SCALE

PRECAST CONCRETE BOX NOTES:

1. THE CONSTRUCTION, HANDLING, AND ASSEMBLY OF THE PRECAST UNITS SHALL BE IN ACCORDANCE WITH SECTION 534, PRECAST STRUCTURAL CONCRETE, AND WITH THE MANUFACTURER'S SPECIFICATIONS AS APPLICABLE.

2. THE PRECAST UNITS SHALL BE DESIGNED TO CARRY CONSTRUCTION LOADINGS WITH A MINIMUM FILL COVER OF 36 INCHES OVER THE TOP OF THE UNITS.

3. INSTALL STANDARD MEMBRANE WATERPROOFING OVER THE TOP AND TO 12 INCHES DOWN THE EXTERIOR SIDES OF THE PRECAST UNITS.

4. REFERENCE SPECIAL PROVISION 203.33 - SPECIAL FILL FOR ADDITIONAL REQUIREMENTS.

5. FOR THE STRENGTH LIMIT STATE THE APPLIED FACTORED BEARING PRESSURE FOR THE PRECAST CONCRETE BOX CULVERT SHALL NOT EXCEED THE FACTORED BEARING RESISTANCE OF 7 KSF. FOR THE SERVICE LIMIT STATE THE APPLIED FACTORED BEARING PRESSURE FOR THE PRECAST CONCRETE BOX CULVERT SHALL NOT EXCEED THE FACTORED BEARING RESISTANCE OF 7.5 KSF.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN 6462.92

HIGHWAY PLANS

vhb

PROJ. MANAGER			
DESIGNED/DRAWN	TMW	JEL	10/3/2024
CHECKED/APPROVED	ELF	AS	10/3/2024
DESIGN DETAILED			
DESIGN DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

PRESQUE ISLE
PRESQUE ISLE BYPASS

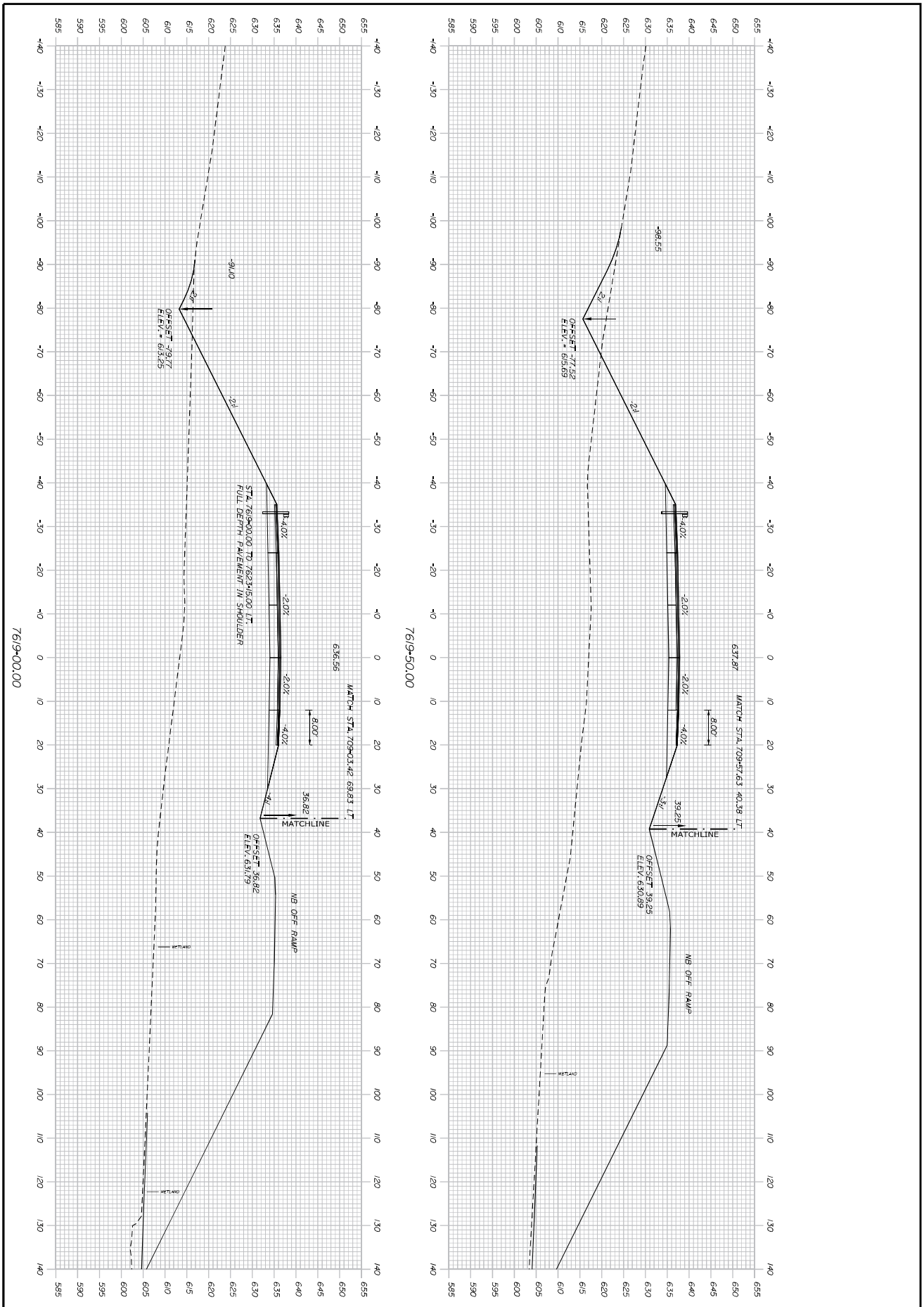
BOX CULVERT DETAILS

SHEET NUMBER
B-129
673
OF 687

Filename: ...\H3_Box_Culverts_Plans.dgn Division: HIGHWAY Username: jamesdavis Date:11/3/2024

510

PRESQUE ISLE BYPASS
BOX CULVERT DETAILS
SHEET NUMBER B-130 674 OF 687
PROJ. MANAGER RJW
DESIGN-DETAILED JBW 10/3/2024
CHECKED-REVIEWED CCF RS 10/3/2024
DESIGNS-DETAILED2
DESIGNS-DETAILED1
REVISIONS 1
REVISIONS 2
REVISIONS 3
REVISIONS 4
FIELD CHANGES
DATE BY
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
CAPITAL PROJECTS
WIN 6462.92
HIGHWAY PLANS
TRIBUTARY TO MERRITT BROOK BOX CULVERT - STA 7614+70.3 (SKEWED)
7615+10.51
7614+95.46
MATCHLINE
TOP OF BANK
OFFSET 5174
ELEV. 609.60
INSTALL 18' S X 18' R X 110' L
PRECAST CONCRETE BOX
CULVERT (SEE BOX CULVERT
DETAIL SHEET)
-4.0%
-0.8%
-3.2%
1.0%
3:1
631.26
631.23



PRESQUE ISLE
PRESQUE ISLE BYPASS

CROSS SECTIONS

PROJ. MANAGER		R.M.	BY	DATE
DESIGN-DETAILED	ZBW		BD	11/3/2024
CHECKED-REVIEWED	ECF		AG	11/3/2024
DESIGN2-DETAILED2				
DESIGN3-DETAILED3				
REVISIONS 1				
REVISIONS 2				
REVISIONS 3				
REVISIONS 4				
FIELD CHANGES				

vhb

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN
6462.92

HIGHWAY PLANS

SHEET NUMBER
H-321
417
OF 687

Sta. 7619+00.00 to Sta. 7619+50.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN 6462.92 HIGHWAY PLANS

PROJ. MANAGER	R.M.	BY	DATE
DESIGN-DETAILED	TBW	EEE	10/3/2024
CHECKED-REVIEWED	CCF	AS	10/3/2024
DESIGN-DETAILED2			
DESIGN-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

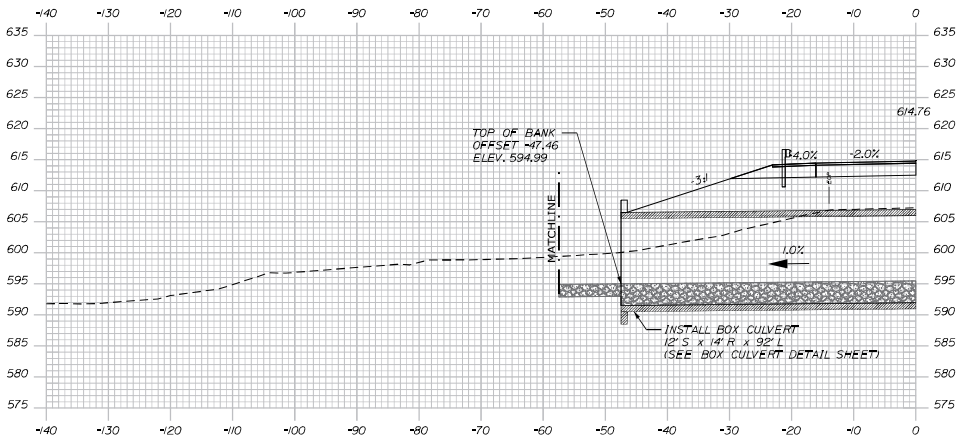
PRESQUE ISLE
CONANT ROAD

BOX CULVERT DETAILS

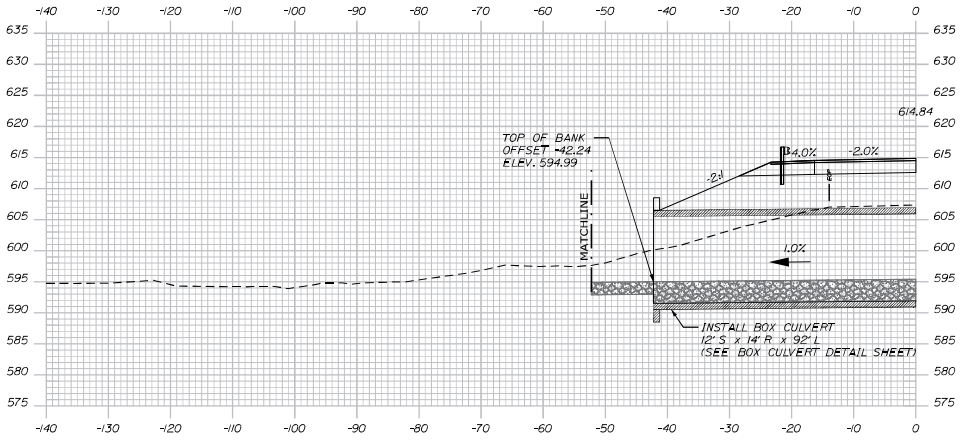
SHEET NUMBER B-131 675 OF 687

Filename: ...\H3_Box_Culverts_Plans.dgn Division: HIGHWAY Username: jamesdavis Date:11/3/2024

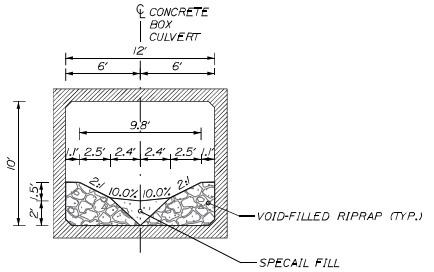
CONANT ROAD OVER TRIBUTARY TO MERRITT BOX CULVERT - STA 327+92.12 (SKEWED)



327+86.97

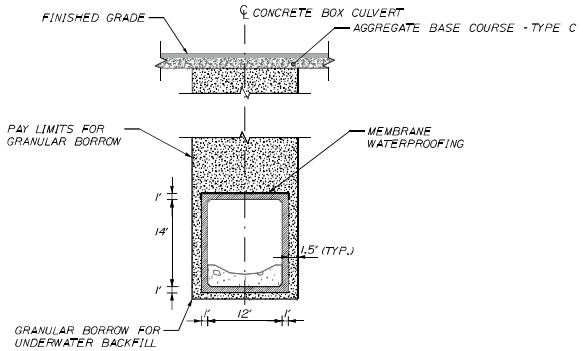


327+76.12



STREAMBED GRADING DETAIL

NOT TO SCALE



TYPICAL SECTION

NOT TO SCALE

PRECAST CONCRETE BOX NOTES:

1. THE CONSTRUCTION, HANDLING, AND ASSEMBLY OF THE PRECAST UNITS SHALL BE IN ACCORDANCE WITH SECTION 534, PRECAST STRUCTURAL CONCRETE, AND WITH THE MANUFACTURER'S SPECIFICATIONS AS APPLICABLE.

2. THE PRECAST UNITS SHALL BE DESIGNED TO CARRY CONSTRUCTION LOADINGS WITH A MINIMUM FILL COVER OF 36 INCHES OVER THE TOP OF THE UNITS.

