

Updated 05/15/2020

FEDERAL PROJECT

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.

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 Rebecca Snowden at rebecca.snowden@maine.gov or Diane Barnes at diane.barnes@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:

Town:

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:

Town:

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:

Town:

Name of Contractor:

October 16, 2001

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, executors, 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:

WITNESS

PRINCIPAL:

By _____

By: _____

By: _____

SURETY:

By _____

By: _____

Name of Local Agency: _____

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.

RFI No: _____

Date _____ **Time** _____

WIN(S): _____ **Town(s):** _____ **Bid Date:** _____

Question(s):_____

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

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

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NOTICE

Disadvantaged Business Enterprise Proposed Utilization

The Apparent Low Bidder shall submit the Disadvantaged Business Enterprise Proposed Utilization form with their bid. This is a curable bid defect.

The Contractor's Disadvantaged Business Enterprise Proposed Utilization Plan form contains additional information that is required by USDOT.

The Contractor's Disadvantaged Business Enterprise Proposed Utilization Plan form should be used.

A copy of the new Contractor's Disadvantaged Business Enterprise Proposed Utilization Plan and instructions for completing it are attached.

Note: Questions about DBE firms, or to obtain a printed copy of the DBE Directory, contact The Office of Civil Rights at (207) 624-3066.

MDOTs DBE Directory of Certified firms can also be obtained at <https://www.maine.gov/mdot/civilrights/dbe/>

INSTRUCTIONS FOR PREPARING THE MaineDOT CONTRACTOR'S DBE/SUBCONTRACTOR UTILIZATION 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.

SPECIFIC INSTRUCTIONS FOR COMPLETING THE FORM:

Insert Contractor name, the name of the person(s) preparing the form, and that person(s) telephone, fax number and e-mail address.

Calculate and provide percentage of your bid that will be allocated to DBE firms, Federal Project Identification Number, and location of the Project work.

In the columns, name each subcontractor, DBE and non-DBE firm to be used, provide the Unit/Item cost of the work/product to be provided by the subcontractor, give a brief description and the dollar value of the work.

Revised 1/12

DBE GOAL NOTICE FFY 2019-2021
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.

For FFY 2019-21 (October 1, 2018 through September 30, 2021) MaineDOT has established an annual DBE participation goal of **2.4%** to be achieved through race/gender neutral means. This goal has been approved by the Federal Highway Administration and remains in effect through September 30, 2021. Maine DOT 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 placing 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 2.4% goal without the need to impose contract goals. DBE firms are listed on the MaineDOT website at:

<https://www.maine.gov/mdot/civilrights/docs/dbe/WeeklyDBEVendorList.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

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**MaineDOT CONTRACTOR'S DBE/SUBCONTRACTOR
PROPOSED UTILIZATION FORM**

All Bidders must furnish this form with their bid on Bid Opening day

Contractor: _____ Telephone: _____ Ext _____

Contact Person: _____ Fax: _____

E-mail: _____

BID DATE: _____

FEDERAL PROJECT PIN # _____ PROJECT LOCATION: _____

TOTAL ANTICIPATED DBE _____% PARTICIPATION FOR THIS CONTRACT

W B E	D B E	Non DBE	Firm Name	Item Number & Description of Work	Quantity	Cost Per Unit/Item	Anticipated \$ Value
Subcontractor Total >							
DBE Total >							

**NOTE: THIS INFORMATION IS USED TO TRACK AND REPORT ANTICIPATED DBE PARTICIPATION IN ALL
FEDERALLY FUNDED MAINE DOT CONTRACTS. THE ANTICIPATED DBE AMOUNT IS VOLUNTARY AND WILL
NOT BECOME A PART OF THE CONTRACTUAL TERMS.**

Equal Opportunity Use:

Form received: ____/____/____ Verified by: _____

FHWA ☐

FTA ☐

FAA ☐

**For a complete list of certified firms and company designation (WBE/DBE) go to
<http://www.maine.gov/mdot/civilrights/>**

Rev. 01/15

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.

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 Rehabilitation** in the Town of **Woodstock**" 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 **September 23, 2020** 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 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. 1728001, WIN.018767.01

Location: In Oxford County, project is located on Rte.26 beginning 0.06 mi. east of Rumford Ave. and extends westerly 2.57 miles.

Outline of Work: Highway Rehabilitation and other incidental work.

The basis of award will be Section 1 combined with chosen Alternate 1 (Section 2), or Section 1 combined with chosen Alternate 2 (Section 3).

The basis of award will be a combination of Section 1 and the contractor chosen Alternate (Section 2 or 3.)

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 **Project Manager** Rhobe Moulton 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.

Plans, specifications and bid forms may be seen at the MaineDOT Building in Augusta, Maine and at the Department of Transportation's Regional Office in Wilton. They may be purchased from the Department between the hours of 8:00 a.m. to 4:30 p.m. by cash, credit card (Visa/Mastercard) or check payable to Treasurer, State of Maine sent to Maine Department of Transportation, Attn.: Mailroom, 16 State House Station, Augusta, Maine 04333-0016. They also may be purchased by telephone at (207) 624-3536 between the hours of 8:00 a.m. to 4:30 p.m. Full size plans \$242.00 (\$254.00 by mail). Half size plans \$121.00 (\$126.00 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 **\$200,000.00** 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.

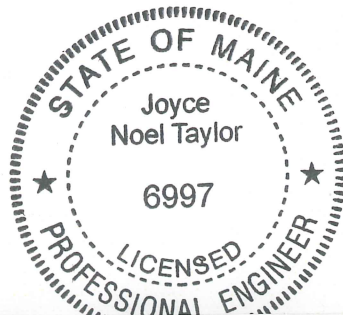
This Contract is subject to all applicable Federal Laws. This contract is subject to compliance with the Disadvantaged Business Enterprise program requirements as set forth by the Maine Department of Transportation.

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 8:00 a.m. to 4:30 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

Date **September 2, 2020**



Joyce Noel Taylor

JOYCE NOEL TAYLOR 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.

NOTICE

(COVID-19 Pandemic)

The Department considers the COVID-19 Pandemic an Uncontrollable Event as defined in Section 101.2 of the Department's Standard Specifications.

Accordingly, any documented delay to the project's Critical Path due to COVID-19 related issues, such as impacted workforce, subcontracts, or material supply, will be considered an Excusable Delay as defined in Section 109.5(A)(3) of the Department's Supplemental Specifications.

As an Excusable Delay, the Contractor is entitled to an extension of time provided that other associated notification, documentation, and procedural requirements set forth in the Contract are met.

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)

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Maine Department of Transportation

Proposal Schedule of Items

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Proposal ID: 018767.01

Project(s): 018767.01

SECTION: 1

Project Items

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
0010	201.11 CLEARING	4.000 AC	_____	 _____	_____	 _____
0020	201.23 REMOVING SINGLE TREE TOP ONLY	17.000 EA	_____	 _____	_____	 _____
0030	201.24 REMOVING STUMP	23.000 EA	_____	 _____	_____	 _____
0040	202.15 REMOVING EXISTING MANHOLE OR CATCH BASIN	29.000 EA	_____	 _____	_____	 _____
0050	203.21 ROCK EXCAVATION	300.000 CY	_____	 _____	_____	 _____
0060	203.25 GRANULAR BORROW	205.000 CY	_____	 _____	_____	 _____
0070	203.33 SPECIAL FILL	140.000 CY	_____	 _____	_____	 _____
0080	206.07 STRUCTURAL ROCK EXCAVATION - DRAINAGE AND MINOR STRUCTURES	100.000 CY	_____	 _____	_____	 _____
0090	304.10 AGGREGATE SUBBASE COURSE - GRAVEL	24,200.000 CY	_____	 _____	_____	 _____
0100	403.2081 12.5 MM POLYMER MODIFIED HOT MIX ASPHALT	4,700.000 T	_____	 _____	_____	 _____
0110	403.209 HOT MIX ASPHALT 9.5 MM (SIDEWALKS, DRIVES, INCIDENTALS)	600.000 T	_____	 _____	_____	 _____
0120	403.213 HOT MIX ASPHALT 12.5 MM BASE	9,200.000 T	_____	 _____	_____	 _____

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Proposal ID: 018767.01

Project(s): 018767.01

SECTION: 1

Project Items

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
0130	409.15 BITUMINOUS TACK COAT - APPLIED	3,325.000 G				
0140	508.13 SHEET WATERPROOFING MEMBRANE	LUMP SUM	LUMP	SUM		
0150	511.07 COFFERDAM: STA. 123+80.09, RT. DOWNSTREAM	LUMP SUM	LUMP	SUM		
0160	511.07 COFFERDAM: STA. 123+99.47, LT. UPSTREAM	LUMP SUM	LUMP	SUM		
0170	511.07 COFFERDAM: STA. 13+26.15, RT. UPSTREAM	LUMP SUM	LUMP	SUM		
0180	511.07 COFFERDAM: STA. 13+71.38, LT. DOWNSTREAM	LUMP SUM	LUMP	SUM		
0190	511.07 COFFERDAM: STA. 24+51.49, RT. UPSTREAM	LUMP SUM	LUMP	SUM		
0200	511.07 COFFERDAM: STA. 25+33.90, LT. DOWNSTREAM	LUMP SUM	LUMP	SUM		
0210	511.07 COFFERDAM: STA. 98+55.73, LT. DOWNSTREAM	LUMP SUM	LUMP	SUM		
0220	511.07 COFFERDAM: STA. 99+18.53, RT. UPSTREAM	LUMP SUM	LUMP	SUM		
0230	531.59 HEADWALL/ WINGWALL DETAIL- BUILD	1.000 LS				

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Proposal Schedule of Items

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Proposal ID: 018767.01

Project(s): 018767.01

SECTION: 1

Project Items

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
0240	534.71 PRECAST CONCRETE BOX CULVERT	LUMP SUM				
				LUMP SUM		
0250	603.159 12 INCH CULVERT PIPE OPTION III	59.000 LF				
0260	603.16 15 INCH CULVERT PIPE OPTION I	297.000 LF				
0270	603.165 15 INCH REINFORCED CONCRETE PIPE CLASS III	24.000 LF				
0280	603.17 18 INCH CULVERT PIPE OPTION I	130.000 LF				
0290	603.175 18 INCH REINFORCED CONCRETE PIPE CLASS III	445.000 LF				
0300	603.179 18 INCH CULVERT PIPE OPTION III	330.000 LF				
0310	603.195 24 INCH REINFORCED CONCRETE PIPE CLASS III	848.000 LF				
0320	603.205 30 INCH REINFORCED CONCRETE PIPE CLASS III	204.000 LF				
0330	603.215 36 INCH REINFORCED CONCRETE PIPE CLASS III	160.000 LF				
0340	603.235 48 INCH REINFORCED CONCRETE PIPE CLASS III	84.000 LF				

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Proposal ID: 018767.01

Project(s): 018767.01

SECTION: 1

Project Items

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
0350	603.275 72 INCH REINFORCED CONCRETE PIPE CLASS III	88.000 LF	_____	 _____	_____	 _____
0360	603.451 48 INCH REINFORCED CONCRETE PIPE CLASS V	152.000 LF	_____	 _____	_____	 _____
0370	603.55 CONCRETE PIPE TIES	42.000 GP	_____	 _____	_____	 _____
0380	604.072 CATCH BASIN TYPE A1-C	1.000 EA	_____	 _____	_____	 _____
0390	604.092 CATCH BASIN TYPE B1-C	27.125 EA	_____	 _____	_____	 _____
0400	604.248 CATCH BASIN TYPE F6	2.000 EA	_____	 _____	_____	 _____
0410	605.09 6 INCH UNDERDRAIN TYPE B	8,892.000 LF	_____	 _____	_____	 _____
0420	605.11 12 INCH UNDERDRAIN TYPE C	1,681.000 LF	_____	 _____	_____	 _____
0430	605.12 15 INCH UNDERDRAIN TYPE C	325.000 LF	_____	 _____	_____	 _____
0440	605.13 18 INCH UNDERDRAIN TYPE C	88.000 LF	_____	 _____	_____	 _____
0450	605.36 DRAINAGE STONE	20.000 CY	_____	 _____	_____	 _____
0460	606.1301 31" W-BM GR, MID-WAY SPLICE-SGL FACED	3,362.500 LF	_____	 _____	_____	 _____

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Proposal Schedule of Items

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Proposal ID: 018767.01

Project(s): 018767.01

SECTION: 1

Project Items

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
0470	606.1303 31" W-BM GR, MID-WAY SPLICE-15' RAD AND LESS	175.000 LF	_____	_____	_____	_____
0480	606.1304 31" W-BM GR, MID-WAY SPLICE-OVER 15' RAD	25.000 LF	_____	_____	_____	_____
0490	606.1305 31" W-BM GR, MID-WAY SPLICE FLARED TERMINAL	3.000 EA	_____	_____	_____	_____
0500	606.265 TERMINAL END - SINGLE RAIL - GALVANIZED STEEL	8.000 EA	_____	_____	_____	_____
0510	606.353 REFLECTORIZED FLEXIBLE GUARDRAIL MARKER	16.000 EA	_____	_____	_____	_____
0520	606.356 UNDERDRAIN DELINEATOR POST	15.000 EA	_____	_____	_____	_____
0530	606.47 SINGLE WOOD POST	13.000 EA	_____	_____	_____	_____
0540	606.80 BURIED-IN-SLOPE GUARDRAIL END	1.000 EA	_____	_____	_____	_____
0550	607.08 WOVEN WIRE FENCE - WOOD POSTS	775.000 LF	_____	_____	_____	_____
0560	607.16 CHAIN LINK FENCE - 4 FOOT	309.000 LF	_____	_____	_____	_____
0570	607.23 CHAIN LINK FENCE GATE	1.000 EA	_____	_____	_____	_____
0580	608.26 CURB RAMP DETECTABLE WARNING FIELD	132.000 SF	_____	_____	_____	_____

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Proposal ID: 018767.01

Project(s): 018767.01

SECTION: 1

Project Items

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
0590	609.11 VERTICAL CURB TYPE 1	401.250 LF				
0600	609.12 VERTICAL CURB TYPE 1 - CIRCULAR	9.500 LF				
0610	609.21 CONCRETE SLIPFORM CURB	5,750.000 LF				
0620	609.219 CONCRETE SLIPFORM CURB - TERMINAL END	617.000 LF				
0630	609.221 TERMINAL CURB TYPE 1	82.000 LF				
0640	609.222 TERMINAL CURB TYPE 1 - CIRCULAR	16.000 LF				
0650	610.08 PLAIN RIPRAP	1,250.000 CY				
0660	610.210 STREAM CHANNEL ROCK	65.000 CY				
0670	610.212 STREAMBED ROCK FEATURES	15.000 CY				
0680	613.319 EROSION CONTROL BLANKET	4,160.000 SY				
0690	615.07 LOAM	470.000 CY				
0700	615.10 DIRTY BORROW	2,150.000 CY				
0710	618.13 SEEDING METHOD NUMBER 1	40.000 UN				

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Proposal ID: 018767.01

Project(s): 018767.01

SECTION: 1

Project Items

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
0720	618.14 SEEDING METHOD NUMBER 2	350.000 UN				
0730	619.12 MULCH	390.000 UN				
0740	620.54 STABILIZATION/REINFORCEMENT GEOTEXTILE	5,000.000 SY				
0750	620.58 EROSION CONTROL GEOTEXTILE	2,510.000 SY				
0760	621.025 EVERGREEN TREES (3 FOOT - 4 FOOT) GROUP A	6.000 EA				
0770	621.031 EVERGREEN TREES (4 FOOT - 5 FOOT) GROUP A	6.000 EA				
0780	621.127 SMALL DECIDUOUS TREES (6 FOOT - 8 FOOT) GROUP B	8.000 EA				
0790	621.255 LARGE DECIDUOUS TREES (8 FOOT - 10 FOOT) GROUP A	5.000 EA				
0800	621.552 DECIDUOUS SHRUBS (3 FOOT - 4 FOOT) GROUP A	35.000 EA				
0810	626.31 18 INCH FOUNDATION	4.000 EA				
0820	627.733 4" WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE	39,700.000 LF				

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Proposal ID: 018767.01

Project(s): 018767.01

SECTION: 1

Project Items

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
0830	627.75 WHITE OR YELLOW PAVEMENT & CURB MARKING	71.000 SF	_____	 _____	_____	 _____
0840	627.78 TEMPORARY 4 INCH PAINTED PAVEMENT MARKING LINE, WHITE OR YELLOW	159,000.000 LF	_____	 _____	_____	 _____
0850	629.05 HAND LABOR, STRAIGHT TIME	50.000 HR	_____	 _____	_____	 _____
0860	631.12 ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR)	50.000 HR	_____	 _____	_____	 _____
0870	631.13 BULLDOZER (INCLUDING OPERATOR)	20.000 HR	_____	 _____	_____	 _____
0880	631.172 TRUCK - LARGE (INCLUDING OPERATOR)	40.000 HR	_____	 _____	_____	 _____
0890	631.20 STUMP CHIPPER (INCLUDING OPERATOR)	50.000 HR	_____	 _____	_____	 _____
0900	631.32 CULVERT CLEANER (INCLUDING OPERATOR)	10.000 HR	_____	 _____	_____	 _____
0910	636.400 SOIL NAIL WALL DESIGN	LUMP SUM	LUMP SUM		_____	 _____
0920	636.411 SOIL NAIL WALL	3,400.000 SF	_____	 _____	_____	 _____
0930	639.18 FIELD OFFICE TYPE A	1.000 EA	_____	 _____	_____	 _____

Maine Department of Transportation

Proposal Schedule of Items

Page 9 of 12

Proposal ID: 018767.01

Project(s): 018767.01

SECTION: 1

Project Items

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
0940	643.60 FLASHING BEACON AT: Rte. 26 / Railroad St.	LUMP SUM				
0950	643.72 TEMPORARY TRAFFIC SIGNAL	LUMP SUM				
0960	643.77 RADAR OPERATED SPEED SIGN	2.000 EA				
0970	645.106 DEMOUNT REGULATORY, WARNING, CONFIRMATION AND ROUTE MARKER ASSEMBLY SIGN	50.000 EA				
0980	645.116 REINSTALL REGULATORY, WARNING, CONFIRMATION AND ROUTE MARKER ASSEMBLY SIGN	50.000 EA				
0990	645.292 REGULATORY, WARNING, CONFIRMATION AND ROUTE MARKER ASSEMBLY SIGNS TYPE II	95.000 SF				
1000	645.5131 ACTIVATED SOLAR POWERED FLASHING SIGN 645.5131 ACTIVATED SOLAR POWERED FLASHING SIGN- EA	2.000 EA				
1010	652.33 DRUM	150.000 EA				
1020	652.34 CONE	250.000 EA				
1030	652.35 CONSTRUCTION SIGNS	400.000 SF				

8/31/2020

Maine Department of Transportation

Proposal Schedule of Items

Page 10 of 12

Proposal ID: 018767.01

Project(s): 018767.01

SECTION: 1

Project Items

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
1040	652.36 MAINTENANCE OF TRAFFIC CONTROL DEVICES	850.000 CD	_____	 _____	_____	 _____
1050	652.38 FLAGGER	27,750.000 HR	_____	 _____	_____	 _____
1060	652.61 STAGED CONSTRUCTION AND TRAFFIC CONTROL	LUMP SUM	LUMP SUM		_____	 _____
1070	653.22 2 INCH POLYSTYRENE PLASTIC INSULATION	166.000 SY	_____	 _____	_____	 _____
1080	656.75 TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL	LUMP SUM	LUMP SUM		_____	 _____
1090	659.10 MOBILIZATION	LUMP SUM	LUMP SUM		_____	 _____
1100	660.21 ON-THE-JOB TRAINING (BID)	1,000.000 HR	_____	 _____	_____	 _____
1110	801.03 TEST PITS	1.000 EA	_____	 _____	_____	 _____
1120	801.16 6 INCH PVC SANITARY SEWER (SDR- 35)	60.000 LF	_____	 _____	_____	 _____
1130	841.48 BOLLARDS	4.000 EA	_____	 _____	_____	 _____
Section: 1			Total:		_____	 _____

8/31/2020

Maine Department of Transportation

Proposal Schedule of Items

Page 11 of 12

Proposal ID: 018767.01

Project(s): 018767.01

SECTION: 2

Alternate 1

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
1140	203.20 COMMON EXCAVATION	32,250.000 CY	_____	 _____	_____	 _____
1150	307.332 FULL DEPTH RECYCLED PAVEMENT(W EMULSIFIED ASPHALT STABILIZER) 5 IN. DEPTH	36,300.000 SY	_____	 _____	_____	 _____
1160	502.345 STRUCTURAL CONCRETE - COLORED PAVEMENT	5.000 CY	_____	 _____	_____	 _____
Section: 2			Total:		_____	 _____

SECTION: 3

Alternate 2

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
1170	203.20 COMMON EXCAVATION	36,050.000 CY	_____	 _____	_____	 _____
1180	304.14 AGGREGATE BASE COURSE - TYPE A	760.000 CY	_____	 _____	_____	 _____
1190	403.2072 19 MM ASPHALT RICH BASE MIXTURE	6,420.000 T	_____	 _____	_____	 _____
1200	502.345 STRUCTURAL CONCRETE - COLORED PAVEMENT	4.000 CY	_____	 _____	_____	 _____
Section: 3			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. **018767.01**, for **Highway Rehabilitation** in the town of **Woodstock, County of Oxford, 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 **August 14, 2022.** 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

Section 1 \$ _____

Section 2 \$ _____

Section 3 \$ _____

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 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.

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. 018767.01 - Highway Rehabilitation – in the town of Woodstock,** 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 for (see checked boxes):

Section 1 ☐

Section 2 ☐

Section 3 ☐

Contract Amount: _____

This award consummates the Contract, and the documents referenced herein.

MAINE DEPARTMENT OF TRANSPORTATION

Date

By: Bruce A. Van Note, 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. **018767.01**, for **Highway Rehabilitation** in the town of **Woodstock, County of Oxford, 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 **August 14, 2022.** 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

Section 1 \$ _____

Section 2 \$ _____

Section 3 \$ _____

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 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.

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. 018767.01 - Highway Rehabilitation – in the town of Woodstock,** 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 for (see checked boxes):

Section 1 ☐

Section 2 ☐

Section 3 ☐

Contract Amount: _____

This award consummates the Contract, and the documents referenced herein.

MAINE DEPARTMENT OF TRANSPORTATION

Date

By: Bruce A. Van Note, 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:

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.

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.

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.

Date

(Witness Sign Here)
Witness

CONTRACTOR

(Sign Here)
(Signature of Legally Authorized Representative
of the Contractor)

(Print Name Here)
(Name and Title Printed)

G. Award.

Your offer is hereby accepted.
documents referenced herein.

This award consummates the Contract, and the

MAINE DEPARTMENT OF TRANSPORTATION

Date

By: Bruce A. Van Note, 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:

Signature.....
Print Name Legibly

Signature
Print Name Legibly

SURETY ADDRESS:

.....
.....
.....

TELEPHONE.....

SIGNATURES:

CONTRACTOR:

.....
Print Name Legibly

SURETY:

.....
Print Name Legibly

NAME OF LOCAL AGENCY:

ADDRESS
.....
.....

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

.....

"General Decision Number: ME20200040 05/08/2020

Superseded General Decision Number: ME20190040

State: Maine

Construction Type: Highway

County: Oxford County in Maine.

HIGHWAY CONSTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.80 for calendar year 2020 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, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.80 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 calendar year 2020. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/03/2020
1	04/17/2020
2	05/08/2020

* ENGI0004-022 04/01/2018

	Rates	Fringes
POWER EQUIPMENT OPERATOR:		
Grader/Blade, Milling Machine.....	\$ 22.61	12.50

SUNE2014-035 06/23/2017		

	Rates	Fringes
CARPENTER, Includes Form Work....	\$ 18.34	2.84
HIGHWAY/PARKING LOT STRIPING:		
Laborer.....	\$ 14.80	1.27
IRONWORKER, REINFORCING.....	\$ 16.27	0.00
LABORER: Asphalt, Includes Raker, Shoveler, Spreader and		

Distributor.....	\$ 15.40	2.69
LABORER: Common or General.....	\$ 15.83	1.99
LABORER: Landscape.....	\$ 18.69	2.70
LABORER: Wheelman.....	\$ 15.64	4.29
OPERATOR: Backhoe/Excavator/Trackhoe.....	\$ 18.80	4.16
OPERATOR: Bobcat/Skid Steer/Skid Loader.....	\$ 20.38	1.66
OPERATOR: Broom/Sweeper.....	\$ 19.09	5.20
OPERATOR: Bulldozer.....	\$ 17.30	3.50
OPERATOR: Loader.....	\$ 18.59	5.53
OPERATOR: Mechanic.....	\$ 22.07	8.73
OPERATOR: Paver (Asphalt, Aggregate, and Concrete).....	\$ 21.46	8.78
OPERATOR: Screed.....	\$ 19.02	4.82
OPERATOR: Roller (Earth).....	\$ 16.43	3.40
OPERATOR: Roller Asphalt.....	\$ 24.16	3.55
TRAFFIC CONTROL: Flagger.....	\$ 9.38	0.00
TRAFFIC CONTROL: Laborer-Cones/ Barricades/Barrels - Setter/Mover/Sweeper.....	\$ 17.47	4.80
TRUCK DRIVER: Dump Truck.....	\$ 15.83	1.16
TRUCK DRIVER: TackTruck.....	\$ 20.18	7.75

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

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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 www.dol.gov/whd/govcontracts.

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) (ii)).

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

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which 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. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of 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. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010

08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

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

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write 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 the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write 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 by 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

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION"

State of Maine
Department of Labor
Bureau of Labor Standards
Augusta, Maine 04333-0045
Telephone (207) 623-7906

Wage Determination - In accordance with 26 MRS §1301 et. seq., this is a determination by the Bureau of Labor Standards, of the fair minimum wage rate to be paid to laborers and workers employed on the below titled project.

**2020 Fair Minimum Wage Rates
Highway & Earth Oxford County**

<u>Occupation Title</u>	<u>Minimum Wage</u>	<u>Minimum Benefit</u>	<u>Total</u>	<u>Occupation Title</u>	<u>Minimum Wage</u>	<u>Minimum Benefit</u>	<u>Total</u>
Asphalt Raker	\$16.00	\$0.00	\$16.00	Laborers (Helpers & Tenders)	\$16.00	\$0.71	\$16.71
Backhoe Loader Operator	\$23.00	\$3.93	\$26.93	Laborer - Skilled	\$18.75	\$1.17	\$19.92
Boom Truck (Truck Crane) Operator	\$25.00	\$4.94	\$29.94	Loader Operator - Front-End	\$20.00	\$3.00	\$23.00
Bulldozer Operator	\$27.25	\$6.18	\$33.43	Mechanic- Maintenance	\$23.00	\$3.09	\$26.09
Carpenter	\$22.46	\$2.19	\$24.65	Millwright	\$29.82	\$7.73	\$37.55
Cement Mason/Finisher	\$16.00	\$4.04	\$20.04	Painter	\$18.00	\$0.45	\$18.45
Crane Operator =>15 Tons)	\$30.00	\$7.76	\$37.76	Paver Operator	\$23.38	\$0.00	\$23.38
Crusher Plant Operator	\$20.50	\$5.33	\$25.83	Pipelayer	\$25.00	\$1.40	\$26.40
Driller - Rock	\$12.00	\$8.82	\$20.82	Plumber (Licensed)	\$26.00	\$4.50	\$30.50
Electrician - Licensed	\$28.00	\$6.27	\$34.27	Reclaimer Operator	\$22.91	\$13.25	\$36.16
Electrician Helper/Cable Puller	\$18.00	\$1.84	\$19.84	Roller Operator - Earth	\$16.00	\$0.24	\$16.24
Elevator Constructor/Installer	\$20.00	\$1.78	\$21.78	Roller Operator - Pavement	\$18.00	\$0.00	\$18.00
Excavator Operator	\$23.39	\$3.29	\$26.68	Screed/Wheelman	\$18.43	\$1.24	\$19.67
Fence Setter	\$18.00	\$1.30	\$19.30	Stone Mason	\$20.00	\$0.42	\$20.42
Flagger	\$14.50	\$0.00	\$14.50	Truck Driver - Light	\$16.00	\$0.44	\$16.44
Grader/Scraper Operator	\$20.00	\$0.65	\$20.65	Truck Driver - Medium	\$19.00	\$1.95	\$20.95
Highway Worker/Guardrail Installer	\$18.25	\$1.66	\$19.91	Truck Driver - Heavy	\$18.00	\$1.38	\$19.38
Hot Top Plant Operator	\$22.91	\$13.25	\$36.16	Truck Driver - Tractor Trailer	\$19.00	\$2.55	\$21.55
Ironworker - Reinforcing	\$29.23	\$7.18	\$36.41	Truck Driver - Mixer (Cement)	\$17.25	\$2.26	\$19.51
Ironworker - Structural	\$26.01	\$22.27	\$48.28				

The Laborer classifications include a wide range of work duties. Therefore, if any specific occupation to be employed on this project is not listed in this determination, call the Bureau of Labor Standards at the above number for further clarification.

Welders are classified in the trade to which the welding is incidental.

Apprentices – The minimum wage rate for registered apprentices are those set forth in the standards and policies of the Maine State Apprenticeship and Training Council for approved apprenticeship programs.

Title 26 §1310 requires that a clearly legible statement of all fair minimum wage and benefits rates to be paid the several classes of laborers, workers and mechanics employed on the construction on the public work must be kept posted in a prominent and easily accessible place at the site by each contractor and subcontractor subject to sections 1304 to 1313.

Appeal – Any person affected by the determination of these rates may appeal to the Commissioner of Labor by filing a written notice with the Commissioner stating the specific grounds of the objection within ten (10) days from the filing of these rates.

A true copy

Attest:


Scott R. Cotnoir
Wage & Hour Director
Bureau of Labor Standards

Expiration Date: 12-31-2020

SPECIAL PROVISION
SECTION 104
(WAGE RATES)

When two or more wage rate schedules appear in the bid Book, the highest rate shall prevail for each classification.

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 Conference, as defined in Subsection 104.4.6 of the Standard Specifications **is** required.

GENERAL INFORMATION

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

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

Utility Overview & Contact Information					
Utility	Aerial	Subsurface	Railroad	Contact Person	Contact Phone
Central Maine Power	X			Tim Laney	629-9555 office
Spectrum_Charter Communications	X			John Bickford	253-2210 office
FirstLight Fiber	X	X		Brent Hadley	333-3447 office
Town of Woodstock		X		Vern Maxfield	665-2668 office
Florence Walker Property		X		Vern Maxfield	665-2668 office
St. Lawrence & Atlantic Railroad			X	Connor Tulley	491-6564 office

Temporary utility adjustments **are not** 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 performed by the appropriate utility company in conjunction with the work by the Contractor. All work shall be done at the Contractor's request and expense, with no additional cost or schedule impacts to the Department.

Any adjustments shall be made by the respective utility unless otherwise specified herein.

Unless otherwise specified, any subsurface 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. Subsurface 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. Subsurface 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.

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

Utility working days are Monday through Friday. Times are estimated on the basis of a single crew for each utility. Any times and dates mentioned are **estimates only** and dependent upon favorable weather, working conditions, and freedom from emergencies. The Contractor shall have no claim against the Department if they are exceeded.

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

***** Specific information regarding the line voltage can be requested from Central Maine Power*****

AERIAL

Aerial 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.

The aerial utilities have existing service lines crossing the highway corridor at intermediate locations through-out the project corridor, prior to the project start and after the project end. Each of the existing service lines provide a source of power or communication to the surrounding residents and commercial facilities.

The contractor shall coordinate with the utility representative for horizontal alignment/offset of the new pole set locations along the project corridor. The contractor and the utility representative shall document changes to the new pole set locations from the attached pole list and discuss the changes with the MaineDOT resident prior to proceeding with the new pole set installations.

The contractor is responsible for providing acceptable access to the new pole set locations along the project corridor. The contractor shall perform the necessary cut/fill work (plus/minus 2 feet) and provide a schedule for sequencing the install for the new pole sets along the project corridor. This schedule/sequencing information needs to be provided prior to the pre-utility conference.

Summary:

Utility	Summary of Work				Estimated Working Days
	Pole Set	New Wires/ Cables	Trans. Wires/ Cables	Remove Poles	
Central Maine Power	X		X	X	45
Spectrum_Charter Communications		X			30
FirstLight Fiber	X	X	X	X	12
Total:					87

Utility Specific Information:

Central Maine Power (CMP):

Central Maine Power has single-phase (2 total) and three-phase (4 total) aerial power lines existing along the corridor. These aerial power lines shall be permanently transferred to new pole sets from station 10+00 to station 120+00, and side streets. CMP shall be performing the new pole sets (59 total) and removing the existing pole sets (71 total). The contractor is responsible for coordinating the locations of the new pole sets with the CMP representative. All new poles shall range in height from 40-foot to 50-foot. CMP shall coordinate with the property owners their service connection. See the pole list table below for specific stationing and offset locations of the new pole sets. CMP shall require **ten (10) working days** notification to schedule their work. CMP is responsible for removing the existing pole sets after all the new pole connections have occurred. See the above table for CMP estimated work days.

Spectrum-Charter Communications:

Spectrum-Charter Communications has an aerial communication line existing along the corridor. A new aerial communication line shall be connected to the new pole sets and the existing communication line shall be de-activated/removed from the existing poles. Both the new line connection and the removal of the existing line shall be from station 10+00 to station 120+00 and side streets. Spectrum shall be coordinating an acceptable date with CMP for when they can begin connecting the new aerial line. Spectrum shall coordinate with the property owners their service connection. Spectrum shall require **ten (10) working days** notification to schedule their work. See the above table for Spectrum estimated work days.

FirstLight Fiber:

FirstLight Fiber has aerial communication lines (2 total) existing along the corridor. The aerial communication lines shall be permanently transferred to new pole sets the entire length of the project. FirstLight shall be performing the new pole sets (5 total) and removing existing pole sets (10 total) from station 106+00 to station 120+00. FirstLight shall be coordinating an acceptable date with CMP for when they can begin installing new and transferring aerial lines. FirstLight shall coordinate with the property owners their service connection. FirstLight is presently working along the project corridor to install a new aerial fiber line to the existing pole sets for transfer to the new pole sets. See the above table for FirstLight estimated work days.

These aerial facilities, at approximately station 25+00, shall be left in their existing conditions during the installation/construction of the new concrete box culvert (10' width x 6' high x 126' length). CMP shall coordinate (oversee/install/remove) with the contractor any necessary safety protection materials to the existing aerial power lines. The intent shall be for the contractor to work around the existing aerial power lines during the installation of the outlet side of this new box culvert.