3. INSTALL STANDARD MEMBRANE WATERPROOFING OVER THE TOP AND TO 12 INCHES DOWN THE EXTERIOR SIDES OF THE PRECAST UNITS.

4. REFERENCE SPECIAL PROVISION 203.33 - SPECIAL FILL FOR ADDITIONAL REQUIREMENTS.

5. FOR THE STRENGTH LIMIT STATE THE APPLIED FACTORED BEARING PRESSURE FOR THE PRECAST CONCRETE BOX CULVERT SHALL NOT EXCEED THE FACTORED BEARING RESISTANCE OF 7 KSF. FOR THE SERVICE LIMIT STATE THE APPLIED FACTORED BEARING PRESSURE FOR THE PRECAST CONCRETE BOX CULVERT SHALL NOT EXCEED THE FACTORED BEARING RESISTANCE OF 7.5 KSF.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN 6462.92

HIGHWAY PLANS

vhb

PROJ. MANAGER			
DESIGNED/DRAWN	TKW	JEL	10/3/2024
CHECKED/APPROVED	EJF	AS	10/3/2024
DESIGN DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

PRESQUE ISLE
CONANT ROAD

BOX CULVERT DETAILS

SHEET NUMBER
B-132
676
OF 687

Filename: ...\H3_Box_Culverts_Plans.dgn Division: HIGHWAY Username: jamesdavis Date:11/3/2024

514

PROJ. MANAGER	R.M.	BY	DATE
DESIGN-DETAILED	TBW		
CHECKED-REVIEWED	CLF	AS	10/3/2024
DESIGN-DETAILED2	EEE		10/3/2024
DESIGN-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

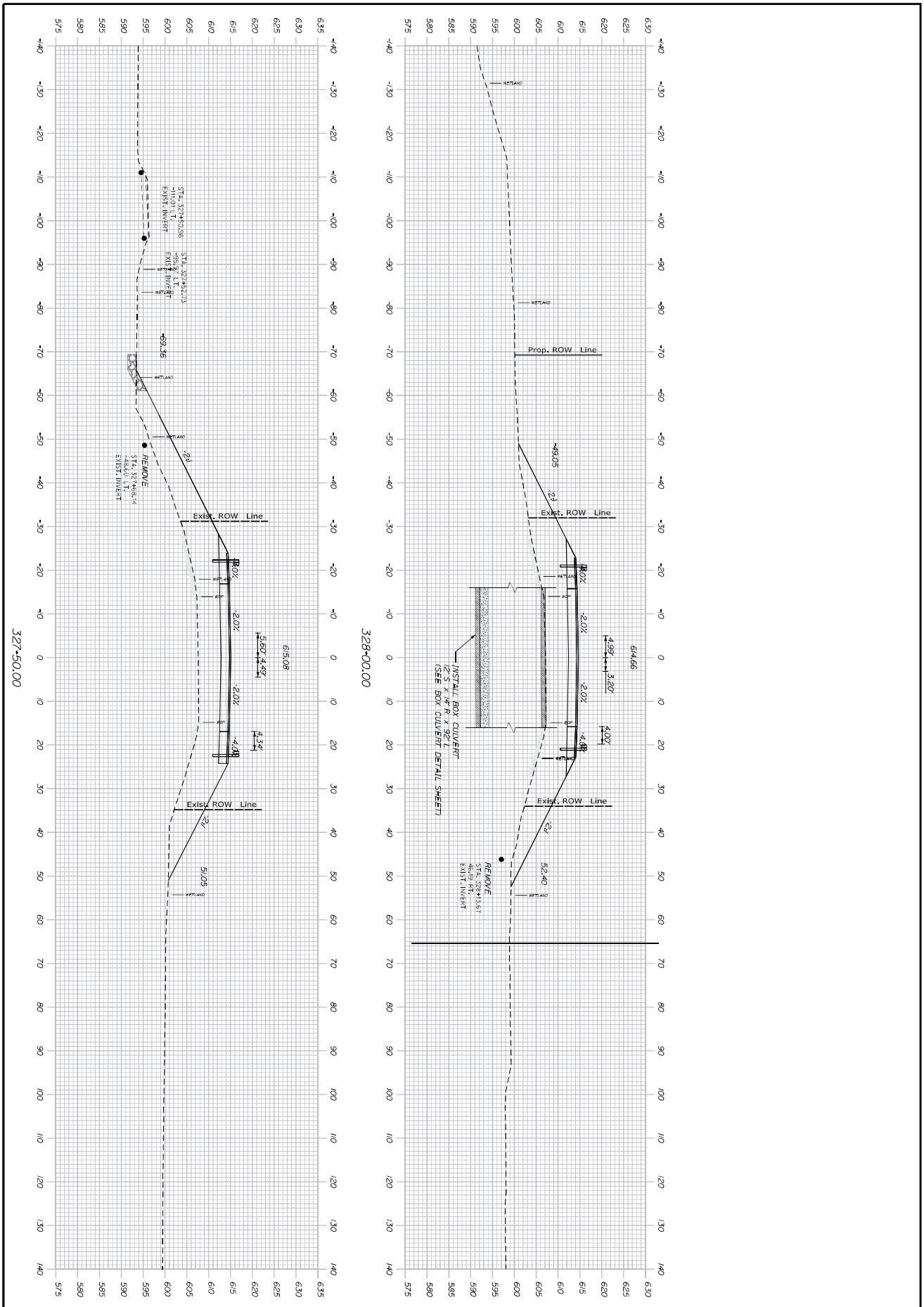
BOX CULVERT DETAILS

PRESQUE ISLE
CONANT ROAD

SHEET NUMBER B-133 677 OF 687

CONANT ROAD OVER TRIBUTARY TO MERRITT BOX CULVERT - STA 327+92.12 (SKEWED)

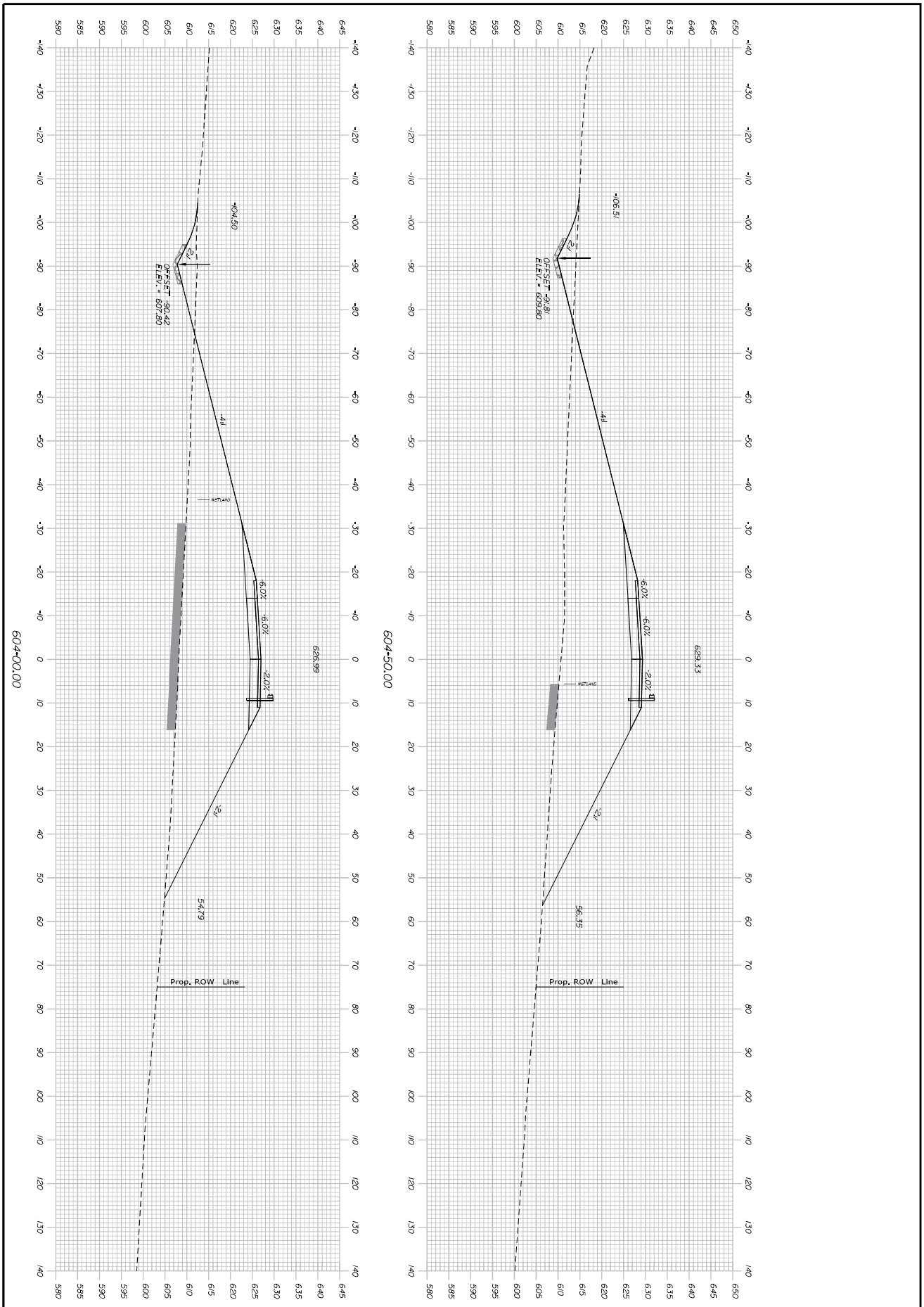
Filename: ...\H3_Box_Culverts_Plans.dgn Division: HIGHWAY Username: jamesdavis Date:11/3/2024



Sta. 327+50.00 to Sta. 328+00.00

SHEET NUMBER H-400 496 OF 687	PRESQUE ISLE CONANT ROAD CROSS SECTIONS	PROJ. MANAGER: TJM; BY: BD; DATE: 11/3/2024 DESIGN-DETAILED: ZBW; BD; 11/3/2024 CHECKED-REVIEWED: ECF; AG; 11/3/2024 DESIGN2-DETAILED2 DESIGN3-DETAILED3 REVISIONS 1 REVISIONS 2 REVISIONS 3 REVISIONS 4 FIELD CHANGES	vhb

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
CAPITAL PROJECTS
WIN 6462.92 HIGHWAY PLANS



Sta. 604+00.00 to Sta. 604+50.00

PRESQUE ISLE
NORTHBOUND ON RAMP

CROSS SECTIONS

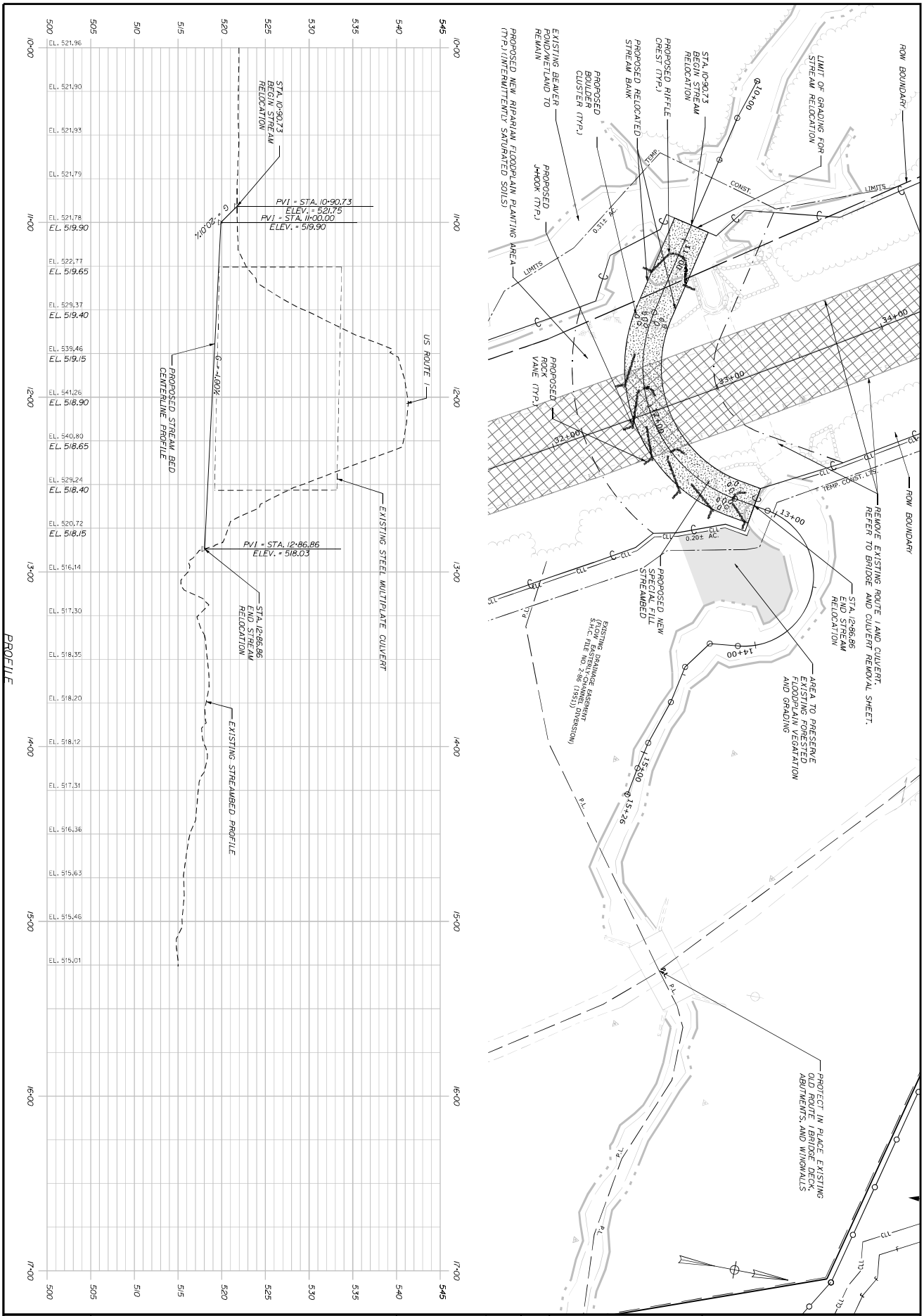
PROJ. MANAGER		R.M.	BY	DATE
DESIGN-DETAILED	ZBW		BD	11/3/2024
CHECKED-REVIEWED	ECF		AG	11/3/2024
DESIGN2-DETAILED2				
DESIGN3-DETAILED3				
REVISIONS 1				
REVISIONS 2				
REVISIONS 3				
REVISIONS 4				
FIELD CHANGES				

SHEET NUMBER
H-421
517
OF 687

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
CAPITAL PROJECTS
WIN
6462.92
HIGHWAY PLANS

Filename: ...\Plansets\S2_02_Steqm_01.dgn Division: HIGHWAY Username: jamesdavis Date:11/3/2024

Filename: ...\Planset\S2_03_Stream_02.dgn Division: HIGHWAY Username: jamesdavis Date:5/7/2025



SHEET NUMBER S-5 38 OF 704

PRESQUE ISLE STREAM RESTORATION

CLARK BROOK

PROJ. MANAGER	R.M.	BY	DATE
DESIGNED-DETAILED	ZBW	JBD	5/7/2025
CHECKED-REVIEWED	ECF	AC	5/7/2025
DESIGNED-DETAILED2			
DESIGNED-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

vhb

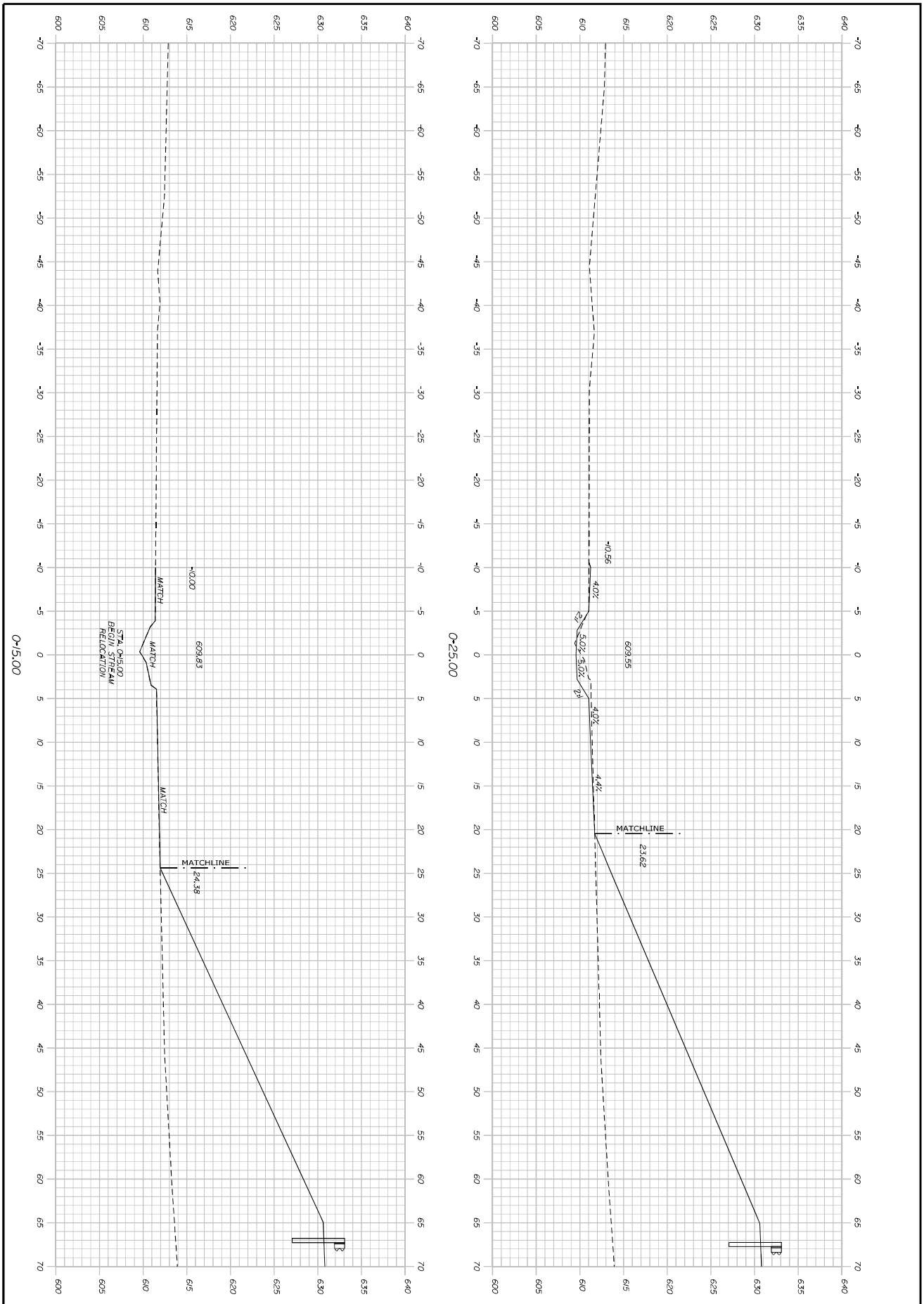
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN
6462.92

HIGHWAY PLANS

PRESQUE ISLE
STREAM RESTORATION
MERRITT BROOK
SHEET NUMBER
S-6
39
OF 667
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
CAPITAL PROJECTS
WIN
6462.92
HIGHWAY PLANS
PROJ. MANAGER
DESIGN-DETAILED
CHECKED-REVIEWED
DESIGNED-DETAILED
REVISIONS 1
REVISIONS 2
REVISIONS 3
REVISIONS 4
FIELD CHANGES
BY
DATE
RJM
TBW
CCF
AS
EE
10/3/2024
10/3/2024
PLANTING TABLE
TBD
LEGEND
PRESERVE EXISTING TREES
SPECIAL FILL STREAM CHANNEL
RIPARIAN SEEDING
UPLAND SEEDING
SAPLING CLUSTERS
PLAN
Scale of Feet
0
25
50
25
MATCH LINE
MATCH LINE
C.O.A.
P.L.
P.L.
C.O.A.
C.L.
C.L.
C.L



PROJ. MANAGER		BY	DATE
DESIGN-DETAILED	ZBW	EID	11/3/2024
CHECKED-REVIEWED	ECF	AG	11/3/2024
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

PRESQUE ISLE
MERRITT BROOK

CROSS SECTIONS

SHEET NUMBER
S-18
51
OF 687

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
CAPITAL PROJECTS
WIN
6462.92
HIGHWAY PLANS

Sta. 0+15.00 to Sta. 0+25.00

PROJ. MANAGER	R.W.	BY	DATE		
DESIGNED	TBW	EE	11/3/2024		
CHECKED-REVIEWED	CLF	AS	11/3/2024		
DESIGNED-DETAILED					
DESIGNED-DETAILED2					
REVISIONS 1					
REVISIONS 2					
REVISIONS 3					
REVISIONS 4					
FIELD CHANGES					

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN 6462.92 HIGHWAY PLANS

PRESQUE ISLE
MERRITT BROOK
CROSS SECTIONS

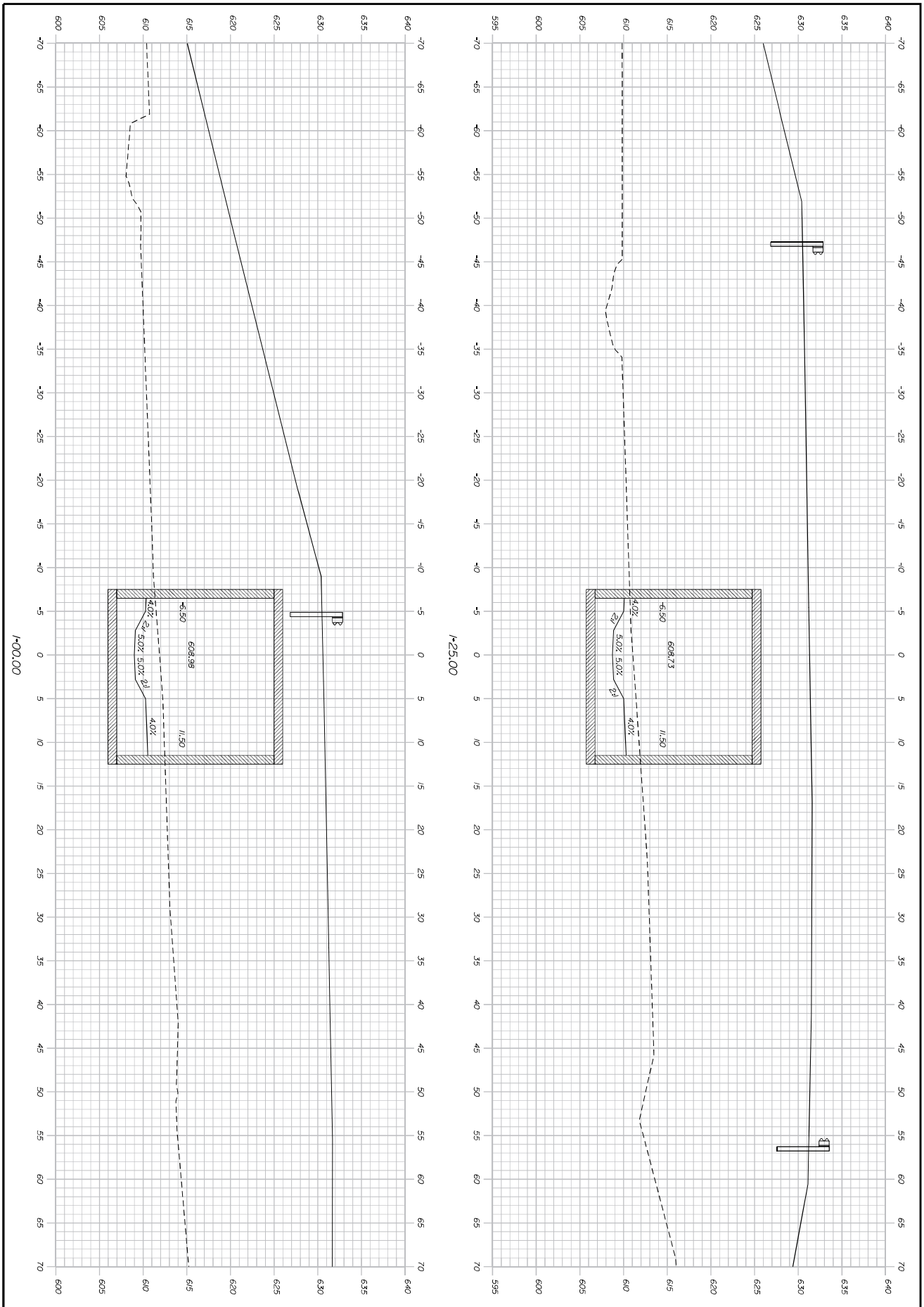
SHEET NUMBER S-19

52 OF 667

Sta. 0+50.00 to Sta. 0+75.00

Filename: ...\S4_07_Cross_Sections.dgn Division: HIGHWAY Username: jamesdavis Date:11/3/2024