Pole List:

	Existing/New Pole Description (CMP#/ FirstLight#)	Existing Pole Centerline Station	Left/ Right		Existing Offset from Centerline (ft)	New Pole Station	Left/ Right		New Offset from Centerline (ft)	Cut/ Fill (ft)	Comments
			LT	RT			LT	RT			
Pole List Starts											
1	3	11+42	X		33.1					---	ok
2	2S	12+95		X	31.8					---	ok
3	2/34	12+97	X		26.6					---	ok
4	1/33	14+62	X		19.1	14+55	X		22	+1.5	new pole #1
5	-----	16+06		X	64.6					0	remove pole #65
6	1/32	16+10		X	63.1	16+11		X	64	0	new pole #2
7	17/31	17+61		X	21.2	17+62		X	22	0	new pole #3
8	16/2	19+32	X		32.7	19+33	X		33	0	new pole #4
9	15S/3S	20+24		X	23.8					---	ok
10	15/3	20+29	X		28.6	20+30	X		33	0	new pole #5
11	14/4	21+31	X		27.8					---	ok
12	13/5	22+87	X		33.4	22+86	X		33	0	new pole #6
13	12/6	24+72	X		29.9	24+70	X		31	+1	new pole #7
14	11/7	25+84	X		24.0	25+85	X		26	+1	new pole #8
15	10S/8S	26+78		X	27.6					---	ok
16	10/8	26+93	X		17.3	26+96	X		23	+7.5	new pole #9
17	9/9	28+16	X		18	28+14	X		23	+5	new pole #10
18	8S/10S	29+35		X	21	29+20		X	20	+5	new pole #11
19	8/10	29+40	X		17.9	29+44	X		23	+5	new pole #12
20	7/11	30+51	X		17.2	30+55	X		23	+5	new pole #13
21	DOT	30+53	X		20.9					0	remove pole #66
22	6/12	31+74		X	16.5	31+74	X		23	+1	new pole #14
23	4/13	33+48	X		22.9	33+50	X		21	+5	new pole #15
24	3/14	34+62	X		17.3	34+58	X		22	+7.5	new pole #16
25	2/15	35+71	x		17.3	35+48	X		21	0	new pole #17
26	1/16	36+54		X	19.4	36+08		X	23	-5	new pole #18
27	DOT					36+40	X		30	0	blinking light #1
28	DOT					36+54		X	24	0	blinking light #2
29	DOT	36+55	X		41.2					0	remove pole #67
30	36/17	37+19	X		48.8	37+75	X		26	+1	new pole #19
31	DOT					37+08		X	24	+5	blinking light #3
32	DOT					37+12	X		25	+5	blinking light #4
33	35/18	38+34	X		24.2	38+35	X		26	+1	new pole #20
34	34/19	39+13	X		24.9	39+13	X		26	+7.5	new pole #21
35	33/20	40+73	X		21.7	40+77	X		26	0	new pole #22
36	32/21	42+02	X		18.8	42+03		X	22	0	new pole #23
37	31/22	43+02	X		19.5					0	remove pole #68
38	30/23	44+00	X		18.5	43+78		X	22	-5	new pole #24

Town: Woodstock, Maine_Route #26
 Project: #18767.01_Highway Reconstruction
 Date: 08/20/20

39	29/24	44+95	X		17.9	45+00		X	22	0	new pole #25
40	29.1					45+00	X		22	+5	new pole #26
41	28/25	46+52	X		18.7	46+25		X	22	0	new pole #27
42	27/26	47+72	X		19.3	47+43		X	22	+5	new pole #28
43	26/27	48+80	X		20.5	48+60		X	22	0	new pole #29
44	25/28	49+96	X		18.5	50+30		X	22	0	new pole #30
45	25.1/28.1	50+37		X	81.6					---	ok
46	24/29	51+31	X		20	51+92		X	22	+8	new pole #31
47	1.1/1.1	52+18	X		88.2					---	ok
48	1/1	52+28	X		95.9					0	remove pole #69
49	23/30	53+54		X	24	53+19		X	22	-8.5	new pole #32
50	22/31	54+45		X	14	54+46		X	22	0	new pole #33
51	21/32	55+68		X	11.6	55+90	X		24	0	new pole #34
52	20/33	56+88		X	11.3	57+47	X		24	0	new pole #35
53	19/34	58+08		X	14.2					0	remove pole #70
54	18/35	59+28		X	17	59+03	X		24	0	new pole #36
55	17/36	60+79		X	20.7	61+00	X		24	0	new pole #37
56	16/37	62+07		X	32.2					0	remove pole #71
57	15/38	63+32		X	36.4	62+95	X		24	+2.5	new pole #38
58	-----	63+35		X	36.5					0	remove pole #72
59	14/39	64+66		X	32.1	64+69	X		24	0	new pole #39
60	13/40	66+08		X	35.1	66+10	X		24	0	new pole #40
61	12/41	67+23		X	35.3	67+25	X		24	0	new pole #41
62	11/42	68+37		X	33.3	68+35	X		24	0	new pole #42
63	-----	68+39		X	34.1					0	remove pole #73
64	10/43	69+74	X		22	69+75	X		24	0	new pole #43
65	-----	69+76	X		20.5					0	remove pole #74
66	1/1	69+89	X		44					---	ok
67	9/44	71+07	X		24.9					---	ok
68	8/45	72+52	X		27.7					---	ok
69	7/46	74+01	X		28.2					---	ok
70	6/47	75+55	X		28.3	75+57	X		29	-2	new pole #44
71	5/48	77+02	X		26.9	77+05	X		29	-1.5	new pole #45
72	4/49	78+18	X		25.2	78+20	X		29	-1	new pole #46
73	3.01/50.01	79+22		X	29.2	79+20		X	31	0	new pole #47
74	3/50	79+59	X		23.8	79+61	X		29	0	new pole #48
75	2/51	80+86	X		21.3	80+90	X		29	0	new pole #49
76	transmission	81+93		X	74.3					---	ok
77	transmission	82+01		X	61					---	ok
78	H	82+08		X	39.6					---	ok
79	-----	82+12		X	28.5					0	remove pole #75
80	transmission	82+22		X	65.6					---	ok
81	1/52	82+24	X		18.3	82+27	X		26	+1	new pole #50
82	01.1	82+71		X	104					---	ok
83	transmission	82+92	X		63.8					---	ok
84	01/53	83+62	X		19.9	83+66	X		26	+5	new pole #51
85	02/54	85+09	X		21.4	85+11	X		26	0	new pole #52
86	03/55	86+42	X		30.2	86+45	X		29	-2	new pole #53
87	56	87+06		X	44					0	remove pole #76
88	04/57	87+72	X		46.2	87+70	X		26	0	new pole #54
89	05/58	89+19	X		71.8	89+50	X		80	0	new pole #55
90	05S/59	89+21	X		35.9					---	ok
91	09.1/60	95+89	X		35.6					---	ok

92	019/71	105+87	X		78.4	105+89	X		80	0	new pole #56
93	020S/72S	107+02		X	25.9	106+95		X	29	-1	new pole #57
94	020/72	107+14	X		26.4	107+06	X		29	-1	new pole #58
95	021/73	108+45	X		29.2	108+46	X		29	-3	new pole #59
96	021.1/73.1	108+59	X		82.9					---	ok
97	74	109+76	X		47.1					0	remove pole #77
98	74	109+80	X		21.7	109+80	X		26	-3	new pole #60
99	75	112+02	X		38.9					0	remove pole #78
100	75	112+03	X		28	111+90	X		26	-1.75	new pole #61
101	75	112+13	X		24.8					0	remove pole #79
102	76	114+39	X		26.7	114+30	X		26	-2.5	new pole #62
103	-----	114+39	X		40.2					0	remove pole #80
104	77	116+73	X		23.4	116+50	X		29	-1.8	new pole #63
105	81	118+55		X	36.1					---	ok
106	70/82	120+13		X	109					---	ok
107	70-Rocky Road	700+61	X		20.5					---	ok
108	1H-Railroad St.	400+26	X		15.6					---	ok
109	1-Railroad St.	401+22	X		33.3					---	ok
110	?-Railroad St.	401+24	X		33.3					0	remove pole #81
111	1-Summit St.	800+53		X	11.8	800+55		X	16	0	new pole #64
Pole List Ends											

SUBSURFACE

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.

Summary:

Utility	Summary of Work	Estimated Working Days
FirstLight Fiber	de-activate/abandon existing copper cable	3
Total:		3

Utility Specific Information:

FirstLight Fiber:

FirstLight Fiber owns an existing subsurface communication line along the project corridor, station right, starting approximately station 68+00 to station 120+00. This existing subsurface line is active and serves the surrounding area. The contractor is responsible for confirming the location of the existing facilities prior to performing any excavation activities. FirstLight sequence of work activities shall be to transfer the new aerial fiber line and tie-in all service lines, to the residents, before de-activating the existing subsurface line. FirstLight shall require **ten (10) working days** prior notice to schedule their work. See the above table for FirstLight estimated work days.

Note: This de-activation of the existing subsurface communication line could happen prior to November 2020.

Town of Woodstock:

The Town of Woodstock has installed a dry-hydrant and constructed a gravel apron between stations 23+00 to 24+50, right. This new dry-hydrant shall be used as future fire-protection for the town. This installation/construction was performed during the summer of 2020. The contractor shall be responsible for coordinating with the MaineDOT resident all necessary pavement surface transitions through the gravel apron. No adjustments are anticipated for the town facility.

Private Sewer Pipe(s):

This private sewer pipe feeds the Walker property from the Lake Road corridor. Per the right-of-way plan, the owner of the sewer piping is Florence S. Walker and Gerald Walker Jr. An accurate location (vertical/horizontal) of the existing sewer pipe has never been determined. Per discussion, this existing sewer piping crosses Route #26 somewhere between station 39+00 to 40+00. The intent shall be for the existing sewer piping not to be disturbed. The contractor is responsible for coordinating with the Town of Woodstock and the Walker property prior to excavating the location of the existing sewer piping. If the sewer piping exists at a location(s) that impacts the new underdrain system, along both sides of the paved shoulders, coordination needs to occur with the MaineDOT resident by the contractor. Any adjustments to the existing sewer piping shall be paid under a sewer item #801.16_6" PVC Sanitary Sewer (SDR-35).

RAILROAD

St. Lawrence & Atlantic Railroad Company (SLR):

St. Lawrence & Atlantic Railroad Company owns/operates the existing railroad that travels along the southwest side of the project corridor from approximately station 39+00, left to station 62+00, left. SLR needs to be notified by the contractor **ten (10) working days** prior to working within 50' of the existing track or track crossing locations to allow for proper scheduling of track protection personnel, and installation of all track safety items. No work activities or equipment staging shall occur; or create a hazard within the limits of the railroad right-of-way.

The contractor shall be responsible for all requirements as stated in the special provision entitled "Protection of Railroad Traffic and Structures (PRTS)" dated 04/22/20. This special provision is enclosed within this project booklet. See the below table for SLR estimated work days.

The rail activity consists of two (2) trains per day traveling at an approximate speed of 30mph.

Railroad	Summary of Work	Estimated Working Days
St. Lawrence and Atlantic Railroad Company	perform track protection services (install/remove derail & personnel)	22
Total:		22

MAINTAINING UTILITY LOCATION MARKINGS

The Contractor shall be responsible for maintaining the buried utility location markings following the initial application 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.

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 a 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.

2. AMOUNT OF RAILROAD WORK

The estimated amount of work to be done within 50 feet of the track of the St. Lawrence & Atlantic Railroad is less than 1% of the contract.

3. NUMBER OF TRAINS AND TRAIN SPEED

The Contractor is notified that a maximum speed of 30 mph will be considered as prevailing for the operation of trains of the Railroad at this project and that the approximate number of trains per day at this project is two (2).

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.

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 7 calendar day(s) 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 50 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 20 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 20 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 than 50 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 above 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.

9. MINIMUM CLEARANCES

During the construction of staging, false work or forms, the Contractor shall at all times maintain a minimum vertical clearance of 25 feet above the top of high rail and a minimum side clearance of 50 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 14 calendar day(s) 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 7 calendar day(s) 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.

12. EQUIPMENT

Equipment of the Contractor shall be in such condition so as 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 safety personnel 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 safety personnel or inspection (including travel time) or any combination thereof up to 22 man days (estimated) of said safety personnel 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 Chief Engineer of the Department in writing 14 calendar day(s) before beginning, resuming or suspending work within 50 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 14 calendar day(s) 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.

(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 April 22, 2020 draft

Estimated daily rate for eight (8) consecutive hours Monday-Friday (straight time): **\$925.00**

No work activities are acceptable on Saturday, Sunday, Holiday or excess eight (8) hours in any one-day, under this project, unless authorized by the Department and the Railroad's Chief Engineer.

(d) Definitions.

Man day (M.D.) - eight (8) consecutive hours or any portion thereof.

Standard Man day - Eight (8) consecutive hour, Monday - Friday between the hours of 6a.m. to 2:00p.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 recollectable from the State will be made or caused to be made by the Railroad without expense to the Contractor.

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 \$2,000,000 per single occurrence and \$6,000,000 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 \$2,000,000 per single occurrence and \$6,000,000 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.

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.

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	Date
Signature	
SECTION B - ACTION TAKEN:	

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

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
SECTION 104
General Rights and Responsibilities
(Reserved Limits)

For WIN 18767.01

- Parcel Numbers 50 and 54 St. Lawrence & Atlantic Railroad Company, shall be reserved. No work shall take place on these parcels until after March 31, 2021, or unless prior released by the Department.

Sign located on Parcel 30 at station 34+23 shall be reserved. No work shall take place on these parcels until after March 31, 2021, or unless prior released by the Department.

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 PROVISION
SECTION 105
 General Scope of Work
 (Environmental Requirements)

Work within stream (“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:

- I. In Stream Work applies to the following pipe culvert locations:
 1. Station 13+45 Left – Unnamed tributary to Bryant Pond
 2. Station 24+80 Left & Right– Unnamed tributary to Bryant Pond
 3. Station 78+65 Left & Right – Unnamed stream
 4. Station 81+60 Left – Unnamed stream
 5. Station 84+15 Left – Unnamed stream
 6. Station 98+80 Left & Right – Unnamed stream
 7. Station 103+00 Right to 105+50 Right – Unnamed stream
 8. Station 116+25 Left & Right – Unnamed stream
 9. Station 121+70 Left & Right – Unnamed stream
 10. Station 123+85 Left & Right – Unnamed stream
 11. Station 133+90 Left & Right – Unnamed stream
 12. Station 141+80 Right – Unnamed stream

- II. In Stream Work shall not be allowed between the dates of October 1 and July 14, this is a time of year work restriction. **In Stream Work shall be allowed between July 15 to September 30.**

- III. Special Conditions:
 1. Special conditions of the U.S. Army Corps of Engineers (Corps) Category 2 permit # NAE-2020-00314 shall apply to this project (see permit and conditions in contract documents).
 2. Special conditions of the Maine Department of Environmental Protection (MDEP) Permit By Rule (PBR) #69328 shall apply to this project (see permit and conditions in contract documents).
 3. 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.

- IV. Approvals:
 1. Temporary Soil Erosion and Water Pollution Control Plan (SEWPCP)
 2. Permitted Resource Impacts, see Corps permit # NAE-2020-00314 for locations:

<i>Wetland</i>	<i>Stream (RUS)</i>
<i>Permanent: 16,050 s.f.</i>	<i>Permanent: 4,580 s.f.</i>
<i>Temporary: 24,230 s.f.</i>	<i>Temporary: 3,830 s.f.</i>

- V. Conditions for presence of standing or flowing water at the above-identified In Stream culvert;
 1. If standing or flowing water is present at the above-identified In Stream pipe culverts, In Stream Work shall be conducted within a cofferdam constructed according to MaineDOT’s

Standard Specifications Section 511 and in adherence with the Contractor's approved "Soil Erosion and Water Pollution Control Plan" for this project.

- VI. No work shall be allowed that completely blocks a river, stream, or brook without providing downstream flow.
- VII. Reauthorization of the ACOE Permit is required for any work in jurisdictional resources that is not completed by October 13, 2021. The Contractor shall allow up to 2 weeks for MaineDOT to reauthorize the permit prior to beginning construction after that date.

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.

**SPECIAL PROVISION
SECTION 105.9
HISTORIC RESOURCES**

Standard Specification 105.9 of the State of Maine Standard Specifications (Revision of November 2014) is deleted and replaced by this Special Provision.

The MaineDOT has conducted consultation in accordance with Section 106 of the National Historic Preservation Act (16 U.S.C. 470f), the Regulation (36 CFR Part 800), and the 2004 Section 106 Maine Programmatic Agreement.

The following requirements are project specific:

- The vegetation surrounding the retention pond (STA 42+88L to STA 44+21L) located within the Bryant Pond Historic District will be maintained by MaineDOT. If vegetation dies, MaineDOT will replace the dead vegetation with new plantings.

The following requirements are general requirements for all projects:

- *Changes to the project during construction must be approved by the Project Manager. These changes could have adverse effects to Historic Resources, as well as jeopardize federal funding.*
- *If the Contractor or any subcontractor discovers any object of potential historic archaeological or other historic interest, all work that could disturb the object will immediately cease and will not resume until investigation of the object and related deposits have been completed, and if necessary recovered. The Contractor will notify the MaineDOT immediately. (The first indications of deposits may be burial grounds or campsites of Native Americans that reveal the bones of the dead and implements. Also the exposure of marine fossils or shells found mainly in clay deposits, as well as, exposure of dumps in landfill areas, abandoned campfire sites, and building foundations.)*
- *Any delay of the Contractor's operations resulting from the above will be analyzed in accordance with MaineDOT Standard Specification Section 109.5 – Adjustment for Delay, except that in no event will such delay be a compensable delay.*
- *The Contractor is notified of a Maine Statute, 27 MRSA §371, which states that artifacts, specimens, and material, which are public property by virtue of having been found on, in, or beneath State controlled lands, and places ownership of the same in the State of Maine.*

WOODSTOCK
ROUTE 26
HIGHWAY IMPROVEMENTS
WIN 18767.00

GENERAL NOTE

A Maine Department of Transportation (MaineDOT) Environmental Office investigation specific with this project encountered data suggesting petroleum related contamination was present at roughly MaineDOT Station 33+00 to roughly MaineDOT station 34+50 left of center in the vicinity of Breau Too Store; roughly MaineDOT station 42+00 to roughly MaineDOT station 44+00 left of center in vicinity of the Woodstock Historical Society; and roughly MaineDOT station 400+00 to roughly MaineDOT station 401+00 left of center in vicinity of Crazy Sister's Redemption Center. Subsequent on-site work failed to unearth any issues within these areas. However, in light of the available environmental data, the contractor shall employ appropriate health and safety measures to protect its workers against hazards associated with working near petroleum-impacted soils. Furthermore, the Contractor shall remain alert for any additionally evidence of contamination. If the Contractor encounters evidence of soil or groundwater contamination, the Contractor shall secure the excavation, stop work in the contaminated area, and immediately notify the Resident. The Resident shall contact the Senior Geologist in MaineDOT's Environmental Office at 207-624-3100 and the Maine Department of Environmental Protection (MDEP) at 800-482-0777. Work may only continue with authorization from the Resident.

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

1. Only one paving operation is allowed at one time, excluding hand placed paving, unless otherwise approved by Resident.
2. The Contractor shall plan operations so that the Resident will have sufficient advance notification to provide the necessary inspection and testing. Sufficient notification is considered 48 hours.

SPECIAL PROVISION
SECTION 105
General Scope of Work
(Contract Supplied Equipment)

Replace the following Standard Specification:

105.6.2.4 Department Verification The Contractor shall furnish 2 Global Navigation Satellite System (GNSS) or Global Positioning System (GPS) Rovers and/or Robotic Total Stations (RTS) equipment to the Department with the same capabilities as those used by the Contractor or other approved method, such as reference staking, to allow the Department to independently verify the accuracy of the work, as approved by the Department.

This equipment referred to above shall be compatible with the system(s) used by the Contractor and be provided to the Project Resident prior to the Contractor commences Work using electronic layout methods. This equipment shall stay in the possession of the Department for the duration of the project and shall be returned, in good condition, to the Contractor upon final acceptance of the field work. Any augmented features (such as laser refinement) used by the Contractor shall be included in the features available on the equipment provided to the Department.

The Contractor shall provide manufacturer-certified training on the use of the GNSS, GPS, and/or RTS equipment and the Contractor's systems to Department project personnel prior to beginning any Work. This training is for the purpose of providing Department project personnel with an understanding of the equipment, software, and electronic data being used by the Contractor.

SPECIAL PROVISION 105
GENERAL SCOPE OF WORK
Equal Opportunity and Civil Rights
(Disadvantaged Business Enterprises Program)

105.10.1.1 Disadvantaged Business Enterprises Program The Maine Department of Transportation (MaineDOT) has established a Disadvantaged Business Enterprise (DBE) program in accordance with regulations of the United States Department of Transportation (USDOT), 49 CFR Part 26. The MaineDOT receives federal financial assistance from USDOT, and as a condition of receiving this assistance, the Department has signed an assurance that it will comply with 49 CFR Part 26. The MaineDOT is responsible for determining the eligibility of and certifying DBE firms in Maine.

A DBE is defined as a for-profit business that is owned and controlled by one or more socially and economically disadvantaged person(s). For the purpose of this definition:

1. "Socially and economically disadvantaged person" means an individual who is a citizen or lawful permanent resident of the United States and who is Black, Hispanic, Native American, Asian, Female; or a member of another group or an individual found to be disadvantaged by the Small Business Administration pursuant to Section 3 of the Small Business Act.
2. "Owned and controlled" means a business which is:
 - a. A sole proprietorship legitimately owned and controlled by an individual who is a disadvantaged person.
 - b. A partnership or limited liability company in which at least 51% of the beneficial ownership interests legitimately are held by a disadvantaged person(s).
 - c. A corporation or other entity in which at least 51% of the voting interest and 51% of the beneficial ownership interests legitimately are held by a disadvantaged person(s).

The disadvantaged group owner(s) or stockholder(s) must possess control over management, interest in capital, and interest in earnings commensurate with the percentage of ownership. If the disadvantaged group ownership interests are real, substantial and continuing and not created solely to meet the requirements of this program, a firm is considered a bona fide DBE.

105.10.1.2 Commercially Useful Function MaineDOT will count expenditures of a DBE contractor toward DBE goals only if the DBE is performing a commercially useful function on that contract. A DBE performs a commercially useful function when it is responsible for execution of the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. Credit will only be given when the DBE meets all conditions for a CUF. Credit for labor will be in accordance with the responsibilities outlined in the contract. To perform a commercially useful function, the DBE must also be responsible, with respect to materials and supplies used on the Contract, for negotiating price, determining quality and quantity, ordering the materials, and installing (where applicable) and paying for the material itself. To determine whether a DBE is performing a commercially useful function, MaineDOT will evaluate the amount of work subcontracted, industry practices, whether the amount the firm is to be paid under the Contract is commensurate with the work it is actually performing and DBE credit claimed for its performance of the work, and other relevant factors.

Rented equipment used by the DBE must not be rented from the Prime Contractor on a job that the DBE is subcontracted with that Prime Contractor for regular course of business.

A current listing of certified DBEs that may wish to participate in the highway construction program and the scope of work for which they are certified can be found at <http://www.maine.gov/mdot/disadvantaged-business-enterprises/pdf/directory.pdf>. Credit will be given for the value described by a DBE performing as:

- A. A prime contractor; 100% of actual value of work performed by own workforces.
- B. An approved subcontractor; 100% of work performed by own workforces.
- C. An owner-operator of construction equipment; 100% of expenditures committed.
- D. A manufacturer; 100% of expenditures committed. The manufacturer must be a firm that operates or maintains a factory or establishment that produces on the premises the materials or supplies obtained by the Contractor. Brokers and packagers shall not be regarded as manufacturers.
- E. A regular dealer; 60% of expenditures committed. A regular dealer is defined as a firm that owns, operates, or maintains a store, warehouse or other establishment in which the materials or supplies required for the performance of the contract are bought, kept in stock, and regularly sold to the public. For purposes of this provision a "Broker" is a DBE that has entered into a legally binding relationship to provide goods or services delivered or performed by a third party. Brokers and packagers shall not be regarded as regular dealers.
- F. A bona fide service provider; 100% of reasonable fees or commissions. Eligible services include professional, technical, consultant, or managerial, services and assistance in the procurement of essential personnel, facilities, equipment, materials or supplies required for the performance of the contract. Eligible services also include agencies providing bonding and insurance specifically required for the performance of the contract.
- G. A trucking, hauling or delivery operation. 100% of expenditures committed when trucks are owned, operated, licensed and insured by the DBE and used on the contract and, if applicable, includes the cost of the self supplied materials and supplies. 100% of expenditures committed when the DBE leases trucks from another DBE firm including an owner-operator. 100% of reasonable fees or commissions the DBE receives as a result of a lease arrangement for trucks from a non-DBE, including an owner-operator.
- H. Any combination of the above.

105.10.1.3 Race-neutral Goals The Maine DOT is required to set an annual goal (approved on a three year basis) for DBE participation in Federal-aid projects. In order to fulfill that goal, bidders are encouraged to utilize DBE businesses certified by the MaineDOT. MaineDOT seeks to meet the established DBE goal solely through race-neutral means. *Race-neutral* DBE participation occurs when a DBE is awarded a prime contract through customary competitive procurement procedures, is awarded a subcontract on a contract that does not carry a DBE contract goal, or wins a subcontract from a prime contractor that did not consider its DBE status in making the award. A DBE/subcontractor Utilization Proposed Form is required to be included in bid documents.

MaineDOT will analyze each project and create a Project Availability Target (PAT), based on a number of factors including project scope, available DBE firms, firms certified in particular project work, etc. Each bid will request that the contractor attempt to meet the PAT. This PAT is developed to assist contractors to better understand what the MaineDOT expectations are for a

specific project. The PAT is NOT a mandate but an assessment of what this particular project can bear for DBE participation. The Department anticipates that each contractor will make the best effort to reach or exceed this PAT for the project.

105.10.1.4 Race-conscious Project Goals If it is determined by the Department that the annual DBE goal will not be met through *race-neutral* means, the Department may implement *race-conscious contract goals* on some projects. Race-conscious contract goals are goals that are enforceable by the Department and require that the prime contractor use good faith effort to achieve the goal set by the Department for that particular project. If race conscious means are implemented on a project, the Prime must comply with the requirements of 49 CFR.

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. The list shall show the name of the firm, the item/material/type of work involved and the dollar amount of work to be performed. The dollar total of each commitment shall be totaled and a percentage determined.

If the project goal is not met, acceptable documentation showing all good faith efforts made to obtain participation may be required in order to award the project. Failure to provide the required listing with the dollar participation total or acceptable documentation of good faith efforts to obtain DBE participation within 3 days after the bid opening date will be considered a lack of responsiveness on the part of the low bidder. Rejection of the low bid under these circumstances will require the low bidder to surrender the Proposal Guaranty to the Department. The submission and approval of the above forms does not constitute a formal subcontract.

If for any reason during the progress of the Work the Contractor finds that DBEs included on the list are unable to perform the proposed work, the Contractor, with written release by the committed DBE or approval of the Department, may substitute other DBE firms for those named on the list. If the Contractor is able to clearly document their inability to find qualified substitute firms to meet the project goal, the Contractor may request in writing approval to substitute the DBE with a non-DBE firm. If at any time during the life of the Contract it is determined that the Contractor is not fulfilling the goal or commitment(s) and is not making a good faith effort to fulfill the DBE requirement, the Department may withhold progress payments. If good faith effort is determined by the Department, failure to meet the DBE contract goal will not be a detriment to the bid award. Fulfillment of the goal percentage shall be determined by dividing the dollars committed to the DBEs by the actual contract dollars. These requirements are in addition to all other Equal Employment Opportunity requirements on Federal-aid contracts.

105.10.1.5 Certification of DBE attainment on Contracts The MaineDOT must certify that it has conducted post-award monitoring of all contracts to ensure that DBEs had done the work for which credit was claimed. The certification is for the purpose of ensuring accountability for monitoring which the regulation already requires. The MaineDOT will certify these contracts through review of CUF forms, Elations sub-contract payment tracking as well as occasional on-site reviews of projects and through the project's final closeout documentation provided by our Contracts Section.

105.10.1.6 Bidders' List Survey Pursuant to 49 CFR 26.11 the MaineDOT is required to "create and maintain" a bidders list and gather bidder information on our construction/consultant projects, Contractors will maintain information on all subcontract bids submitted by DBE and Non-DBE firms and provide that information to the Department. The Following information is required:

Firm Name

Firm Address

Firm status (DBE or non-DBE)

Age of firm (years)

And the annual gross receipts amount as indicated by defined brackets, i.e. \$500,000 to \$800,000, rather than requesting exact figures.

Not only is this information critical in determining the availability of DBE businesses relative to other businesses that do similar work, but the Federal Highway Administration requires that we obtain this information.

MaineDOT DBE Project Attainment Target (PAT) for this Project is 5%

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 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.”

(Woodstock)
(18767.01)
(ROUTE 26)
August 14, 2020

SPECIAL PROVISION
SECTION 107
Prosecution and Progress
(Contract Time)

1. Contract Completion date is August 14, 2022.

SPECIAL PROVISION
SECTION 203
EXCAVATION AND EMBANKMENT
(Dredge Material)

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

Work associated with the Woodstock highway reconstruction project will require the excavation of select Dredge Material at instream locations. It is anticipated that less than 100-cubic yards of Dredge Material will be excavated at each instream location. There is onsite Beneficial Use for all of the Dredge Material at each instream location.

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

The Contractor shall Beneficially Use all Dredge Material excavated at the Woodstock highway reconstruction project in an area adjacent to and draining into the dredged water body. No more than 100-cubic yards of Dredge Material shall be excavated at each instream location.

CONSTRUCTION REQUIREMENTS

Management: The Contractor shall Beneficially Use all Dredge Material excavated at the Woodstock highway reconstruction project in areas adjacent to and draining into the dredged water body. No more than 100-cubic yards of Dredge Material shall be excavated at each instream location.

Method of Measurement: Dredge Material shall be measured by the cubic yard of material removed.

Basis of Payment: Payment for the Beneficial Use of Dredge Material shall be incidental to the Contract Pay Items.

Payment shall be full compensation for excavation, dewatering, managing, transporting, and placement of the Dredge Material.

SPECIAL PROVISION
SECTION 203
(Special Fill - Streambed Material)

203.01 Description This work shall consist of furnishing and placing stone and granular material inside, and upstream and downstream of a culvert to form a nature-like streambed.

203.02 Materials Special fill shall be a well graded mix of cobbles, gravel, sand and fines similar in size and shape to those found in natural channels and may be obtained as bank run or screening materials from earth borrow pits. Unwashed stone, and stone with naturally fractured faces will be allowed.

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 to meet the gradation requirements, or as filler material with the approval of the Resident.

Special fill shall conform to the following requirements:

a. Streambed gravel - 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
½ inch	35 – 80
¼ inch	25 – 65
No. 40	5.0 – 30
No. 200	5.0 – 12

Streambed gravel shall not contain particles of rock that not will pass a 6 inch square mesh sieve.

b. Small cobbles - shall be a well graded mix of stones with a minimum size of 3/4 inches and a maximum size of 6 inches average dimension. Fifty percent of the stones by volume shall have an average dimension greater than 3 inches. At least seventy five percent of the material shall be within the specified minimum and maximum sizes.

c. Filler material - shall consist of a well graded mix of gravel, sand and fines used to fill voids and seal the surface of the streambed, and other features (see also Special Provision 610 – Stream Channel Rock and Special Provision 610 Streambed Rock Features). It shall have enough fines, as determined by visual inspection, so that water pools on the surface. Filler material shall be free from vegetable matter, debris, peat and

other unsuitable material, and shall not contain oversized stones larger than 6 inches. The material may be obtained from earth borrow pits, dredge, on-site excavation or other sources approved by the Resident.

At least 10 working days prior to the start of streambed construction the Contractor shall identify the source and proposed materials 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.

Mix Proportions: Special Fill shall be mixed in the following proportions:

Culvert (Approx. Sta.)	Streambed gravel	Small cobbles
24+92	1 part	2 parts
123+89	1 part	2 parts

Mix proportions and material gradations shall be within the above limits or as otherwise adjusted by the Resident to obtain a well graded streambed. Acceptance will be based on the test results, and visual inspection by the Resident. Special fill shall conform to the gradation requirements at the time it is placed to form the streambed.

203.03 Construction Requirements

1. The Contractor shall hold a streambed construction meeting at least 5 Working Days prior to the Contractor beginning streambed construction at each culvert. This meeting will include review of the Plans and Specifications, material sources, construction methods, and equipment that will be involved with the streambed construction. Attendees shall include the Resident and MaineDOT inspectors, MaineDOT Environmental Office personnel, and the Contractor's on-site personnel responsible for the streambed construction. The Contractor's employees or subcontractors who will be involved with the streambed construction, including superintendents, foremen, laborers, equipment operators, etc., are required to attend this meeting. The Contractor shall notify the Resident at least 5 Working Days prior to the meeting.

2. Construct a channel with a streambed surface, banklines and rockbands as shown on the plans and in accordance with Special Provision 610 – Stream Channel Rock and Special Provision 610 – Streambed Rock Features. The Contractor shall construct a test section beginning at the downstream end of the culvert for review by the Resident.

3. Place special fill in well mixed layers without pockets of either fine or coarse material. The material 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.

4. Special fill shall be thoroughly washed-in with water immediately after placement. If voids remain in the streambed after the initial washing-in, filler material shall be spread on the surface as required to fill remaining voids. Wash-in with additional water until water remains on the surface with minimal infiltration.

5. 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.

6. Prior to exposure to natural flow conditions the streambed shall be thoroughly wetted and compacted with voids filled and the surface sealed, checked and approved by the Resident. After washing-in, the minimum thickness of the special fill shall be as called for on the plans with an allowable surcharge of up 3 inches above the design grade.

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

203.05 Basis of Payment The accepted quantity of special fill will be paid for at the contract price per cubic yard complete in place. Payment shall be full compensation for furnishing all materials, equipment, and labor and washing-in with water.

Pay Item

Pay Unit

203.33 Special Fill – Streambed Material

CY

SECTION 307
FULL DEPTH RECYCLING
(UNTREATED OR TREATED WITH EMULSIFIED ASPHALT STABILIZER)

307.01 Description This work shall consist of pulverizing a portion of the existing roadway structure into a homogenous mass, adding an emulsified asphalt stabilizer (if required) to the depth of the pulverized material specified in the contract, placing and compacting this material to the lines, grades, and dimensions shown on the plans or established by the Resident.

MATERIALS

307.02 Pulverized Material Pulverized material shall consist of the existing asphalt pavement layers and one inch or more as specified of the underlying gravel, pulverized and blended into a homogenous mass. Pulverized material will be processed to 100% passing a 2 inch square mesh sieve.

307.021 New Aggregate and Additional Recycled Material New aggregate, if required by the contract, shall meet the requirements of Subsection 703.10 - Aggregate for Untreated Surface Course and Leveling Course, Type A. Aggregate Subbase Course Gravel Type D processed to 100 percent passing a 2 inch square mesh sieve and meeting the requirements of 703.06 – Aggregate for Base and Subbase may be used in areas requiring depths greater than 2 inches. New aggregate, will be measured and paid for under the appropriate item.

Recycled material, if required, shall consist of salvaged asphalt material from the project or from off-site stockpiles that has been processed before use to 100 percent passing a 2 inch square mesh sieve. Recycled material shall be conditionally accepted at the source by the Resident. It shall be free of winter sand, granular fill, construction debris, or other materials not generally considered asphalt pavement.

Recycled material generated and salvaged from the project shall be used within the roadway limits to the extent it is available as described in 307.09. No additional payment will be made for material salvaged from the project.

Recycled material supplied from off-site stockpiles shall be paid for as described in the contract, or by contract modification.

307.022 Emulsified Asphalt Stabilizer. If required, the emulsified asphalt stabilizer shall be grade MS-2, MS-4, SS-1, or CSS-1 meeting the requirements of Subsection 702.04 Emulsified Asphalt.

307.023 Water Water shall be clean and free from deleterious concentrations of acids, alkalis, salts or other organic or chemical substances.

307.024 Portland Cement If required, Portland Cement shall be Type I or II meeting the requirements of AASHTO M85.

307.025 Hydrated Lime If required, Hydrated Lime shall meet the requirements of AASHTO M216.

EQUIPMENT

307.03 Pulverizer The pulverizer shall be a self-propelled machine, specifically manufactured for full-depth recycling work and capable of reducing the required existing materials to a size that will pass a 2 inch square mesh sieve. The machine shall be equipped with standard automatic depth controls and must maintain a consistent cutting depth and width. The machine also shall be equipped with a gauge to show depth of material being processed.

307.04 Liquid Mixer Unit or Distributor. If treatment of the recycled layer with emulsified asphalt is required by the contract, a liquid mixing unit or distributor shall be used to introduce the emulsified asphalt stabilizer into the pulverized material. The mixing unit shall contain a liquid distribution and mixing system which has been specifically manufactured for full-depth recycling work, capable of mixing the pulverized material with an evenly metered distribution of emulsified asphalt into a homogeneous mixture, to the depth and width required.

The mixing unit shall be designed, equipped, maintained, and operated so that emulsified asphalt stabilizer at constant temperature may be applied uniformly on variable widths of pulverized material up to 6 feet at readily determined and controlled rates from 0.01 to 1.06 gal/yd² with uniform pressure and with an allowable variation from any specified rate not to exceed 0.01 gal/yd². Mixing units shall include a tachometer, pressure gages, and accurate volume measuring devices or a calibrated tank and a thermometer for measuring temperatures of tank contents.

307.041 Cement or Lime Spreader If required by the contract, spreading of the Portland Cement or Hydrated Lime shall be done with a spreader truck designed to spread dry particulate (such as Portland Cement or Lime) or other approved means to insure a uniform distribution across the roadway and minimize fugitive dust. Pneumatic application, including through a slotted pipe, will not be permitted. Other systems that have been developed include fog systems, vacuum systems, etc. Slurry applications may also be accepted. The Department reserves the right to accept or reject the method of spreading cement. The Contractor shall provide a method for verifying that the correct amount of cement is being applied.