523



Sta. 1+00.00 to Sta. 1+25.00

PRESQUE ISLE
MERRITT BROOK

CROSS SECTIONS

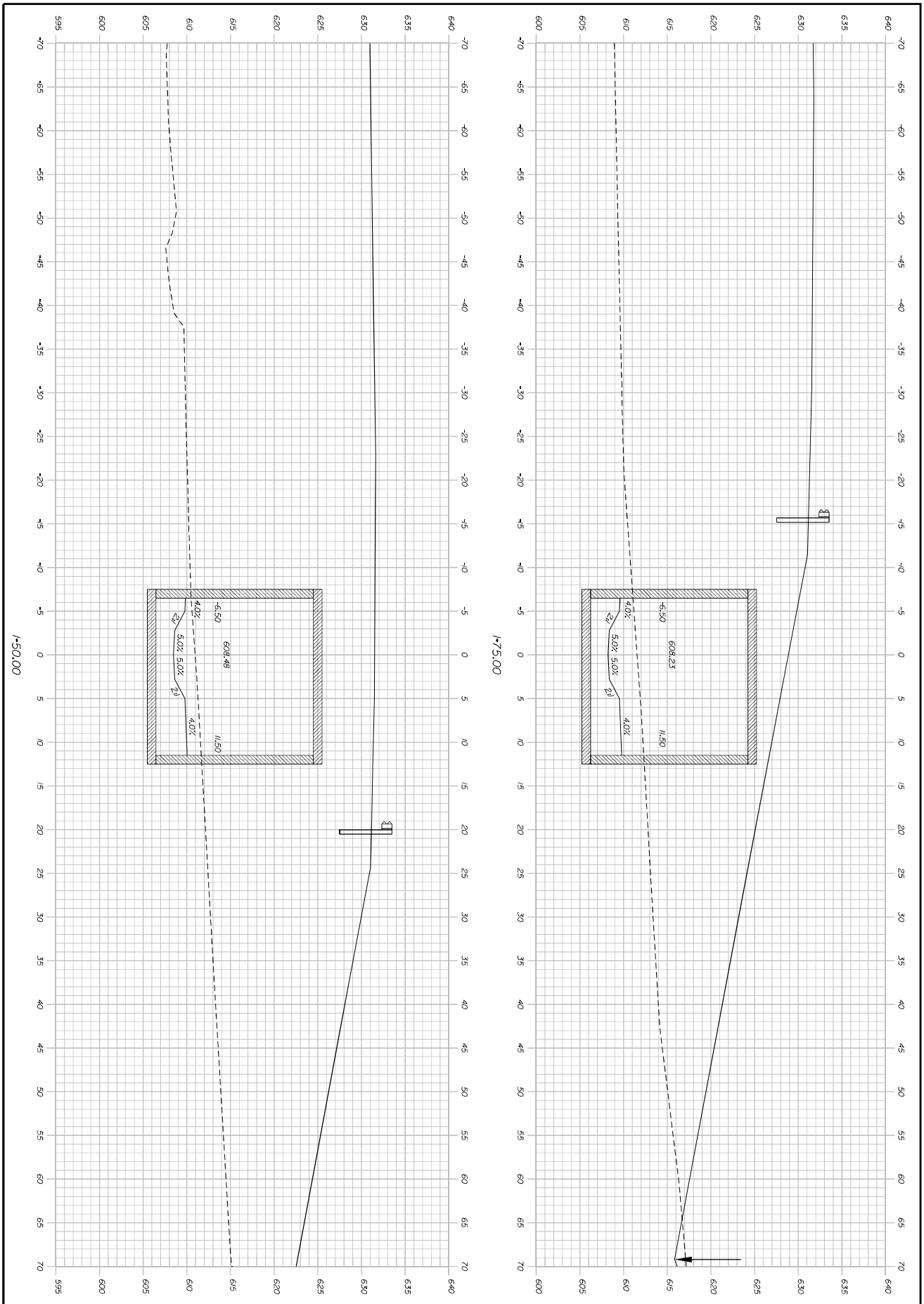
PROJ. MANAGER		R.M.	BY	DATE
DESIGN-DETAILED	ZBW		BD	11/3/2024
CHECKED-REVIEWED	ECF		AS	11/3/2024
DESIGN2-DETAILED2				
DESIGN3-DETAILED3				
REVISIONS 1				
REVISIONS 2				
REVISIONS 3				
REVISIONS 4				
FIELD CHANGES				

SHEET NUMBER
S-20
53
OF 687

vhb

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
CAPITAL PROJECTS
WIN
6462.92
HIGHWAY PLANS

524



Sta. 1+50.00 to Sta. 1+75.00

PRESQUE ISLE
MERRITT BROOK

CROSS SECTIONS

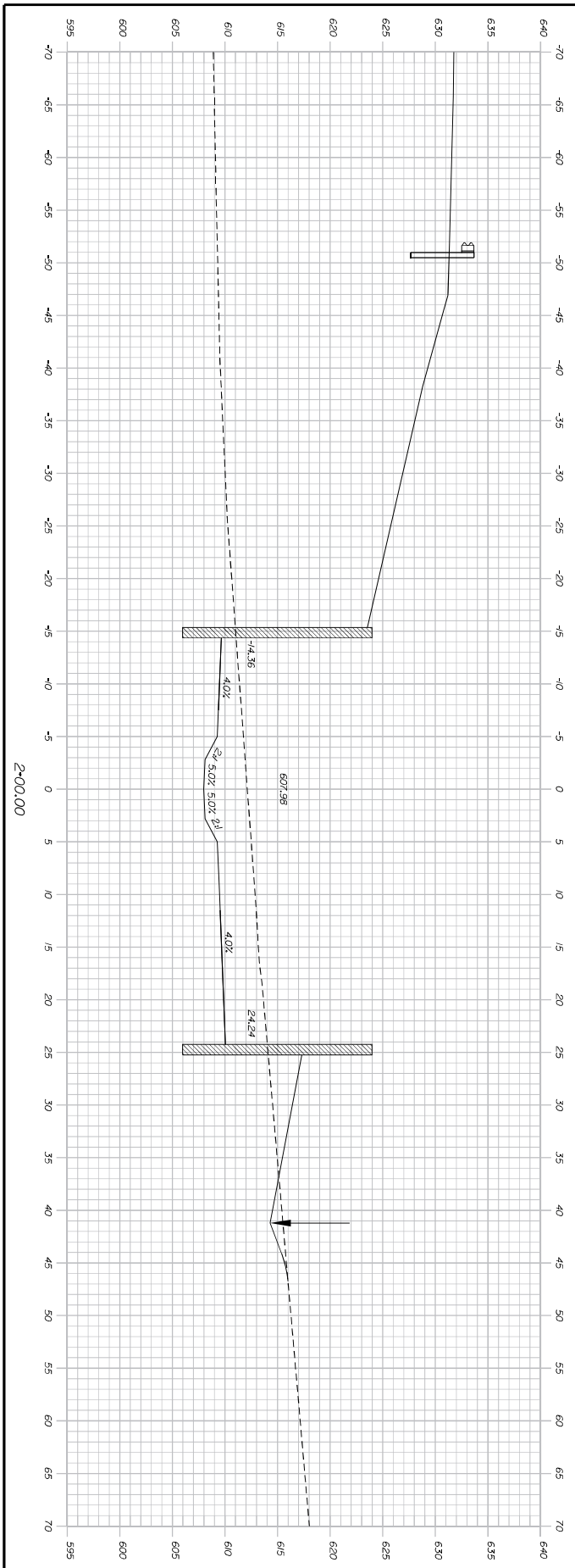
PROJ. MANAGER		R.M.	BY	DATE
DESIGN-DETAILED	ZBW		BD	11/3/2024
CHECKED-REVIEWED	ECF		AG	11/3/2024
DESIGN2-DETAILED2				
DESIGN3-DETAILED3				
REVISIONS 1				
REVISIONS 2				
REVISIONS 3				
REVISIONS 4				
FIELD CHANGES				

SHEET NUMBER
S-21
54
OF 687

vhb

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
CAPITAL PROJECTS
WIN
6462.92
HIGHWAY PLANS

525



Sta. 2+00.00 to Sta. 2+00.00

SHEET NUMBER S-22
55
OF 687

PRESQUE ISLE
MERRITT BROOK

CROSS SECTIONS

PROJ. MANAGER		BY	DATE
DESIGN-DETAILED	ZBW	EID	11/3/2024
CHECKED-REVIEWED	ECF	AG	11/3/2024
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

vhb

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN
6462,92

HIGHWAY PLANS

PRESQUE ISLE
MERRITT BROOK

CROSS SECTIONS

SHEET NUMBER S-23
56 OF 687

PROJ. MANAGER	R.W.	BY	DATE
DESIGN-DETAILED	JBW	EE	10/3/2024
CHECKED-REVIEWED	CCF	AS	10/3/2024
DESIGNS-DETAILED 5			
DESIGNS-DETAILED 2			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

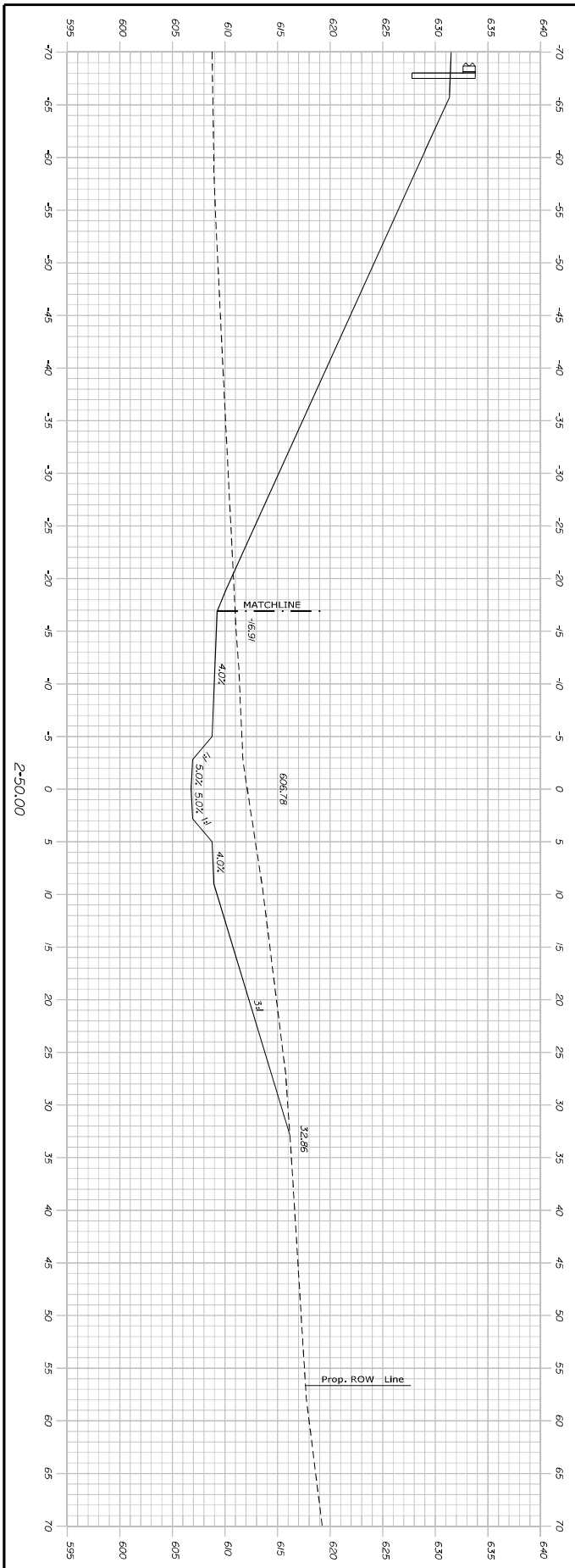
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN
6462.92
HIGHWAY PLANS

Filename: ...\S4_07_Cross_Sections.dgn Division: HIGHWAY Username: jamesdavis Date:11/3/2024

527



Sta. 2+50.00 to Sta. 2+50.00

PRESQUE ISLE
MERRITT BROOK

CROSS SECTIONS

PROJ. MANAGER	R.M.	BY	DATE
DESIGN-DETAILED	ZBW	EID	11/3/2024
CHECKED-REVIEWED	ECF	AG	11/3/2024
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SHEET NUMBER
S-24
57
OF 687

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
CAPITAL PROJECTS
WIN
6462.92
HIGHWAY PLANS

CROSS SECTIONS

PRESQUE ISLE
MERRITT BROOK

SHEET NUMBER S-25
58 OF 687

PROJ. MANAGER	R.W.	BY	DATE
DESIGN-DETAILED	TBW	EE	10/3/2024
CHECKED-REVIEWED	CCF	AS	10/3/2024
DESIGN2-DETAILED2			
DESIGN2-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

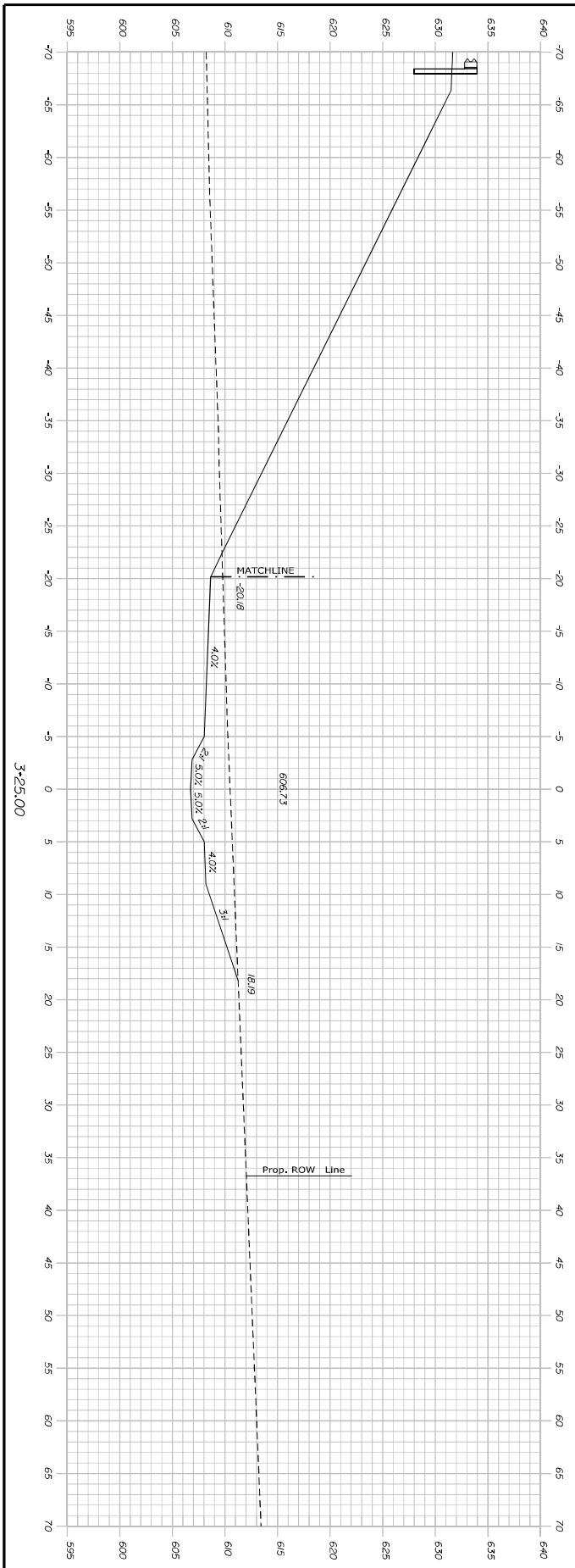
WIN 6462.92

HIGHWAY PLANS

Filename: ...\S4_07_Cross_Sections.dgn Division: HIGHWAY Username: jamesdavis Date:11/3/2024

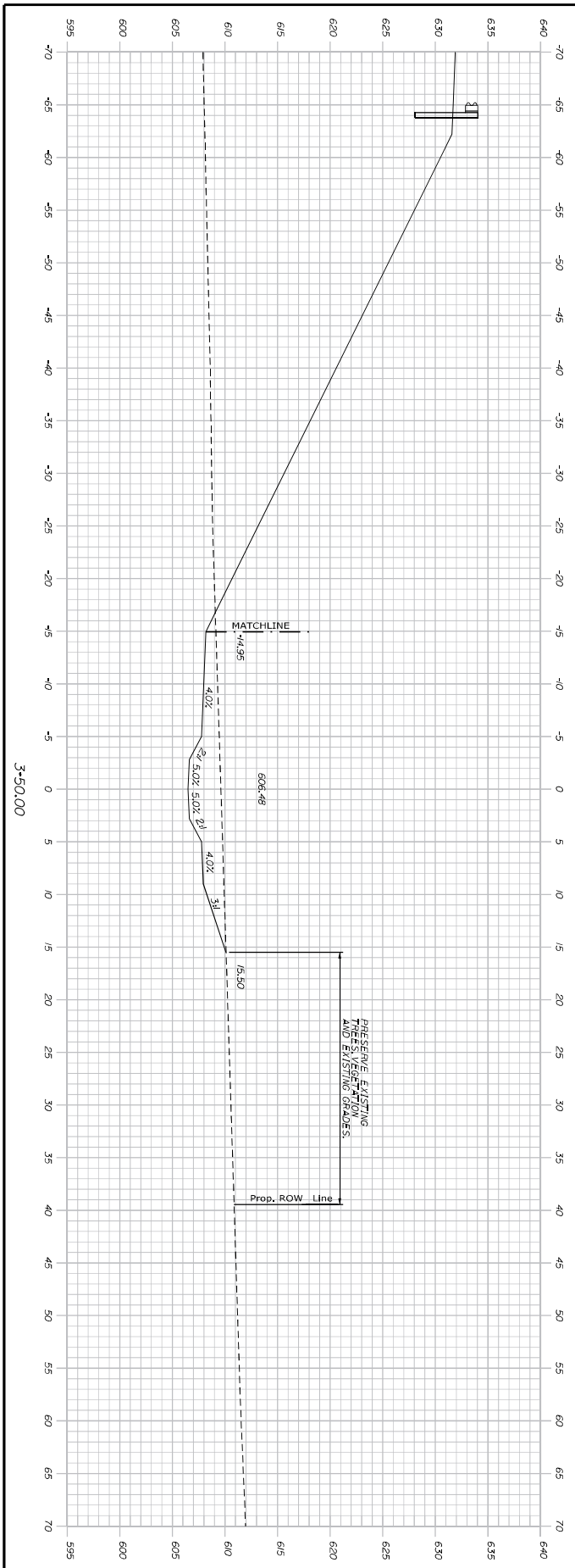
Sta. 3+00.00 to Sta. 3+00.00
PRESQUE ISLE
MERRITT BROOK
CROSS SECTIONS
SHEET NUMBER
S-26
59
OF 687
PROJ. MANAGER
DESIGN-DETAILED
CHECKED-REVIEWED
DESIGNED-DETAILED
REVISIONS 1
REVISIONS 2
REVISIONS 3
REVISIONS 4
FIELD CHANGES
BY
DATE
RJW
JBW
10/3/2024
CJF
AS
10/3/2024
EE
10/3/2024
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
CAPITAL PROJECTS
WIN
6462.92
HIGHWAY PLANS
Prop. ROW Line
MATCHLINE
606.28
25.06
-24.24
4.0%
5.0%
4.0%
5.0%
3:1
2:1
3+00.00
Filename: ...\S4_07_Cross_Sections.dgn
Division: HIGHWAY
Username: jamesdavis
Date:11/3/2024

530



Sta. 3+25.00 to Sta. 3+25.00

SHEET NUMBER S-27	PRESQUE ISLE MERRITT BROOK	PROJ. MANAGER: R.M.	STATE OF MAINE DEPARTMENT OF TRANSPORTATION
60 OF 687	CROSS SECTIONS	DESIGN-DETAILED: ZBW BD 11/3/2024	CAPITAL PROJECTS
		CHECKED-REVIEWED: ECF AG 11/3/2024	WIN 6462,92 HIGHWAY PLANS
		DESIGN2-DETAILED2:	
		DESIGN3-DETAILED3:	
		REVISIONS 1:	
		REVISIONS 2:	
		REVISIONS 3:	
		REVISIONS 4:	
		FIELD CHANGES:	



Sta. 3+50.00 to Sta. 3+50.00

PROJ. MANAGER	R.M.	BY	DATE
DESIGN-DETAILED	ZBW	BD	11/3/2024
CHECKED-REVIEWED	ECF	AS	11/3/2024
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SHEET NUMBER S-28
61
OF 687

PRESQUE ISLE
MERRITT BROOK

CROSS SECTIONS

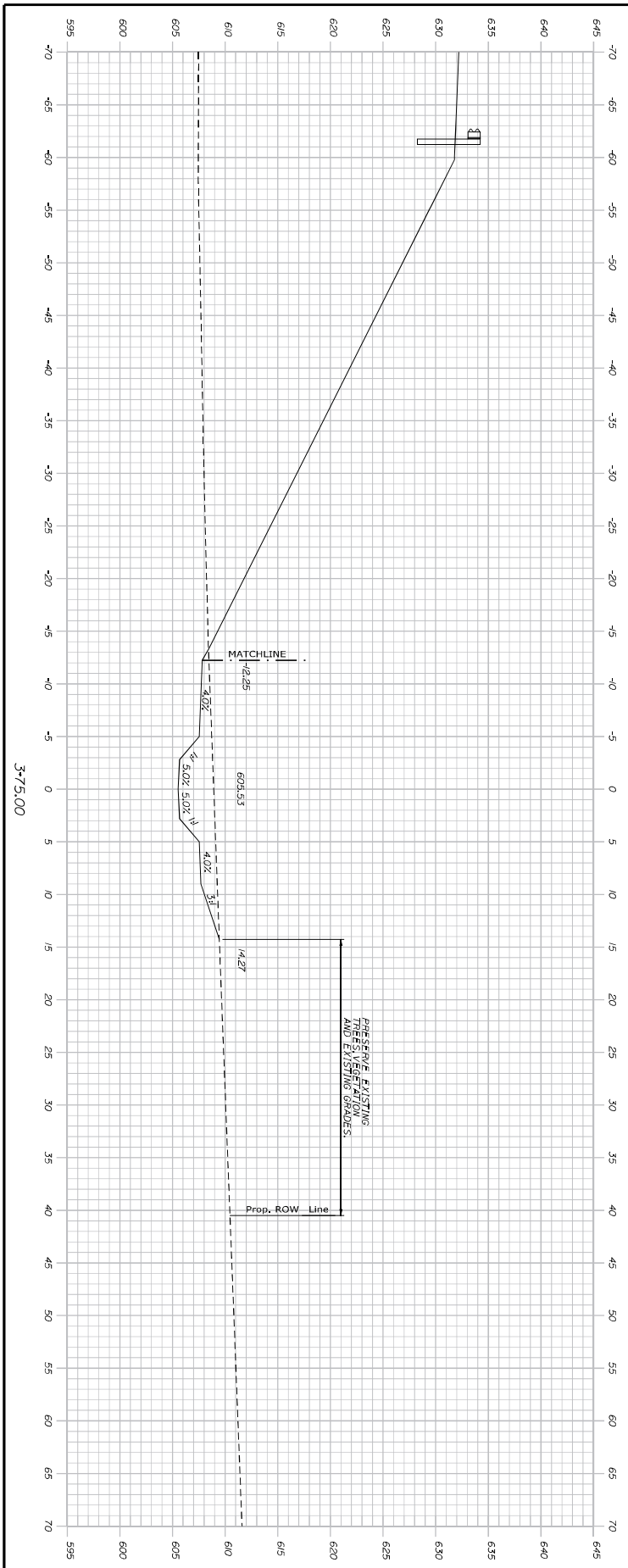
vhb

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN
6462,92

HIGHWAY PLANS

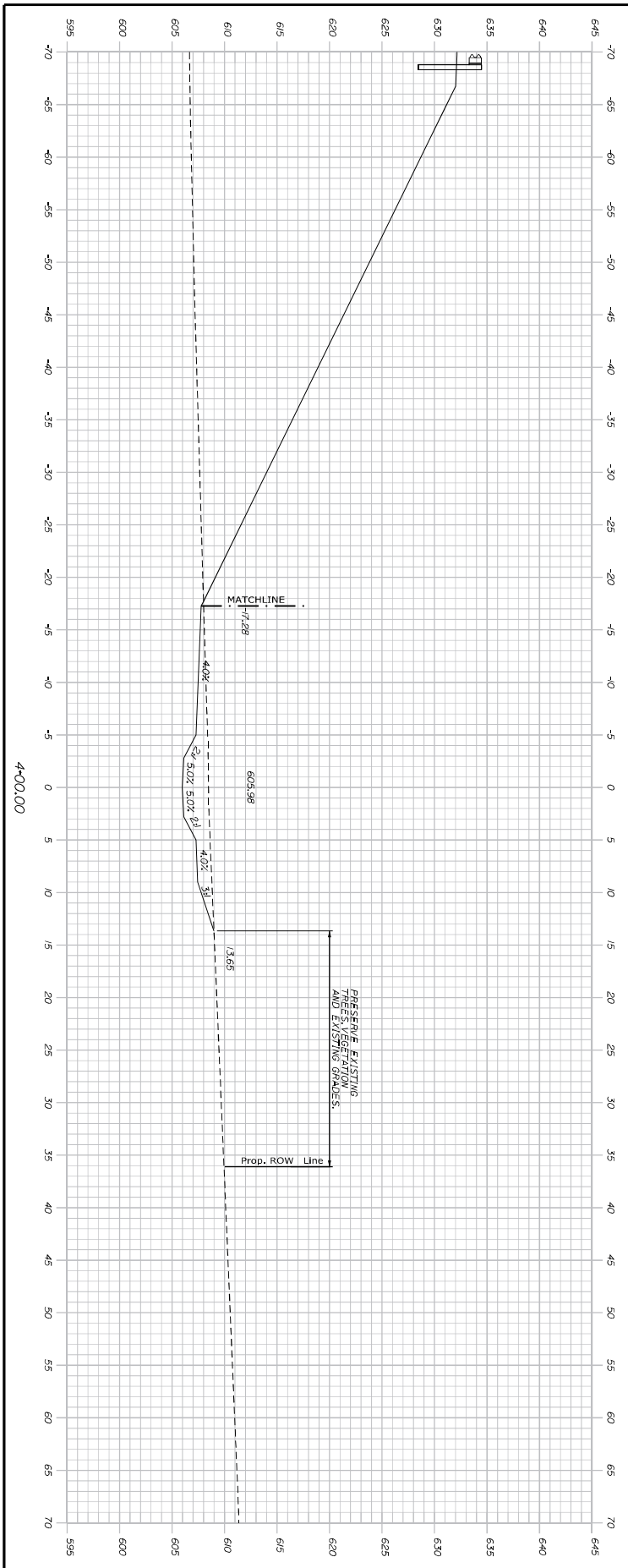


Sta. 3+75.00 to Sta. 3+75.00

SHEET NUMBER S-29 62 OF 687	PRESQUE ISLE MERRITT BROOK CROSS SECTIONS	PROJ. MANAGER R.M.	STATE OF MAINE DEPARTMENT OF TRANSPORTATION CAPITAL PROJECTS WIN 6462,92 HIGHWAY PLANS

		BY	DATE
DESIGN-DETAILED	ZBW	BD	11/3/2024
CHECKED-REVIEWED	ECF	AS	11/3/2024
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