307.05 Placement Equipment Placement of the Full Depth recycled material to the required slope and grade shall be done with an approved highway grader or by another method approved by the Resident.

307.06 Rollers The full depth recycled material shall be rolled with a vibratory pad foot roller, a vibratory steel drum soil compactor and a pneumatic tire roller. The pad foot roller drum shall have a minimum of 112 tamping feet 3 inches in height, a minimum contact area per foot of 17 inch², and a minimum width of 84 inches. The vibratory steel drum roller shall have a minimum 84 inch width single drum. The pneumatic tire roller shall meet the requirements of Section 401.10 and the minimum allowable tire pressure shall be 85 psi.

MIX DESIGN

If treatment of the recycled layer with emulsified asphalt is required by the contract, the Department will supply a mix design for the emulsified asphalt stabilized material based on test results from pavement and soil analysis taken to the design depth. The Department will provide the following information prior to construction:

1. Percent of emulsified asphalt to be used.
2. Quantity of lime or cement to be added.
3. Optimum moisture content for proper compaction.
4. Additional aggregate (if required).

After a test strip has been completed or as the work progresses, it may be necessary for the Resident to make necessary adjustments to the mix design. Changes to compensation will be in accordance with the Mix Design Special Provision.

CONSTRUCTION REQUIREMENTS

307.06 Pulverizing The entire depth of existing pavement shall be pulverized together with 1 inch or more of the underlying gravel into a homogenous mass. All pulverizing shall be done with equipment that will provide a homogenous mass of pulverized material, processed in-place, which will pass a 2 inch square mesh sieve.

307.07 Weather Limitations Full depth recycled work shall be performed when;

- A. Recycling operations will be allowed between May 15th and September 15th inclusive in Zone 1 - Areas north of US Route 2 from Gilead to Bangor and north of Route 9 from Bangor to Calais.
- B. The atmospheric temperature, as determined by an approved thermometer placed in the shade at the recycling location, is 50°F and rising.
- C. When there is no standing water on the surface.
- D. During generally dry conditions, or when weather conditions are such that proper pulverizing, mixing, grading, finishing and curing can be obtained using proper procedures, and when compaction can be accomplished as determined by the Resident.
- E. When the surface is not frozen and when overnight temperatures are expected to be above 32°F.
- F. Wind conditions are such that the spreading of lime or cement on the roadway ahead of the recycling machine will not adversely affect the operation.

307.08 Surface Tolerance The complete surface of the Full Depth Recycled course shall be shaped and maintained to a tolerance, above or below the required cross sectional shape, of $\frac{3}{8}$ inch.

307.09 Full Depth Recycling Procedure New aggregate or recycled material meeting the requirements of Section 307.021 - New Aggregate and Additional Recycled Material, shall be

added as necessary to restore cross-slope and/or grade before pulverizing. Locations will be shown on the plans or described in the construction notes. The Resident may add other locations while construction of the project is in progress. The Contractor will use recycled material to the extent it is available, in lieu of new aggregate. The material shall then be pulverized, processed, and blended into a homogeneous mass passing a 2 inch square mesh sieve. Material found not pulverized down to a 2 inch size will be required to be reprocessed by the recycler with successive passes until approved by the Resident.

Should the Contractor be required to add new aggregate or recycled material to restore cross-slope and/or grade after the initial pulverizing process, those areas will require re-processing to blend into a homogenous mass passing a 2 in square mesh sieve.

Sufficient water shall be added during the recycling process to maintain optimum moisture for compaction.

The resultant material from the initial pulverizing processes shall be graded and compacted to the cross-slope and profile shown on the plans or as directed by the Resident. The Contractor will also be responsible for re-establishing the existing profile grade. The completed surface of the full depth recycled course shall be shaped and maintained to a tolerance, above or below the required cross sectional shape, of $\frac{3}{8}$ inch. Areas not meeting this tolerance will be repaired as described in Section 307.091. The initial pulverizing process density requirements will be the same as Section 307.101 unless otherwise directed by the Resident.

Additives, if required, shall be introduced following completion of the initial pulverizing and blending process. Emulsified asphalt stabilizer shall be incorporated into the top of the processed material as specified in section 307.04 to the depth specified in the contract by use of the liquid mixer unit or a distributor, at the rate specified in the mix design. The emulsified asphalt shall then be uniformly blended into a homogeneous mass until an apparent uniform distribution has occurred. The rate of application may be adjusted as necessary by the Resident. Cement or lime shall be introduced as described in section 307.041. The resultant material shall be graded and compacted to the cross-slope and profile shown on the plans or as directed by the Resident. The Contractor will also be responsible for re-establishing the existing profile grade.

After final compaction, the roadway surface shall be treated with a light application of water, and rolled with pneumatic-tired rollers to create a close-knit texture. The finished layer shall be free from:

- A. Surface laminations.
- B. Segregation of fine and coarse aggregate.
- C. Corrugations, centerline differential, potholes, or any other defects that may adversely affect the performance of the layer, or any layers to be placed upon it.

The Contractor shall protect and maintain the recycled layer until a lift of pavement is applied. Any damage or defects in the layer shall be repaired immediately. An even and uniform surface shall be maintained. The recycled surface shall be swept prior to hot mix asphalt overlay placement.

307.091 Repairs Repairs and maintenance of the recycled layers, resulting from damage caused by traffic, weather or environmental conditions, or resulting from damage caused by the Contractor's operations or equipment, shall be completed at no additional cost to the Department.

For recycled layers stabilized with emulsified asphalt, low areas will be repaired using a hot mix asphalt shim. Areas up to 1 inch high can be repaired by milling or shimming with hot mix asphalt. Areas greater than 1 inch high will be repaired using a hot mix asphalt shim. All repair work will be done with the Resident's approval at the Contractor's expense.

TESTING REQUIREMENTS

307.10 Quality Control The Contractor shall operate in accordance with the approved Quality Control Plan (QCP) to assure a product meeting the contract requirements. The QCP shall meet the requirements of Section 106.4 - Quality Control and this Section. The Contractor shall not begin recycling operations until the Department approves the QCP in writing.

Prior to performing any recycling process, the Department and the Contractor shall hold a Pre-recycle conference to discuss the recycling schedule, type and amount of equipment to be used, sequence of operations, and traffic control. A copy of the QC random numbers to be used on the project shall be provided to the Resident. All field supervisors including the responsible onsite recycling process supervisor shall attend this meeting.

The QCP shall address any items that affect the quality of the Recycling Process including, but not limited to, the following:

- A. Sources for all materials, including New Aggregate and Additional Recycled Material.
- B. Make and type of rollers including weight, weight per inch of steel wheels, and average contact pressure for pneumatic tired rollers.
- C. Testing Plan.
- D. Recycling operations including recycling speed, methods to ensure that segregation is minimized, grading and compacting operations.
- E. Methods for protecting the finished product from damage and procedures for any necessary corrective action.
- F. Method of grade checks.
- G. Examples of Quality Control forms.
- H. Name, responsibilities, and qualifications of the Responsible onsite Recycling Supervisor experienced and knowledgeable with the process.
- I. A note that all testing will be done in accordance with AASHTO and MDOT/ACM procedures.

The Project Superintendent shall be named in the QCP, and the responsibilities for successful implementation of the QCP shall be outlined.

The Contractor shall sample, test, and evaluate the full depth reclamation process in accordance with the following minimum frequencies:

MINIMUM QUALITY CONTROL FREQUENCIES

Test or Action	Frequency	Test Method
Density	1 per 1000 feet / lane	AASHTO T 310
Air Temperature	4 per day at even intervals	
Surface Temperature	At the beginning and end of each days operation	
Yield of all materials (Daily yield, yield since last test, and total project yield.)	1 per 1000 ft/lane	

The Department may view any QC test and request a QC test at any time. The Contractor shall submit all QC test reports and summaries in writing, signed by the appropriate technician, to the Department's onsite representative by 1:00 P.M. on the next working day, except when otherwise noted in the QCP due to local restrictions. The Contractor shall make all test results, including randomly sampled densities, available to the Department onsite.

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

- A. The Contractor fails to follow the approved QCP.
- B. The Contractor fails to achieve 98 percent density after corrective action has been taken.
- C. The finished product is visually defective, as determined by the Resident.
- D. The computed yield differs from the mix design by 10 percent or more.

Recycling operations shall not resume until the Department approves the corrective action to be taken.

307.101 Test Strip The contractor shall assemble all items of equipment for the recycling operation on the first day of the recycling work. The Contractor shall construct a test strip for the project at a location approved by the Resident. The Responsible onsite Recycling Supervisor will work with Department personnel to determine the suitability of the mixed material, moisture control within the mixed material, and compaction and surface finish. The test strip section is required to:

- A. Demonstrate that the equipment and processes can produce recycled layers to meet the requirements specified in these special provisions.
- B. Determine the effect on the gradation of the recycled material by varying the forward speed of the recycling machine and the rotation rate of the milling drum.
- C. Determine the optimum moisture necessary to achieve proper compaction of the recycled layer.
- D. Determine the sequence and manner of rolling necessary to obtain the compaction requirements and establish a target density. The Contractor and the Department will both conduct testing with their respective gauges at this time.

The test strip shall be at least 300 feet in length of a full lane-width (or a half-road width). Full recycling production will not start until a passing test strip has been accomplished. If a test strip fails to meet the requirements of this specification, the Contractor will be required to repair or replace the test strip to the satisfaction of the Resident. Any repairs, replacement, or duplication of the test strip will be at the Contractor's expense.

After the test strip has been pulverized, and the roadway brought to proper shape, the Contractor shall add water until it is determined that optimum moisture has been obtained. The test strip shall then be rolled using the specified compaction equipment as directed until the density readings show an increase in dry density of less than 1 pcf for the final four roller passes of each roller. The Contractor and Department will each determine a target density using their respective gauges by performing several additional density tests and averaging them. The average of these tests will be used as the target density of the recycled material for QC and Acceptance purposes.

Following completion of the test strip, compaction of the material shall continue until a density of not less than 98 percent of the test strip target density has been achieved for the full width and depth of the layer. During the construction and compaction of the Full Depth Recycled base, should three consecutive Acceptance test results for density fail to meet a minimum of 95 percent of the target density, or exceed 102 percent of target density, a new test strip shall be constructed.

ACCEPTANCE TEST FREQUENCY

Property	Frequency	Test Method
In-place Density	1 per 2000 ft / lane	AASHTO T 310

308.102 Curing. No new pavement shall be placed on the full depth recycled pavement until curing has reduced the moisture content to 1 percent or less by total weight of the mixture, or a curing period of 4 days has elapsed, whichever comes first.

307.11 Method of Measurement Full Depth Recycled Pavement (Untreated or Treated with Emulsified Asphalt Stabilizer) will be measured by the square yard.

307.12 Basis of Payment The accepted quantity of Full Depth Recycled Asphalt Pavement (Untreated or Treated with Emulsified Asphalt Stabilizer) will be paid for at the contract unit price per square yard, complete in-place which price will be full compensation for furnishing all equipment, materials and labor for pulverizing, blending, placing, grading, compacting, and for all incidentals necessary to complete the work.

The addition of materials to restore profile grade and/or cross-slope in areas shown on the plans or described in the construction notes will be paid separately under designated pay items within the contract. No additional payment will be made for materials salvaged from the project.

Payments will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
307.331 Full Depth Recycled Pavement (Untreated)	Square Yard
307.332 Full Depth Recycled Pavement (with Emulsified Asphalt Stabilizer) 5 in. depth	Square Yard
307.333 Full Depth Recycled Pavement (with Emulsified Asphalt Stabilizer) 6 in. depth	Square Yard

SPECIAL PROVISION
SECTION 307
FDR w/ Emulsion

Mix Design

The Recycled Pavement on this project will be treated with the following material proportions:

Emulsion	3.0 %
Water added for compaction	2.2 %
Portland cement (Type I or II)	1.0 %

The unit weight of the in-place recycled material shall be 145 pcf. This information shall be used for bidding purposes only.

The optimum moisture content for compaction shall be determined by the Department using samples obtained from the recycled material prior to addition of the emulsion, by means of AASHTO T 180, Method D.

A contract modification will be executed if percentages change from the requirements above for added emulsion, Portland cement or lime changes by more than 0.10%. Positive and negative price adjustments will be made. The price adjustment will be based upon receipted bills for materials delivered the project site. If a price adjustment is warranted, the Contractor will supply the Department with all receipted bills for emulsion, Portland cement or lime for the entire project. Adjustments in water content exceeding the initial targets shall not be paid for directly, but shall be incidental.

SPECIAL PROVISION
SECTION 307
FDR w/ Emulsion

The following sections of Standard Specification Section 307 – Full Depth Recycling (with Emulsion) have been amended to include the treatment of shoulders where full depth HMA is required due to off-tracking. Areas will be pre-determined by the Department based on structural need. All sections of Standard Specification 307 not amended or added too by this document shall be considered unchanged.

307.021 New Aggregate and Additional Recycled Material All shoulder gravel materials within the top 5” that are to be treated shall meet the requirements of section 307.021. At their option, the Contractor may substitute this layer with 4” of pulverized reclaim material that meets the requirements of section 307.02 and 1” of Type D Gravel. No additional payment will be made for the screening, processing, storage, or placement of additional material, but instead will be considered incidental to the 304.10 item.

Mix Design The mix design shall be determined by the construction activities of the Contractor. Should clean gravel be utilized without the option of 4” of reclaim material, the Department may, at their discretion, increase the emulsion rate up to 1% over the existing design. Compensation for any adjustments will be made in accordance with Special Provision 307 – FDR w/ Emulsion Mix Design.

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), 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 (Million s)	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	19	12.5	9.5	4.75		
<0.3	≤91.5	96.0	≤98.0	13.0	14.0	15.0	16.0	16.0	70-80	0.6-1.2
0.3 to <3	≤90.5								65-80	
3 to <10	≤89.0								65-80*	
10 to <30										
> 30										

*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. 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	

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 M156, 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 hour’s notice that the plant is ready for inspection. The HMA plant will be equipped with ladders and platforms that are accessible and safe to obtain belt and binder samples. The HMA plant will have a sampling platform to perform HMA sampling from the back of haul units. Silo storage time of mixtures shall not exceed 36 hours.

401.072 Stockpiles HMA plants shall have sufficient space for stockpiles, with a minimum of supply for 2 days production of all aggregate products used in MaineDOT approved mix designs currently under production for the facility at all times. A minimum stockpile supply of 100 ton (70 yards) shall be maintained always no matter the production rate for the HMA plant. Stockpiles shall be separated and built to minimize segregation. All aggregate stockpiles of products used in MaineDOT approved mix designs shall be labelled with signage made of weather-proof material. Stockpile identification signs shall be a minimum size of 12” high and 24” wide with reflective lettering that is a minimum of 2” in height. The sign shall be placed so that it is easily readable from outside the stockpile area.

401.073 Cold Feeds Cold Feed Bins will have bin dividers to keep aggregate from intermingling between bins. Adequate means must be provided for obtaining samples of the complete and combined flow of all Cold feed bins. Cold feed bins will not be required to have individual sampling locations.

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. The Contractor shall properly adjust flames to avoid physical damage to the aggregate and to avoid depositing soot on the aggregate. The Contractor shall provide the Department the opportunity to inspect the dryer prior to the annual inspection. The Contractor shall provide the Department a minimum period of 72 hours to inspect the dryer and provide at least 24 hour's notice that the dryer is ready for inspection.

401.075 Asphalt Binder Asphalt binder heating system shall heat binder to proper mixing temperature. A thermometer shall be provided in the asphalt binder line. Indirect asphalt binder heating system shall be used and no direct flame may come in contact with tank. The temperature of asphalt binder shall be uniformly maintained using insulation or another approved method. An asphalt binder sampling valve shall be provided in the circulation line. The sampling valve shall be provided downstream of any binder additive used. The use of a different sampling location may be 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.) not directly introduced into the binder at the terminal shall be introduced into the HMA plant per the supplier's recommendations and shall be approved by the Asphalt Pavement Engineer, Pavement Quality Manager, or their authorized representative. The system for introducing additives shall be interlocked with the aggregate feed or weigh system to maintain correct proportions for all rates of production 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 any mixture additives 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 telltale devices ("low level indicator") which will alert the operator when the bin is empty.

Mixer Unit

Clearance between blades and liner shall be adjusted to 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 of sufficient number and size, 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 hour's 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 materials, mixes 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 load ticket 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 PlantsCold 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 HMA drum 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 plant change of location. The flow meter check must be performed prior to receiving approval to produce 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 HMA drum 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 hour's notice that the drum mixer is ready for inspection.

Recordation An approved automatic ticket printer system shall be used with all approved HMA drum plants. 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 weigh slip or ticket, 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 weight 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 When the HMA is to be weighed on scales 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%, than 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 canvas or other water repellent material capable of heat retention, which completely covers the mixture. The cover shall be securely fastened on the truck, unless unloading. All mix haul units shall have an opening on both sides, which will accommodate a thermometer stem. The opening shall be located near the midpoint of the body, at least 12 in above the bed.

401.09 Pavers The Contractor shall use pavers meeting the requirements of this section unless otherwise authorized by the Department. Pavers shall be self-contained, self-propelled units with an activated heated screed capable of placing courses of Hot Mix Asphalt Pavement in full lane widths specified in the contract on the main line, shoulder, or similar construction.

Pavers shall be of sufficient class and size to place Hot Mix Asphalt Pavement over the full width of the mainline travel way with a 10 ft minimum main screed with activated extensions. The Contractor shall place Hot Mix Asphalt Pavement on the main line with a paver using an automatic grade and slope controlled screed, unless otherwise authorized by the Department. The controls shall 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 Expressway projects.

The Contractor shall operate the paver 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 paver shall have 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. The screed assembly shall produce a finished surface of the required evenness and texture without tearing, shoving, or gouging the mixture. 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.

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 surface. The use of rollers, which result in crushing of the aggregate or in displacement of the HMA will not be permitted. Any Hot Mix Asphalt Pavement that becomes loose, broken, contaminated, shows an excess or deficiency of Performance Graded Asphalt Binder, or is in any other way

defective shall be removed and replaced at no additional cost with fresh Hot Mix Asphalt Pavement, 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 on MaineDOT projects. The type of rollers to be used and their relative position in the compaction sequence shall generally be the Contractor's option, provided specification densities are 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 when checking or cracking of the mat occurs, or 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 4, unless otherwise noted by the Department in Section 403 - Hot Mix Asphalt Pavement.

TABLE 4: 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 will be required to 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 RPM application 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.

- 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.
- The top course shall not be placed until the bottom course has cooled sufficiently to provide stability.
- The Contractor will not be required to cut sample cores from the compacted pavement on the bridge deck, unless otherwise directed by Special Provision.

- d. 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.
- e. 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 minimum production and placement temperature for the Hot Mix Asphalt placed over membrane shall conform to the manufacturer's recommendations.

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.

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.

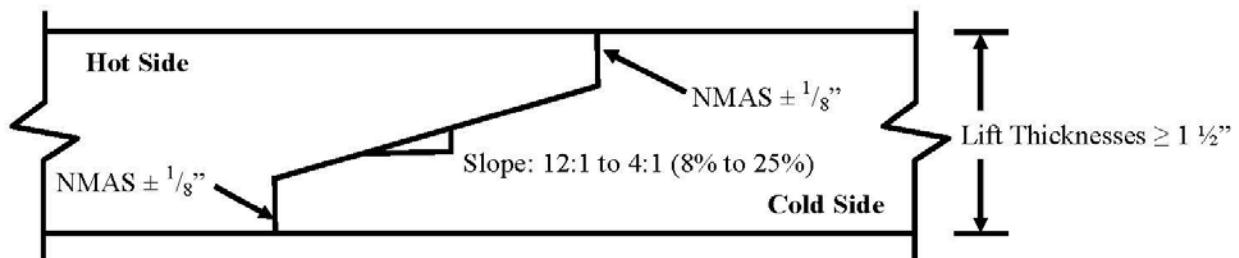


FIGURE 1: Notched Wedge Joint

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, Typical, Special Provisions and communication process. This meeting shall be held prior to placing any mix. The onsite paving supervisor, QCT, Superintendent, Resident and/or paving inspector shall attend. Prepave meetings shall not be required on projects designated as Acceptance Method D unless otherwise noted in Section 403 - Hot Mix Asphalt Pavement.

401.19 Contractor Quality Control 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 - Method A, B & C 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 including, but not limited to, the following:

- a. JMF(s)
- b. Hot mix asphalt plant details
- c. Stockpile Management (to include provisions for how the requirements of 401.071b will be met)
- d. Make and type of paver(s)
- e. Make and type of rollers including weight, weight per inch of steel wheels, and average contact pressure for pneumatic tired rollers
- f. Name of QCP Administrator, and certification number
- g. Name of Process Control Technician(s) and certification number(s)
- h. Name of Quality Control Technicians(s) and certification number(s)
- i. Mixing & transportation including process for ensuring that truck bodies are clean and free of debris or contamination that could adversely affect the finished pavement
- j. Testing Plan
- k. Laydown operations including longitudinal joint construction, procedures for avoiding paving in inclement weather, type of release agent to be used on trucks tools and rollers, compaction of shoulders, tacking of all joints, methods to ensure that segregation is minimized, procedures to determine the maximum rolling and paving speeds based on best engineering practices as well as past experience in achieving the best possible smoothness of the pavement.
- l. Examples of Quality Control forms including a daily plant report, daily paving report, and delivery slip template for any plant to be utilized.
- m. Silo management and details

- n. Provisions for varying mix temperature due to extraordinary conditions or production limitations. If a warm-mix technology is utilized, a proposed target production temperature range (not to exceed 50°F) will be provided for each mix design.
- o. Name and responsibilities of the Responsible onsite Paving Supervisor.
- p. Method for calibration/verification of Density Gauge
- q. A note that all testing will be done in accordance with AASHTO and the MaineDOT Policies and Procedures for HMA Sampling and Testing.
- r. A detailed description of RAP processing, stockpiling and introduction into the plant as well as a note detailing conditions under which the percent of RAP will vary from that specified on the JMF.
- s. A detailed procedure outlining when production will be halted due to QC or Acceptance testing results.
- t. A plan to address the change in PGAB source or supplier and the potential co-mingling of differing PGAB's.
- u. A procedure to take immediate possession of acceptance samples once released by MaineDOT and deliver said samples to the designated acceptance laboratory.
- v. Provisions for how the QCP will be communicated to the Contractor's field personnel

The QCP shall include the following technicians together with following minimum requirements:

- a. QCP Administrator - A qualified individual shall administer the QCP. 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 its designee in the QCP Administrator's absence) shall be available to communicate with the Department at all times. The QCP Administrator shall be certified as a Quality Assurance Technologist certified by the New England Transportation Technician Certification Program (NETTCP).
- 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 Contractor shall have a testing lab at the plant site, equipped with all testing equipment necessary to complete the tests in Table 5. The Contractor shall locate an approved Gyratory Compactor at the plant testing lab. The

Contractor shall generate QC sampling random numbers for each approved mix design. 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 following minimum frequencies per each approved mix design:

TABLE 5: 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 T355 or AASHTO T343
%TMD (In-Place Density - Base)	1 per 250 ton	AASHTO T355 or AASHTO T343
Fines / Effective Binder	1 per 500 ton	AASHTO T 312*
Gradation	1 per 500 ton	AASHTO T30
PGAB Content	1 per 500 ton	AASHTO T164 or AASHTO T308
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 T209
Coarse Aggregate Angularity	1 per 5,000 ton	ASTM D5821
Flat and Elongated Particles	1 Per 5,000 ton	ASTM D4791
Fine Aggregate Angularity	1 Per 5,000 ton	AASHTO T304

*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 6 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 6: 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 HMA QC test reports, inspection reports and updated control charts to the Resident and QC.mainedot@maine.gov by email. The HMA QC test reports, inspection 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 during inspections of the HMA production facility. Test results of splits that do not meet the Dispute Resolution Variance Limits in Table 14 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 401.24 - Process for Dispute Resolution (Methods A, B and C only)].

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, 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 6: 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 6 control chart control limits.

On a daily basis, 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 Table 3: Aggregate Consensus Properties Criteria in Section 703.07 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 work day. 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 - Method D Unless otherwise noted in Section 403 - Hot Mix Asphalt Pavement, the Contractor shall submit a modified QC Plan 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 Method D. All mix designs (JMF) shall be approved and verified by MaineDOT prior to use. Certified QC personnel shall not be required unless otherwise noted in

Section 403 - Hot Mix Asphalt Pavement. The Contractor shall certify the mix and the test results for each item by a Certificate of Compliance.

401.20 Acceptance Method A, B & C These methods utilizes 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 subplot on a statistically random basis, test, and evaluate in accordance with the following Acceptance Properties:

TABLE 7: ACCEPTANCE PROPERTIES

Properties	Point of Sampling	Test Method
Gradation	Paver Hopper	AASHTO T30
PGAB Content	Paver Hopper	AASHTO T308
% TMD (In-Place Density)	Mat behind all Rollers	AASHTO T269
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, where there is a minimum of four sublots, results shall be examined for statistical outliers, as stated in Section 106.7.2 - Statistical Outliers.

TABLE 8: ACCEPTANCE METHODS

Property	USL and LSL		
	Method A	Method B	Method C
Lot Size*	Entire production per item per contract up to 6000 ton	Entire production per item per contract	Entire production per item per contract up to 6000 ton
Maximum Sublot Size – Mix	750 ton	Lot quantity divided by three	750 ton
Maximum Sublot Size – Density	Surface Layers – 250 ton Base / Intermediate Layers – 500 ton	Lot quantity divided by five	Surface Layers – 250 ton Base / Intermediate Layers – 500 ton
Minimum Number of Samples – Mix	Four	Three	Four
Minimum Number of Samples – Density	Five		

*Unless otherwise agreed upon at the Prepave Meeting

If there is less than one-half of a subplot remaining at the end, then it shall be combined with the previous subplot. If there is more than one-half subplot remaining at the end, then it shall constitute the last subplot 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 and C or below 0.86 for Method B, 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.

Pavement Density The Department will measure pavement density using core samples 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. 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. Upon conclusion of each lot, density results shall be examined for statistical outliers as stated in Section 106.7.2.

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 adjustments 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.

TABLE 9: ACCEPTANCE LIMITS

Property	USL and LSL		
	Method A	Method B	Method C
Percent Passing 4.75 mm and larger sieves	Target +/-7%		
Percent Passing 2.36 mm to 1.18 mm sieves	Target +/-4%	Target +/-5%	Target +/-5%
Percent Passing 0.60 mm sieve	Target +/-3%	Target +/-4%	Target +/-4%
Percent Passing 0.30 mm to 0.075 mm sieve	Target +/-2%	Target +/-3%	Target +/-2%
PGAB Content	Target +/-0.4%	Target +/-0.5%	Target +/-0.4%
Voids at N _{design}	4.0% +/-1.5%	4.0% +/-2.0%	N/A
Fines to Effective Binder	0.9 +/-0.3	0.9 +/-0.3	N/A
VMA at N _{design}	LSL from Table 1	LSL from Table 1	N/A
VFB	Table 1 plus a 4% production tolerance for USL	Table 1 plus a 4% production tolerance for USL	N/A
% TMD (In-place Density)	95.0% +/- 2.5%		

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

TABLE 10: CEASE PRODUCTION CONDITIONS

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

*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.

The Department will sample, test, and evaluate Hot Mix Asphalt Pavement in accordance with Section 106 - Quality and Section 401.20 - Acceptance, of this Specification. 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 If the pay factor for Density falls below 0.80 for Method A or C or 0.86 for Method B, 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 for Method A or C or below 0.86 for Method B, 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 subplot 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 any single pay factor for PGAB Content, VMA at N_{design} , or Voids at N_{design} falls 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 0.55. If any single pay factor for PGAB Content, VMA at N_{design} , or Voids at N_{design} falls below 0.86 for Method B, then the composite pay factor for PGAB Content, VMA at N_{design} , and Voids at N_{design} shall be 0.70. If the PGAB content falls below 0.80 for Method C, then the PGAB pay factor shall be 0.55.

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 11: Pay Adjustment Calculations as follows:

TABLE 11: PAY ADJUSTMENT CALCULATIONS

Acceptance Method	Mix Properties / Gradation	Density
Method A	$PA = (\text{Voids @ } N_d \text{ PF} - 1.0)(Q)(P) \times 0.20 + (\text{VMA at } N_{\text{design}} \text{ PF} - 1.0)(Q)(P) \times 0.20 + (\text{PGAB Content PF} - 1.0)(Q)(P) \times 0.10$	$PA = (\text{density PF} - 1.0)(Q)(P) \times 0.50$
Method B		
Method C	$PA = (\% \text{ Passing Nom. Max PF} - 1.0)(Q)(P) \times 0.05 + (\% \text{ passing 2.36 mm PF} - 1.0)(Q)(P) \times 0.05 + (\% \text{ passing 0.30 mm PF} - 1.0)(Q)(P) \times 0.05 + (\% \text{ passing 0.075 mm PF} - 1.0)(Q)(P) \times 0.10 + (\text{PGAB Content PF} - 1.0)(Q)(P) \times 0.25$	

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 12 below shall apply in addition to the other pay adjustments for the given method of testing.

TABLE 12: 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 D Unless otherwise stated in the 403 special provision, one sample will be taken from the paver hopper or the truck body per 250 ton per pay item. The mix will be tested for gradation and

PGAB content. Disputes will not be allowed. If the mix is within the tolerances listed in Table 13, the Department will pay the contract unit price. Contractor shall cut two 6 in cores, which shall be tested for percent TMD per AASHTO T-269 unless otherwise noted in Section 403 - Hot Mix Asphalt Pavement. If the average for the two tests falls below 92.5% the disincentive shall apply. If the test results for each 250 ton increment are outside these limits, the following deductions shall apply to the HMA quantity represented by the test.

TABLE 13: METHOD D ACCEPTANCE LIMITS AND PAY ADJUSTMENTS

Property	USL and LSL	Pay Adjustment
Percent Passing 4.75 mm and larger sieves	Target +/-7%	N/A
Percent Passing 2.36 mm sieve	Target +/-7%	-2.0%
Percent Passing 1.18 mm sieve	Target +/-5%	N/A
Percent Passing 0.60 mm sieve	Target +/-4%	N/A
Percent Passing 0.30 mm sieve	Target +/-3%	-1.0%
Percent Passing 0.075 mm sieve	Target +/-3%	-2.0%
PGAB Content	Target +/-0.5%	-5.0%
% TMD (In-place Density)	LSL of 92.5%	-10.0%

If test results do not meet the Table 13 requirements, deducts as shown shall be applied to the quantity of mix represented by the test.

401.22 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.

401.23 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 & C or 401.21 Acceptance Method D.

401.24 Process for Dispute Resolution (Methods A, B, & C only) 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 and 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 14.

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 14 for the specific test result(s) or property(ies) were exceeded.

TABLE 14: DISPUTE RESOLUTION VARIANCE LIMITS

Property	Disputable on Method A/B	Disputable on Method C	Variance Limits
PGAB Content	Yes	Yes	+/-0.4%
G_{mb}	Yes	No	+/-0.030
G_{mm}	Yes	No	+/-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%

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 subplot 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	50 in/mile
II	60 in/mile
III	70 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:

<u>Pay Item</u>	<u>Pay Unit</u>
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:

	<u>Pay Item</u>	<u>Pay Unit</u>
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
403.2102	Asphalt Rich Hot Mix Asphalt, 9.5 mm Nominal Maximum Size (Asphalt Rich Intermediate course)	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

SPECIAL PROVISION
SECTION 403
HOT MIX ASPHALT

Desc. Of Course	Grad Design.	Item Number	Total Thick	No. Of Layers	Comp. Notes
<u>5" HMA Overlay Areas - Reconstruction</u>					
<u>Travelway (As Indicated)</u>					
Wearing	12.5 mm	403.2081	1 ½"	1	5,7,19,26,28,30
Intermediate	12.5 mm	403.213	1 ½"	1	5,7,26,28
Base	12.5 mm	403.213	2"	1	5,7,15
<u>4" HMA Overlay Areas - Reconstruction</u>					
<u>Approach Roads (As Indicated)</u>					
Wearing	12.5 mm	403.2081	1 ½"	1	5,7,28,30
Base	12.5 mm	403.213	2 ½"	1	5,7,15
<u>Drives, Misc. (As Indicated or As Directed)</u>					
Wearing	9.5 mm	403.209	Variable	1	2,4,10,14,16

COMPLEMENTARY NOTES

2. 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.
4. The design traffic level for mix placed shall be 0 to <3 million ESALS. 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 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.
7. Section 106.6 Acceptance, (2) Method A.
10. Section 106.6 Acceptance, (2) Method D.
14. The combined aggregate gradation required for this item shall be classified as a 9.5mm Thin Lift Mixture (TLM) mixture, using the Aggregate Gradation Control Points as defined in 703.09.
15. The entire HMA base pavement section (consisting of all base layers) 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.
16. Compaction of the new Hot Mix Asphalt Pavement will be obtained using a minimal roller train consisting of a **3-5 ton** vibratory roller. Areas less than 2 feet wide shall be compacted with a minimum of a **150 pound** plate compactor. An approved release agent is required to ensure the mixture does not adhere to hand tools, rollers, pavers, and truck bodies. The use of petroleum based fuel oils, or asphalt stripping solvents will not be permitted.
19. 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. 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.
28. The mixture shall meet the minimum requirements of Special Provision 401 – HMA Hamburg Wheel Tracker Specification.
30. 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.

Tack Coat

A tack coat of emulsified asphalt, RS-1, RS-1h, CRS-1 or CRS-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 403
HOT MIX ASPHALT

Desc. Of Course	Grad Design.	Item Number	Total Thick	No. Of Layers	Comp. Notes
<u>8" HMA Overlay Areas - Reconstruction</u>					
<u>Travelway (As Indicated)</u>					
Wearing	12.5 mm	403.2081	1 ½"	1	5,7,19,26,28,30
Intermediate	12.5 mm	403.213	1 ½"	1	5,7,26,28
Base	12.5 mm	403.213	2"	1	5,7,15
Base	19.0 mm	403.2072	3"	1/more	5,7,15
<u>4" HMA Overlay Areas - Reconstruction</u>					
<u>Approach Roads (As Indicated)</u>					
Wearing	12.5 mm	403.2081	1 ½"	1	5,7,28,30
Base	12.5 mm	403.213	2 ½"	1	5,7,15
<u>Drives, Misc. (As Indicated or As Directed)</u>					
Wearing	9.5 mm	403.209	Variable	1	2,4,10,14,16

COMPLEMENTARY NOTES

2. 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.
4. The design traffic level for mix placed shall be 0 to <3 million ESALS. 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 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**.
7. Section 106.6 Acceptance, (1) Method A.
10. Section 106.6 Acceptance, (2) Method D.
14. The combined aggregate gradation required for this item shall be classified as a 9.5mm Thin Lift Mixture (TLM) mixture, using the Aggregate Gradation Control Points as defined in 703.09.
15. The entire HMA base pavement section (consisting of all base layers) 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.
16. Compaction of the new Hot Mix Asphalt Pavement will be obtained using a minimal roller train consisting of a **3-5 ton** vibratory roller. Areas less than 2 feet wide shall be compacted with a minimum of a **150 pound** plate compactor. An approved release agent is required to ensure the mixture does not adhere to hand tools, rollers, pavers, and truck bodies. The use of petroleum based fuel oils, or asphalt stripping solvents will not be permitted.

19. 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. 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.
28. The mixture shall meet the minimum requirements of Special Provision 401 – HMA Hamburg Wheel Tracker Specification.
30. 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.

Tack Coat

A tack coat of emulsified asphalt, RS-1, RS-1h, CRS-1 or CRS-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 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:

<u>Pay Item:</u>	<u>Pay Unit:</u>
403.40 Material Transfer Vehicle (MTV)	Ton

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 joint 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 subplot 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 subplot 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: LONGITUDINAL 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:

Where

$$PA = (\text{joint density PF} - 1.0)(Q)(P) \times 0.40$$

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)					Voids Filled with Binder (VFB) (Minimum %)	Fines/Eff. Binder Ratio
	N _{initial}	N _{design}	N _{max}	Nominal Maximum Aggregate Size (mm)						
				25	19	12.5	9.5	4.75		
<0.3	≤91.5	96.0	≤98.0	13.0	14.0	15.0	16.0	16.0	70-80	0.6-1.2
0.3 to <3	≤90.5								65-80	
3 to <10	≤89.0								65-80*	
10 to <30										
> 30										

*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. 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.

Before the start of paving, the Contractor shall provide the Department with eight boxes of plant produced HMA. 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/>

401.191 Quality Control - Method A, B & C The following language has been added to Section 401.191:

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

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. 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.

The Department will sample and test the HMA during production to verify compliance with the Hamburg Wheel Tracker Requirements. If a verification 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.

SPECIAL PROVISION
SECTION 502
STRUCTURAL CONCRETE COLORED PAVEMENT

Description This work shall consist of furnishing and placing a portland cement concrete pavement and incidental construction as shown on the plans, or 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. Structural colored concrete pavement shall consist of a permanent, fade-resistant, uniform, and streak-free integral color-conditioning for Portland cement concrete.

MATERIALS

Concrete Concrete shall be Class A.

Reinforcing Steel Reinforcing steel 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 a Class I coating in accordance with ASTM A767. Nickel and aluminum shall be allowed in the galvanizing bath, but the 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 requirements of ASTM A767.

Welded Steel Wire Fabric Per Section 709.02 – Welded Steel Wire Fabric

Joint Sealant Per Section 714.04 - Sealant.

Color Conditioning Admixture Colored pavement shall consist of Portland cement concrete replicating **Color #3292 - Navajo Red** or **Color #5059 - Sorrento Red**, as manufactured by L. M. Scofield Company, or approved equal, as directed by the Resident.

The color-conditioning admixture shall be single-component, colored, factory formulated and packaged in cubic yard (cubic meter) dosage increments, not multiple additives and pigments added separately into the mix. It shall comply with ASTM C 494, ASTM C979, and AASHTO M194.

CONSTRUCTION REQUIREMENTS

Test Slabs. A test slab of colored pavement shall be poured replicating jobsite conditions, using the contemplated materials and construction techniques, and shall be submitted for approval. The slab of colored concrete shall be a minimum of 4 inches (100 mm) thick and 2 feet (0.6 meter) by 2 feet (0.6 meter) square and shall be cast as directed by the Resident.

Preparation of Foundation The foundation bed shall be well graded and compacted, as directed by the Resident, to provide the thickness of concrete as provided in the provided details

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 The concrete mix shall be placed in a continuous placement operation. Construction joints shall not be allowed. Control joints shall be 2" deep sawcuts and shall be spaced according to the Resident.

Joint 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 Section 502.14(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 Section 502.15 - Curing Concrete. The finished surface of the concrete shall receive a protective coating in accordance with Section 515 - Protective Coating for Concrete Surfaces.

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 the application of the protective coating; construction of control joints and furnishing and placement of sealant.

Excavation for the placement of the Structural Concrete, Roadway Median will be paid for under the appropriate contract pay item, Section 203 - Excavation and Embankments.

Payment will be made under:

Pay Item

Pay Unit

502.345 Structural Concrete – Colored Pavement

Cubic Yard

SPECIAL PROVISION
SECTION 502
STRUCTURAL CONCRETE
(QC/QA Acceptance Methods)

CLASS OF CONCRETE	ITEM NUMBER	DESCRIPTION	P	METHOD
A	608.26	Curb Ramp Detectable Warning Field	-	C
A	502.345	Struct. Concrete – Colored Pavement	-	C

SPECIAL PROVISION
SECTION 511
Coffer Dam

511.01 Description This work shall consist of the complete design, construction, maintenance and removal of cofferdams and other related work, including dewatering and inspection, required to allow for the excavation of foundation units, to permit and protect the construction of bridge or other structural units and to protect adjacent Roadways, embankments or other structural units, in accordance with the Contract.

511.02 Materials As specified in the cofferdam Working Drawings.

511.03 Cofferdam Construction

A. Working Drawings The Contractor shall submit Working Drawings, showing the materials to be used and the proposed method of construction of cofferdams to the Department. Construction shall not start on cofferdams until such Working Drawings have been submitted. Any review of or comment on, or any lack of review of or comment on, these Working Drawings by the Department shall not result in any liability upon the Department and it shall not relieve the Contractor of the responsibility for the satisfactory functioning of the cofferdam.

B. Construction Construct cofferdams in conformance with the submitted Working Drawings. Cofferdams shall, in general, be carried below the elevation of the bottom of footings to adequate depths to ensure stability and adequate heights to seal off water. Cofferdams shall be braced to withstand pressure without buckling, secured in place to prevent tipping or movement and be as watertight as necessary for the safe and proper construction of the substructure Work inside them. With the exception of construction of a concrete foundation seal placed under water, the interior dimensions of cofferdams shall provide sufficient clearance for the construction and inspection of forms and to permit pumping outside of forms. The Contractor shall be responsible for the righting and resetting of cofferdams that have tilted or moved laterally, as required for construction.

During the placing and curing of seal concrete, maintain the water level inside the cofferdam at the same level as the water outside the cofferdam, to prevent flow through the concrete.

No timber or bracing shall be used in cofferdams in such a way as to remain in the substructure Work.

Cofferdams shall be constructed to protect fresh concrete against damage from the sudden rising of the water body, to prevent damage by erosion and to prevent damage to adjacent Roadways, embankments or other structural units.

Unless otherwise noted, cofferdams, including all sheeting and bracing involved, shall be removed after the completion of the substructure Work in a manner that prevents disturbance or injury to the finished Work.

Cofferdams shall be constructed, dewatered and removed in accordance with the requirements of Section 656 - Temporary Soil Erosion and Water Pollution Control and related Special Provisions.

C. Inspection of Seal Cofferdams Seal cofferdam excavations shall initially be inspected and approved by the Contractor.

For each seal cofferdam excavation, the Contractor shall submit a written procedure to the Resident for sediment/overburden removal and excavation inspection. For cofferdams where seal concrete is to be placed on bedrock, the inspection procedure shall describe the Contractor's final cleaning and inspection process for attaining cleanliness of each cofferdam excavation. For cofferdams where seal concrete is not excavated to bedrock, the procedure shall describe the Contractor's final cleaning and inspection process for attaining the bottom of seal elevation shown on the Plans.

The Contractor shall notify the Resident at least 48 hours prior to when each seal cofferdam excavation will be ready for final inspection by the Department. The Contractor shall allow adequate time for each occurrence of cofferdam excavation inspection by the Department. The Contractor shall provide and maintain access and equipment, such as steel probes, for the Resident and/or the Department's Dive Team to independently inspect each cofferdam excavation.

No seal concrete placement shall begin until the Department has approved the cofferdam excavation.

511.04 Pumping Pumping from the interior of any cofferdam shall be done in such a manner as to prevent any current of water that would carry away or segregate the concrete.

Pumping to dewater a sealed cofferdam shall not commence until the seal concrete has set sufficiently to withstand the hydrostatic pressure and meets the following minimum curing time, after the completion of the installation of the seal concrete:

1. When the temperature of the water body outside the cofferdam is greater than 40°F, a minimum of 5 days.
2. When the temperature of the water body outside the cofferdam is less than 40°F, a minimum of 7 days.

Procedures for the removal of all water and materials from cofferdams shall be described in the Soil Erosion and Water Pollution Control Plan as required in Section 656 Temporary Soil Erosion and Water Pollution Control and related Special Provisions.

511.05 Method of Measurement Cofferdams will be measured as one lump sum unit, as indicated on the Plans or called for in the Contract.

511.06 Basis of Payment The accepted quantity of cofferdam will be paid for at the Contract lump sum price for the respective cofferdam items, which price shall be full compensation for design, construction, maintenance, inspection and removal.

When required, the elevation of the bottom of the footing of any substructure unit may be lowered, without change in the price to be paid for cofferdams. However, if the average elevation of more than 25% of the area of the excavation is more than 3 feet below the elevation shown on the Plans, and if requested by the Contractor, then the additional costs incurred that are included in the cofferdam Pay Item will be paid for in accordance with Section 109.7 - Equitable Adjustments to Compensation. The Contractor shall immediately notify the Department when these additional costs commence. Failure of the Contractor to provide this notification will result in undocumented additional work that will be non-reimbursable. The Department will evaluate this additional work to determine an appropriate time extension, if warranted.

All costs for sedimentation control practices, including, but not limited to, constructing, maintaining, and removing sedimentation control structures, and pumping or transporting water and other materials for sedimentation control will not be paid for directly, but will be considered incidental to the cofferdam Pay Item(s).

All costs for related temporary soil erosion and water pollution controls, including inspection and maintenance, will not be paid for directly, but will be considered incidental to the cofferdam Pay Item(s).

All costs associated with preparation of Working Drawings, design calculations, written procedure for sediment/overburden removal and excavation inspection, and the inspection of the seal cofferdam excavation shall be considered incidental to the cofferdam Pay Item(s). There shall be no additional payment for repeated inspection by the Department of the same cofferdam excavation.

All costs for cofferdams and related temporary soil erosion and water pollution controls, including inspection and maintenance, will be considered incidental to related Pay Items, when a specific Pay Item for cofferdams is not included in the Contract.

Seal concrete will be evaluated under Section 502.

Payment will be made under:

Pay Item

Pay Unit

511.07 Cofferdam

Lump Sum

SPECIAL PROVISION
SECTION 531
DETAIL-BUILD HEADWALL/WINGWALL
(Lump Sum)

531.1 DESCRIPTION

This work consists of the design, detailing, fabrication, delivery, and construction of a headwall/wingwall system and footing at the end of a proposed 48-inch Reinforced Concrete Pipe at Station 13+24.00 in accordance with these Specifications, and in conformity with the lines, grades, and dimensions shown on the Contract Plans. This work shall include, but is not limited to the following*:

- Design and detailing of new headwalls/wingwalls and footing
- Removal of the existing structure in its entirety
- Headwall/wingwall system materials
- Connection of proposed RCP to headwall/wingwall
- Structural Concrete
- Structural Concrete quality control program
- Reinforcing Steel
- Structural Earth Excavation
- Granular Borrow
- French Drains
- Protective Coating for Concrete Surfaces
- Curing Box for Concrete Cylinders

*Notes:

1. Some of the items listed above may not be applicable, depending on the structure option chosen.
2. Any items specifically needed for the construction of the proposed headwall/wingwall system as shown on the Contract Drawings that are not specifically covered by a separate item shall be considered incidental to the work included under this item.

531.2 DETAIL-BUILD OPTIONS

All headwall/wingwall system options shall be supported by foundations consisting of cast-in-place concrete footings.

Allowable detail-build headwall/wingwall systems are limited to the following:

- Cast-in-place concrete
- Precast structural concrete
- Prefabricated concrete modular gravity wall

531.3 DESIGN REQUIREMENTS

The headwall/wingwall systems and footings shall be designed by a Professional Engineer (Engineer of Record) licensed in the State of Maine. The design shall be completed in accordance with the latest editions of the AASHTO LRFD Bridge Design Specifications, the MaineDOT Bridge Design Guide (BDG), MaineDOT Standard Details, MaineDOT Standard Specifications, and project-specific Special Provisions.

Limited subsurface information is provided in the project Geotechnical Design Reports (GDR) which are a part of the Contract Documents. Geotechnical and structural design of the headwall/wingwall systems and footings shall be the responsibility of the Contractor and their Designer. Additional subsurface information needed for design is the responsibility of the Contractor. Any information in the GDR used by the Contractor for this design is at their own risk.

All structural components of the headwall/wingwall design, in their entirety, shall be checked through independent calculations by a Professional Engineer (different than the Engineer of Record) licensed in the State of Maine. Proof of the independent check shall be submitted to the Department as part of the final design submittal in accordance with 531.5-Submittals.

The headwall and wingwall shall be designed in accordance with the dimensions and elevations given on the Plans.

The connection of the proposed 48-inch RCP to the headwall shall be in accordance with manufacturer's recommendations and submitted to the Resident for review and acceptance.

Riprap shall be placed around the structure as shown on the Plans.

531.4 MATERIALS

All materials shall meet the minimum requirements of the MaineDOT Standard Specifications, project-specific Special Provisions, and the MaineDOT BDG and shall apply to all work included within this Special Provision with additional project-specific requirements listed below:

Buy America **IS** applicable to this project.

Structural Concrete

- Concrete shall be Class LP unless otherwise noted.
- All steel hardware and fasteners shall be galvanized per ASTM A153.

- Reinforcing steel shall conform to the requirements of ASTM A-615, Grade 60.
- Welded wire fabric, if used, shall conform to the requirements of ASTM A-497.
- Galvanized reinforcing and welded wire fabric shall be hot-dipped and conform to the requirements of ASTM A-767. Minimum clear cover to reinforcement shall be 1½ inches.
- Exposed surfaces of concrete wall units shall be free of chips, cracks or other imperfections when viewed from a distance of 10 feet under diffused lighting.

Backfill material shall meet the requirements of Standard Specification 703.19, Granular Borrow, Material for Underwater Backfill, unless otherwise noted.

Materials Certificate Letter. The Contractor, or the supplier as their agent, shall furnish the Resident a Materials Certificate Letter for the above materials, including the backfill material, in accordance with Section 700 of the Standard Specifications. A copy of all test results performed by the Contractor or their supplier necessary to assure contract compliance shall also be furnished to the Resident. The Resident will base acceptance upon the materials Certificate Letter, accompanying test reports, and visual inspection.

531.5 SUBMITTALS

The Contractor shall submit a design package for review that includes computations, wall details, dimensions, quantities, and cross sections necessary to construct the headwall/wingwall system. All comments by the Department shall be addressed by the Contractor with written verification of resolution from the Department prior to the final submittal.

The final submittal shall be submitted by the Contractor to the Department electronically and shall include the final Design Drawings, Design Computations, and Design Check Computations. All comments made by the Department on the submittal shall be addressed by the Contractor. Fabrication shall not proceed until written acceptance of the final design is received by the Contractor from the Resident. The Design Drawings shall be signed and sealed by the Engineer of Record.

531.6 CONSTRUCTION REQUIREMENTS

All included work shall meet the applicable sections of the Standard Specifications, project-specific Special Provisions.

The existing stone dam upstream from the proposed headwall/wingwall shall remain intact and undisturbed.

531.7 METHOD OF MEASUREMENT

The accepted headwall/wingwall system will be measured by Lump Sum for the complete design, detailing, fabrication, delivery, and construction of the new system, including connection to the proposed 48-inch RCP.

531.8 BASIS OF PAYMENT

The accepted headwall/wingwall system will be paid for at the contract Lump Sum price for the pay item listed below. Such payment shall be full compensation for design, detailing, fabrication, delivery, and construction of one of the options listed under 531.2 - Detail-Build Options, and all of the applicable items listed under 531.1. The individual items shall be governed by their respective Specifications and Special Provisions.

Removal of the existing system will be incidental to the appropriate Contract items.

The 48-inch Reinforced Concrete Pipe will be paid for separately under the appropriate Contract item.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
531.59 Headwall/Wingwall Detail-Build	Lump Sum

SPECIAL PROVISION
SECTION 534
PRECAST STRUCTURAL CONCRETE

Revise Paragraph 2 of 534.07 Quality Control to say:

Provide a copy of the Quality System Manual (QSM) to the Fabrication Engineer for review and approval.

Add the following Paragraph to 534.07 Quality Control:

QC staff shall be separate from production and shall not perform any production work.

Revise Sentence 1 in 534.17 Finishing Concrete to say:

Concrete Products shall be finished to meet the Standard Grade finish as described in the MNL-116.

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:

<u>Pay Item</u>		<u>Pay Unit</u>
603.155	12 Inch Reinforced Concrete Pipe Class III	Linear Foot
603.165	15 Inch Reinforced Concrete Pipe Class III	Linear Foot
603.175	18 Inch Reinforced Concrete Pipe Class III	Linear Foot
603.1752	18 Inch Reinforced Concrete Pipe Class IV	Linear Foot
603.19	24 Inch Culvert Pipe Option I	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
603.235	48 Inch Reinforced Concrete Pipe Class III	Linear Foot
603.245	54 Inch Reinforced Concrete Pipe Class III	Linear Foot
603.275	72 Inch Reinforced Concrete Pipe Class III	Linear Foot
603.451	48 Inch Reinforced Concrete Pipe Class V	Linear Foot

SPECIAL PROVISION
SECTION 605
UNDERDRAINS
(Drainage Stone)

The drainage stone shall meet the material requirements of Subsection 703.22 Type C Underdrain Backfill Material.

Payment will be made under:

	<u>Pay Item</u>	<u>Unit</u>
605.36	Drainage Stone	Cubic Yard

SPECIAL PROVISION
SECTION 606

BURIED-IN-SLOPE GUARDRAIL END

DESCRIPTION

The work shall consist of furnishing and installing a buried-in-slope guardrail end in accordance with this special provision and in conformance with the lines and grades shown on the plans. The work shall also include any excavation or backfill necessary for proper installation.

MATERIALS

Guardrail Components The guardrail components shall meet the requirements of Standard Specification 606 – Guardrail.

CONSTRUCTION REQUIREMENTS

Buried-in-slope guardrail end shall be constructed in accordance with the attached drawings and Specification 606 – Guardrail with the following additions:

- Height of guardrail shall be tapered down in elevation to maintain 44 inch maximum height.
- All posts shall be 8ft. in length from where the guardrail flares away from the road back to the anchor posts. Posts for the post anchor shall be 6ft. long.
- The post anchor shall be used. The Contractor shall inform the Engineer if an anchor alternative is proposed to be used. The contractor shall receive approval from the Resident, for any alternative anchor; prior to placement of guardrail.
- A minimum of 1ft. cover shall be placed over the post anchor. All backfilled material shall be compacted.

METHOD OF MEASUREMENT

Buried-in-slope guardrail end shall be measured for payment by each unit complete in place. The unit shall include but not be limited to the following guardrail components:

<i>Component</i>	<i>Item Number</i>	<i>Quantity</i>
Steel Post	PWE01-8ft. long	10
Steel Post Anchor	PWE01- 6ft. long	3
Offset Block	PDB01- modified	10
Galvanized Steel Plate	See attached drawings	13
“W” Beam Section	RWM04a	66.6 ft.
Rub Rail	RWM02	53.8 ft.

BASIS OF PAYMENT

The accepted quantities of buried-in-slope guardrail end shall be paid for at the contract unit price per each, complete in place. Such payment shall be full compensation for furnishing all material to assemble and all incidentals necessary to complete the work. All excavation, backfill grading and compaction required to complete the installation shall be included in the unit bid price for the item.

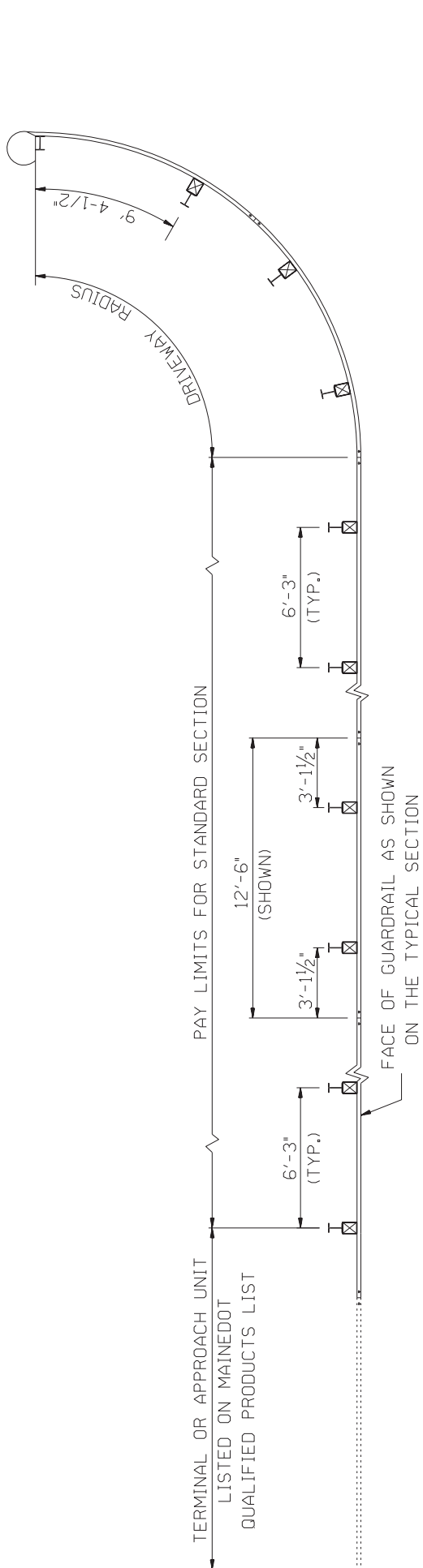
Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
606.80	Buried-in-slope guardrail end	Each

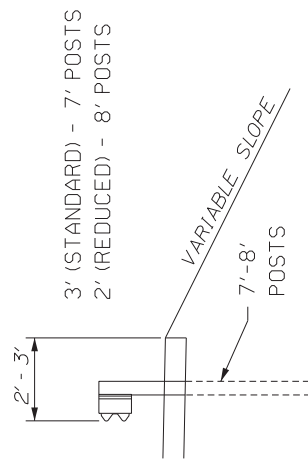
SPECIAL PROVISION
SECTION 606
GUARDRAIL

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

<u>Pay Item</u>	<u>Pay Unit</u>
606.1301 31" W-Beam Guardrail - Mid-Way Splice (Steel Post, 8" Offset Blocks, Single Faced)	Linear Foot
606.1302 31" W-Beam Guardrail - Mid-Way Splice (Steel Post, 8" Offset Blocks, Double Faced)	Linear Foot
606.1303 31" W-Beam Guardrail - Mid-Way Splice (Steel Post, 8" Offset Blocks, 15' Radius and Less)	Linear Foot
606.1304 31" W-Beam Guardrail - Mid-Way Splice (Steel Post, 8" Offset Blocks, Over 15' Radius)	Linear Foot
606.1305 31" W-Beam Guardrail - Mid-Way Splice Flared Terminal (31" Height)	Each
606.1306 31" W-Beam Guardrail - Mid-Way Splice Tangent Terminal (31" Height)	Each
606.1307 Bridge Transition (Asymmetrical) – Type 1A	Each
606.1308 Buried-in-Slope Guardrail End, Mid-Way Splice	Each

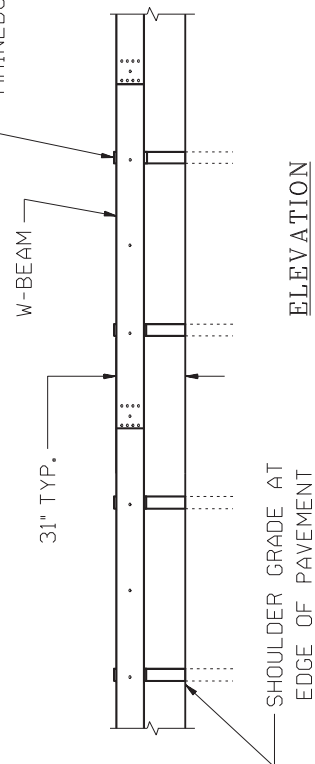


PLAN



CROSS SECTION

W 6x9.0 OR W 6x8.5 STEEL POST WITH 6" x 8" WOOD
OFFSET BLOCK OR OTHER 8" BLOCK LISTED ON
MAINEDOT QUALIFIED PRODUCTS LIST (TYP.)



31" W-BEAM GUARDRAIL - MID-WAY SPLICE

SPECIAL PROVISION
SECTION 609
CURB

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

<u>Pay Item</u>		<u>Pay Unit</u>
609.21	Concrete Slipform Curb	Linear Foot
609.221	Terminal Curb Type 1	Linear Foot
609.222	Terminal Curb Type 1 – Circular	Linear Foot

SPECIAL PROVISION
SECTION 610
STONE FILL, RIPRAP, STONE BLANKET, AND STONE DITCH PROTECTION
(Stream Channel Rock)

610.01 Description This work shall consist of furnishing and placing stone and aggregate to form banklines inside and outside of a culvert as part of constructing a nature-like streambed.

610.02 Materials Material for stream channel rock shall consist of a well graded mix of hard, sound, durable stone and aggregate to fill voids.

Stream channel rock shall conform to the following requirements:

- a. Approximately 2 parts by volume shall be stone meeting the requirements of the Standard Specifications Subsection 703.29 - Stone Ditch Protection.
- b. Approximately 1 part by volume shall be well graded aggregate meeting the requirements of Section 203.33 – Special Fill.

The Contractor shall identify the source and proposed mix for inspection at least 10 working days prior to the start of stream channel construction. The grading of stone for Stream Channel Rock shall be determined by the Resident by visual inspection in accordance with the Standard Specifications, Section 610.032.d Inspection. Mix proportions and material gradations shall be within the above limits or as otherwise adjusted by the Resident to obtain a mix that has adequate material to fill voids without reducing the stability of the stone.

610.03 Construction Requirements

1. Place stream channel rock within the culvert at approximately Sta. 24+42 to form banklines with the shape as shown on the plans or approved by the Resident. The banklines shall extend upstream and downstream from the culvert and match into the existing streambanks as directed.
2. Stream channel rock shall be thoroughly pre-mixed and be placed in a manner that minimizes segregation of the stone and aggregate. The material shall be placed by machine or by hand as required to achieve the specified shape and thickness of the banklines.
3. All stones shall be firmly embedded and securely interlocked with aggregate between and below larger stones to fill voids. Larger stones may protrude above the average surface but shall be well embedded in the mix. Placement of only void-fill material to achieve the specified height of the banklines will not be permitted.

4. Stream channel rock shall be placed in a minimum of 2 layers and thoroughly washed-in with water immediately after placement of each layer. After washing-in, the minimum height of the banklines shall be as shown on the plans with an allowable surcharge of up to 6 inches.

5. If voids remain in the banklines after the initial washing-in, filler material (as described in Special Provision Section 203 – Special Fill) shall be placed as required to fill remaining voids. The material shall be washed-in with additional water until the voids are filled and there is minimal piping of water through the stone.

6. Prior to exposure to natural flow conditions the banklines shall be at the specified height, thoroughly wetted and compacted with voids filled, checked and approved by the Resident.

610.04 Method of Measurement Stream channel rock will be measured in place by the cubic yard.

610.05 Basis of Payment The accepted quantity of stream channel rock will be paid for at the contract price per cubic yard complete in place. Payment shall be full compensation for furnishing all materials, equipment, and labor and washing-in with water.

Pay Item

Pay Unit

610.210 Stream Channel Rock

CY

SPECIAL PROVISION
SECTION 610
STONE FILL, RIPRAP, STONE BLANKET, AND STONE DITCH PROTECTION
(Streambed Rock Features)

610.01 Description This work consists of furnishing and placing large stones in the streambed inside and outside of a culvert to simulate naturally occurring features.

610.02 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. Unwashed stone, and stone with naturally fractured faces will be allowed.

Material for streambed rock features shall conform to the following:

a. Medium cobbles - shall be a well graded mix of stones with a minimum size of 2 inches and a maximum size of 9 inches average dimension. Fifty percent of the stones by volume shall have an average dimension greater than 5 inches. At least seventy five percent of the material shall be within the specified minimum and maximum sizes.

b. Filler material - shall consist of a well graded mix of gravel, sand and fines as described in Special Provision 203 - Special Fill, Section 203.02.c.

The Contractor shall identify the source and proposed stones for inspection at least 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.

610.03 Construction Requirements

1. Place stones to form rock bands and other rock features such as cobble bars in the location and with the shape and to the required grade as shown on the plans or as directed by the Resident. Individual stones shall be rearranged by machine or handwork as required to achieve the specified shape, slope, and elevations.

2. Stones for rock bands shall be placed in a compact mass laterally across the width of the culvert or between the banklines as shown on the plans. Place stones on a firm layer of streambed material as described in Special Provision Section 203 – Special Fill. The stones shall be placed in close contact and securely interlocked with all stones firmly embedded in the special fill.

Woodstock
Route 26
WIN 18767.00
August 19, 2020

3. Stones for cobble bars shall be placed as shown on the plans. The stones shall be placed in close contact and securely interlocked with all stones firmly embedded in the special fill.

4. Place and spread filler material around the stones and wash-in with water as needed to fill voids and prevent piping between the stones.

5. The top of the stones may protrude above the flowline or the average surface but all stones shall be firmly embedded. Loose or excessively protruding stones shall be embedded, reoriented or replaced as directed.

610.04 Method of Measurement Streambed rock features will be measured by the cubic yard, complete in place.

610.05 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:

<u>Pay Item</u>	<u>Pay Unit</u>
610.212 Streambed Rock Features	CY

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 MaineDOT Standard Specifications (Section 621) for landscape materials and installation procedures. The MaineDOT Landscape Architect or their designee will be available to stake plant material locations and inspect plant materials at the time of planting. All plants may not be used on the project. Plantings shall be located around the detention basin fence at Sta. 43+50 L.

ITEM NO	Description	Unit	Quantity	Total
621.025	Evergreen Trees 3' – 4' Group A, B&B or Cont.			6
	Pinus strobus (White Pine)	Ea	2	
	Picea glauca (White Spruce)	Ea.	2	
	Abies balsamea (Balsam Fir)	Ea	2	
621.031	Evergreen Trees 4' – 5' Group A, B&B			6
	Pinus strobus (White Pine)	Ea.	2	
	Picea glauca (White Spruce)	Ea.	2	
	Abies balsamea (Balsam Fir)	Ea.	2	
621.127	Small Deciduous Trees 6-8', clump Group B			8
	Amelanchier canadensis (Shadbush)	Ea	3	
	Betula papyrifera (White Birch)	Ea	5	

621.255	Large Decid. Trees 8–10' Group A, Cont. or B&B	Ea		5
	Acer rubrum (Red Maple)	Ea	5	
621.552	Deciduous Shrubs 3 – 4' Group A, Container			35
	Viburnum dentatum (Arrowwood)	Ea	5	
	Viburnum lentago (Nannyberry)	Ea	5	
	Aronia melanocarpa (Black Chokeberry)	Ea.	5	
	Cornus racemosa (Gray Dogwood)	Ea.	5	
	Cornus sericea 'Baileyi' (Red Twig Dogwood)	Ea.	10	
	Hammamelis virginiana (Witch Hazel)	Ea.	5	

SPECIAL PROVISION
SECTION 626
Foundations

626.05 Basis of Payment:

This Section is amended with the addition of the following:

<u>Pay Item</u>		<u>Pay Unit</u>
626.31	18 Inch Foundation	Each

SPECIAL PROVISION
SECTION 636
SOIL NAIL RETAINING WALL - DESIGN

636.01 DESCRIPTION

This work shall consist of designing, engineering, and detailing a permanent soil nail retaining wall at the plan location and vertical extents shown on the Plans. The Contractor shall furnish all labor, plans, drawings, design calculations, and all other material and equipment required to design the soil nail retaining wall in accordance with MaineDOT Standard Specifications and these Special Provisions.

636.02 GENERAL REQUIREMENTS

The Contractor shall design the soil nail retaining wall using the Load and Resistance Factor Design (LRFD) method, as outlined in FHWA Geotechnical Engineering Circular No. 7 “Soil Nail Walls”, updated February 2015, and if applicable, the AASHTO LRFD Bridge Design Specifications, 9th Edition, 2020 with the latest interim specification including the Guide Specifications for Seismic Design of Highway Bridges.

Soil/rock shear strength parameters, slope and external surcharge loads, seismic design coefficient, type of wall facing, architectural treatment, corrosion protection requirements, easements, and right-of-ways used to develop design requirements for the soil nail retaining wall will be as specified herein and as shown on the Plans. This information shall be used by the Contractor as the basis of design for the soil nail retaining wall.

The Contractor shall submit detailed Shop Drawings and design calculations, stamped and signed by a Professional Engineer licensed in the State of Maine to the Department for review and approval.

It is not the intent of this Special Provision to provide detailed step-by-step instructions for the design and execution of the work or to identify each material or component to be supplied or each item of work or coordination to be performed. However, the Plans, the Special Provisions, and the MaineDOT Standard Specifications do delineate the general design intent with regard to plan location, lines and grades, appearance, materials, type of construction, physical requirements, relationships of elements, and the type and quality of construction required. Where specific details, sequences, relationships, requirements and materials are shown or specified, they shall be strictly adhered to and provided. Where such information is not provided, is only partially provided, or is addressed only in a general nature, it shall be the Contractor’s responsibility to provide or fully develop such information and submit the same for the Department’s approval. This shall include comprehensive, coordinated, detailed design and Shop Drawings, drawings of existing and adjacent conditions, design calculations, product data, test results, installation instructions and sequencing, and all other information required for a complete evaluation by the Department of proposed materials, details, systems, quality and thoroughness of work.

It shall be solely the Contractor’s responsibility to provide all required design, engineering and detailing, and to perform the work by such means and methods as will render a construction that is complete in all respects, all to the satisfaction of the Department and all authorities having jurisdiction.

It shall be the responsibility of the Contractor and their soil nail retaining wall system designer to review both the soil data in the Geotechnical Design Report (GDR) and the proposed application of soil nail retaining wall system to account for appropriate drainage needs and incorporate into the design. A positive drainage system shall be included in the design, comprising of geocomposite drain strips, PVC connection pipes, and wall underdrain.

A qualified representative of the wall designer shall be onsite for a minimum of four (4) hours each day while wall construction is performed to monitor, confirm design requirements are being met, and approve construction methods until such time that the first level of soil nails and shotcrete are placed. Thereafter, said representative(s) shall be onsite at least two days each week (for a minimum of four (4) hours per day) until the work is complete, to ensure that the Contractor's procedures satisfy the intent of the design. No separate or additional payment will be made for complying with these requirements.

636.03 AVAILABLE INFORMATION

Available information developed by the Department or the Department's duly authorized Representative includes the following items:

- 1.) Plans prepared by the Department and Haley & Aldrich, Inc.
- 2.) Geotechnical Design Report prepared by Haley & Aldrich, Inc. entitled, "Geotechnical Design Report - Roadway, Route 26 Improvements, MaineDOT WIN 018767.00, Woodstock, Maine," dated 19 August 2020 (GDR).
- 3) Seismic Refraction Report prepared by Northeast Geophysical, Inc., entitled "Seismic Refraction Survey, Route 26 Highway Rehabilitation Site, Woodstock, Maine," dated June 2020.
- 4) Design drawings of the existing soil nail wall prepared by Earthwork Engineering, Inc., dated 2 January 2013.
- 5) Special Provision, Section 636 - Soil Nail Retaining Wall – Construction.

636.04 CONTRACTORS'S DESIGN EXPERIENCE REQUIREMENTS

The Contractor shall submit a detailed resume of their soil nail retaining wall designer, listing a minimum of five (5) similar projects and demonstrating the necessary experience to perform the soil nail retaining wall design, including a brief description of each project that is similar in scope. A reference shall be included for each project listed. As a minimum, the reference shall include the owner's name, address and current phone number. The soil nail retaining wall designer shall have experience in the design of at least three (3) successfully completed permanent soil nail retaining wall projects over the past three (3) years. The soil nail wall designer shall be a licensed Professional Engineer in the State of Maine and shall have worked on the above projects. The soil nail retaining wall design submittal by the Contractor shall be stamped by this individual.

636.05 SOIL NAIL WALL DESIGN SUBMITTALS

The Contractor shall submit complete and accurate Shop Drawings to the Department for review and approval. It shall be understood that all submittals shall be revised until acceptable to the Department and shall be resubmitted as many times as necessary to gain such acceptance, without giving rise to any claims for additional compensation or extension to the time of completion. Revisions to all design/Shop Drawing submittals shall be completed as needed by the Contractor at no additional cost to the Department.