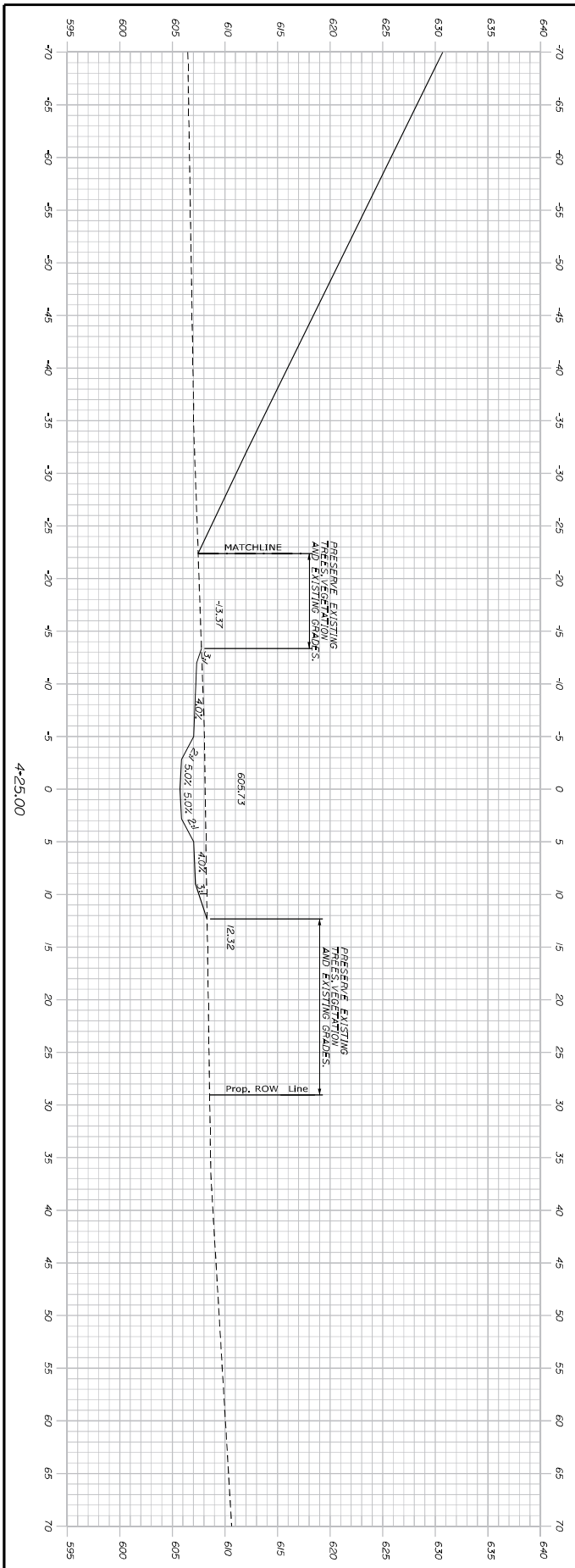
533



Sta. 4+00.00 to Sta. 4+00.00

SHEET NUMBER S-30 63 OF 687	PRESQUE ISLE MERRITT BROOK CROSS SECTIONS	PROJ. MANAGER: R.M.	STATE OF MAINE DEPARTMENT OF TRANSPORTATION CAPITAL PROJECTS WIN 6462,92 HIGHWAY PLANS

		BY	DATE
DESIGN-DETAILED	ZBW	BD	11/3/2024
CHECKED-REVIEWED	ECF	AS	11/3/2024
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			



Sta. 4+25.00 to Sta. 4+25.00

PRESQUE ISLE
MERRITT BROOK

CROSS SECTIONS

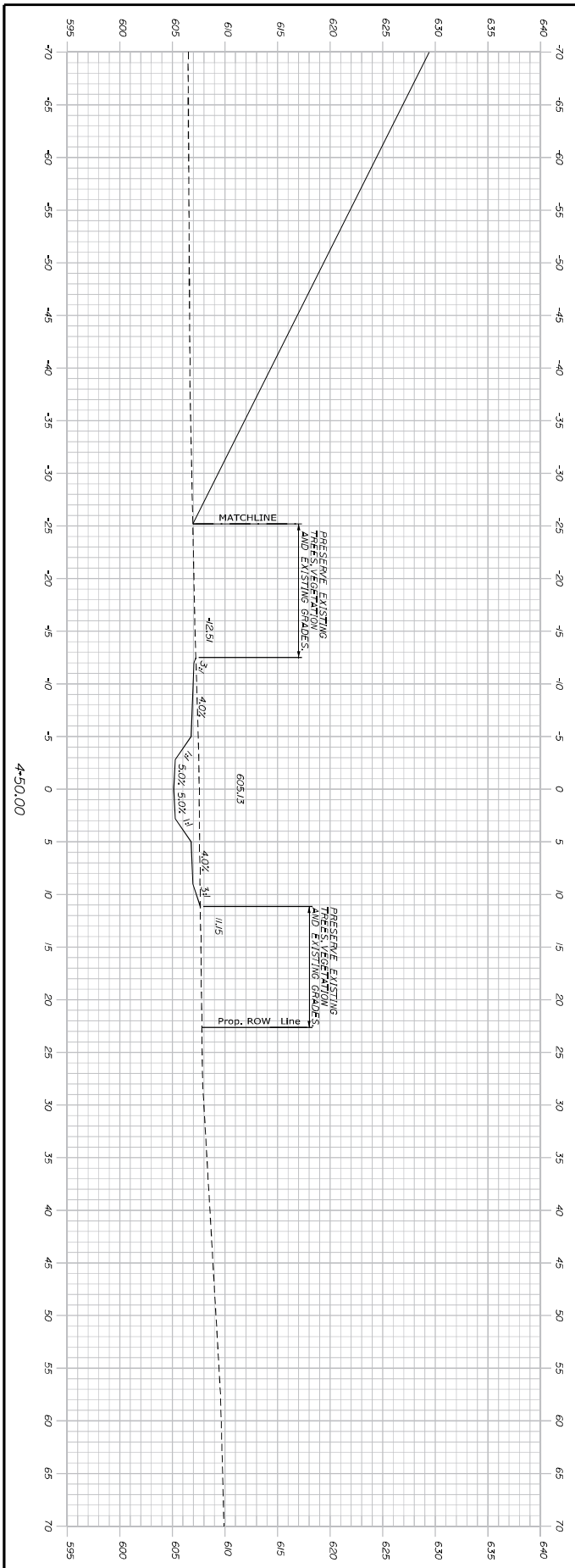
SHEET NUMBER S-31
64
OF 687

PROJ. MANAGER		R.M.	BY	DATE
DESIGN-DETAILED	ZBW		BD	11/3/2024
CHECKED-REVIEWED	ECF		AS	11/3/2024
DESIGN2-DETAILED2				
DESIGN3-DETAILED3				
REVISIONS 1				
REVISIONS 2				
REVISIONS 3				
REVISIONS 4				
FIELD CHANGES				

vhb

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
CAPITAL PROJECTS
WIN
6462,92
HIGHWAY PLANS

535



Sta. 4+50.00 to Sta. 4+50.00

SHEET NUMBER S-32 65 OF 687	PRESQUE ISLE MERRITT BROOK CROSS SECTIONS	PROJ. MANAGER: R.M.	STATE OF MAINE DEPARTMENT OF TRANSPORTATION CAPITAL PROJECTS WIN 6462,92 HIGHWAY PLANS

		BY	DATE
DESIGN-DETAILED	ZBW	BD	11/3/2024
CHECKED-REVIEWED	ECF	AG	11/3/2024
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

PROJ. MANAGER	P.M.	BY	DATE
DESIGN-DETAILED	TBW	EE	10/3/2024
CHECKED-REVIEWED	CLF	AS	10/3/2024
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

CROSS SECTIONS

PRESQUE ISLE
MERRITT BROOK

SHEET NUMBER S-33
66 OF 687

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN 6462.92 HIGHWAY PLANS

Filename: ...\S4_07_Cross_Sections.dgn Division: HIGHWAY Username: jamesdavis Date:11/3/2024

Sta. 5+00.00 to Sta. 5+00.00

CROSS SECTIONS

PRESQUE ISLE
MERRITT BROOK

SHEET NUMBER S-34

67 OF 687

PROJ. MANAGER	R.M.	BY	DATE
DESIGN-DETAILED	JBW	EE	10/3/2024
CHECKED-REVIEWED	CLF	AS	10/3/2024
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

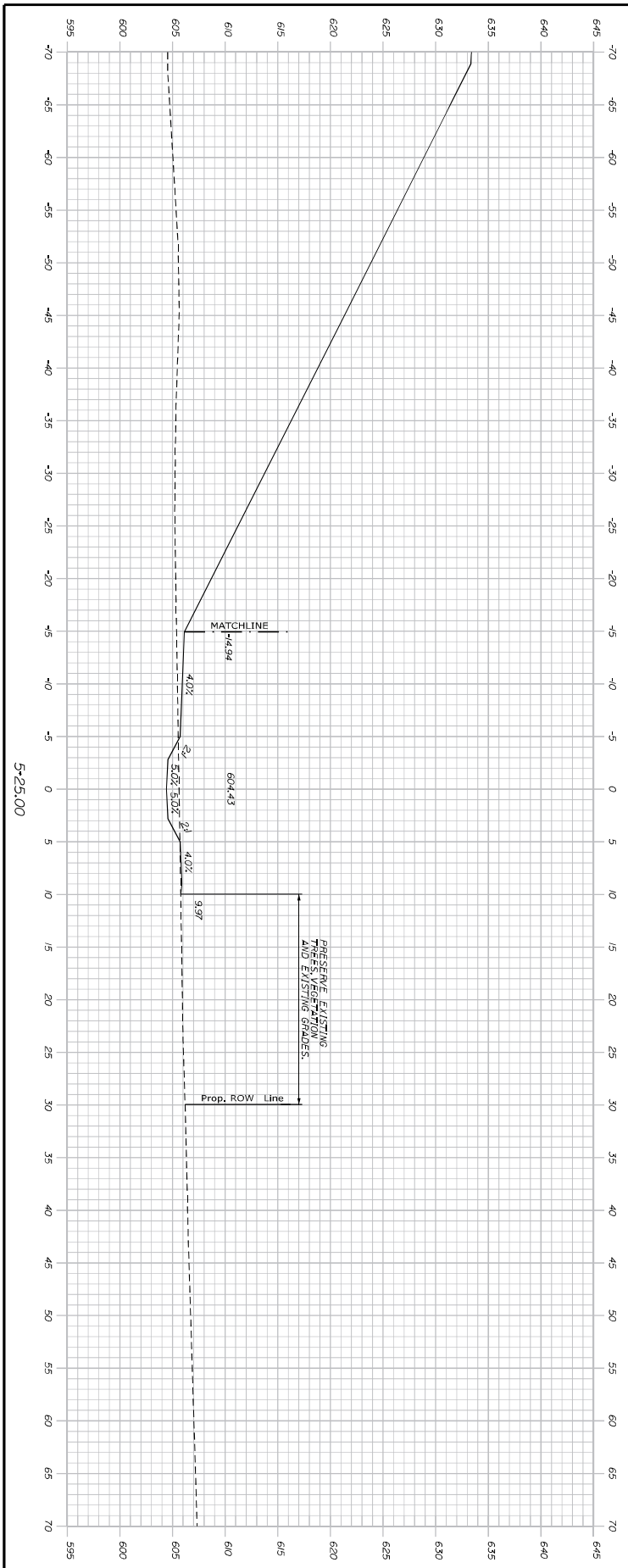
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN 6462.92 HIGHWAY PLANS

Filename: ...\S4_07_Cross_Sections.dgn Division: HIGHWAY Username: jamesdavis Date:11/3/2024

538

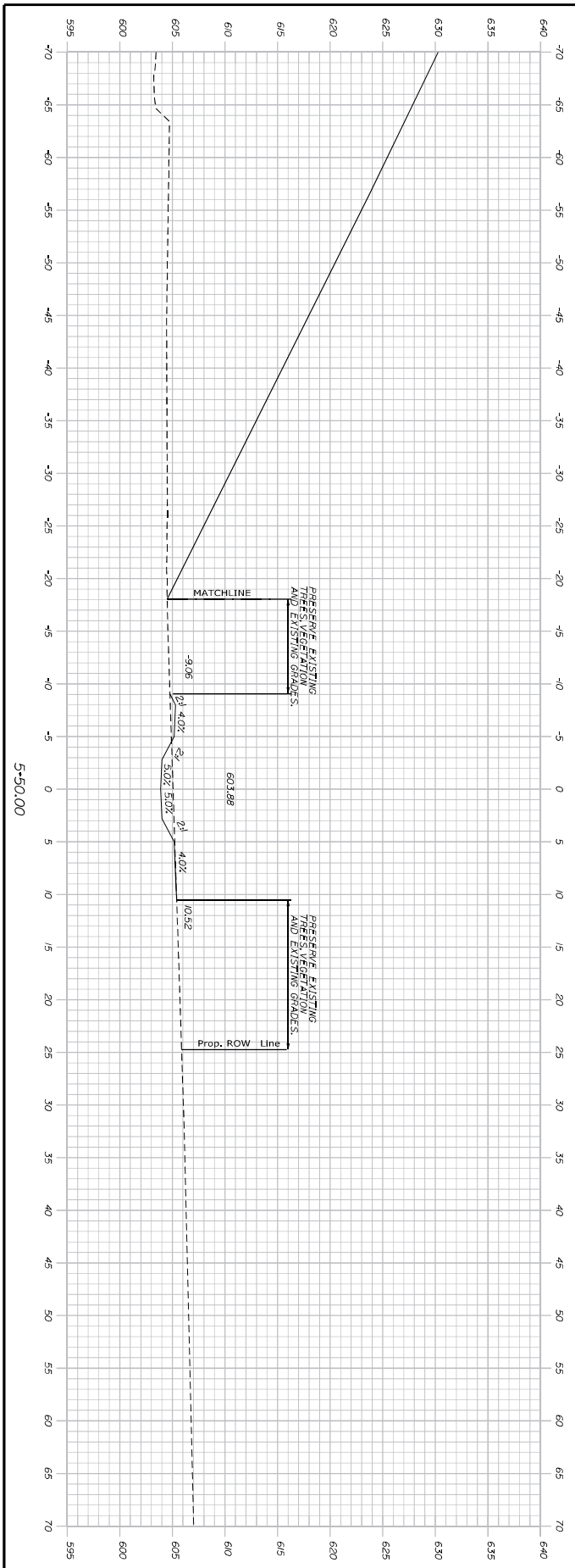


Sta. 5+25.00 to Sta. 5+25.00

SHEET NUMBER S-35 68 OF 687	PRESQUE ISLE MERRITT BROOK CROSS SECTIONS	PROJ. MANAGER: R.M.	STATE OF MAINE DEPARTMENT OF TRANSPORTATION CAPITAL PROJECTS WIN 6462,92 HIGHWAY PLANS

		BY	DATE
DESIGN-DETAILED	ZBW	BD	11/3/2024
CHECKED-REVIEWED	ECF	AS	11/3/2024
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

539



Sta. 5+50.00 to Sta. 5+50.00

SHEET NUMBER S-36	PRESQUE ISLE MERRITT BROOK	PROJ. MANAGER / R.M. / BY / DATE	STATE OF MAINE DEPARTMENT OF TRANSPORTATION
69 OF 687	CROSS SECTIONS	DESIGN-DETAILED: ZBW / BD / 11/3/2024	CAPITAL PROJECTS
		CHECKED-REVIEWED: ECF / AS / 11/3/2024	WIN 6462.92 HIGHWAY PLANS
		DESIGN2-DETAILED2	
		DESIGN3-DETAILED3	
		REVISIONS 1	
		REVISIONS 2	
		REVISIONS 3	
		REVISIONS 4	
		FIELD CHANGES	

PROJ. MANAGER	R.M.		
DESIGN-DETAILED	JBW	10/3/2024	
CHECKED-REVIEWED	CCF	10/3/2024	
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

CROSS SECTIONS

PRESQUE ISLE
MERRITT BROOK

SHEET NUMBER S-37

70 OF 687

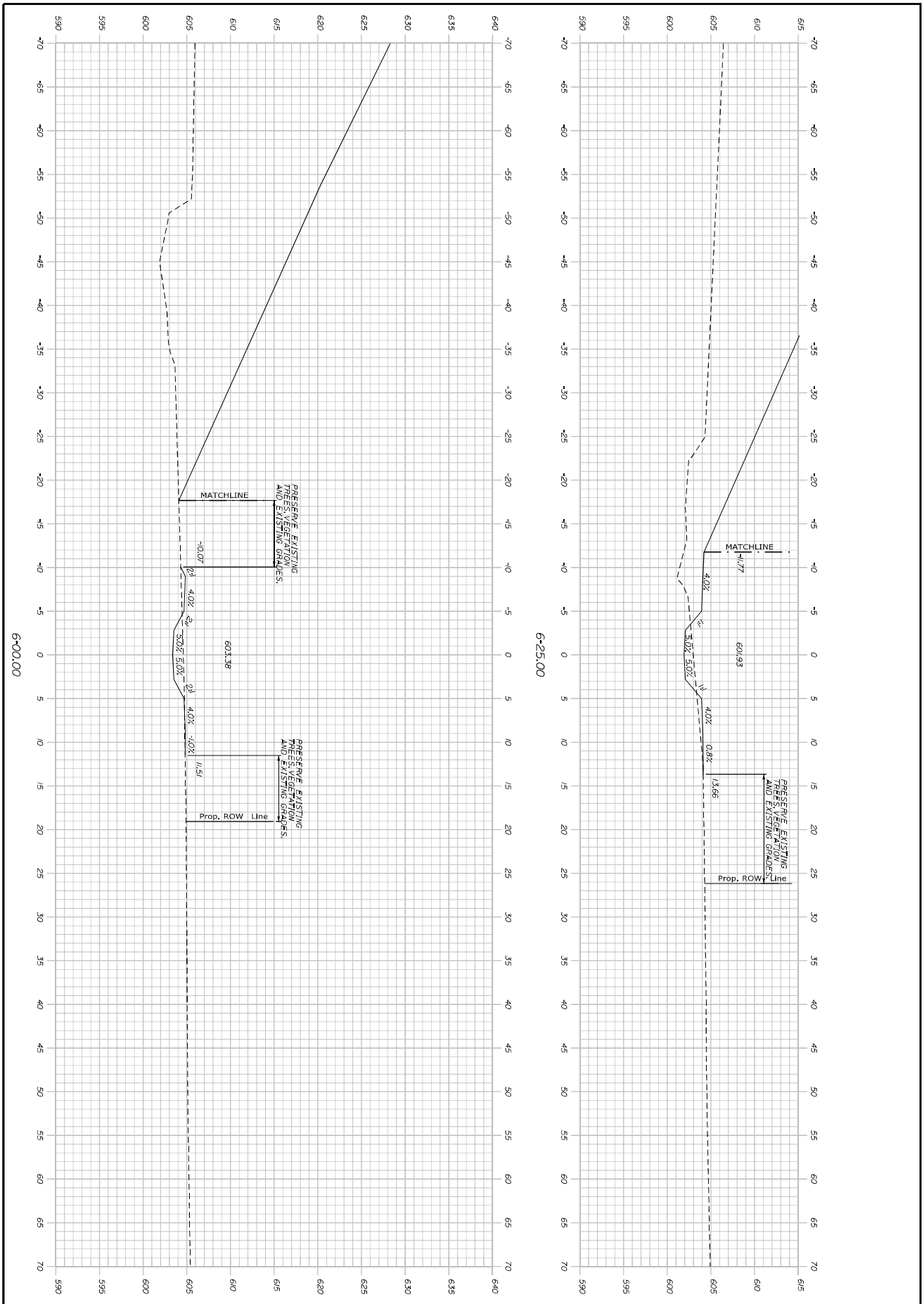
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN 6462.92 HIGHWAY PLANS

Filename: ...\S4_07_CrossSections.dgn Division: HIGHWAY Username: jamesdavis Date:11/3/2024

541



PROJ. MANAGER	R.M.	BY	DATE
DESIGN-DETAILED	ZBW	EID	11/3/2024
CHECKED-REVIEWED	ECF	AG	11/3/2024
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

PRESQUE ISLE
MERRITT BROOK

CROSS SECTIONS

SHEET NUMBER S-38
71
OF 687

vhb

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN 6462.92 HIGHWAY PLANS

Sta. 6+00.00 to Sta. 6+25.00

Sta. 6+50.00 to Sta. 6+75.00

CROSS SECTIONS

PRESQUE ISLE
MERRITT BROOK

SHEET NUMBER S-39 72 OF 667

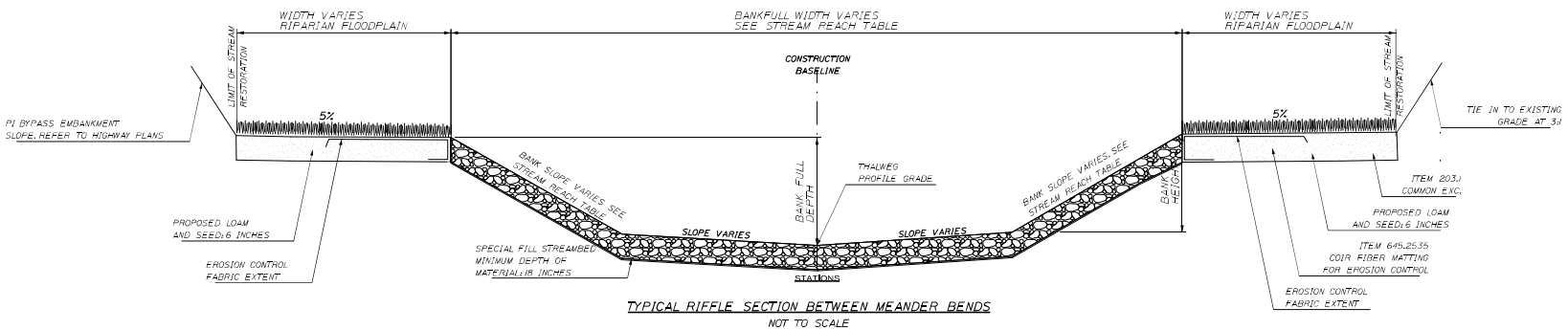
PROJ. MANAGER	R.M.	BY	DATE
DESIGN-DETAILED	TBW	EE	10/3/2024
CHECKED-REVIEWED	CLF	AS	10/3/2024
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

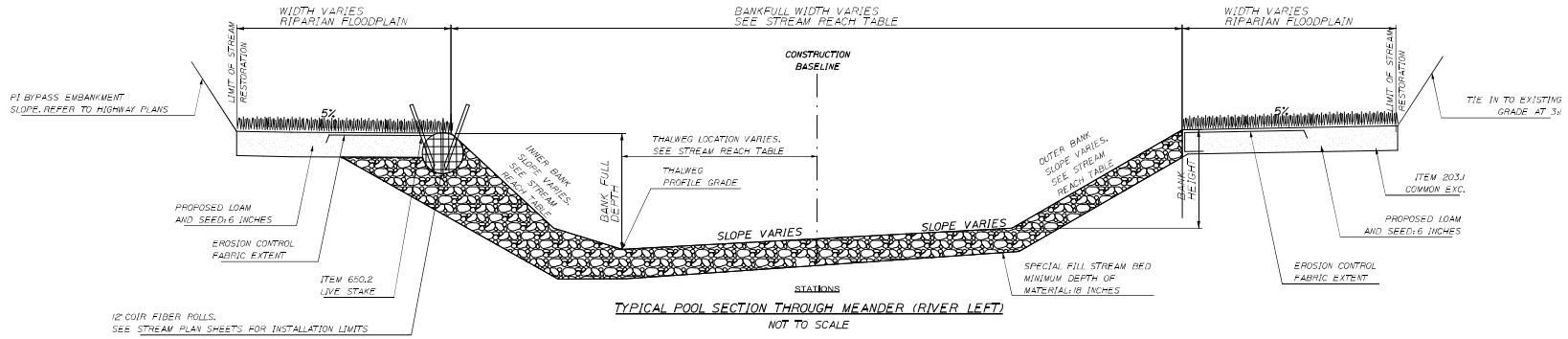
WIN 6462.92 HIGHWAY PLANS

Filename: ...\S4_07_Cross_Sections.dgn Division: HIGHWAY Username: jamesdavis Date:11/3/2024



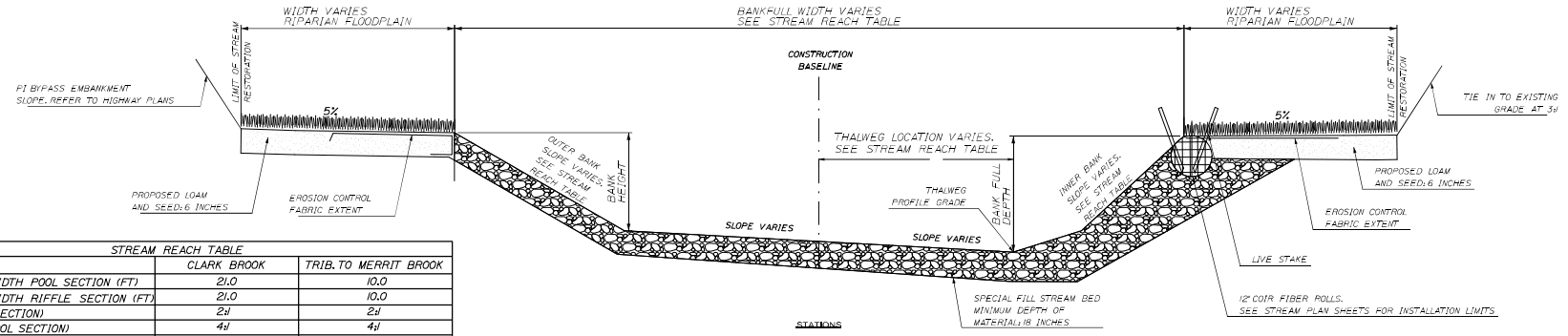
TYPICAL RIFFLE SECTION BETWEEN MEANDER BENDS

NOT TO SCALE



TYPICAL POOL SECTION THROUGH MEANDER (RIVER LEFT)

NOT TO SCALE



TYPICAL POOL SECTION THROUGH MEANDER (RIVER RIGHT)