The Shop Drawings shall show the configuration and all details, dimensions, quantities and cross-sections necessary to construct the soil nail retaining wall, including but not limited to, the following:

1. A plan view of the soil nail retaining wall(s) identifying:
 - a. A reference elevation datum.
 - b. Beginning and end of soil nail retaining wall stations.
 - c. Right-of-way and permanent or temporary construction easement limits, location of all known active and abandoned existing utilities, adjacent structures (including the existing soil nail wall), or other potential interferences. The centerline of any drainage structure or drainage pipe behind, passing through, passing under or passing near the wall.
 - d. Limit of longest soil nails.
 - e. Subsurface exploration locations shown on a plan view of the proposed soil nail retaining wall alignment with appropriate reference base lines to fix the locations of the explorations relative to the wall.
 - f. Existing topographic information and proposed site grading.
2. An elevation view of the soil nail retaining wall identifying:
 - a. The elevation at the top of the soil nail retaining wall, at all horizontal and vertical break points, and at least every 30 ft along the wall.
 - b. Elevations at the soil nail retaining wall base.
 - c. Beginning and end of soil nail retaining wall stations.
 - d. The distance along the face of the soil nail retaining wall to all steps in the soil nail retaining wall base.
 - e. Soil nail retaining wall elevation view showing nail locations and elevations; vertical and horizontal nail spacing; and the location of soil nail retaining wall drainage elements.
 - f. Existing and finish grade profiles both behind and in front of the soil nail retaining wall.
 - g. Designations, head elevations, and locations of soil nails.
 - h. Summary table including but not limited to nail designation, head elevation, total soil nail length, bond lengths, unbonded lengths, inclinations, drillhole and bar diameter, and anticipated soil/rock conditions.
3. Design parameters and applicable codes.
4. General notes for constructing the soil nail retaining wall including construction sequencing and other special construction requirements.

5. A listing of the summary of quantities on the elevation drawing of each soil nail retaining wall showing estimated square feet of wall face areas.
6. Soil nail retaining wall typical sections including staged excavation lift elevations, wall and excavation face batter, nail spacing and inclination, nail bar sizes, and corrosion protection details.
7. A typical detail of production and test nails defining the nail length, minimum drillhole diameter, inclination, and test nail bonded and unbonded test lengths.
8. Details, dimensions, and schedules for all nails, reinforcing steel, wire mesh, bearing plates, headed studs, etc. and/or attachment devices for shotcrete and cast-in-place facings.
9. Dimensions and schedules of all reinforcing steel including reinforcing bar bending details.
10. Details and dimensions for soil nail retaining wall appurtenances such as barriers, coping, drainage gutters, fences, etc.
11. Details for constructing soil nail retaining walls around drainage facilities.
12. Details of sleeves and pipes and other embedded items to be installed through the soil nail retaining wall, if any.
13. Details for terminating soil nail retaining wall and adjacent slope construction.
14. Facing finishes for permanent soil nail retaining wall facings.
15. Location of utilities, if any.
16. Method of maintaining stability of excavations.
17. Methods of monitoring soil nail retaining wall face profile and deviation of soil nail retaining wall profile from design.
18. Excavation support system, if any.
19. Any acceptance testing and frequency.
20. Details and location of all necessary construction and expansion joints along the soil nail retaining wall.

The Contractor shall also submit complete design computations, demonstrating compliance with the criteria specified herein and shown on the Plans. They shall be well organized and prepared, signed, and stamped by a Professional Engineer licensed in the State of Maine and specializing in geotechnical engineering. Based on anticipated subsurface conditions, the design of the system should account for the possibility that soil nails may need to be installed in both soil and rock.

Design calculations shall include, but not be limited to the following items:

1. A written summary report which describes overall soil nail retaining wall design.
2. Applicable code requirements and design references.
3. Nail wall retaining wall critical design cross section(s) geometry including soil strata and location, magnitude and direction of design slope or external surcharge loads, and phreatic surface level(s).
4. Design criteria including soil shear strengths (friction angle and cohesion), unit weights, ground-grout pullout resistances, nail drillhole diameter assumptions for each soil strata.
5. Load and resistance factors used in the design on the pullout resistance, surcharges, soil unit weights, nail head strengths, and steel, shotcrete, and concrete materials. Minimum required global stability soil factor of safety shall meet the minimum required in accordance with AASHTO LRFD.
6. Seismic design acceleration coefficient.
7. Recommendations for drainage behind the soil nail retaining wall including the type and spacing of prefabricated drainage elements and other information.
8. Calculations of estimated horizontal and vertical soil nail retaining wall deflections.
9. Design calculation sheets with the MaineDOT project number, wall location, designation, date of preparation, initials of designer and checker, and page number at the top of each page. Provide an index page with the design calculations.
10. Design notes including an explanation of any symbols and computer programs used in the design.
11. Soil nail retaining wall final design cross-section(s) geometry including soil strata and location, magnitude and direction of slope or external surcharge loads, and phreatic surface level(s), with critical slip surface shown along with minimum calculated global stability soil factor of safety and required nail lengths and strengths (nail bar sizes and grades) for each nail row.
12. Structural design calculations for soil nail retaining wall facing and nail head/facing connections including consideration of facing flexural and punching shear strength, headed studs tensile strength, upper cantilever, minimum reinforcement ratio, cover and splice requirements.
13. Information pertaining to the cast-in-place wall including reinforcing details, connections and other information.
14. Analysis demonstrating the durability and corrosion resistance of soil nail retaining wall system for the proposed location and environment.
15. Other design calculations.

16. Construction considerations such as removal of the existing soil nail retaining wall, construction working berms, maintaining the stability of the cut face prior to shotcreting, and other relevant considerations.

The Contractor shall also submit the manufacturer's product data for the soil nail retaining wall system, including material, manufacture and erection specifications, all specialized erection equipment necessary, special details required of reinforcing layout, and design properties.

The Contractor's soil nail retaining wall design submittal(s) shall be sufficiently detailed and complete such that an independent soil nail retaining wall Contractor would have all the necessary information to construct the soil nail retaining wall in accordance with the soil nail retaining wall design.

636.06 SPECIAL DESIGN CONDITIONS SPECIFIC TO THIS PROJECT

Specific comments relative to design of the Soil Nail Retaining Wall for this project are provided below. Reference should be made to the available information (636.03) for additional information.

Existing Soil Nail Retaining Wall. An existing soil nail retaining wall is present immediately in front of the proposed soil nail wall alignment. Design plans for the existing wall are available and should be reviewed. As-built information is not available. The construction sequence should address the presence of the existing soil nail retaining wall, including the method of removal and evaluation of potential interference with the proposed soil nail retaining wall.

Subsurface Conditions. Test borings were conducted in the road in front of the existing soil nail retaining wall; however due to site restrictions test borings were not conducted behind the existing soil nail retaining wall. A seismic refraction survey was conducted behind the existing soil nail retaining wall to provide information on the depth to bedrock. This information should be considered approximate. The wall designer should account for the uncertain nature of the subsurface data available at and behind the existing soil nail retaining wall.

Soil Nail Testing. Verification tests will be required during construction (at a time and location subject to the approval of the Resident) on sacrificial nails. The number and location of verification tests shall be specified as a part of the Soil Nail Retaining Wall design submittal. A minimum of four (4) verification tests shall be performed. Verification and proof testing shall be completed in accordance with Special Provision, Section 636 – Soil Nail Retaining Wall – Construction to confirm that the soil nail retaining wall design requirements have been met.

In the event that changes to the soil nail retaining wall design are required as a result of failed proof tests, or other problems related to unsatisfactory performance of the soil nail wall, the required design changes shall be made at no additional cost to the Department.

636.07 METHOD OF MEASUREMENT

Soil Nail Retaining Wall Design will be measured by the Lump Sum. The Lump Sum payment shall be for full compensation of all plans, drawings, design calculations, and all other material, equipment and incidentals required to design the soil nail retaining wall, as judged by the Department, in accordance with all requirements of the Contract. There will be no additional

compensation for design modifications as a result of failed verification or proof tests, or otherwise unsatisfactory performance of the soil nail retaining wall.

636.08 BASIS OF PAYMENT

Soil Nail Retaining Wall Design will be paid for at the Contract Lump Sum price.

Payment will be made under:

Pay Item

Pay Unit

636.400 Soil Nail Wall - Design

Lump Sum

SPECIAL PROVISION
SECTION 636
SOIL NAIL RETAINING WALL - CONSTRUCTION

636.01 DEFINITIONS

“Layout Drawings”. For purposes of this Special Provision, the term “Layout Drawings” shall refer to the Plans, elevation and typical cross-sections shown on the Drawings. “Layout Drawings” are one form of “Plans” as defined in Section 101.2.

“Soil Nail Retaining Wall Design”. For purposes of this Special Provision, the term “Soil Nail Retaining Wall Design” shall refer to design information (including drawings, working drawings, shop drawings, sketches, calculations, tables, catalog cuts, or other relevant information) provided to fulfill the requirements of Special Provision, Section 636 - Soil Nail Retaining Wall - Design, and approved by the Department.

636.02 DESCRIPTION

The Work shall consist of constructing a permanent soil nail retaining wall as specified herein and as shown on the Plans, and per the reviewed/approved soil nail retaining wall design per Special Provision, Section 636 - Soil Nail Retaining Wall – Design. The Contractor shall furnish all labor materials and equipment required for completing the Work. The Contractor shall select the method of excavation, drilling method and equipment, final drillhole diameter, and grouting procedures to meet the performance requirements specified herein.

The Work shall include, but may not be limited to, excavating in staged lifts as specified in the reviewed/approved soil nail retaining wall design; drilling soil nail holes to minimum length and orientation specified in the reviewed/approved soil nail retaining wall design; providing, placing and grouting the encapsulated epoxy coated, steel bars (nails) in the drillholes; placing drainage elements; placing shotcrete reinforcement; applying shotcrete facing over the reinforcement; attaching epoxy-coated bearing plates and nuts; and performing soil nail testing. Shotcrete facing construction and placing drainage elements are covered under this Special Provision. Cast-in-place concrete facing construction is covered by the Standard Specifications.

The term “soil nail” as used in these Special Provision is intended as a generic term and refers to an epoxy coated, reinforcing bar grouted into a drilled hole installed in any type of ground (either soil or rock).

A pre-construction meeting shall be held prior to the start of the Work and shall be attended, at a minimum, by the Resident or the Department’s duly authorized representative, the soil nail retaining wall designer, the Contractor, and the soil nail retaining wall specialty Subcontractor. The pre-construction meeting shall be conducted to clarify the construction requirements for the Work, to coordinate the construction activities, and to identify contractual relationships and responsibilities.

Existing structures, utilities and other underground structures shown and/or referenced on the Layout Drawings are for informational purposes only. The Contractor is responsible for field locating and verifying the location of all existing structures (including the existing soil nail retaining wall), above and below grade utilities and other underground structures prior to starting the Work. The Contractor shall maintain uninterrupted service for those structures and utilities designated to remain in service throughout the Work.

636.03 QUALITY ASSURANCE

The Contractor shall submit a reference list indicating the successful completion of at least five (5) permanent soil nail retaining wall projects completed during the last three (3) years. A brief description of each project with the owner’s name and current phone number shall be included.

The Contractor's superintendent shall have a minimum of three (3) years' experience supervising soil nailing and/or ground anchor work, and the drill operators and on-site supervisors shall have a minimum of one (1) year experience installing permanent soil nails or ground anchors. Prior to starting the Work, the Contractor shall submit a list identifying the superintendent, drill rig operators, and on-site supervisors assigned to the project. The list shall contain a summary of each individual's experience and shall be sufficiently complete for the Resident to evaluate the individual's qualifications. The Contractor shall not use consultants or manufacturer's representatives to satisfy the requirements of this section. The Resident will approve or reject the Contractor's qualifications within 15 days after receipt of a complete submission. Work shall not be started, nor materials ordered until written approval of the Contractor's qualifications is given by the Department.

The Resident may suspend the Work if the Contractor substitutes non-approved personnel for approved personnel. The Contractor shall be fully liable for additional costs resulting from the suspension of Work and no adjustments in the contract time resulting from the Work suspension shall be allowed.

636.04 CONSTRUCTION SITE SURVEY

The Contractor shall visit the site prior to any construction activities for the purpose of observing and documenting the pre-construction condition of all existing structures, infrastructure, sidewalks, roadways, and all other facilities adjacent to the site.

The Contractor shall observe the conditions above and adjacent to the soil nail retaining wall daily during construction for signs of ground or structure movements. The Contractor shall immediately notify the Resident if signs of movements such as new cracks in structures, increased size of old cracks or separation of joints in structures, foundations, streets or paved and unpaved surfaces are observed. The Contractor shall provide the Resident with written documentation of the observed conditions within 24 hours.

636.05 SUBMITTALS

The Contractor shall provide the following submittals to the Resident for review and approval. The Contractor will not be allowed to begin soil nail retaining wall construction until all submittal requirements are satisfied and found to be acceptable to the Resident. Changes or deviations from the approved submittals must be re-submitted for approval by the Resident. No adjustments in contract time will be allowed due to incomplete submittals.

At least 30 days prior to initiating the Work, the Contractor shall submit to the Resident:

1. Details of the equipment and procedures the Contractor proposes to use for grouting permanent soil nails, including regrouting, methods of controlling ground water, and proposed drillhole diameter to achieve the bond strength value specified in the drawings and any variation of these along the alignment.
2. Written documentation of Contractor's qualifications as required under this Section.
3. Written documentation of the nozzleman's qualifications
4. Applicable literature from the manufacturer describing equipment proposed to pump soil nail grout into drill holes.
5. Applicable literature from the soil nail assembly manufacturer showing the details of construction, recommended installation procedures, yield and ultimate strength of steel and the minimum cross-sectional area.

6. Literature and details describing the specified factory applied “corrosion protection” for the permanent soil nail assemblies.
7. Proposed detailed installation procedures for permanent soil nails indicating proposed equipment and methods to be used for drilling, controlling water pressures, installing, grouting, and testing soil nails. The Contractor should be prepared (both equipment and means/methods) to drill through both soil (glacial soils with boulders) and bedrock.
8. Details of each drillhole size, bar size, cement grout mix design combination on which performance tests will be conducted.
9. Applicable manufacturer’s literature on the epoxy coating for the nail bar and anchor head assembly.
10. A detailed construction sequence, planned start of work date, and schedule for completing construction.
11. Method and sequence of removing existing soil nail retaining wall and narrative plan to address potential interference of existing soil nail retaining wall (including existing nails) with the proposed wall and new nails.
12. Methods of excavating the staged lifts and proposed type of excavation equipment.
13. Details of the Contractor’s proposed grout mix design to be used for grouting of permanent soil nails, which shall include but not be limited to:
 - a. Brand and type of Portland cement.
 - b. Source, gradation, and quality of all aggregates.
 - c. Proportions of mix by weight and water-cement ratio.
 - d. Manufacturer and brand name of all admixtures (where allowed).
 - e. Compressive strength test results (per ASTM C109) verifying the specified minimum 3- and 28-day grout compressive strengths.
 - f. Previous test results for the same grout mix completed within one year of the start of work may be submitted for verification of the required compressive strengths.

Alternatively, for bagged products, include:

- a. Written certification that the bagged product meets the requirements specified herein.
 - b. Manufacturer’s quality control tests.
14. Soil nail testing methods and equipment including:
- a. Details of the jacking frame and appurtenant bracing.
 - b. Details showing methods of isolating test nails during shotcrete application (i.e., methods to prevent bonding of the soil nail bar and the shotcrete).
 - c. Details showing methods of grouting the unbonded length of test nails after completion of testing.
 - d. Equipment list.
15. Identification number and certified calibration records for each load cell and test jack pressure gauge to be used. Calibration records shall include the date tested, device identification number, and the calibration test results and shall be certified for an accuracy of at least 2 percent of the applied certification loads by a qualified independent testing laboratory within 90 days prior to submittal.

16. Certified mill test results for nail bars from each type specifying the ultimate strength, yield strength, elongation, composition, and the minimum cross-sectional area.
17. Manufacturer certifications for the soil nail centralizers, epoxy coating or encapsulation.
18. A detailed construction drainage control plan addressing all elements necessary to divert, control and dispose of surface water.
19. A detailed action plan for controlling groundwater seepage from the excavation face, mitigating raveling soils, and preventing damage to the soil nail retaining wall.
20. A detailed description of the Contractor's proposed sequence of operations and any other precautions that will be taken to ensure that the various required minimum anchor lengths and sizes are installed at the locations indicated on the drawings.
21. Proposed method of shotcrete placement.
22. Certified shotcrete mix design including:
 - a. Brand and type of Portland cement used.
 - b. Source, gradation and quality of aggregates as specified herein.
 - c. Proportions of mix by weight.
 - d. Proposed admixture, manufacturer, dosage, technical literature (when admixture allowed).
 - e. Compressive strength test results from the manufacturer's records no older than 6 months verifying the 28-day compressive strength.
23. Certified mill tests for all reinforcing steel specifying the minimum ultimate strength, yield strength, elongation and composition.
24. Complete data for the drainage geotextile and geocomposite drain strip including manufacturer's certificate of compliance, and installation instructions.
25. Certifications of Compliance for bearing plates, nuts, curing compounds (if used), drainage aggregate and PVC drain piping.
26. Methods of controlling location of front face and determining shotcrete thickness.
27. Proposed detailed installation procedures for steel reinforcement, including method to be used to support steel reinforcement.
28. Proposed methods to be used for temporary dewatering which shall include arrangements, locations and depths of the proposed systems, a complete description of equipment and materials to be used and the procedures to be followed in the installation, operation and maintenance in relation to the proposed sequence of excavation and the proposed locations of points of discharge of water and their relationships to sedimentation control and groundwater treatment systems.
29. Manufacturer's information for the equipment to be used to conduct verification and proof tests on the soil nails. Submit diagram(s) showing the geometry of verification and proof test equipment relative to permanent steel reinforcement bar, end hardware, load cell, method of locking off and adjusting specified load and calibration data for the system of jack and permanent gauges, including a diagram of the Contractor's proposed test equipment setup(s) for monitoring elongation of the bars during verification and proof tests on permanent soil nails.

30. Details on temporary shotcrete facing including materials, methods and control procedures for this work.
31. Details of methods to be used to install temporary casing to prevent any reaction between the casing and the grouted bond length of the nail and/or stressing length during nail testing.
32. Formwork design calculations and details for casting the cast-in-place facing, prepared by a Licensed Professional Engineer in the State of Maine

636.06 MATERIALS

Materials for construction of the soil nail retaining wall shall be furnished new and without defects. The Contractor shall remove defective material from the job site at no additional cost to the Department. Materials for soil nail structures shall consist of the following:

1. Soil Nail Bar

- A. All permanent steel nail bars shall be straight shaft, deformed continuous thread bar, new, straight, undamaged, with full length fusion-bonded epoxy coating and of the size and type indicated in the approved Contractor design.
- B. Permanent steel nail bars shall be ASTM A615 steel, deformed continuous thread bar.
- C. Permanent steel nail bars shall consist of a single length continuous threaded steel bar, without splices or welds, as indicated on the plans.

2. Anchorage Assembly

- A. Anchorages shall be capable of developing a minimum of 100 percent of the guaranteed minimum ultimate tensile strength of the steel thread bar.
- B. The bearing plate shall be fabricated from Grade A36 steel and shall be capable of developing a minimum of 100 percent of guaranteed minimum ultimate tensile strength of the nail bar.
- C. All bearing plates, nuts, washers, etc. shall be galvanized.
- D. Centralizers are required and shall be fabricated from Schedule 40 PVC, or other material not detrimental to the nail steel (wood shall not be used) and shall be capable of being securely attached to the nail bar. The centralizers shall be sized to meet the tolerance requirements for nail locations, grout cover, and for tremie pipe installation as specified herein.

3. Cement Grout

- A. Site mixed grout and pre-packaged (or bagged) grout satisfying the requirements herein are acceptable.
- B. Nail grout shall be a non-shrink neat cement or sand/cement with a maximum water to cement ratio of 0.45 by weight, a minimum three-day compressive strength of 1500 psi and a minimum 28-day compressive strength of 3000 psi per ASTM C109.
- C. Redesign of the cement grout mix shall be conducted by the Contractor, if grout does not achieve the minimum compressive strength cited in Section B above within 28 days.
- D. Water for mixing grout shall be potable.
- E. Grout strength accelerators shall not be used. Expansive admixtures shall only be used for secondary grouting, and fitting trumpets. Mixes using Type K cement or bagged products meeting the requirements of this specification may be used. Admixtures which control bleed and retard set may be used. Admixtures shall be mixed and placed in accordance with manufacturer's recommendations.
- F. Appropriate measures shall be taken to preclude freezing of the grout prior to its reaching design strength.

- G. Contractor shall take all appropriate measures in cold weather conditions to preclude freezing during grout mixing or tremie delivery.
H. Cement shall conform to ASTM C150, Type I, II, or III Portland cement.

4. Corrosion Protection

- A. All bearing plates, nuts, washers, couplings and hardware, etc. shall be galvanized, per AASHTO M111 (plates) and M232 (hardware).
B. Nail bars shall be fusion bonded epoxy coated. Fusion bonded epoxy coating shall conform to ASTM A775. Epoxy coating shall be electro-statically applied to a minimum 15 mils thickness. The entire length of the bar shall have fusion bonded epoxy coating. Bend test requirements shall be waived.

5. Wall Drainage Network

- A. The drainage network shall consist of geocomposite drain strips, PVC connection pipes, and drain grates within the limits of the wall as shown on the plans. All elements of the drainage network shall be installed prior to shotcreting each lift.
B. Geocomposite drain strips shall have a core that is fully wrapped with a non-woven geotextile and shall have a cellular plastic backing. Geocomposite drain strips shall conform to the following physical requirements:

Composite Property	Test Method	Minimum Property Requirement*
Water Flow Rate (gpm/ft. width) - Hydraulic Gradient of 1.0 - Hydraulic Gradient of 0.1	ASTM D-4716	15 3
Apparent Opening Size (U.S. Standard Sieve Size)	ASTM D4751-87	No. 100 Sieve
Grab Tensile Strength (lb)	ASTM D-4632	100

*All geotextile properties are minimum average roll values (i.e., the test results for any sampled roll in a lot shall meet or exceed the minimum values in the table).

- C. PVC connection pipe and weep holes shall conform to the following:
Pipe: ASTM 1785 Schedule 80 PVC, solid and perforated wall, cell classification 12454-B or 12354-C, wall thickness SDR 35, with solvent weld.
Fittings: ASTM D3034, cell classification 12454-B or 12454-C, wall thickness SDR35, with solvent weld.
Solvent Cement: ASTM D2564
Primer: ASTM F656

6. Permanent Structural Shotcrete

- A. Shotcrete shall comply with the requirement of ACI 506.2-94 "Specification for Shotcrete," except as otherwise specified. Shotcrete shall consist of an application of one or more layers of mortar or concrete conveyed through a hose and pneumatically projected at high velocity against a prepared surface.
B. Shotcrete may be produced by either a dry-mix or a wet-mix process. For additional descriptive information, the Contractor's attention is directed to the American Concrete Institute Standard "A Guide to Shotcrete (ACI 506R)."
C. Cement shall comply with ASTM C150, Type I, II or III.

- D. Fine aggregate shall comply with ASTM C33. Fine aggregate shall be clean, natural sand. Artificial or manufactured sand is acceptable provided it is suitable for pumping in accordance with ACI 304, 4.2.2.
- E. Accelerating additives shall be fluid type, applied at the nozzle and shall be compatible with the cement used, be non-corrosive to steel and shall not promote other detrimental effects such as cracking and excessive shrinkage and shall not contain calcium chloride. They are to be used in accordance with manufacturers' recommendations. Silica fume, if used, shall not exceed 10 percent of the cement weight and shall be an admixture with a minimum of 90 percent SiO₂ with a proven record of performance for use in shotcrete.
- F. Water used in the shotcrete mix shall be potable, clean and free from substances which may be injurious to concrete and steel. The water shall also be free of elements which would cause staining.
- G. Admixtures used to entrain air, to reduce water-cement ratio, to retard or accelerate setting time, or to accelerate the development of strength, shall be thoroughly mixed into the shotcrete at the rate specified by the manufacturer unless specified otherwise. Accelerating additives shall be compatible with the cement used, be non-corrosive to steel and shall not promote other detrimental effects such as cracking or excessive shrinkage. The maximum allowable chloride ion content of all ingredients shall not exceed 0.10% when tested in accordance with ASTM C1218.
- H. Shotcrete shall have a minimum compressive strength at 3 and 28 days of 2000 and 4000 psi, respectively, when tested in accordance with ASTM C109. The average compressive strength of each set of three cores extracted shall be equal to or exceed 85 percent of the specified compressive strength with no individual core less than 75 percent of the specified compressive strength in accordance with ACI 506.2.
- I. The Contractor shall establish the air content loss during the shotcrete application and deliver concrete at the hopper discharge with an air content to allow for this loss and maintain the specified minimum in the in-place product
- J. Aggregate and cement may be batched by weight or by volume. Provide mixing equipment capable of thoroughly mixing the materials in sufficient quantity to maintain placing continuity. Provide ready mix shotcrete complying with ASTM C94 and C685. Shotcrete shall be batched, delivered and placed within 90 minutes of mixing.
- K. Aggregate for shotcrete shall meet the strength and durability requirement of ASTM C33.
- L. Coarse aggregate shall conform to AASHTO M-80, Class B for quality.
- M. Water reducer and super-plasticizer shall comply with ASTM C494 Type A, D, F, G.
- N. Air - entraining agents shall comply with ASTM C260.
- O. Plasticizers shall conform to G ASTM C494.
- P. Mineral admixtures shall conform to the following:
 - 1. Fly Ash: ASTM C618 Type F or C.
 - 2. Silica Fume: ASTM C1240, 90 percent minimum silicon dioxide solids content, not to exceed 10 percent by weight of cement.
- Q. Curing compounds shall comply with ASTM C1315.
- R. Steel Reinforcement shall conform to ASTM A615, GR 60.
- S. Prepackaged concrete shall comply with ASTM C928.

7. Permanent Cast-In-Place (CIP) Concrete Facing

- A. The permanent CIP concrete facing shall be cast and finished to the limits shown on the Drawings in accordance with the Standard Specifications.

636.07 MATERIALS HANDLING AND STORAGE

Cement shall be adequately stored to prevent moisture degradation and particle hydration. Cement that has become caked or lumpy shall not be used. Aggregates shall be stored so that segregation and the inclusion of foreign materials are prevented. The bottom 6 inches of aggregate piles in contact with the ground shall not be used.

All steel reinforcement shall be carefully handled and shall be stored on supports to keep the steel from contact with the ground. Damage to the nail steel or epoxy coating, as a result of abrasion, cuts, nicks, welds, and wells splatter shall be cause for rejection by the Resident. Grounding of weld leads to the nail steel shall not be allowed. Nail steel shall be protected from and sufficiently free of dirt, rust and other deleterious substances prior to installation. Heavy corrosion or pitting of nails shall be cause or rejection by the Resident. Light rust that has not resulted in pitting is acceptable.

Encapsulated nails shall not be transported until the encapsulation grout has reached sufficient strength to resist damage during handling. Encapsulated nails shall not be handled in a manner that will cause large deflections or distortions during handling. When handling or transporting encapsulated nails, the Contractor shall provide slings or other equipment necessary to prevent damage to the nail bar. Encapsulated nails shall not be dropped during handling and shall be protected from impact of any kind. Any encapsulated nails that are damaged or defective shall be repaired in accordance with the manufacturer's recommendations or shall be rejected and removed from the site at no cost to the Department.

636.08 DRAINAGE CONTROL

1. Localized areas of perched water may be encountered at the interface of geologic units, or in other areas within the required excavation limits, and should be anticipated. The Contractor will be responsible for preventing and/or controlling seepage from the excavated face, to allow proper installation and cure of the shotcrete. This may require pre-drainage using horizontal drains, vertical well points, large diameter wells or other methods to be selected by the Contractor.
2. The Contractor shall be responsible for repair of all damage caused by improper dewatering.
3. The methods of controlling groundwater within the limits of work (both inside and outside the excavation) shall be determined by the Contractor, who shall be solely responsible for the location, arrangement and depth of any system or systems selected to accomplish the work. The construction dewatering system designed and implemented by the Contractor shall be capable of maintaining groundwater levels so as to obtain a satisfactory undisturbed subgrade and prevent sloughing and raveling of the excavated face. Maintain water levels until, at a minimum, soil nails have been installed and the shotcrete face has obtained the required 28-day strength. If the methods employed have not been adequate and loss of ground beyond proposed shotcrete face occurs, remove disturbed soil as directed by the Resident. The Contractor shall develop a plan of action for backfilling resulting voids beyond the finish face line and shall submit method(s) to the Resident 24 hours prior to excavating. Any overexcavation beyond the final soil/wall face shall be immediately restored by the Contractor using a method reviewed by the Resident and at no additional cost to the Department.
4. The Contractor shall provide positive control and discharge of all surface water encountered during construction to the extent necessary to prevent adverse conditions as determined by the Resident. Damage caused by the failure to control surface water shall be repaired by the Contractor to the Resident's satisfaction at no additional cost to the Department.
5. The Contractor shall be responsible for the condition and maintenance of any pipe or conduit used to control surface water during construction. Upon substantial completion of the Work, surface water control

pipes or conduits shall be removed from the site. Alternatively, pipes or conduits which are left in place with the approval of the Resident, shall be fully grouted (abandoned) or left in a manner that protects the structure and all adjacent facilities from migration of fines through the pipe or conduit and potential ground loss.

6. Comply with federal, state and local codes, ordinances and regulations for disposal of discharged water and sediment control. The Contractor shall be responsible for obtaining all required permits.

636.09 CONSTRUCTION REQUIREMENTS

The construction sequence shall be in accordance with the approved submittal, unless otherwise approved by the Resident. No excavations steeper than those specified therein shall be made above or below the soil nail retaining wall without written approval of the Resident.

636.091 Quality of Workmanship.

1. The Contractor is responsible for implementing a Quality Assurance Program. Workers, including foreman, nozzleman, and delivery equipment operators, shall be qualified to perform the work. All nozzle men on this Project shall meet the experience requirements specified herein.
2. A clearly defined pattern of continuous horizontal or vertical ridges or depressions at the reinforcing elements after they are covered will be considered an indication of insufficient cover of reinforcement, poor application technique and probable voids. In this case, the application of shotcrete shall be immediately suspended until inspected by the Resident. The Contractor shall implement and complete corrective measures, including removing and replacing deficient material, prior to resuming the shotcrete operations.
3. Inspection of materials, workmanship, finished products, and installation is required.
4. All grout materials and cores of shotcrete wall shall be tested for conformance with the Specifications by an independent AASHTO accredited testing agency at the Contractor's expense.
5. Damaged areas of fusion bonded epoxy corrosion protection, including exposed cut-off anchor bar ends, shall be cleaned and coated with corrosion protective epoxy in accordance with the bar manufacturer's recommendations.

636.092 Excavation. During excavation, the Contractor shall maintain a bench to serve as a platform for the drilling equipment and a berm against the final wall excavation face. The bench shall be established not more than 3 feet below the row of nails to be installed and shall extend out from the wall face a minimum distance necessary to provide a safe working bench for the drill equipment and workers.

Excavating of the ground behind the shotcrete wall shall not be allowed. Any inadvertent over-excavation shall be restored by the Contractor using a method reviewed by the Resident and at no additional cost to the Department. Methods to be considered to restore over-excavation shall include but not be limited to replacement with shotcrete and replacement with engineered fill, as reviewed and approved by the Resident.

Excavation to the final wall excavation face shall be performed using procedures that: (1) prevent ground loss, swelling, air slaking, or loosening; (2) minimize degradation of soil bearing support below the overlying portions of the soil nail retaining wall and below the soil nails currently being installed; (3) prevent premature loss of soil moisture at the face; (4) prevent ground freezing; (5) reduce the potential for shotcrete overages; (6) prevent raveling and/or sloughing of soils; and (7) maintain satisfactory control of seepage at the excavated face to allow proper placement of shotcrete.

Subsequent excavation lifts shall not be advanced until nail installation (including bearing plate and nut), reinforced shotcrete placement, and nail testing for the preceding lifts are complete and accepted by the Resident. Prior to advancing the excavation, nail grout and shotcrete on the preceding lift shall have cured for at least 72 hours or attained their specified 3-day compressive strength. Exposed native ground shall not have an unsupported cut height greater than the vertical nail spacing plus the required reinforcing lap.

Where the Contractor's excavation and installation methods result in a discontinuous wall along any nail row, the ends of the wall shall extend beyond the ends of the next lower lift by at least 10 feet. Slopes at these discontinuities shall be constructed to prevent sloughing or failure of the temporary slopes.

Removal of cobbles, boulders, rubble, or debris which are encountered at the soil face during excavation and which protrude from the soil face shall be the responsibility of the Contractor. The Contractor shall be responsible for constructing the structural shotcrete facing to the specified minimum thickness and to the lines and grades indicated in the plans. The Contractor shall notify the Resident of the proposed method for removal of face protrusions at least 24 hours prior to commencing with excavation for review and approval. Should the removal of face protrusions result in voids beyond the finish shotcrete wall face/soil line, the Contractor shall backfill the voids within the work shift during which the voids were created using methods reviewed and approved by the Resident.

The Contractor shall be responsible for design and installation of temporary lateral support and maintaining the stability of all temporary slopes and cuts. Completed ends of the soil nail retaining wall shall be protected to prevent loss of ground from behind the soil nail retaining wall and/or movement of ground behind the completed soil nail retaining wall.

If the Soil Nail Retaining Wall Design requires placement of a stabilizing berm, or if in the opinion of the Contractor or Resident a stabilizing berm is necessary or prudent, then the following three items shall apply:

1. The Contractor shall not excavate any lift to the final wall excavation face prior to installation of nails but shall maintain a stabilizing berm to support the excavation face during nail installation, unless otherwise approved by the Resident. The stabilizing berm is provided to:
 - (a) minimize degradation of soil bearing support below the overlying portions of the soil nail retaining wall and below the soil nails currently being installed;
 - (b) prevent premature loss of soil moisture at the face; and
 - (c) reduce the potential for ground loss and subsequent shotcrete overages.

Alternative excavation and soil nail installation methods that meet these objectives may be submitted to the Resident for review in accordance with the Submittals section of this Special Provision.

2. The stabilizing berm shall extend horizontally from the bottom exterior of the overlying shotcrete a minimum distance of 1 foot and shall be cut down from that point at a slope determined to be safe by the Contractor, but not steeper than 1H:1V, unless otherwise approved by the Resident. Following the installation of nails, the stabilized berm shall be excavated to the final wall face and cleaned of all loose materials, mud, shotcrete rebound, and other foreign matter which could prevent or reduce shotcrete bond.
3. The Contractor shall ensure that installed nails are not damaged during excavation of the stabilizing berm. Nails damaged or disturbed during excavation of berm shall be repaired or replaced by the Contractor to the satisfaction of the Resident at no additional cost to the Department. The stabilizing berm shall not be excavated until the nail grout has aged for at least 24 hours. Hardened nail grout protruding from the wall excavation more than 2 inches shall be removed in a manner that prevents fracturing the grout at the nail head. Sledge hammer removal of the grout shall not be allowed. The use of handheld rock chippers is acceptable provided their use does not damage or disturb the remaining grout at the nail head, the nail bar, or the surrounding exposed ground.

636.093 Nail Installation. Successful verification tests shall be performed prior to starting installation of production nails. The number and location of required verification tests shall be specified in the Soil Nail Retaining Wall Design by the Contractor's designer. A minimum of four (4) verification tests shall be performed on sacrificial soil nails. Additional verification tests may be required if the Contractor modifies the installation method from those used during the installation of the approved verification test nails. Additional testing shall be conducted by the Contractor to the satisfaction of the Resident, at no cost to the Department.

Nails shall be installed prior to the application of shotcrete at the locations and to the lengths specified in the Soil Nail Retaining Wall Design by the Contractor's designer. The Resident may add, eliminate, or relocate nails to accommodate actual field conditions. Cost adjustments associated with these modifications shall be made in accordance with the General Provisions of the Contract. Design modifications resulting from actions of the Contractor shall be determined by the Resident. The cost of any redesign, additional material and installation modifications shall be borne by the Contractor.

Reinforced shotcrete may be installed prior to installing the soil nails upon written approval from the Resident. The written request to modify the installation sequence should include a proposed construction sequence and calculations demonstrating that the bearing plates are adequate to span the nail hole or block-out.

Drilling. The Contractor shall select drilling equipment and methods suitable for the ground conditions described in the geotechnical report and shown in the test borings. Drillhole diameter shall be selected to provide the minimum specified grout cover over the soil nail bar and to develop the specified load carrying capacity. A minimum drillhole diameter is specified in the Soil Nail Retaining Wall Design. It is the Contractor's responsibility to determine the final drillhole diameter required to provide the adhesion values shown in the Soil Nail Retaining Wall Design. Water, drilling mud or other fluids used to assist in cuttings removal shall not be allowed. Uncased drillholes shall be observed for cleanliness prior to insertion of the soil nail bar. If needed to stabilize the soil adjacent to the boreholes, the Contractor shall use cased drilling methods to support the sides of the drill holes at no additional cost to the Department.

The Contractor shall immediately suspend drilling operations if ground subsidence is observed, if the soil nail retaining wall is adversely affected, or if adjacent structures are damaged as a result of the drilling operation. The adverse conditions shall be stabilized immediately and the Resident shall be notified of such conditions within 24 hours.

Soil Nail Bar Installation. Soil nail bars shall be provided as indicated on the schedules included in the Soil Nail Retaining Wall Design. Each bar shall be fitted with centralizers as specified. Nail bars shall be inserted into the drillhole to the length required without difficulty and in such a manner as to prevent damage to the drill hole or the bar corrosion protection. Nail bars which cannot be fully inserted to the design depth shall be removed from the drill hole and the drill hole shall be cleaned sufficiently to allow unobstructed installation of the bar.

Where the nail bar is installed using cased or hollow-stem auger methods, centralizers are not required provided the installation method ensures that the bar will remain in the center portion of the nail grout. In such situations, grout slump shall not exceed 8 inches.

636.094 Grouting Equipment. Grout Equipment shall produce a uniformly mixed grout free of lumpy and undispersed cement. A positive displacement grout pump shall be used. The pump shall be equipped with a pressure gauge which can measure at least twice but no more than three times the intended grout pressure. The grouting equipment shall be sized to enable the entire nail to be grouted in one continuous operation. The mixer shall be capable of continuously agitating the grout during usage.

Grouting Methods. The drill hole shall be grouted after installation of the nail bar. Grouting prior to insertion of the nail bar can be allowed provided neat cement grout is used and the nail bar is immediately inserted

through the grout to the specified length without difficulty. No portion of the nail hole shall be left open for more than 60 minutes prior to grouting unless otherwise approved by the Resident. The grout shall be injected at the lowest point of each drillhole through a grout tremie pipe, casing, hollow-stem auger, or drill rods with the drill hole filled in one continuous operation. Cold joints in the grout placement are allowed for construction of the proof test nails. The end of the conduit delivering the grout shall be kept below the surface of the grout as the conduit is withdrawn. The grouting conduit shall be withdrawn as the nail hole is filled in a manner which prevents the creation of voids. The quantity of grout and the grouting pressures shall be recorded for each soil nail. Grout pressures shall be controlled to prevent excessive ground heave or fracturing.

During casing removal from drillholes advanced by either cased or auger-cast methods, the grout surface within the casing shall be continually monitored for maintenance of "head" sufficient to offset the external groundwater/soil pressure. Casing seals shall not be broken until the level of grout within the casing provides adequate head to prevent unstable soil or groundwater from contaminating or diluting the grout. Grout pressures shall be maintained to ensure that the drillhole will be completely filled with grout.

If the grouting of any nail is suspended for more than 30 minutes or if the quality of the grout placement results in a nail that does not satisfy the requirements of the Special Provision, then the steel bar and grout shall be removed from the hole, disposed of, and replace with fresh grout and undamaged steel at no additional cost to the Department.

Grout Testing. Nail grout shall have a minimum compressive strength of 1,500 psi in 3 days and 3,000 psi in 28 days. Nail grout shall be tested by the Contractor in accordance with AASHTO T 106/ASTM C 109 at a frequency of no less than one (1) test for every 50 cubic yards of grout placed or once (1) per week, whichever comes first, and no less than two (2) tests per wall.

Proof Test Nail Unbonded Length. Temporary unbonded lengths shall be provided for each proof nail test. The test nail bar shall be isolated from the shotcrete facing and the reaction frame used during testing. Isolation of a test nail through the shotcrete facing shall not affect the location of the reinforcing steel under the bearing plate. Accepted proof test nails may be incorporated in the Work provided the temporary test unbonded length is fully grouted after testing. Test nail isolation methods, methods for providing an unbonded length and methods for grouting the unbonded length after testing shall be submitted to the Resident for review and approval in accordance with the requirements of the Submittal section of this Special Provision.

636.10 NAIL TESTING

Verification and proof testing shall be performed. A minimum of four (4) verification tests shall be performed on sacrificial soil nails at locations and at a time specified in the Soil Nail Retaining Wall Design submittal and approved by the Resident. Proof tests shall be performed at locations selected by the Resident. All required test data shall be recorded by the Resident, unless approved otherwise. Testing of nails shall not be performed until the nail grout and shotcrete facing have attained at least 50 percent of their specified 28-day compressive strength.

Where temporary casing of the unbonded length of test nails is provided, the casing shall be installed in a way to prevent any reaction between the casing and the grouted bond length of the nail and/or the stressing apparatus.

Testing Equipment. Testing equipment shall include two (2) dial gauges, a dial gauge support, jack and pressure gauge, an electric load cell and a reaction frame. The load cell is required for verification tests only.

A minimum of two (2) dial gauges capable of measuring to 0.001 inch shall be available at the site to measure nail movement. The dial gauges shall have a minimum travel sufficient to allow the test to be performed

without re-setting the dial gauge. The dial gauges shall be aligned within 5 degrees of the axis of the nail and shall be supported independent of the jacking set-up and the wall. A hydraulic jack, pressure gauge and pump shall be used to apply and measure the test load. The nail loads during verification tests shall be monitored with both a pressure gauge and electric load cell. The load cell shall be used to maintain constant load hold throughout the creep test during verification testing. The Contractor shall provide recent (within 6 months of the start of construction) calibration curves in accordance with the Submittals.

The jack pressure gauge shall be calibrated by an independent testing laboratory as a unit. The pressure gauge shall be graduated in 100 psi increments or less and shall have a range not exceeding twice the anticipated maximum pressure during testing unless approved by the Resident. The ram travel of the jack shall be sufficient to enable the test to be performed without re-setting the jack. The jack shall be capable of applying each test load increment in less than 1 minute.

The jack shall be independently supported and centered over the nail so that the nail does not carry the weight of the jack. The stressing equipment shall be placed over the nail in such a manner that the jack, bearing plates, load cell and stressing anchorage are in alignment. The jack shall be positioned at the beginning of the test such that unloading and repositioning of the jack during the test will not be required.

The reaction frame shall be sufficiently rigid and of adequate dimension such that excessive deformation of the test apparatus requiring repositioning of any components does not occur during testing. Where the reaction frame bears directly on the shotcrete facing, the reaction frame shall be designed to prevent fracture of the shotcrete and no part of the reaction frame shall bear within 6 inches of the edge of the test nail block-out, unless otherwise approved by the Resident.

Verification Testing of Sacrificial Nails. Verification testing of sacrificial nails shall be performed prior to installation of production nails to verify the Contractor's installation methods, soil conditions, nail pullout capacity and design assumptions. Verification tests shall be performed within the limits of the Work and at the locations specified in the Soil Nail Wall Retaining Design, unless otherwise approved by the Resident. The nails used for the verification tests shall be sacrificial and shall not be incorporated as production nails.

The details of the verification testing arrangement including the method of distributing test load pressures to the excavation surface (reaction frame), test nail bar size, grouted hole diameter and reaction plate dimensioning, shall be developed by the Contractor and submitted to the Resident for approval. Test nails shall be constructed using the same equipment, methods and hole diameter as planned for the production nails. Changes in the drilling or installation method may require additional verification testing as determined by the Resident and shall be at no additional cost to the Department.

Test nails shall have both bonded and unbonded lengths. Prior to testing, only the bonded length of the test nail shall be grouted. The unbonded length of the test nail shall be 3 feet unless otherwise approved by the Resident. The bonded length of the test nail shall be as specified in the Soil Nail Retaining Wall Design based on the bar grade and size such that the allowable bar structural load is not exceeded but shall not be less than 10 feet. The allowable bar structural load during testing shall not be greater than 90 percent of the yield strength of the Grade 75 bars.

The verification test bonded length, L_{BV} , must be selected such that a bond limit state is achieved before a tensile limit state is achieved, as indicated below. The following equation shall be used for determining the test nail bond length to avoid structurally overstressing the verification nail bar size:

$$L_{BV} \leq \frac{C f_y A_t}{r_{PO}}$$

Where:

L_{BV} = Maximum Verification Test Nail Bond Length (ft)
 C = 0.9 for Grade 75 bars

f_y	=	Bar Yield Stress (ksi)
A_t	=	Bar Area (square inches)
r_{PO}	=	Nominal Pullout Resistance (per unit length) of soil nail (specified in the Soil Nail Wall Retaining Design, kips/foot)

The maximum load during the verification test is defined as the Verification Test Load (VTL) and shall be determined by the following equation:

$$VTL = L_B \times r_{PO}$$

Where:

VTL	=	Verification Test Load (kips)
L_B	=	As-built bonded test length (ft)
r_{PO}	=	Nominal Pullout Resistance (per unit length) of soil nail (specified in the Soil Nail Wall Retaining Design, kips/foot)

Verification test nails shall be incrementally loaded to the VTL followed by unloading in accordance with the following schedule. The soil nail movements at each load and unload increment shall be recorded.

LOADING		UNLOADING	
Load	Hold Time	Load	Hold Time
AL (0.025 VTL max.)	1 minute	0.88VTL	Until Stable
0.13VTL	10 minutes	0.75VTL	Until Stable
0.25VTL	10 minutes	0.63VTL	Until Stable
0.38VTL	10 minutes	0.50VTL	Until Stable
0.50VTL	10 minutes	0.38VTL	Until Stable
0.63VTL	10 minutes	0.25VTL	Until Stable
0.75VTL	60 minutes	0.13VTL	Until Stable
0.88VTL	10 minutes	AL	Until Stable
1.00VTL	10 minutes		

AL = Nail Alignment Load
VTL = Verification Test Load

The alignment load (AL) should be the minimum load required to align the testing apparatus and should not exceed 0.025 times the VTL. Dial gauges should be set at “zero” after the alignment load has been applied.

Each load increment shall be held for at least 10 minutes. The verification test nail shall be monitored for creep at the 0.75VTL load increment. Nail movements during the creep portion of the test shall be measured and recorded at 1 minute, 2, 3, 5, 6, 10, 20, 30, 50 and 60 minutes. The load during the creep test shall be maintained within 2 percent of the intended load by use of the load cell. The nail shall be unloaded in increments of 0.13 times the VTL with movements recorded at each unload increment. Each unload increment shall be held only for a sufficient time to allow stabilization of the movement reading.

Proof testing of Production Nails. Proof testing shall be performed on 5 percent of the production nails or a minimum of 2 nails in each staged excavation lift, whichever is greater. The locations and number of these tests shall be determined by the Resident.

Proof test nails shall have both bonded and unbonded lengths. Prior to testing, only the bonded length of the test nail shall be grouted. The bonded and unbonded lengths of each test nail shall be as specified in the Soil Nail Retaining Wall Design, subject to the approval of the Resident. The unbonded length of the test nail shall be at least 3 feet. The bonded length shall be such that the allowable bar structural load is not exceeded but

shall not be less than 10 feet. The allowable bar structural load shall not exceed 90 percent of the yield strength for Grade 75 bars.

The proof test bonded length, L_{BP} , must be selected such that a bond limit state is achieved before a tensile limit state is achieved, as indicated below. The following equation shall be used for sizing the test nail bond length to avoid overstressing the production bar size:

$$L_{BP} \leq \frac{C f_y A_s}{r_{PO} \times 0.75}$$

Where:

L_{BP}	=	Maximum Proof Test Nail Bond Length (ft)
C	=	0.9 for Grade 75 bars
f_y	=	Bar Yield Stress (ksi)
A_s	=	Bar Area (square inches)
r_{PO}	=	Nominal Pullout Resistance (per unit length) of soil nail (specified in the Soil Nail Retaining Wall Design, kips/foot)

The maximum load during the proof test is defined as the Proof Test Load (PTL) and shall be determined by the following equation:

$$PTL = L_B \times r_{PO} \times 0.75$$

Where:

PTL	=	Proof Test Load (kips)
L_B	=	As-built bonded test length (ft)
r_{PO}	=	Nominal Pullout Resistance (per unit length) of soil nail (specified in the Soil Nail Retaining Wall Design, kips/foot)

Proof tests shall be performed by incrementally loading the nail to the PTL. The nail movement at each load shall be recorded by the Resident in the same manner as for verification tests. The load shall be monitored by a pressure gauge with a sensitivity and range meeting the requirements of pressure gauges used for verification test nails. At load increments other than maximum test load, the load shall be held long enough to obtain a stable reading. Incremental loading for proof tests shall be in accordance with the following schedule:

LOADING
AL (0.025 PTL max.)
0.17PTL
0.33PTL
0.50PTL
0.67PTL
0.83PTL
1.0PTL
AL

AL = Nail Alignment Load
PTL = Proof Test Load

The alignment load (AL) should be the minimum load required to align the testing apparatus and should not exceed 0.25 times the PTL. Dial gauges should be set at “zero” after the alignment load has been applied.

All load increment shall be maintained within 5 percent of the intended load. Depending upon performance, either 10 minute or 60-minute creep tests shall be performed at the maximum test load (1.0PTL). The creep period shall start as soon as the maximum test load is applied to the nail. Nail movement shall be measured and recorded at 1 minute, 2, 3, 5, 6, and 10 minutes. Where the nail movement between 1 minute and 10

minutes exceeds 0.04 inch, the maximum test load shall be maintained for an additional 50 minutes and movements recorded at 20 minutes, 30, 50 and 60 minutes.

Test Nail Acceptance Criteria. A test nail shall be considered acceptable when:

1. For verification purposes, a creep rate less than 0.08 inch per log cycle of time between the 6- and 60-minute readings is observed during creep testing and the rate is linear or decreasing throughout the creep test load hold time.
2. For proof tests: (a) a total creep movement of less than 0.04 inch is observed between the 1 and 10 minute readings or a total creep movement of less than 0.08 inch is observed between the 6 and 60 minute readings and; (b) the creep rate is linear or decreasing throughout the creep test load hold time.
3. The total movement at the maximum test load exceeds 80 percent of the theoretical elastic elongation of the test nail unbonded length.
4. A pullout failure does not occur at the maximum test load. Pullout failure is defined as the load at which attempts to increase the test load simply result in continued pullout movement of the test nail. The pullout failure load shall be recorded as part of the test data.

At the Contractor's option, successful proof test nails meeting the above test acceptance criteria may be incorporated as production nails, provided that (1) the unbonded test length of the nail hole has not collapsed during testing, (2) the minimum required hole diameter has been maintained, (3) the specified corrosion protection is provided, and (4) the test nail length is equal to or greater than the scheduled production nail length. Test nails meeting these requirements shall be completed by satisfactorily grouting the unbonded test length. Maintaining the temporary unbonded test length for subsequent grouting is the Contractor's responsibility. If the unbonded test length of production proof test nails cannot be satisfactorily grouted subsequent to testing, the proof test nail shall become sacrificial and the Contractor shall replace the proof test nail with a production nail installed to the satisfaction of the Resident and at no additional cost.

Test Nail Rejection Criteria.

Verification Test Nails. The Resident shall evaluate the results of each verification test. Installation methods which do not satisfy the nail testing requirements shall be rejected. The Contractor shall propose alternative methods and install replacement verification test nails. Replacement of test nails shall be installed and tested at no additional cost to the Department.

Proof Test Nails. The Resident may require that the Contractor replace some or all of the installed production nails between the failed proof test nail and the adjacent passing proof test nail. Alternatively, the Resident may require additional proof testing of installed production nails be conducted to verify that adjacent previously installed production nails have sufficient load carrying capacity. The Resident may require that modifications be made to the Soil Nail Retaining Wall Design by the Soil Nail Retaining Wall designer, as appropriate. These modifications may include the installation of additional test and/or production nails (i.e., decreased nail spacing from that specified in the Soil Nail Retaining Wall Design), installing longer production nails, increasing the drillhole diameter, or modifying the installation methods. Costs due to additional proof tests or installation of additional or modified nails as a result of proof test nail failure(s) shall be at no cost to the Department, unless determined by the Resident to be due to causes beyond the Contractor's control.

636.11 TOLERANCES

Soil Nails. The soil nails shall not extend beyond the right-of-way or easement limits shown on the Drawings. Bars shall be centered within 1 inch of the center of the drillhole. Individual nails shall be positioned plus or minus 12 inches from the design locations shown in the Soil Nail Retaining Wall Design. Location tolerances shall be considered applicable to only one nail and not accumulative over large wall areas. The nail inclination shall be plus or minus 3 degrees of that shown in the Soil Nail Retaining Wall Design. Nails which encounter obstructions during drilling shall be relocated by the Soil Nail Wall designer. Soil nails which do not satisfy the specified tolerances due to the Contractor's installation methods shall be replaced to the Resident's satisfaction at no additional cost to the Department.

636.12 NAIL INSTALLATION RECORDS

Accurate daily records documenting the Soil Nail Retaining Wall construction shall be maintained by the Contractor and provided to the Resident within 24 hours. Daily records shall, as a minimum, include the items listed below:

1. Contractor's name
2. Drill rig operator's name
3. As-built, surveyed nail location
4. Deviation from specified tolerances
5. Nail diameter
6. As-built, surveyed nail elevation
7. Design nail length
8. Installed nail length
9. Groundwater conditions
10. Caving or sloughing of excavation
11. Casing requirements
12. Drilling difficulties
13. Date and time of start and finish of drilling
14. Length and diameter of reinforcing bars in hole
15. Date, time, and method grout was placed including grout pressure
16. Total daily quantity of grout placed and quantity per hole
17. Design changes

The Contractor shall assist the Resident as necessary to obtain the above information and all other information as required by the Resident.

636.13 SHOTCRETE CONSTRUCTION AND WALL DRAINAGE

Shotcrete and wall drainage Work shall consist of furnishing all materials and labor required for placing and securing Geocomposite drainage material, connection pipes, footing drains, weepholes and horizontal drains (if required), drain at the top of the wall, and plain or fiber reinforced shotcrete for the wall. The Work shall include any preparatory trimming and cleaning of soil/rock surfaces and shotcrete cold joints for the soil nail wall(s) specified in the Soil Nail Retaining Wall Design.

Shotcrete shall comply with the requirements of ACI 506.2-90, "Specification for Shotcrete," except as otherwise specified. Shotcrete shall consist of an application of one or more layers of mortar or concrete conveyed through a hose and pneumatically projected at a high velocity against a prepared surface.

Shotcrete may be produced by either a dry-mix or a wet-mix process. The wet-mix process consists of thoroughly mixing all the ingredients except accelerating admixtures but including the mixing water,

introducing the mixture into the delivery equipment and delivering it, by positive displacement, to the nozzle. The wet-mix shotcrete shall then be air jetted from the nozzle at high velocity onto the surface. Dry-mix process is shotcrete without mixing water which is conveyed through the hose pneumatically and the mixing water is introduced at the nozzle. For additional descriptive information, the Contractor's attention is directed to the American Concrete Institute Standard "Guide to Shotcrete (ACI 506R-90)".

Quality Assurance Program. The Contractor is responsible for implementing a Quality Assurance Program. Workers, including foreman, nozzleman, and delivery equipment operators shall be fully qualified to perform the Work. All nozzlemen on this project shall have at least one year of accumulative experience in the past three years in similar shotcrete application Work and shall demonstrate ability to satisfactorily place material. Qualifications of the nozzlemen shall be based on a visual inspection of the shotcrete density and void structure and on achieving the specified 3-day and 28-day compressive strength requirements determined from the average test results from three cores extracted from each preconstruction and production test panel. Preconstruction and production test panels, core extractions and compressive strength testing shall be conducted in accordance with ACI 506.2-90 unless otherwise specified herein.

The Contractor shall notify the Resident not less than two (2) days prior to the shooting of a qualification test panel. Shotcrete mix and equipment used to make qualification test panels shall be the same as those to be used for the Soil Nail Retaining Wall.

Materials. All materials for shotcrete shall conform to the following requirements:

Cement	AASHTO M 85, ASTM C 150, Type I, II, III, or V.
Fine Aggregate	AASHTO M 6, ASTM C 33, clean, natural.
Coarse Aggregate	AASHTO M 80, Class B for quality.
Water	Potable, clean and free from substances deleterious to concrete and steel or elements that would cause staining.
Chemical Admixtures	ASTM C 1141 and the following:
Accelerator	Fluid type, applied at nozzle, meeting requirements herein.
Water-reducer and Superplasticizer	AASHTO M 194 Type A, D, F, G or ASTM C 494 Type A, D, F, G.
Air-Entraining Agent	AASHTO M 194, ASTM C 260.
Plasticizers	AASHTO M 194, Type A, D, F, or G, ASTM C 494.
Mineral Admixtures: Silica Fume	Fly Ash AASHTO M 295, ASTM C 618 Type F or C. ASTM C 1240, 90 percent minimum silicon dioxide solids content, not to exceed 12 percent by weight of cement. In addition, silica fume shall conform to the requirements of Section 502.
Welded Wire Fabric	AASHTO M 55/ASTM A 185 or ASTM A 497.
Reinforcing Bars	AASHTO M 31/ASTM A 615, Grade 75, deformed. Epoxy Coating shall conform to the requirements of Section 503.05.
Bearing Plates	AASHTO M 183/ASTM A 36.

Nuts	AASHTO M 291, Grade B, hexagonal fitted with beveled washer or spherical seat to provide uniform bearing.
Curing Compounds	AASHTO M 148, Type ID or Type 2.
Prepackaged Concrete	ASTM C 928
Drainage Geotextile	Geocomposite drain strip Water Flow Rate (ASTM D-4716) – Hyd. Grad. Of 1.0 – 15 gpm/ft width Water Flow Rate (ASTM D-4716) – Hyd. Grad. Of 0.1 – 3 gpm/ft width Grab strength (ASTM D 4632) - 155 lbs Apparent Opening Size (ASTM D 4751-87) – No. 100 Sieve
Film Protection	AASHTO M 171 or polyethylene film.
Drainage Aggregate	AASHTO M 43/ASTM D 448 No. 67 with no more than two (2) percent passing the 75 µm (US No. 200) sieve.
PVC Connection Pipe, Horizontal Drains and Weep Holes:	
Pipe	ASTM D 1785 Schedule 40 PVC, solid and perforated wall, cell classification 12454-B or 12354-C, wall thickness SDR 32, with solvent weld or elastomeric gasket joints.
Fittings	ASTM D 3034, cell classification 12454-B or 12354-C, wall thickness SDR 35, with solvent weld or elastomeric gasket joints.
Solvent Cement	ASTM D 2564
Primer	ASTM F 656

Shotcrete admixtures shall not be used unless approved by the Resident. Admixtures used to entrain air, to reduce water-cement ratio, to retard or accelerate setting time, or to accelerate the development of strength, shall be thoroughly mixed into the shotcrete at the rate specified by the manufacturer unless specified otherwise. Accelerating additives shall be compatible with the cement used, be non-corrosive to steel and shall not promote other detrimental effects such as cracking or excessive shrinkage. The maximum allowable chloride ion content of all ingredients shall not exceed 0.10 percent when tested to AASHTO T 260.

Premixed and prepackaged concrete products specifically manufactured as a shotcrete product may be provided for on-site mixed shotcrete if approved by the Resident. The packages shall contain materials conforming to the Materials portion of this specification.

Materials shall be delivered, stored and handled to prevent contamination, segregation, corrosion, or damage. Liquid admixtures shall be stored to prevent evaporation and freezing.

Drainage Geotextile and geocomposite drains shall be provided in rolls, wrapped with a protective covering and stored in a manner which protects the fabric from mud, dirt, dust, debris, and shotcrete rebound. Protective wrapping shall not be removed until immediately before the geotextile or drain strip is installed. Extended exposure to ultra-violet light shall be avoided. Each roll of geotextile or drain strip in the shipment shall be labeled to identify the production run.

Shotcrete Mix Design.

Aggregate. Aggregate for shotcrete shall meet the strength and durability requirements of AASHTO M 80 and M 43 and shall meet the following gradation requirements:

Sieve Size	Percent Passing by Weight
12 mm (1/2 inch)	100
10 mm (3/8 inch)	90 - 100
5 mm (No. 4)	70 - 85
2.5 mm (No. 8)	50 - 70
1.25 mm (No. 16)	35 - 55
0.630 mm (No. 30)	20 - 35
0.300 mm (No. 50)	8 - 20
0.160 mm (No. 100)	2 - 10

Proportioning. Shotcrete shall be proportioned and delivered with the following minimum contents per cubic yard:

Cement content shall be at least 658 pounds per cubic yard.

Water/Cement ratio shall not be greater than 0.45.

The mix shall be proportioned to be pumpable with the concrete pump furnished for the Work.

Strength Requirements. Shotcrete shall be proportioned to produce a mix capable of attaining 2000 psi compressive strength in 3 days and 4000 psi in 28 days when tested in accordance with ASTM C109. The average compressive strength of each set of three cores extracted must equal to or exceed 85 percent of the specified compressive strength in accordance with ACI 506.2.

Mixing and Batching. Mixing equipment shall be capable of thoroughly mixing the materials in sufficient quantity to maintain the placing continuity. Shotcrete shall be batched, delivered and placed within 90 minutes of mixing unless otherwise approved by the Resident.

Field Quality Control. Both preconstruction and production shotcrete test panels shall be required. Test panels shall not be disturbed within the first 24 hours after shooting. Test panels shall be field cured under condition similar to those anticipated for the Work.

Shotcreting and coring of test panels shall be performed by qualified personnel in the presence of the Resident. The Contractor shall provide equipment, materials and personnel as necessary to obtain shotcrete cores for testing including construction of test panel boxes, field curing requirements and coring. Compressive strength testing will be performed by the Contractor. The frequency specified for test panels is approximate. A greater or lesser number of panels may be made as required by the Resident.

Unsatisfactory compressive strength tests shall result in suspension of the crew responsible for the unsatisfactory Work, or until additional specimens have been submitted, tested and proven satisfactory. Costs associated with testing and lost production due to failing to meet the Specifications shall be borne by the Contractor.

Production Test Panels. Each application crew shall furnish at least two (2) preconstruction test panels for each proposed mixture being considered and for each shooting position to be encountered on the job. Preconstruction test panels shall be made by each application crew using the equipment, materials, mixture proportions and procedures proposed for the job prior to the commencement of Work.

Preconstruction test panels shall be 30 x 30 inch in accordance with ACI 506.2-90, with following exceptions:

1. One preconstruction test panel shall be of the maximum shotcrete thickness indicated in the Soil Nail Retaining Wall Design and shall include the maximum anticipated reinforcing congestion. Cores extracted from the test panel shall demonstrate encapsulation of the reinforcement in accordance with ACI 506.2 equal to core grade 2 or better.
2. One preconstruction test panel shall be at least 4 inches thick and constructed without reinforcement for compressive strength testing.
3. The corners of the preconstruction and production test panels shall be chamfered 45 degrees over the full panel thickness.

Production Test Panels. The Contractor shall furnish at least one production test panel or, in lieu of production test panels, six (6) 3-inch diameter cores from the shotcrete face for every 50 cubic yards of shotcrete placed. The production test panels shall be constructed simultaneously with the shotcrete placing installation at times designated by the Resident. The production test panel shall have minimum dimension of 18 x 18 x 4 inches.

Core Testing. At least six (6) core samples will be cut from each pre-construction test panel and production test panel. Cores shall be soaked in water for at least 40 hours in accordance with AASHTO T 24. Cores shall be at least 3 inches in diameter and shall have a minimum length the diameter ratio of one (1). When the length of a core is less than twice the diameter, apply the correction factors given in ASTM C 42 to obtain the compressive strength of individual cores. Three (3) cores shall be tested a 3-days and three (3) cores shall be tested at 28-days.

Core holes in the wall shall be filled solid with patching mortar or shotcrete after cleaning and thoroughly dampening.

Visual Observation. A clearly defined pattern of continuous horizontal or vertical ridges or depressions at the reinforcing elements after they are covered will be considered an indication of insufficient cover of reinforcement or poor application and probable void. In this case, the application of shotcrete shall be immediately suspended and the Work carefully inspected by the Resident. The Contractor shall implement and complete corrective measures prior to resuming the shotcrete operations.

The shotcreting procedure may be corrected by adjusting the nozzle distance and orientation perpendicular to the surface, adjusting the water content of the shotcrete mix or other means acceptable to the Resident. Excessive re-tempering of the mix shall be avoided. The shotcreted surface shall be broomed and roughened if needed to ensure proper bond of subsequent layers.

636.14 CONSTRUCTION REQUIREMENTS

Shotcrete Alignment Control. The Contractor shall ensure that the thickness of shotcrete satisfies the minimum requirements of the Soil Nail Retaining Wall Design using alignment wires, thickness control pins, or other means acceptable to the Resident. The Contractor shall ensure that the front face of the shotcrete does not extend beyond the tolerance limits shown on the Plans.

Surface Preparation. Prior to shotcreting the ungrouted zone above the nail grout at the excavation cut face (birds beak), the Contractor shall remove all loose materials from the surface of the grout and prepare the joint in accordance with all requirements for joint preparation specified herein.

The Contractor shall remove all loose materials and loose dried shotcrete from previous placement operations from all receiving surfaces to receive shotcrete by methods acceptable to the Resident. The removal shall be

accomplished in such a manner as not to loosen, crack, or shatter the surfaces to receive the shotcrete. Any surface material which, in the opinion of the Resident, is so loosened or damaged shall be removed to a sufficient depth to provide a base that is suitable to receive the shotcrete. Material that loosens as the shotcrete is applied shall be removed. No shotcrete shall be placed on frozen surfaces.

Delivery and Application. A clean, dry, oil-free supply of compressed air sufficient for maintaining adequate nozzle velocity for all parts of the Work shall be maintained at all times. The equipment shall be capable of delivering the premixed material accurately, uniformly and continuously through the delivery.

The shotcrete shall be applied from the lower part of the Work area upwards to prevent accumulation of rebound on uncovered surfaces. Where shotcrete is used to complete the ungrouted zone of the nail drill hole the face, the nozzle shall be positioned into the mouth of the drillhole to completely fill the void. Rebound shall not be worked back into the placement nor shall the rebound be salvaged. Rebound which does not fall clear of the working area shall be removed. The nozzle shall be held at a distance and at an angle approximately perpendicular to the working face so that rebound will be minimal and compaction will be maximized. Thickness, methods of support, air pressure, and rate of placement of shotcrete shall be controlled to prevent sagging or sloughing of freshly-applied shotcrete.

Defective Shotcrete. Surface defects shall be repaired as soon as possible after initial placement of shotcrete. All shotcrete which lacks uniformity, which exhibits segregation, sagging, honeycombing, or lamination, or which contains any voids or sand pockets shall be removed and replaced with fresh shotcrete by the Contractor to the satisfaction of the Resident.

Construction Joints. Construction joints shall be uniformly tapered toward the excavation face over a minimum distance equal to the thickness of the shotcrete layer. To the maximum extent practical, the surface of the nail grout at the excavation cut face shall be cleaned and prepared to receive shotcrete in a manner equal to all other construction joints.

Finish. Shotcrete finish shall be either an undisturbed gun finish as applied from the nozzle or a screened finish. Shotcrete extending into the finish face section beyond the tolerances shown on the Soil Nail Retaining Wall Design shall be removed.

Attachment of the Bearing Plate and Nut. The bearing plate and nut shall be attached as shown in the Soil Nail Retaining Wall Design. The plate shall be seated by hand wrench tightening the nut such that uniform contact with the shotcrete is achieved while the shotcrete is still plastic and prior to its initial set. Where uniform contact between the plate and the shotcrete cannot be provided, the plate shall be seated on a mortar pad to provide uniform support. Once the mortar pad has attained strength (minimum 1 day), the nut shall be hand wrench tightened. Where studded bearing plates are used to connect the soil nail to the cast-in-place finish facing, the Contractor shall ensure that the bearing plate is in full contact with the construction facing and that the studs are located within the tolerances shown on the Soil Nail Retaining Wall Design.

Weather Limitations. Shotcrete shall not be placed in cold weather unless adequately protected when the ambient temperature is below 40°F and falling and/or when the shotcrete is likely to be subjected to freezing temperatures before a minimum strength of 700 psi. Cold weather protection shall be maintained until the strength of the in-place shotcrete is greater than 750 psi. Cold weather protection shall include heating under tents, blankets or other means acceptable to the Resident. The temperature of the shotcrete, when deposited, shall not be less than 50°F or more than 90°F.

Shotcrete application shall also be suspended during high winds and heavy rains when in the opinion of the Resident the quality of the application is not acceptable. Newly placed shotcrete exposed to rain that washes out cement or otherwise makes the shotcrete unacceptable to the Resident shall be removed and replaced. The

Contractor shall provide adequately secured polyethylene sheeting or equivalent when adverse exposure to weather is anticipated.

Tolerances. Tolerances for construction facing and temporary shotcrete shall be as shown on the Plans and as required by the Soil Nail Retaining Wall Design.

Safety Requirements. Special attention shall be given to eye and dust protection hazards when shotcrete is applied. Cement and other admixtures are caustic and may cause skin and respiratory irritation unless safety measures are taken in addition to required ventilation. Nozzlemen and helpers shall be equipped with gloves, eye protection, and adequate clothing during the application of shotcrete. The Contractor is responsible for meeting all Federal, State and Local Safety Code requirements.

636.15 WALL DRAINAGE NETWORK

General. The Contractor shall install and secure all elements of the wall drainage network scheduled to be incorporated into a lift as specified by the Soil Nail Retaining Wall Design, as specified herein, or as required by the Resident to suit the site conditions. Unanticipated subsurface drainage features exposed in the excavation cut face shall be captured independently of the drainage network and shall be mitigated prior to shotcrete application.

The drainage network shall consist of installing geocomposite drain strips, PVC connection pipes and wall footing drains as shown on the Plans or as directed by the Resident. Exclusive of the wall footing drains, all elements of the drainage network shall be installed prior to shotcreting.

Geocomposite Drain Strips. Geocomposite drain strips shall be installed as specified in the Soil Nail Retaining Wall Design. Drain strips at construction joints shall be placed such that the joint is aligned as close as practical along the middle of the longitudinal axis of the drain strip.

The geocomposite drain strips shall be at least 18 inches wide and shall be secured to the excavation face with the geotextile side against the ground after shotcreting. “U” shaped securing pins shall be at least 8 inches long with a 2.5-foot width and shall be installed 24 inches longitudinally along the length of the drain. Drain strips shall be made continuous by using the “shingle” method of splicing with a 16 inch minimum overlap such that the flow of water is not impeded.

The center-to-center spacing of the drain strips shall not exceed 5 feet.

Footing Drains. Footing drains shall consist of drainage aggregate and perforated PVC pipe and shall be constructed at the bottom of each wall as shown on the Layout Drawings.

Connection Pipes and Weepholes. Connection pipes and weepholes shall be installed as shown on the Layout Drawings, and as specified in the Soil Nail Retaining Wall Design. Connection pipes shall be lengths of solid PVC pipe installed to direct water from the geocomposite drain strips into the footing drain. Connection pipes and weep holes shall be connected to the drain strips by installing prefabricated drain grates as detailed on the Layout Drawings and specified in the Soil Nail Retaining Wall Design, and in accordance with the drain strip manufacturer’s recommendations. The joint between the drain grate and the drain strip and the discharge end of the connector pipe shall be sealed to prevent shotcrete intrusion. Damage of the geocomposite drain strip which, in the opinion of the Resident, may cause interruption in flow shall require installation of additional connection pipes or weepholes above the damaged section. Connection pipes shall be extended to the edge of the footing drain but not through the drainage geotextile. The integrity of the drainage geotextile shall not be interrupted.

636.16 METHOD OF MEASUREMENT

Measurement. Soil Nail Retaining Wall – Construction will be measured by the square foot of front finished wall surface and includes soil nail installation, placement of shotcrete, drainage elements, and the cast-in-place facing.

No specific payment will be made for verification or proof nail testing, which shall be considered incidental to production nail installation. There will be a minimum of four (4) successful verification tests, and a minimum of 5 percent of the production nail successfully proof tested. Failed verification test nails or verification test nails installed to verify alternative nail installation methods proposed by the Contractor shall be considered incidental to production nail installation.

The final pay quantity shall be the design quantity increased by any authorized changes, as determined by the Resident.