NOT TO SCALE

STREAM REACH TABLE		
	CLARK BROOK	TRIB. TO MERRIT BROOK
PROPOSED BANKFULL WIDTH POOL SECTION (FT)	21.0	10.0
PROPOSED BANKFULL WIDTH RIFFLE SECTION (FT)	21.0	10.0
BANK SLOPE (RIFFLE SECTION)	2:1	2:1
INNER BANK SLOPE (POOL SECTION)	4:1	4:1
OUTER BANK SLOPE (POOL SECTION)	1.5:1	1.5:1
EXTENT OF EROSION CONTROL FABRIC (FT)	20.0	10.0
BANKFULL DEPTH POOL SECTION (FT)	3.2	2.3
BANKFULL DEPTH RIFFLE SECTION (FT)	2.0	1.6
THALWEG LOCATION - RIFFLE SECTION	CL	CL
THALWEG LOCATION - POOL LEFT MEANDER	5.5 FT LT	0.5 FT LT
THALWEG LOCATION - POOL RIGHT MEANDER	5.5 FT RT	0.5 FT RT

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN 6462.92

HIGHWAY PLANS

vhb

PROJ. MANAGER			
DESIGNED/DETAILED	TWW	JEL	11/3/2024
CHECKED/APPROVED	EJT	AS	11/4/2024
DESIGN DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

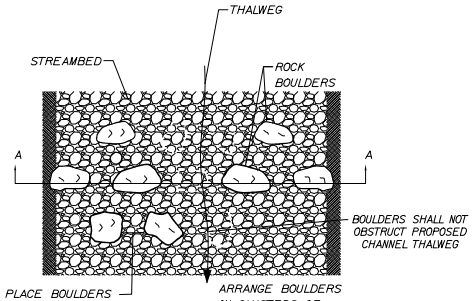
PRESQUE ISLE
STREAM RESTORATION

DETAILS (1 OF 3)

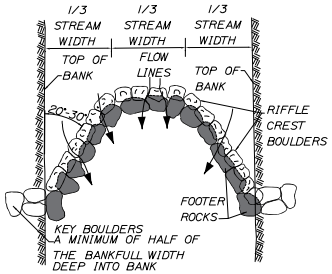
SHEET NUMBER
S-1
34
OF 687

Filename: ...\S1_01_Typicals_Details.dgn Division: HIGHWAY Username: jamesdavis Date:11/3/2024

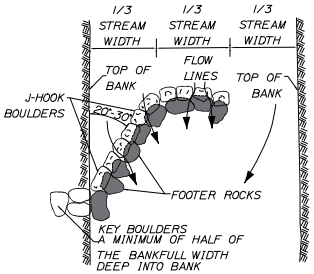
543



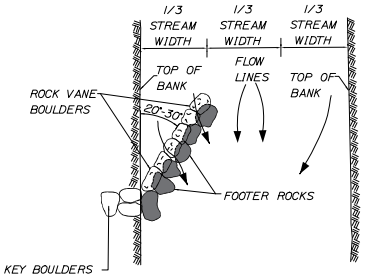
PLAN VIEW



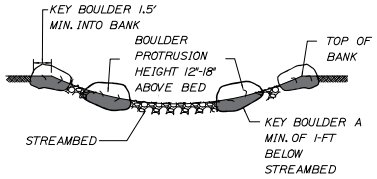
PLAN VIEW



PLAN VIEW

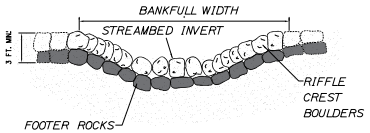


PLAN VIEW

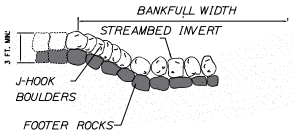


X-SECTION A-A

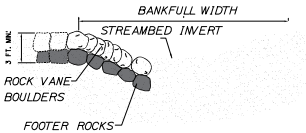
BOULDER CLUSTER
NOT TO SCALE



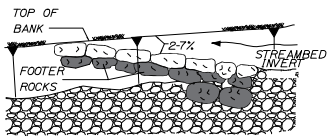
FRONT ELEVATION VIEW



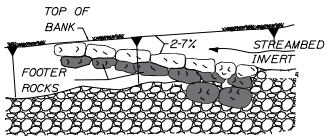
FRONT ELEVATION VIEW



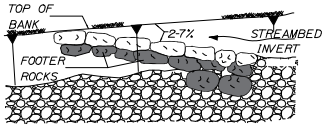
FRONT ELEVATION VIEW



PROFILE OF ARM



PROFILE OF ARM

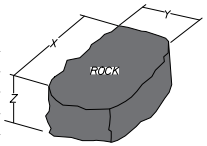


PROFILE OF ARM

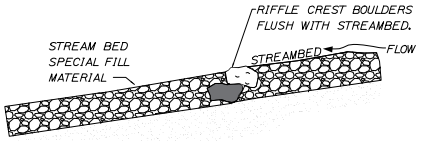
MINIMUM X-Y-Z DIMENSIONS FOR ALL STRUCTURE STONES SHALL MEET THE MINIMUM SIZE REQUIREMENTS GIVEN IN THE TABLE BELOW.

DIMENSION

X	Y	Z
18"	24"	24"
20"	20"	36"
24"	24"	24"
30"	24"	20"
36"	18"	24"

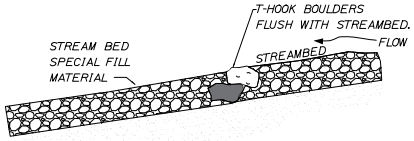


BOULDER AXIS DETAIL
NOT TO SCALE



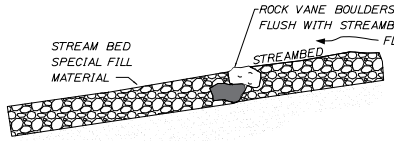
PROFILE THROUGH CENTER OF CHANNEL

RIFFLE CREST DETAIL
NOT TO SCALE



PROFILE THROUGH CENTER OF CHANNEL

J-HOOK DETAIL
NOT TO SCALE



PROFILE THROUGH CENTER OF CHANNEL

ROCK VANE DETAIL
NOT TO SCALE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN 6462.92

HIGHWAY PLANS

vhb

PROJ. MANAGER			
DESIGNED/REVISED	TKW	JEL	10/3/2024
DRAWN/CHECKED	ELF	AS	10/3/2024
DESIGN DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

PRESQUE ISLE
STREAM RESTORATION

DETAILS (2 OF 3)

SHEET NUMBER
S-2
35
OF 687

Filename: ...\SL01_Typicals_Details.dgn Division: HIGHWAY Username: jamesdavis Date: 11/3/2024

544

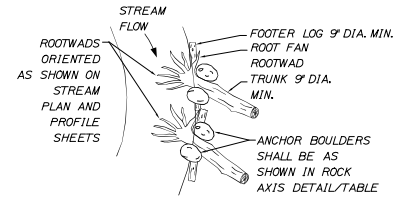
STREAM NAME	CLARK BROOK	TRIBUTARY TO CLARK BROOK	TRIBUTARY TO WILLIAMS BROOK	WILLIAMS BROOK	TRIBUTARY TO MERRITT BROOK
LOCATIONS	SHEET 42, SHEET 100	SHEET 103	SHEET 106	SHEET 109	SHEET 41, SHEET 112, SHEET 103
PERCENT PASSING					
D100	10.2	10.8	12.2	12.2	8.7
D95	7.8	6.9	4.1	4.1	1.8
D84	6.7	5.8	3.2	3.2	1.3
D50	5.5	4.6	2.6	2.6	1.1
D30	4.3	4.3	2.4	2.4	1.0
D16	3.3	3.3	1.8	1.8	0.8

NOTES:

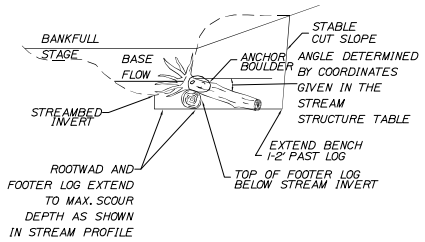
1. CONTRACTOR SHALL ADD UP TO 10% SAND TO STREAMBED MIX TO FILL VOIDS.

2. CONTRACTOR TO PLACE MINIMUM 18 INCH DEPTH OF SPECIFIED BED MATERIAL.

SPECIAL FILL STREAMBED MATERIAL GRADATION TABLE



PLAN VIEW



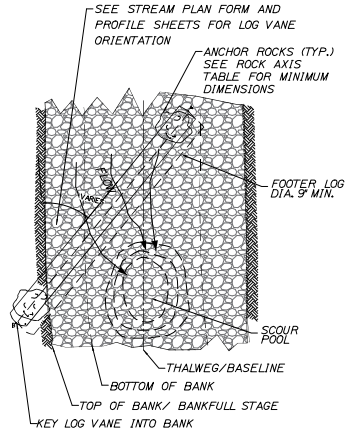
CROSS SECTION VIEW

ROOTWAD
NOT TO SCALE

NOTES:

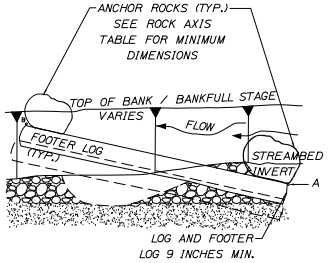
1. ROOTWAD TRUNK PLACED INTO BANK AS SHOWN ON THE STREAM PLAN SHEETS. USE TRENCH PLACEMENT METHOD TO AVOID DESTROYING THE ROOT FAN. BACKFILL TRENCH IN ACCORDANCE WITH CONSTRUCTION SPECIFICATIONS.

2. REFER TO STRUCTURE TABLES, STREAM RESTORATION SHEETS FOR ROOTWAD LOCATIONS.



PLAN VIEW

SEE STREAM STRUCTURE TABLE FOR ORIENTATION DETAILS



SIDE ELEVATION VIEW

LOG VANE
NOT TO SCALE

NOTES:

1. REFER TO STREAM STRUCTURE TABLES TO DETERMINE THE ACTUAL ORIENTATION, ELEVATION, SLOPE AND LOCATIONS OF LOG VANES.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

CAPITAL PROJECTS

WIN 6462.92

HIGHWAY PLANS

vhb

PROJ. MANAGER			
DESIGN DETAILED	TKW	JEI	10/3/2024
DESIGN CHECKED	EJF	AS	10/3/2024
DESIGN DETAILED			
DESIGN DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

PRESQUE ISLE
STREAM RESTORATION

DETAILS (3 OF 3)

SHEET NUMBER
S-3
36
OF 687

Filename: ...\SL01_Typicals_Details.dgn Division: HIGHWAY Username: jamesdavis Date:11/3/2024

545

Environmental Summary Sheet

WIN: 06462.92 **Date Submitted: 9/10/2025**
Town: Presque Isle
CPD Team Leader: Danielle Tetreau
ENV Field Contact: Ryan Annis

NEPA Complete: Record of Decision signed 4/15/2013. Re-evaluated 3/25/2024, 6/30/2025.

Section 106
Review Complete: SHPO Concurrence No Adverse Effect: Approved 6/26/2025
Section 106 Resources: Railroad, Route 1

Section 4(f) and 6(f)

Section 4(f)	Section 6(f)
Review Complete - No use	Review Complete - No takes

Section 7 – Endangered Species Act
Species of Concern: northern long-eared bat: Informal Consultation - not likely to adversely affect
Canada lynx: not likely to adversely affect
Tri-colored bat: proposed for listing, not likely to adversely affect.
**See Special Provision 105 – Environmental Requirements.*

Essential Fish Habitat
Review Complete - No Effect - no work in mapped EFH.

Maine Department of Inland Fisheries and Wildlife
Not Applicable **Clearing Window:** Yes-See SP 105
**See Special Provision 105 – Environmental Requirements.*

Maine Department of Agriculture, Conservation, and Forestry
Public Lands, Submerged Land Lease: Not Applicable
Maine Land Use Planning Commission: Not Applicable

Maine Department of Environmental Protection
Individual Permit – L26876-B-N Approved 8/1/2025
**Applicable Standards and Permits are included with the contract.*

Army Corps of Engineers: Clean Water Act.
Individual - NAE-2008-02480 Approved 9/3/2025
**Applicable Standards and Permits are included with the contract.*

Stormwater Review
Review Complete - See Special Provisions for Underdrain Soil Filter and Compost Filter Blanket

Hazardous Material Review
Review complete – See General Notes and Special Provision 203 – Hazardous Waste

☒ **Special Provisions Required**

Standard Specification 656-Erosion Control Plan	N/A☐	Applicable☒
General Note for Hazardous Waste	N/A☐	Applicable☒
Special Provision 105 – Environmental Requirements	N/A☐	Applicable☒
Special Provision 203 – Hazardous Waste	N/A☐	Applicable☒
Special Provision 203 – Dredge	N/A☐	Applicable☒
Special Provision 203 – Special Fill	N/A☐	Applicable☒
Special Provision 607 – Deer Escape Jump Out	N/A☐	Applicable☒
Special Provision 610 – Void Filled Rip Rap	N/A☐	Applicable☒
Special Provision 610 – Streambed Rock Features	N/A☐	Applicable☒
Special Provision 611 – Root Wads and Log Vanes	N/A☐	Applicable☒
Special Provision 615 – Underdrain Soil Filter	N/A☐	Applicable☒