636.17 BASIS OF PAYMENT

Basis of Payment. The accepted quantities of Soil Nail Retaining Wall – Construction will be paid for at the contract unit prices per square foot complete in place. The payment shall be full compensation for all labor, equipment, earthwork, excavation, materials, material tests, field tests. Field tests and incidentals necessary to acceptably fabricate and construct the Soil Nail Retaining Wall, including installation of the soil nails, placement of shotcrete, drainage elements, and the cast-in-place facing, in accordance with all requirements of the Contract.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
636.411 Soil Nail Retaining Wall - Construction	Square Foot

Special Provision
Section 643
Radar Operated Speed Sign

Description of Materials, Supplies, Equipment and Bid Price

Description

The intent of this specification is to describe a post mounted, Radar Speed Sign and the associated requirements of supplying and installing these signs for the State of Maine (State) Department of Transportation,

These signs may be installed in stationary locations at any location in the State or moved around as necessary. These are used year round at unattended locations and must be completely suitable for operation in (sun, rain and snow) in temperatures ranges of -20 degrees Fahrenheit to 120 degrees Fahrenheit without any maintenance. In addition to the technical specifications, this document details vendor supplied documentation, equipment, and responsibilities for each order.

The sign shall consist of a radar, display board, power system, and a controller assembly, all mounted in a portable case able to be deployed by a single person. The Dynamic Speed Feedback Signs shall meet the material specification section of the material specification below.

Payments to the Contractor shall be full compensation for furnishing all labor, equipment, materials, services, and incidentals used to supply the materials under the Contract in a complete and acceptable manner, and for all risk, loss, damage, or expense of any kind arising from the nature or prosecution of the Work.

No payments due the Contractor will be adjusted for inflation. No interest shall be due and payable on any payment due the Contractor.

Material Quality: Materials and manufactured products shall be new unless otherwise specified, free from defect, and in conformity with the contract. If there is no applicable standard set forth in this Contract for a particular item, then the item shall be in accordance with industry standards prevailing at the time of bid. The Department has the authority to inspect all Materials and every detail of the Work.

When material is fabricated or treated with another material or where any combination of materials is assembled to form a finished product, any or all of which are covered by specifications, the Department may reject the finished product if any of the components do not comply with the specifications. The Department may reject materials not con-forming to the Specifications at any time.

Material Specification

The following requirements and criteria for these units shall be met completely. MaineDOT will review the submittals. The contractor shall deliver a device for MaineDOT to assess. If MaineDOT finds that the device does not meet the spec, the sign will be rejected and the contractor would need to submit another product. If the

contractor submits as sign that has previously been accepted by MaineDOT, there will be no need to do the review.

Please complete all checklists. An X will have the same meaning as standard or specified equipment.

Make note of all exceptions and identify as not available or dealer installed.

The following abbreviations must be used:

X Standard or as specified
N/A Not Available
DI Dealer Installed
AE Approved equal process

Item # 1 DISPLAY SPECIFICATIONS

- _____ 1.1 Dimensions: The traffic facing surface shall not exceed 30" Horizontal and 36" Vertical (MUTCD speed limit dimensions for multi-lane road)
- _____ 1.2 Character Display: The display shall be capable of displaying 2 15" high characters
- _____ 1.3 Message Display: The display shall be capable of displaying the message "Slow Down"
- _____ 1.3 Weight: Shall be less than 40lbs
- _____ 1.4 Finish: The inside of the display enclosure shall be painted black to facilitate heat dissipation.
- _____ 1.5 Glazing: If the display modules are not weatherproof, they shall be protected by a watertight sheet of non-yellowing UV-protected acrylic or polycarbonate.
- _____ 1.6 General: The unit shall meet the requirements of the MUTCD.

Item # 2 DATA SYSTEM

- _____ 2.1 Display: The unit shall be able to accurately display the speed of approaching vehicles.
- _____ 2.2 Alert: The unit shall have a method of informing the driver they are exceeding the set speed limit. (flashing, written message, etc.)
- _____ 2.3 Logging: The speed and time of all approaching vehicles shall be logged and stored in an easily accessible format.
- _____ 2.4 Stealth: The sign shall be capable of logging vehicles at all speeds without activating the display

_____ 2.5 Data Collection: The data shall be accessible by an external device. Data collection software will be supplied with the sign which will provide for data collection, report generation with tabular and graphical presentation, local data storage, and data dissemination.

_____ 2.6 Sign Programming: Any software required to program the sign shall be supplied with the sign. The sign shall be able to be set to different trigger speeds.

Item # 3 POWER SYSTEM

_____ 3.1 Power System: The sign shall be powered by batteries that can be fully recharged within one hour by 120 volt AC power.

_____ 3.2 Batteries: The number and amp hour rating of batteries shall be sufficient to operate the speed sign for 168 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.

_____ 3.3 Power control circuitry: The power control circuitry shall protect the batteries from overcharging by the 120-volt and solar chargers. It shall also protect the 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.

_____ 3.4 Battery Type: Any batteries shall be of a composition that will allow the battery to recharge at low temperatures (below 32°), normally a lead acid base.

_____ 3.5 Solar Power: the solar panels will be capable of charging the batteries off a single hour of sunlight. Any connections between the solar panel and sign will be of a type that can be connected and disconnected without the use of tools.

Item # 4 Installation:

_____ 4.2 A permanent mounting structure may be attached to a pole so as other components (radar detector, display, power system, communications) can easily be installed/ removed by a single person.

_____ 4.1 All parts of the installation required for operation shall be portable, in that they can be installed / removed by a single average person in under 30 minutes (not including permanent mounting devices)
Banding is not an accepted type of mounting.

_____ 4.3 It shall be possible to mount/ remove the portable sections of the sign with minimal unpowered hand tools (screwdriver, wrench)

_____ 4.4 A method of locking the sign to the post/ mounting structure shall be used so that the sign cannot be removed by unauthorized individuals.

Item # 5 Testing:

- _____ 5.1 The manufacturer shall test the signs, and spare parts. The manufacturer shall develop the test procedures and revise them as necessary to meet the Engineer's approval. Prior to the testing, the manufacturer shall deliver all signs and spare parts to the Department's Augusta Industrial Drive facility, shall conduct all the tests in the test plans, and shall correct any deficiencies found.
- _____ 5.2 When the manufacturer is confident that the sign and parts will pass the test, he shall arrange for the Department's representative's to witness the testing. He 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 (or two days, if necessary) at a location picked by the Department. The manufacturer shall provide all materials and equipment needed for testing and shall prepare a written report of the test results.
- _____ 5.3 Sign Testing: 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:
- All diagnostic routines provided by the manufacturer.
- Proper operation of every pixel, including uniform brightness at all brightness levels and proper current consumption.
- Proper wiring of the display modules, checked by displaying a 2 digit number
- Appropriate display brightness for day and night conditions, and brightness when the sun at its worst condition for the location.
- Proper aiming of the display modules.
- _____ 5.4 The test plan shall test every interface, feature, and function of the software, including features present but not required by these specifications. The testing shall demonstrate that the software deals appropriately with communication errors and operator errors. The testing shall confirm that the signs can be monitored and controlled from each of the Department's computers on which software was installed.
- _____ 5.5 Spare Parts Testing: Test the parts by substituting them into a working sign.

Item # 6 Support

- _____ 6.1 Technical Support: 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 on all work days.

_____ 6.2 On-Site Support: The manufacturer shall have a representative present when the installation contractor installs the first sign. The representative shall observe the installation, provide additional training to the contractor as required, and ensure that the sign is installed correctly. If the manufacturer's representative is not confident that the contractor can install the remaining signs without assistance, the representative shall immediately notify the Engineer.

_____ 6.3 Telephone Support during Installation: The manufacturer shall provide telephone support to the installation contractor during installation. This support shall be available until all the signs have been installed.

_____ 6.4 Telephone Support for Operation and Maintenance: The manufacturer shall provide telephone support to the Department's operations and maintenance staff for a period of one year following the acceptance of the signs.

Item # 7 PAINT

_____ 7.1 All metal shall be free of rust and mill scale and prepared (beadblasted) for primer and finish paint coat.

_____ 7.2 A two (2) part epoxy primer shall be applied to prepared metal surfaces to the minimum thickness of 3-5 mils dry.

_____ 7.3 All paint and primer shall be lead free.

Item # 8 WARRANTY

_____ 8.1 One year parts and labor, or standard manufactures warranty shall apply whichever is greater. Warranty shall begin on the date unit is actually put into service by MDOT Fleet Services.

Item # 9 GENERAL

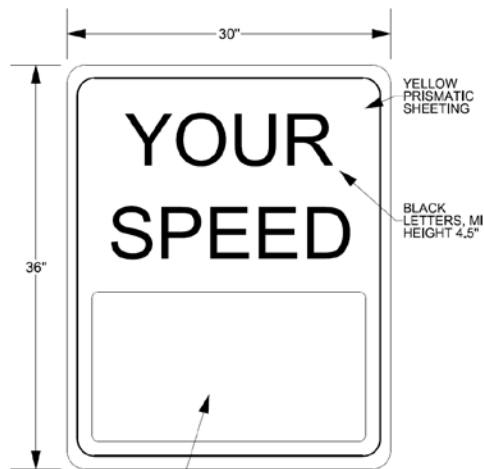
_____ 9.1 Wiring: All wiring shall be inaccessible to vandals. All external wiring shall be enclosed in liquid-tight flexible conduit or flexible non-metallic tubing. All wiring and connections shall be of sufficient size to support all maximum currents continuously with a maximum of 5% percent voltage drop, including an "all pixels ON" display, for at least three (3) hours. All wiring installation shall meet or exceed National Electrical Code Articles 300 and 310 methods and requirements.

_____ 9.2 Labeling: All terminals and connections shall be clearly labeled. Labels shall be permanent.

Basis of Payment

Payment for this item shall be full compensation for furnishing and installation of the radar operated speed sign, solar panel, 6 inch by 4 inch by 20 foot pressure treated wood post, all signage, wiring, conduit, drilling of the posts to make crashworthy, auguring of the hole (4 feet deep), batteries and any incidentals need to complete the installation.

SCHEDULE OF ITEMS



15" Character Display

<i>Pay Item</i>	<i>Description</i>	<i>Pay Unit</i>
643.77	Radar Operated Speed Sign	Each

Special Provision
Section 645
Activated Solar Powered Flashing Sign

This work shall consist of furnishing and installing new solar powered flashing signs, controller cabinets, controllers, signal inputs, solar panels, batteries, sign supports, and all associated appurtenances needed for a working flashing sign installation, activated by a radio signal, in accordance with these specifications and in reasonably close conformity with the plans.

645.02 – General

“All equipment and materials shall be capable of operating in temperatures ranging from -30°F to 150°F.”

645.021 – Materials

Add:

“LEDs shall be equivalent to High-power Luxeon – 1 watt LEDs with a life expectancy of 100,000 hours.

The cabinet holding the electronics, charge controller, and batteries should be dust and moisture proof, made of aluminum or stainless steel, and be lockable. Two keys shall be furnished for each lock.

The controller shall flash the LEDs in accordance with MUTCD requirements and guidelines, and shall adjust the brightness of the LEDs based on ambient light conditions. The sign shall be activated by a radio signal. The radio units (transmitters and receivers) to activate the signs shall be included as part of the sign. One master radio will activate all signs.

Solar panels shall be rated for a minimum of 40 watts and be supplied with a bracket to rotate at least 180 degrees.

All exposed wiring for flashing signs and solar panels shall be IMSA 19-1 rated and be of sufficient size to continuously carry the full electrical load unless approved by the Resident Engineer and a licensed electrician representing MaineDOT.

The solar charge control shall be self-regulating, temperature compensated, contain a low voltage load disconnect, and be of sufficient size to handle the full current of the solar panel.

Batteries supplied shall be sufficient to power the sign and associated electronics continuously for 7 days and maintain at least 50% full charge, with no solar charge or assist. Batteries should be absorbed glass mat (AGM) and shall gain sufficient charge from the solar panels in temperatures ranging from -30°F to 150°F with only 1 hour of daylight per day to operate as specified above. Batteries shall supply a nominal voltage of 12 volts dc or less.

Signs included in this contract will be:

MUTCD W11-8 30 x 30 Emergency Vehicle sign, with 8 Amber LEDs installed around the perimeter of each sign.”

645.03 – Classification of Signs

Remove “or plywood” from subsection d.

Add:

The sign portion and supports of solar powered flashing sign assemblies shall comply with Type II regulatory, warning and route marker assembly signs.

645.061 – Installation of Type II Signs

Add after the first paragraph:

“The angle of the solar panel shall be 30 degrees from vertical.

Solar powered flashing signs shall meet testing requirements outlined in sections 643.14 a, b, and e.”

Add to subsection a:

“Solar powered flashing signs shall be mounted on 4 inch by 6 inch wood posts.”

645.08 – Method of Measurement

Add:

“Activated solar powered flashing signs, including controller cabinets, controllers, signal inputs, solar panels, batteries, sign supports, radios, and all associated appurtenances needed for a working flashing sign installation will be measured by each unit complete in place, tested, and accepted.”

645.09 – Basis of Payment

Add:

“The accepted activated solar powered flashing sign will be paid for at the contract unit price each, which payment will be full compensation for solar powered flashing signs, including controller cabinets, controllers, radios, solar panels, batteries, sign supports, and all associated appurtenances needed for a working flashing sign installation.

Payment shall be made under:

Pay Item

Pay Unit

645.5131 Activated Solar Powered Flashing Sign

Each

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.

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.

B. Vertical Alignment Grades shall not exceed 10% and all grade changes will accommodate all legal highway vehicle components and attached loads.

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 operate to 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 creation 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 and/or horizontal/vertical design shall be stamped by a professional engineer licensed in the state of Maine.

The Contractor is ultimately 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 of the Staged Construction and Traffic Control Plan and for all items not included in the Bid Documents and utilized as depicted. All 652 items utilized by the SCTCP and included in the Schedule of Items shall be paid for separately. All additional shoring, excavating, placement of fill, piles, permits, rights, and any other work associated with this item shall be considered incidental.

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:

<u>Pay Item</u>	<u>Pay Unit</u>
652.61 Staged Construction and Traffic Control	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 xxxx¹.
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 and milling 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 700 - MATERIALS

SECTION 703 - AGGREGATES

The Standard Specification 700 – Materials, has been modified with the following revisions. All sections not revised by this Supplemental Specification shall be as outlined in Section 700 of the Standard Specifications.

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 composite 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 Coarse Aggregate Angularity (minimum)	AASHTO T 304 Method A Uncompacted Void Content of Fine Aggregate (minimum)**	ASTM D 4791 (8.4) Flat and Elongated Particles (maximum)	AASHTO T 176 Clay Content/ Sand Equivalent (minimum)	AASHTO T 327 Coarse Micro-Deval (maximum)
< 3.0	75/60	40	10	45	18.0%*
3.0 to < 10	90/80	45		50	18.0%
≥ 10	95/90				

* In the event the material exceeds the Micro-Deval limit, a Washington Degradation test shall be performed. The material shall be acceptable if it has a value of 30 or more 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).

ASTM D 5821 - “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 D 4791 - 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 μ m sieve is 6.5%.

SPECIAL PROVISION
SECTION 803
TEST PITS

Description. This work shall consist of excavating test pits for buried site features. At least 10 CY of material must be excavated to qualify as a test pit. Only one test pit payment per specific site will be made.

Method of Measurement. Test Pits will be measured by the unit each, complete.

Basis of Payment. Payment for test pits shall include clearing, excavation, dewatering, backfill and compaction in locations as shown on the plans or as directed.

<u>Pay Item</u>	<u>Pay Unit</u>
801.03 Test Pits	Each

SPECIAL PROVISION
SECTION 801
SANITARY SEWER

Description This work shall consist of replacing the existing septic line crossing Route 26 approx. STA. 39+90.00 within the existing right-of-way, in accordance with these specifications and as directed by the resident in the field.

Materials Meet Sections:

Sewer Line Bedding and Initial Backfilling	703.02 for class AA
Stone PVC Pipes & Fittings 4 in.	ASTM D3034 (SDR 35)

Construction Requirements

Excavation Trenches shall be excavated in accordance with the requirements of Section 206 - Structural Excavation and wide enough to allow joining the pipe and compacting the bedding and backfill material under and around the pipe. Unless otherwise designated, trench walls shall be as nearly vertical as possible and the trench width no greater than necessary for installation of the pipe.

Bedding The inspection standpipe and pipe line shall be bedded in original material.

Laying The Contractor shall not install nor backfill cellar drain inspection standpipes between December 15th and April 1st without written permission. Installing shall begin at the downhill end of the cellar drain line. Bell or groove ends shall be placed facing uphill.

Joining The pipe ends shall be thoroughly cleaned before the joint is made. Joints shall be made in accordance with the manufacturer's recommended procedures.

Backfilling After the inspection standpipe and pipe are installed, it will be inspected before any backfill material is placed. All pipe found to be out of alignment, unduly settled or damaged to the extent that full performance is impaired, shall be taken up and re-laid or replaced. One bag of concrete mix shall be installed around the foot of the standpipe, placement as per manufacturer's recommendations.

Trenches shall be backfilled in accordance with Section 206.03 and as follows. The backfill shall be original excavation in 12 in. maximum lifts and shall be thoroughly compacted with power tampers or vibratory compactors or other approved equipment or combination of equipment.

Method of Measurement PVC pipe will be measured by the length in feet along the invert, horizontally and vertically, including fittings and caps, laid as directed, complete in place,

and accepted. Pipe laid in excess of the authorized length will not be included. Pipe installed inside a manhole will not be measured for payment.

Basis of Payment The accepted quantities of pipe will be paid for at the contract unit price per meter [linear foot], for the types and sizes specified, complete in place and shall be full compensation for all labor, materials, equipment, excavation, dewatering, bedding, furnishing and installing pipe, removal and disposal of existing pipes, connecting to manholes, connecting to existing cellar drain, concrete footing, backfill, compacting, cleaning, testing, maintaining existing flows, and all other incidental required.

No payment will be made for pipe ordered without written approval of the Resident when such pipe is not required to be installed for completion of the work.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
801.16 6 in. PVC Sanitary Sewer (SDR-35)	Linear Foot

SPECIAL PROVISION
SECTION 841
BOLLARDS

Description.

This work shall consist of furnishing and installing structural steel pipe bollards with ductile iron decorative bollard covers on concrete foundations at the locations shown on the plans and in conformance with the construction notes and details, the Standard Specifications, and this special provision.

Materials.

Steel pipe for bollards shall be 6.625 inches O.D. ASTM A 500 structural steel pipe with 0.280 inch wall thickness. Steel pipe length shall be six (6) feet.

Bollard covers shall be ductile iron, model number R-7691 as manufactured by:

Reliance Foundry
Unit 207
6450 – 148 Street
Surrey, BC V3S 7G7, Canada
1-877-789-3245
www.reliance-foundry.com

or approved equal. If an alternative bollard cover is proposed, it must be approved the Maine Department of Transportation for materials and other structural considerations. Minimum height of the bollard cover above the top of the foundation shall be 36 inches and maximum height shall be 42 inches, if an alternative bollard cover is proposed and approved. Finish for the ductile iron decorative bollard covers shall be two coats of black textured semi-gloss powder coating.

Foundations for bollards shall be 18 inch diameter Class LP reinforced concrete foundations meeting requirements of Section 626 of the Standard Specifications and Standard Details.

Construction Requirements.

The structural steel pipe for the bollard shall be securely supported in a vertical position in the center of the form for the reinforced concrete foundation. Foundations may be precast with the structural steel pipe and other required components in their required positions, with prior approval of the Resident. The pipe must be in the center of the foundation, within a tolerance of $1/8"$ $\pm$. The pipe also must be perpendicular to the top surface of the foundation, with no variance allowed. Either in the precasting process or in the field if cast-in-place, the structural steel pipe shall be filled with Class LP concrete and finished to a flat surface at the top edge of the pipe. The top of the pipe shall be 29-3/4 inches $\pm 1/4$ inch above the top

surface of the foundation. A one-inch diameter by 36 inch long threaded ASTM A 500 steel rod shall be set vertically in the center of the pipe, with no variance allowed from being perpendicular to the top surface of the foundation, before filling the pipe with concrete. The threaded rod shall have a one-inch hex nut threaded onto the rod approximately three inches from the bottom end of the rod before filling the pipe with concrete. Maximum extension of the threaded rod above the top surface of the foundation shall be 34-3/4 inches $\pm 1/4$ inch. Dimensions stated for the height of steel pipe and anchor rod above the foundation are for the specified R-7691 bollard cover model. Dimensions may vary to meet recommendations of the manufacturer if an alternative bollard cover is proposed and approved. After curing of the concrete, the ductile iron decorative bollard base and cap shall be secured to the anchor rod in accordance with the recommendations of the manufacturer.

Manufacturing and installation of reinforced concrete foundations shall meet construction requirements of Section 626, except precasting of foundations will be permitted. Compaction of backfill around precast foundations shall be to 95% of the maximum dry density of the backfill material.

Method of Measurement. Bollards shall be measured for payment by each unit installed, complete in place and accepted.

Basis of Payment. Bollards will be paid for at the contract price each. Payment shall include furnishing and installing new structural steel pipe, concrete fill inside the structural steel pipe, threaded anchor rod, ductile iron decorative bollard cover over the structural steel pipe, and all other materials, labor and incidentals necessary to complete the work, unless otherwise noted. Payment for concrete foundations will be made under Item 626.31.

<u>Pay Item</u>		<u>Pay Unit</u>
841.48	Bollards	Each

2020 STANDARD DETAIL UPDATES

Standard Details and Standard Detail updates are available at:
<http://maine.gov/mdot/contractors/publications/standarddetail/>

<u>Detail #</u>	<u>Description</u>	<u>Revision Date</u>
802(05)	Roadway Culvert End Slope Treatment	1/03/2017

SUPPLEMENTAL SPECIFICATIONS
(Corrections, Additions, & Revisions to Standard Specifications – March 2020)

SECTION 104
GENERAL RIGHTS AND RESPONSIBILITIES

104.2.1 Furnishing of Right-of-Way Revise the last sentence in the first paragraph by removing “105.4.5 – Special Detours” and replacing it with “**105.4.5 – Maintenance of Existing Structures.**”.

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 502
STRUCTURAL CONCRETE

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: “

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."**

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 ("butterfly"-type) delineators shall be mounted on all "w"-beam guardrail. The delineators shall be mounted within the guardrail beam at guardrail posts. Delineators shall be fabricated from high-impact, ultraviolet & weather resistant thermoplastic. Reflectorized beam guardrail delineators shall be placed at approximately 62.5 ft intervals or every tenth post on tangents and at approximately 31.25 ft intervals or every fifth post on curves. Exact locations of the delineators shall be as directed by the Resident. On divided highways, the left-hand delineators shall be yellow, and the right-hand delineators shall be silver/white. On two directional highways, the

right-hand side shall be silver/white, and no reflectorized delineator used on the left. All reflectors shall have reflective sheeting applied to only one side of the delineator facing the direction of traffic as shown in the Standard Details. Reflectorized sheeting for guardrail delineators shall meet the requirements of Section 719.01.

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.

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.

Anchorage 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 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.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
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
606.353	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
606.47	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 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 626 FOUNDATIONS, CONDUIT, AND JUNCTION BOXES FOR HIGHWAY SIGNING, LIGHTING, AND SIGNALS

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.**”

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 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 703 AGGREGATES

Add the following to the beginning of 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
$\frac{3}{8}$ 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 $\frac{3}{8}$ 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	A	AA	S	LATEX
Aggregate Size	1 inch	$\frac{3}{4}$ inch	$1\frac{1}{2}$ inch	$\frac{1}{2}$ inch
2 inch			100	
$1\frac{1}{2}$ inch	100		95-100	
1 inch	95-100	100	-	
$\frac{3}{4}$ inch	-	90-100	35-70	100
$\frac{1}{2}$ inch	25-60	-	-	90-100
$\frac{3}{8}$ inch	-	20-55	10-30	40-70
No. 4	0-10	0-10	0-5	0-15
No. 8	0-5	0-5	-	0-5
No. 16	-	-	-	-
No. 50	-	-	-	-
No. 200	0 - 1.5	0 - 1.5	0 - 1.5	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 the Department. Sampling will be performed by the Department from stockpiles located at the Contractor's/supplier's ready mixed concrete plants. Aggregate approvals will be performed on a 3-year cycle, unless the source or character of the aggregate in question has changed within 3 years from the last test date.

A list of pre-approved coarse aggregate and aggregate-cement/pozzolan blends is maintained by the Department and will determine the acceptability of concrete mix designs proposed for use.

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.

Acceptable pozzolans and chemical admixtures that may be used when an aggregate is classified as potentially reactive include 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 Hydroxide Monohydrate (LiOH-H₂O).

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.

Aggregates classified as potentially reactive by the requirements of this specification may be used if certified test results from an accredited independent laboratory utilizing the current AASHTO T 303 (ASTM C 1260) Accelerated Detection of Potentially Deleterious Expansion of Mortar Bars Due to Alkali-Silica Reaction, indicating an acceptable alkali-aggregate combination, are submitted to the Department.

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
$\frac{3}{8}$ 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..." and replace with "The material shall have a minimum degradation 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 T 113T113, Method of Test for Determination of Degradation Value (January 2009 version) shall be performed), except that the test shall be performed on the reported degradation value will be the result of testing a single specimen from that portion of the sample that passes the $\frac{1}{2}$ 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, minus any reclaimed asphalt pavement 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. If AASHTO T 96 is used for acceptance of the material, the material shall be retested at intervals of 25%, 50% and 75% completion of the course.

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.

APPENDIX A TO DIVISION 100

SECTION 1 - BIDDING PROVISIONS

A. Federally Required Certifications By signing and delivering a Bid, the Bidder certifies as provided in all certifications set forth in this Appendix A - Federal Contract Provisions Supplement including:

- Certification Regarding No Kickbacks to Procure Contract as provided on this page 1 below.
- Certification Regarding Non-collusion as provided on page 1 below.
- Certification Regarding Non-segregated Facilities as provided by FHWA Form 1273, section III set forth on page 21 below.
- "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion" as provided by FHWA Form 1273, section XI set forth on page 32 below.
- "Certification Regarding Use of Contract Funds for Lobbying" as provided by FHWA Form 1273, section XII set forth on page 35 below.

Unless otherwise provided below, the term "Bidder", for the purposes of these certifications, includes the Bidder, its principals, and the person(s) signing the Bid. Upon execution of the Contract, the Bidder (then called the Contractor) will again make all the certifications indicated in this paragraph above.

CERTIFICATION REGARDING NO KICKBACKS TO PROCURE CONTRACT Except expressly stated by the Bidder on sheets submitted with the Bid (if any), the Bidder hereby certifies, to the best of its knowledge and belief, that it has not:

(A) employed or retained for a commission, percentage, brokerage, contingent fee, or other consideration, any firm or person (other than a bona fide employee working solely for me) to solicit or secure this contract;

(B) agreed, as an express or implied condition for obtaining this contract, to employ or retain the services of any firm or person in connection with carrying out the contract, or;

(C) paid, or agreed to pay, to any firm, organization, or person (other than a bona fide employee working solely for me) any fee, contribution, donation, or consideration of any kind for, or in connection with, procuring or carrying out the contract;

By signing and submitting a Bid, the Bidder acknowledges that this certification is to be furnished to the Maine Department of Transportation and the Federal Highway Administration, U.S. Department of Transportation in connection with this contract in anticipation of federal aid highway funds and is subject to applicable state and federal laws, both criminal and civil.

CERTIFICATION REGARDING NONCOLLUSION Under penalty of perjury as provided by federal law (28 U.S.C. §1746), 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 the Contract.

For a related provisions, see Section 102.7.2 (C) of the Standard Specifications - "Effects of Signing and Delivery of Bids" - "Certifications", Section 3 of this Appendix A entitled "Other Federal Requirements" including section XI - "Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion" and section XII. - "Certification Regarding Use of Contract Funds for Lobbying."

B. Bid Rigging Hotline To report bid rigging activities call: **1-800-424-9071**

The U.S. Department of Transportation (DOT) operates the above toll-free "hotline" Monday through Friday, 8:00 a.m. to 5:00 p.m., eastern time. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the "hotline" to report such activities.

The "hotline" is part of the DOT's continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

SECTION 2 - FEDERAL EEO AND CIVIL RIGHTS REQUIREMENTS

Unless expressly otherwise provided in the Bid Documents, the provisions contained in this Section 2 of this "Federal Contract Provisions Supplement" are hereby incorporated into the Bid Documents and Contract.

A. Nondiscrimination & Civil Rights - Title VI The Contractor and its subcontractors 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 Department deems appropriate. The Contractor and subcontractors shall comply with Title VI of the Civil Rights Act of 1964, as amended, and with all State of Maine and other Federal Civil Rights laws.

For related provisions, see Subsection B - "Nondiscrimination and Affirmative Action - Executive Order 11246" of this Section 2 and Section 3 - Other Federal Requirements of this "Federal Contract Provisions Supplement" including section II - "Nondiscrimination" of the "Required Contract Provisions, Federal Aid Construction Contracts", FHWA-1273.

B. Nondiscrimination and Affirmative Action - Executive Order 11246 Pursuant to Executive Order 11246, which was issued by President Johnson in 1965 and amended in 1967 and 1978, this Contract provides as follows.

The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its efforts to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

Ensure and maintain a working environment free of harassment, intimidations, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all forepersons, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.

Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its union have employment opportunities available, and to maintain a record of the organization's responses.

Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the Contractor may have taken.

Provide immediate written notification to the Department's Civil Rights Office when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Design-Builder's efforts to meet its obligations.

Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under B above.

Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligation; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, General Forepersons, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractor's and Subcontractors with whom the Contractor does or anticipates doing business.

Direct its recruitment efforts, both orally and written to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above describing the openings, screenings, procedures, and test to be used in the selection process.

Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth, both on the site and in other areas of a Contractor's workforce.

Validate all tests and other selection requirements.

Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.

Ensure that all facilities and company activities are non segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction Contractor's and suppliers, including circulation of solicitations to minority and female Contractor associations and other business associations.

Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

C. Goals for Employment of Women and Minorities Per Executive Order 11246, craft tradesperson goals are 6.9% women and .5% minorities employed. However, goals may be adjusted upward at the mutual agreement of the Contractor and the Department. Calculation of these percentages shall not include On-the-Job Training Program trainees, and shall not include clerical or field clerk position employees.

For a more complete presentation of requirements for such Goals, see the federally required document "Goals for Employment of Females and Minorities" set forth in the next 6 pages below.

Start of GOALS FOR EMPLOYMENT OF FEMALES AND MINORITIES
Federally Required Contract Document

§60-4.2 Solicitations

- (d) The following notice shall be included in, and shall be part of, all solicitations for offers and bids on all Federal and federally assisted construction contracts or subcontracts in excess of \$10,000 to be performed in geographical areas designated by the Director pursuant to §60-4.6 of this part (see 41 CFR 60-4.2(a)):

Notice of Requirement for Affirmative Action to Ensure Equal Opportunity (Executive Order 11246)

1. The Offeror's or bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered area, are as follows:

<u>Goals for female participation in each trade</u>	6.9%

Goals for minority participation for each trade

Maine

001 Bangor, ME	0.8%

Non-SMSA Counties (Aroostook, Hancock, Penobscot, Piscataquis, Waldo, Washington)

002 Portland-Lewiston, ME

SMSA Counties: 4243 Lewiston-Auburn, ME (Androscoggin)	0.5%

6403 Portland, ME (Cumberland, Sagadahoc)	0.6%

Non-SMSA Counties:
(Franklin, Kennebec, Knox, Lincoln, Oxford, Somerset, York)

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non federally involved construction.

The contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be in violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor, employer identification number of the subcontractor, estimated dollar amount of the subcontract; estimated started and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

4. As used in this Notice, and in the Contract resulting from this solicitation, the "covered area" is (insert description of the geographical areas where the contract is to be performed giving the state, county and city, if any).

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246)

1. As used in these specifications:
 - a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;
 - b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;
 - c. "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department form 941;
 - d. "Minority" includes:

- (i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
 - (ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
 - (iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
 - (iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of the North America and maintaining identifiable tribal affiliations through membership and participation or community identification).
2. Whenever the Contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.
3. If the contractor, is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors for Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.
4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7 a. through p. of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in contractors performing construction work in geographical areas where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical areas where the work is being performed. Goals are published periodically in the Federal Register in notice form and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specific.
5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant, thereto.

6. In order for the non working training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.
7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as expensive as the following:
 - a. Ensure and maintain a working environment free of harassment, intimidation, coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, when possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
 - b. Establish and maintain a current list of minority and female recruitment sources provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organization's responses.
 - c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment sources or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the Contractor may have taken.
 - d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
 - e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources complied under 7b above.

- f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
- g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
- h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.
- i. Direct its recruitment, efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing prior to the date for the acceptance of applications for apprenticeship or the openings, screening procedures, and tests to be used in the selection process.
- j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on site and in other areas of a Contractor's work force.
- k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
- l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
- m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.

- n. Ensure that all facilities and company activities are non segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
 - o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitation to minority and female contractor associations and other business associations.
 - p. Conduct a review, at least annually, of all supervisor's adherence to and performance under the Contractor's EEO policies and affirmative action obligations.
8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7 a through p.). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7 a through p. of these specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program and reflected in the Contractor's minority and female work force participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions take on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.
9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, specific minority group of women is underutilized.)
10. The Contractor shall not use the goals and timetables or affirmative action even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if standards to discriminate against any person because of race, color, religion, sex, or national origin.
11. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementation regulations by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.6.
14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g. mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and location at which the work was performed. Records be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.
15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

End of GOALS FOR EMPLOYMENT OF FEMALES AND MINORITIES
Federally Required Contract Document

D. Section '**D Disadvantaged Business Enterprise (DBE) Requirements**' is removed in its entirety. The DBE material is in:

Section 105.10 EQUAL OPPORTUNITY AND CIVIL RIGHTS.

SECTION 3 - OTHER FEDERAL REQUIREMENTS

Unless expressly otherwise provided in the Bid Documents, the provisions contained in this Section 3 of this "Federal Contract Provisions Supplement" are hereby incorporated into the Bid Documents and Contract.

A. Buy America

If the cost of products purchased for permanent use in this project which are manufactured of steel, iron or the application of any coating to products of these materials exceeds 0.1 percent of the contract amount, or \$2,500.00, whichever is greater, the products shall have been manufactured and the coating applied in the United States. The coating materials are not subject to this clause, only the application of the coating. In computing that amount, only the cost of the product and coating application cost will be included.

Ore, for the manufacture of steel or iron, may be from outside the United States; however, all other manufacturing processes of steel or iron must be in the United States to qualify as having been manufactured in the United States.

United States includes the 50 United States and any place subject to the jurisdiction thereof.

Products of steel include, but are not limited to, such products as structural steel, piles, guardrail, steel culverts, reinforcing steel, structural plate and steel supports for signs, luminaries and signals.

Products of iron include, but are not limited to, such products as cast iron grates.

Application of coatings include, but are not limited to, such applications as epoxy, galvanized and paint.

To assure compliance with this section, the Contractor shall submit a certification letter on its letterhead to the Department stating the following:

“This is to certify that products made of steel, iron or the application of any coating to products of these materials whose costs are in excess of \$2,500.00 or 0.1 percent of the original contract amount, whichever is greater, were manufactured and the coating, if one was required, was applied in the United States.”

B. Materials

a. Convict Produced Materials References: 23 U.S.C. 114(b)(2), 23 CFR 635.417

Applicability: FHWA's prohibition against the use of convict material only applies to Federal-aid highways. Materials produced after July 1, 1991, by convict labor may only be incorporated in a Federal-aid highway construction project if: 1) such materials have been produced by convicts who are on parole, supervised release, or probation from a prison; or 2) such material has been produced in a qualified prison facility, e.g., prison industry, with the amount produced during any 12-month period, for use in Federal-aid projects, not exceeding the amount produced, for such use, during the 12-month period ending July 1, 1987.

Materials obtained from prison facilities (e.g., prison industries) are subject to the same requirements for Federal-aid participation that are imposed upon materials acquired from other sources. Materials manufactured or produced by convict labor will be given no preferential treatment.

The preferred method of obtaining materials for a project is through normal contracting procedures which require the contractor to furnish all materials to be incorporated in the work. The contractor selects the source, public or private, from which the materials are to be obtained (23 CFR 635.407). Prison industries are prohibited from bidding on projects directly (23 CFR 635.112e), but may act as material supplier to construction contractors.

Prison materials may also be approved as State-furnished material. However, since public agencies may not bid in competition with private firms, direct acquisition of materials from a

prison industry for use as State-furnished material is subject to a public interest finding with the Division Administrator's concurrence (23 CFR 635.407d). Selection of materials produced by convict labor as State-furnished materials for mandatory use should be cleared prior to the submittal of the Plans Specifications & Estimates (PS&E).

b. Patented/Proprietary Products References: 23 U.S.C. 112, 23 CFR 635.411

FHWA will not participate, directly or indirectly, in payment for any premium or royalty on any patented or proprietary material, specification, or process specifically set forth in the plans and specifications for a project, unless:

- the item is purchased or obtained through competitive bidding with equally suitable unpatented items,
- the STA certifies either that the proprietary or patented item is essential for synchronization with the existing highway facilities or that no equally suitable alternative exists, or
- the item is used for research or for a special type of construction on relatively short sections of road for experimental purposes. States should follow FHWA's procedures for "Construction Projects Incorporating Experimental Features" ([expermnt.htm](#)) for the submittal of work plans and evaluations.

The primary purpose of the policy is to have competition in selection of materials and allow for development of new materials and products. The policy further permits materials and products that are judged equal may be bid under generic specifications. If only patented or proprietary products are acceptable, they shall be bid as alternatives with all, or at least a reasonable number of, acceptable materials or products listed; and the Division Administrator may approve a single source if it can be found that its utilization is in the public interest.

Trade names are generally the key to identifying patented or proprietary materials. Trade name examples include 3M, Corten, etc. Generally, products identified by their brand or trade name are not to be specified without an "or equal" phrase, and, if trade names are used, all, or at least a reasonable number of acceptable "equal" materials or products should be listed. The licensing of several suppliers to produce a product does not change the fact that it is a single product and should not be specified to the exclusion of other equally suitable products.

c. State Preference References: 23 U.S.C. 112, 23 CFR 635.409

Materials produced within Maine shall not be favored to the exclusion of comparable materials produced outside of Maine. State preference clauses give particular advantage to the designated source and thus restrict competition. Therefore, State preference provisions shall not be used on any Federal-aid construction projects.

This policy also applies to State preference actions against materials of foreign origin, except as otherwise permitted by Federal law. Thus, States cannot give preference to in-State material sources over foreign material sources. Under the Buy America provisions, the States are

permitted to expand the Buy America restrictions provided that the STA is legally authorized under State law to impose more stringent requirements.

d. State Owned/Furnished/Designated Materials References: 23 U.S.C. 112, 23 CFR 635.407

Current FHWA policy requires that the contractor must furnish all materials to be incorporated in the work, and the contractor shall be permitted to select the sources from which the materials are to be obtained. Exceptions to this requirement may be made when there is a definite finding, by MaineDOT and concurred in by Federal Highway Administration's (FHWA) Division Administrator, that it is in the public interest to require the contractor to use materials furnished by the MaineDOT or from sources designated by MaineDOT. The exception policy can best be understood by separating State-furnished materials into the categories of manufactured materials and local natural materials.

Manufactured Materials When the use of State-furnished manufactured materials is approved based on a public interest finding, such use must be made mandatory. The optional use of State-furnished manufactured materials is in violation of our policy prohibiting public agencies from competing with private firms. Manufactured materials to be furnished by MaineDOT must be acquired through competitive bidding, unless there is a public interest finding for another method, and concurred in by FHWA's Division Administrator.

Local Natural Materials When MaineDOT owns or controls a local natural materials source such as a borrow pit or a stockpile of salvaged pavement material, etc., the materials may be designated for either optional or mandatory use; however, mandatory use will require a public interest finding (PIF) and FHWA's Division Administrator's concurrence.

In order to permit prospective bidders to properly prepare their bids, the location, cost, and any conditions to be met for obtaining materials that are made available to the contractor shall be stated in the bidding documents.

Mandatory Disposal Sites Normally, the disposal site for surplus excavated materials is to be of the contractor's choosing; although, an optional site(s) may be shown in the contract provisions. A mandatory site shall be specified when there is a finding by MaineDOT, with the concurrence of the Division Administrator, that such placement is the most economical or that the environment would be substantially enhanced without excessive cost. Discussion of the mandatory use of a disposal site in the environmental document may serve as the basis for the public interest finding.

Summarizing FHWA policy for the mandatory use of borrow or disposal sites:

- mandatory use of either requires a public interest finding and FHWA's Division Administrator's concurrence,
- mandatory use of either may be based on environmental consideration where the environment will be substantially enhanced without excessive additional cost, and
- where the use is based on environmental considerations, the discussion in the environmental document may be used as the basis for the public interest finding.

Factors to justify a public interest finding should include such items as cost effectiveness, system integrity, and local shortages of material.

C. Standard FHWA Contract Provisions - FHWA 1273

Unless expressly otherwise provided in the Bid Documents, the following “Required Contract Provisions, Federal Aid Construction Contracts”, FHWA-1273, are hereby incorporated into the Bid Documents and Contract.

Cargo Preference Act : Contractor and Subcontractor Clauses. “Use of United States-flag vessels: The contractor 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.”(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 (1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.”(3) To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract.”(Reorganization Plans No. 21 of 1950 (64 Stat. 1273) and No. 7 of 1961 (75 Stat. 840) as amended by Pub. L. 91-469 (84 Stat. 1036) and Department of Commerce Organization Order 10-8 (38 FR 19707, July 23, 1973)) [42 FR 57126, Nov. 1, 1977]

The Cargo Preference Act requirements apply to materials or equipment that are acquired for a specific Federal-aid highway project. In general, the requirements are not applicable to goods or materials that come into inventories independent of an FHWA funded-contract. For example, the requirements would not apply to shipments of Portland cement, asphalt cement, or aggregates, as industry suppliers and contractors use these materials to replenish existing inventories. In general, most of the materials used for highway construction originate from existing inventories and are not acquired solely for a specific Federal-aid project. However, if materials or equipment are acquired solely for a Federal-aid project, then the Cargo Preference Act requirements apply.”

Start of FHWA 1273 REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS (As revised through May 1, 2012)

FHWA-1273 -- Revised May 1, 2012

**REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS**

- I. General
- II. Nondiscrimination
- III. Nonsegregated 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. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

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 (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).

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.

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). 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 bid proposal or request for proposal 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).

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.

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. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 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 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, 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 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, 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 230, 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 (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 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 35 and 29 CFR 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.

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, 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 who 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.

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, national origin, age or disability.

The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure 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.

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, 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, 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 there under. 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, 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 and 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. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor 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 contracting agency deems appropriate.

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 \$10,000 or more.

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, 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). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

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

a. All laborers and mechanics employed or working upon the site of the work, 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 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.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. 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 shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). 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 classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall 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. (1) The contracting officer shall 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 shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore 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 utilized 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) 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 shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. 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.

(3) 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 shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour 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.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall 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.

c. 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 shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. 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, 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.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, 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.

3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, 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 section 1(b)(2)(B) of the Davis-Bacon Act),

daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) 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 section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall 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. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed 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 Regulations, 29 CFR part 3;

(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 of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the “Statement of Compliance” required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, 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 may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed 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 Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall 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 the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall 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, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. 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. 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 journeymen 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.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 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.

9. Disputes concerning labor standards. 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 he or she) 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 section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

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 watchmen 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.

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. 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 watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 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.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contacting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or 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, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

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” 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:

- (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.

2. 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. 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.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

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 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.

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 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).

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 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 1, 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

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.
2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

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.

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.
- 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.

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.

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 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee 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 grantee or subgrantee 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.

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.

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. 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 Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

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. 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) 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;

(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; 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.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. 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)

a. By signing and submitting this proposal, the prospective lower tier 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.

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 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 grantee or subgrantee 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 grantee or subgrantee 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.

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.

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 Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

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.

* * * * *

**Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--
Lower Tier Participants:**

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall 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 20).

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.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR
APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL
ACCESS ROAD CONTRACTS**

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.

End of FHWA 1273

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 the **Federal Highway Administration (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 **Highway Program**:

1. The Recipient agrees that each "activity," "facility," or "program," as defined in §§ 21.23(b) and 21.23(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 ***Federal-Aid Highway Program activities*** 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 U.S.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 effecting 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, the **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 and USDOT** 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 and USDOT**. You must keep records, reports, and submit the material for review upon request to **FHWA and USDOT**, 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.

The **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 **Federal Aid Highway Program**. This ASSURANCE is binding on [insert State], other recipients, sub-recipients, sub-grantees, contractors, subcontractors and their subcontractors', transferees, successors in interest, and any other participants in the **Federal Aid Highway Program**. The person(s) signing below is authorized to sign this ASSURANCE on behalf of the Recipient.

MAINE DEPARTMENT OF TRANSPORTATION
(Name of Recipient)

by 
Bruce A. Van Note, Commissioner

DATED 2/13/19

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 **23 U.S. Code § 107**, the Regulations for the Administration of **the Federal Aid Highway 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, Nondiscrimination 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 the **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, the **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, the **Maine Department of Transportation** 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 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 Non-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.).



Environmental Summary Sheet

WIN: 18767.00

Date Submitted: 8/20/2020

Town: Woodstock

CPD Team Leader: Danielle Tetreau

ENV Field Contact: Valerie Derosier

NEPA Complete: Programmatic Categorical Exclusion (CE) 23 CFR 771.117.c.26 issued on 10/11/2019



Section 106

Review Complete: SHPO Concurrence-, No adverse effect 6/20/2019

Section 106 Resources:

Bryant Pond Historic District – Sta. 12+9.5 Left & Right to Sta. 52+11.8 Left & Right

Franklin Grange & Stables (32 South Main Street) – Station 29+00 Left

Whitman Memorial Library (28 South Main Street) – Station 30+00 Left



Section 4(f) and 6(f)

Section 4(f)

Review Complete - de minimis use and temporary occupancy

Section 4(f) Resources: Bryant Pond Historic District: Sta. 12+9.5 to 52+11.8 Left & Right

Town Common Park: Sta. 37+00 to 39+32 Left and 401+00 to 402+00 Right

Baseball Fields: Sta. 60+5 to 70+00 Left

Section 6(f)

Not Applicable - No takes



Maine Department of Inland Fisheries and Wildlife Essential Habitat

Not Applicable

Timing Window: Not Applicable



Section 7

Species of Concern: northern long-eared bat: Informal Consultation , no clearing restrictions



Essential Fish Habitat

No Effect – no mapped EFH



Maine Department of Conservation/Public Lands, Submerged Land Lease

Not Applicable



Maine Land Use Regulation Commission

Not Applicable



Maine Department of Environmental Protection

Permit-By-Rule –Permit #69328

**Applicable Standards and Permits are included with the contract*



Army Corps of Engineers: Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act.

Category 2 - Corps Permit #NAE-2020-00314

-Work Start Notification form to be completed by ENV Field Contact and submitted to ACOE with copy to Team Leader.

-Compliance Certification Form to be completed by ENV Field Contact and submitted to ACOE with copy to Team Leader.

**Applicable Standards and Permits are included with the contract*



Stormwater Review

Not Applicable



Special Provisions Required

Special Provision 105-Timing of Work Restriction

N/A ☐

Applicable ☒

Special Provision 105.9-Historic Resources

N/A ☐

Applicable ☒

Special Provision 203-Dredge Spec

N/A ☐

Applicable ☒

Contractor's General Note for Hazardous Waste

N/A ☐

Applicable ☒

Special Provision 203-Special Fill

N/A ☐

Applicable ☒

Special Provision 203-Stream Channel Rock

N/A ☐

Applicable ☒

Special Provision 610-Streambed Rock Feature

N/A ☐

Applicable ☒

Standard Specification 656-Erosion Control Plan

N/A ☐

Applicable ☒

**All permits and approvals based on plans/scope as of: 1/27/2020*

DEPARTMENT OF ENVIRONMENTAL PROTECTION
PERMIT BY RULE NOTIFICATION FORM
 (For use with DEP Regulation, Natural Resources Protection Act- Permit by Rule Standards, Chapter 305)
 PLEASE TYPE OR PRINT IN **BLACK INK ONLY**

APPLICANT INFORMATION (Owner)		AGENT INFORMATION (If Applying on Behalf of Owner)	
Name:	Maine DOT - Danielle Tetreau	Name:	
Mailing Address:	16 State House Station	Mailing Address:	
Town:	Augusta	Town:	
State and Zip Code:	Maine 04333	State and Zip Code:	
Daytime Phone #:	207-592-2358	Daytime Phone #:	
Email Address:	danielle.tetreau@maine.gov	Email Address:	

PROJECT INFORMATION			
Part of a larger project? (check one):	☐ Yes ☒ No	After the Fact? (check one):	☐ Yes ☒ No
		Project involves work below mean low water? (check one):	☐ Yes ☒ No
Project Town:	Woodstock	Project Location (Address):	Route 26
Brief Project Description:	Rehabilitation of Route 26 including drainage and safety improvements.		
Brief Directions to Site:	Project begins approximately 0.06 miles east of Rumford Ave. continues west for 2.51 miles.		

PERMIT BY RULE (PBR) SECTIONS (Check at least one): I am filing notice of my intent to carry out work which meets the requirements for Permit By Rule (PBR) under DEP Rules, Chapter 305. I and my agents, if any, have read and will comply with all of the standards in the Sections checked below.

☐ Sec. (2) Act. Adj. to Protected Natural Res.	☐ Sec. (10) Stream Crossing	☐ Sec. (17) Transfers/Permit Extension
☐ Sec. (3) Intake Pipes	☒ Sec. (11) State Transportation Facil.	☐ Sec. (18) Maintenance Dredging
☐ Sec. (4) Replacement of Structures	☐ Sec. (12) Restoration of Natural Areas	☐ Sec. (19) Activities in/on/over significant vernal pool habitat
☐ Sec. (5) REPEALED	☐ Sec. (13) F&W Creation/Enhance/Water Quality Improvement	☐ Sec. (20) Activities located in/on/over high or moderate value inland waterfowl & wading bird habitat or shorebird feeding & roosting areas
☐ Sec. (6) Movement of Rocks or Vegetation	☐ Sec. (14) REPEALED	
☐ Sec. (7) Outfall Pipes	☐ Sec. (15) Public Boat Ramps	
☐ Sec. (8) Shoreline stabilization	☐ Sec. (16) Coastal Sand Dune Projects	
☐ Sec. (9) Utility Crossing		

NOTE: Municipal permits may also be required. Contact your local code enforcement office for more information. Federal permits may be required for stream crossings and for projects involving wetland fill. Contact the Army Corps of Engineers at the Maine Project Office for more information.

NOTIFICATION FORMS CANNOT BE ACCEPTED WITHOUT THE NECESSARY ATTACHMENTS

- ☐ **Attach** all required submissions for the PBR Section(s) checked above. The required submissions for each PBR Section are outlined in Chapter 305 and may differ depending on the Section you are submitting under.
- ☐ **Attach** a check for the correct fee made payable to: "Treasurer, State of Maine". The current fee for NRPA PBR Notifications can be found at the Department's website: <http://www.maine.gov/dep/feesched.pdf>
- ☒ **Attach** a location map that clearly identifies the site (U.S.G.S. topo map, Maine Atlas & Gazetteer, or similar).
- ☐ **Attach** Proof of Legal Name if applicant is a corporation, LLC, or other legal entity. Provide a copy of Secretary of State's registration information (available at <http://icrs.informe.org/nei-sos-icrs/ICRS?MainPage=x>) Individuals and municipalities are not required to provide any proof of identity.

I authorize staff of the Departments of Environmental Protection, Inland Fisheries & Wildlife, and Marine Resources to access the project site for the purpose of determining compliance with the rules.

I also understand that this PBR becomes effective 14 calendar days after receipt by the Department *unless the Department approves or denies the PBR prior to that date.*

By signing this Notification Form, I represent that the project meets all applicability requirements and standards in the rule and that the applicant has sufficient title, right, or interest in the property where the activity takes place.

Signature of Agent or Applicant:	Date: 1/27/2020

Keep a copy as a record of permit. Send the form with attachments via certified mail or hand deliver to the Maine Dept. of Environmental Protection at the appropriate regional office listed below. The DEP will send a copy to the Town Office as evidence of the DEP's receipt of notification. No further authorization by DEP will be issued after receipt of notice. Permits are valid for two years. **Work carried out in violation of any standard is subject to enforcement action.**

AUGUSTA DEP
17 STATE HOUSE STATION
AUGUSTA, ME 04333-0017
(207)287-7688

PORTLAND DEP
312 CANCO ROAD
PORTLAND, ME 04103
(207)822-6300

BANGOR DEP
106 HOGAN ROAD
BANGOR, ME 04401
(207)941-4570

PRESQUE ISLE DEP
1235 CENTRAL DRIVE
PRESQUE ISLE, ME 04769
(207)764-0477

OFFICE USE ONLY	Ck.# IB	Staff	Staff	
PBR # 69328	FP 250.00	Date 1/29/2020	Acc. Date 1/31/20	Def. Date
			After Photos	

MaineDOT Authorized Agent: Danielle Tetreau

Project Scope: Highway Rehabilitation

Project Description: MaineDOT is proposing to rehabilitate 2.51 miles of Route 26 in Woodstock. The project begins approximately 0.06 miles east of Rumford Ave and extends westerly for 2.51 miles. Due to some alignment changes, some sections of the roadway will be fully reconstructed. MaineDOT was applied for and was awarded a BUILD Grant from FHWA in 2018 to fund the construction of the project.

Funding Source: Federal

Resource Impacts¹:

	Permanent (s.f.)	Temporary (s.f.)
Wetland	16,050	24,230
Stream	4,580	3,830

Proposed In-Water Work Window: July 15 – September 30

Maintenance of Traffic: This project will not result in disruptions to the maintenance of traffic.

Erosion & Sedimentation Control Best Management Practices: This project will be performed in accordance with erosion control measures conforming with the latest versions of the *State of Maine Department of Transportation Standard Specifications for Highways and Bridges* and the *Department of Transportation's Best Management Practices for Erosion and Sediment Control*.

Mitigation: The permanent and temporary impacts to freshwater wetlands are anticipated to be minor in that the 16,050 sf of permanent wetland impact and 4,580 sf of permanent stream impact is distributed along the 2.51-mile segment of roadway improvements. Compensatory mitigation for these impacts is not proposed.

Purpose and Need: The purpose of this project is to preserve mobility and improve safety along the Route 26 corridor in the Town of Woodstock while maintaining the historic character of Bryant Pond village. Specifically, to improve the safety and structure of this section of road, address deficiencies of failing drainage infrastructure, and meet modern standards of safety design.

Route 26 has been a designated highway in Maine since at least the 1920s and is a Priority 2 highway corridor. This section of Route 26 in Woodstock was constructed in the 1930s and received maintenance paving since then. Adjacent sections of Route 26 were reconstructed in the early and mid-2000s. MaineDOT's Planning Department worked with the town of Woodstock to prepare a scoping report and cooperative agreement to highlight the issues with the road related to shoulders, alignment adjustments, pedestrian facilities, and sight distance improvements. From that report the following conditions describe the need for the project: The pavement condition for

¹ No one mile segment exceeds 15,000 sf of permanent or temporary wetland impact.

more than half of Route 26 in Woodstock is rated as poor or unacceptable despite surface treatment. Most of Route 26 in Woodstock is rated unacceptable for safety, based on crash history and a lack of adequate pavement width in certain areas. There is existing paved sidewalk in part of the village area, however there are no crosswalks, the surface is uneven and deteriorating, and there is no discernable curb for most of it.

This project was initially scoped as a rehabilitation project in coordination with the town of Woodstock to provide paved shoulders, some alignment adjustments, updated pedestrian facilities, and sight distance improvements. Due to some of the necessary vertical alignment changes, 2 sections of the project will need to be fully reconstructed.

Alternatives Analysis: For this project MaineDOT evaluated the following alternatives. Of the 12 streams delineated along this section of the road, 7 culverted stream crossings are proposed to be replaced (5 are not stream crossings in that the stream channel begins at the culvert outlet). Three of the perennial stream crossings will be replaced in a size and elevation that will allow fish passage, however the focus is on hydraulic capacity. This was evaluated on site with Maine Department of Inland Fisheries and Wildlife fisheries biologists, and that correspondence confirming that fish passage was not required by that agency for these streams. Discussion about replacing crossings at 1.2 times bank full width is discussed in the following alternatives analysis sections.

Three vernal pools are located within the project limits, and 2 are within the boundary of a wetland, and one is in an upland floodplain area. Section 7 of this application includes information on the specific details on the pools, including a summary table with the specific locations, data forms, and photos. Impacts to these pools is minimized and no direct impacts to the pool depressions are proposed.

The following alternatives were evaluated:

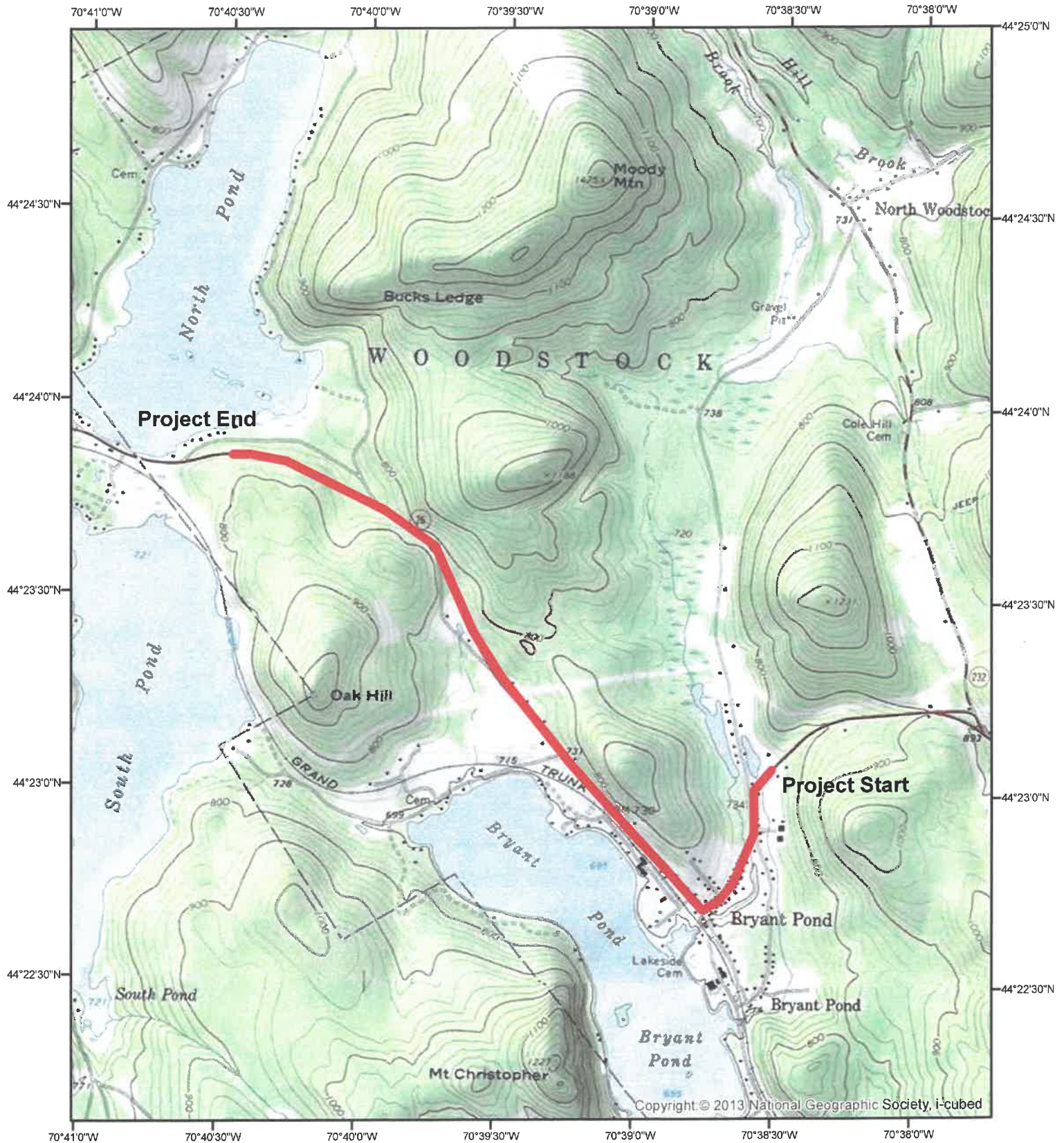
1. No build alternative.
2. Reconstruct the roadway to current standards, replace all stream crossing culverts at 1.2 times bank full width.
3. Selected Alternative: Rehabilitate the roadway, with select areas of reconstruction, replace drainage structures at 1.2 times bank full width where practicable.

Alternative 1, the no-build alternative which maintains the current conditions does not address the underlying deficiencies with the highway by addressing drainage or the structure of the roadway. This alternative does not meet the purpose and need of the project.

Alternative 2, would fully reconstruct the roadway to current standards and replace all stream crossing culverts with pipes that are 1.2 times the bank full width of the stream. This alternative meets the purpose and need of the project, however based on the existing conditions of the roadway aggregate, it meets the gradation requirements, which indicates that the road base is adequate for rehabilitation. Reconstruction is 1.5 to 3-times more expensive than rehabilitation. Full reconstruction requires deeper excavation and rebuilding the base of the road to address the underlying gravel and vertical profile of the roadway. This generally involves deeper excavation and significant changes to the slope of the road and side slopes. With a sufficient sub-base that

exists below the existing pavement, this alternative is not a prudent choice.

Alternative 3, the selected alternative proposes to rehabilitate the full length of the project area and replace drainage throughout (except for about 315 feet of reconstruction where the design requires the realignment of the roadway). While the engineering instructions for shoulder and lane widths does not differentiate between rehabilitation and reconstruction, MaineDOT is more likely to request exceptions for narrower widths in a rehabilitation. This allows minimization of the footprint and wetland impacts. This scope for the project meets the purpose and need, represents minimization of the project footprint, and is a prudent financial alternative to accomplish the project.



Project Location Map
 Route 26 Highway Rehabilitation
 WIN 18767.00
 Woodstock, ME (Oxford County)



0 0.5 1 Miles 270

Existing Conditions / Representative Photographs

Representative Photos
Maine Vernal Pool Assessment Forms
Agency Correspondence

Table 1. Stream Crossing Reference Table

<i>Stream Crossing Location</i>	<i>Stream Name</i>	<i>Stream Type</i>	<i>Stream Bank Full Width (ft)</i>	<i>Existing Crossing Span (ft)</i>	<i>Proposed Crossing Span (ft)</i>
Station 13+45 (downstream)	Unnamed tributary to Bryant Pond	Perennial	6'	2'x4' box	48"
Station 24+80	Unnamed tributary to Bryant Pond	Perennial	8'	36" (2)	10'x6' box (FP)
Station 78+65	Unnamed stream	Intermittent	(calculated)	18"	24"
Station 81+60 (downstream)	Unnamed stream	Intermittent	(calculated)	24"	30"
Station 84+15 (downstream)	Unnamed stream	Perennial	(calculated)	18"	24"
Station 98+80	Unnamed stream	Perennial	4	3'x3' box	42"
Station 105+90 (downstream)	Unnamed stream	Intermittent	(calculated)	18"	30"
Station 116+25	Unnamed stream	Perennial	3'	24"	36"
Station 121+70	Unnamed stream	Perennial	(calculated)	24"	30" (FP)
Station 123+85	Unnamed stream	Perennial	4'	36"	48" (FP)
Station 133+90	Unnamed stream	Perennial	4'	30"	36"
Station 141+75 (downstream)	Unnamed stream	Intermittent	(calculated)	21"	24"

Table 2. Vernal Pool Summary Table

<i>Vernal Pool ID</i>	<i>Vernal Pool Location</i>	<i>Pool Origin</i>	<i>Regulatory Jurisdiction</i>	<i>Meets MDEP SVP Threshold</i>	<i>Impacts Proposed</i>
03J	Station 14+50, PSS wetland	Not natural	ACOE	No	No direct impacts
01V	Station 98+00, upland	Natural	MDEP	No	Clearing in pool
02Y	Station 112+25, PEM wetland ditch/swale	Not natural	ACOE	Yes	No direct impacts

11. State transportation facilities

A. Applicability

- (1) This section applies to the maintenance, repair, reconstruction, rehabilitation, replacement or minor construction of a State Transportation Facility carried out by, or under the authority of, the Maine Department of Transportation (MaineDOT) or the Maine Turnpike Authority, including any testing or preconstruction engineering, and associated technical support services.
- (2) This section does not apply to an activity within a coastal sand dune system.

NOTE: The construction of a transportation facility other than roads and associated facilities may be subject to the Storm Water Management Law, 38 M.R.S.A. Section 420-D.

B. Standards

- (1) Photographs of the area to be altered by the activity must be taken before work on the site begins. The photographs must be kept on file and be made available at the request of the DEP.
- (2) The activity must be reviewed by the Department of Inland Fisheries and Wildlife and the Department of Marine Resources, as applicable. The applicant must coordinate with the reviewing agencies and incorporate any recommendations from those agencies into the performance of the activity.
- (3) All construction activities undertaken must be detailed in a site-specific Soil Erosion and Water Pollution Control Plan and conducted in accordance with MaineDOT's Best Management Practices for Erosion and Sediment Control, dated January 2000, and Standard Specifications, dated December 2002.
- (4) Alignment changes may not exceed a distance of 200 feet between the old and new center lines in any natural resource.
- (5) The activity may not alter more than 300 feet of shoreline (both shores added together) within a mile stretch of any river, stream or brook, including any bridge width or length of culvert.
- (6) The activity may not alter more than 150 feet of shoreline (both shores added together) within a mile stretch of any outstanding river segment identified in 38 M.R.S.A. 480-P, including any bridge width or length of culvert.
- (7) The activity must minimize wetland intrusion. The activity is exempt from the provisions of Chapter 310, the Wetland and Waterbodies Protection Rules, if the activity alters less than 15,000 square feet of natural resources per mile of roadway (centerline measurement) provided that the following impacts are not exceeded within the 15,000 square foot area:
 - (a) 1,000 square feet of coastal wetland consisting of salt tolerant vegetation or shellfish habitat; or

(b) 5,000 square feet of coastal wetland not containing salt tolerant vegetation or shellfish habitat; or

(c) 1,000 square feet of a great pond.

All other activities must be performed in compliance with all sections of Chapter 310, the Wetland Protection Rules, except 310.2(C), 5(A), 9(A), 9(B) and 9(C).

- (8) The activity may not permanently block any fish passage in any watercourse containing fish. The applicant must coordinate with the reviewing agencies listed in paragraph 2 above to improve fish passage and incorporate any recommendations from those agencies into the performance of the activity.

NOTE: For guidance on meeting the design objectives for fish passage, including peak flow, maximum velocity, mining depth and gradient, see the MaineDOT Waterbody and Wildlife Crossing Policy and Design Guide (July 2008), developed in conjunction with state and federal resource and regulatory agencies.

- (9) Rocks may not be removed from below the normal high water line of any coastal wetland, freshwater wetland, great pond, river, stream or brook except to the minimum extent necessary for completion of work within the limits of construction.
- (10) If work is performed in a river, stream or brook that is less than three feet deep at the time and location of the activity, the applicant must isolate the work area from the resource and divert stream flows around the work area, maintaining downstream flows while work is in progress.
- (11) Wheeled or tracked equipment may not operate in the water. Equipment operating on the shore may reach into the water with a bucket or similar extension. Equipment may cross streams on rock, gravel or ledge bottom. If avoiding the operation of wheeled or tracked equipment in the water is not possible, the applicant must explain the need to operate in the water. Approval from the DEP to operate in the water must be in writing, and any recommendations from the DEP must be incorporated into the performance of the activity.
- (12) All wheeled or tracked equipment that must travel or work in a vegetated wetland area must travel and work on mats or platforms.
- (13) Any debris or excavated material must be stockpiled either outside the wetland or on mats or platforms. Erosion and sediment control best management practices must be used, where necessary, to prevent sedimentation. Any debris generated during the activity must be prevented from washing downstream and must be removed from the wetland or water body. Disposal of debris must be in conformance with the Maine Hazardous Waste, Septage and Solid Waste Management Act, 38 M.R.S.A. Section 1301 *et seq.*
- (14) Work below the normal high water line of a great pond, river, stream or brook must be done at low water except for emergency work or work agreed to by the resource agencies listed in paragraph 2 above.
- (15) Perimeter controls must be installed before the work starts. Disturbance of natural resources beyond the construction limits shown on the plans is not allowed under this rule.

NOTE: Guidance on the location of construction limits can be obtained from the on site Construction Manager.

- (16) The use of untreated lumber is preferred. Lumber pressure treated with chromated copper arsenate (CCA) may be used only if necessary and only if use is allowed under federal law and not prohibited from sale under 38 M.R.S.A. 1682, and provided it is cured on dry land in a manner that exposes all surfaces to the air for a period of at least 21 days prior to construction. Wood treated with creosote or pentachlorophenol may not be used where it will contact water.
- (17) A temporary road for equipment access must be constructed of crushed stone, blasted ledge, or similar materials that will not cause sedimentation or restrict fish passage. Such roads must be completely removed at the completion of the activity. In addition, any such temporary roads which are in rivers, streams or brooks, must allow for a passage of stormwater flows associated with a 10-year storm.
- (18) Non-native species may not be planted in restored areas.
- (19) Disposal of debris must be in conformance with Maine Hazardous Waste, Septage and Solid Waste Management Act, 38 M.R.S.A. Sections 1301 *et seq.*
- (20) Disturbance of vegetation must be avoided, if possible. Where vegetation is disturbed outside of the area covered by any road or structure construction, it must be reestablished immediately upon completion of the activity and must be maintained.
- (21) A vegetated area at least 25 feet wide must be established and maintained between any new stormwater outfall structure and the high water line of any open water body. A velocity reducing structure must be constructed at the outlet of the stormwater outfall that will create sheet flow of stormwater, and prevent erosion of soil within the vegetated buffer. If the 25 foot vegetated buffer is not practicable, the applicant must explain the reason for a lesser setback in writing. Approval from the DEP must be in writing and any recommendations must be incorporated into the activity.

C. Definitions. The following terms, as used in this chapter, have the following meanings, unless the context indicates otherwise:

- (1) Diversion. The rerouting of a river, stream or brook around a construction site and then back to the downstream channel.
- (2) Fill. a. (verb) To put into or upon, supply to, or allow to enter a water body or wetland any earth, rock, gravel, sand, silt, clay, peat, or debris; b. (noun) Material, other than structures, placed in or immediately adjacent to a wetland or water body.
- (3) Floodplain wetlands. Freshwater wetlands that are inundated with flood water during a 100-year flood event based on flood insurance maps produced by the Federal Emergency Agency or other site specific information.
- (4) Riprap. Heavy, irregularly shaped rocks that are fit into place, without mortar, on a slope as defined in the MaineDOT Standard Specifications, dated **November 2014**.



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT, CORPS OF ENGINEERS
696 VIRGINIA ROAD
CONCORD, MASSACHUSETTS 01742-2751

MAINE GENERAL PERMIT (GP)
AUTHORIZATION LETTER AND SCREENING SUMMARY

ENVIRONMENTAL OFFICE
MAINE DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION
AUGUSTA, MAINE 04333

CORPS PERMIT # NAE-2020-00314
CORPS GP ID# 20-075
STATE ID# PBR

DESCRIPTION OF WORK:

Place temporary and permanent fill below the ordinary high water mark of unnamed streams and in adjacent freshwater wetlands at Woodstock, Maine in order to reconstruct a 2.51 mile section of Route 26. This work will result in approximately 4,580 s.f. of permanent and 3,830 s.f. of temporary stream bed impact, and 16,050 s.f. of permanent and 24,230 s.f. of temporary wetland impact. This work is shown on the attached plans entitled "ROUTE 26 WOODSTOCK, OXFORD COUNTY" in 17 sheets undated and "WOODSTOCK ROUTE 26" in 31 sheets undated.
DOT WIN: 18767.00

LAT/LONG COORDINATES : 44.384445° N -70.641852° W USGS QUAD: WOODSTOCK, ME

I. CORPS DETERMINATION:

Based on our review of the information you provided, we have determined that your project will have only minimal individual and cumulative impacts on waters and wetlands of the United States. Your work is therefore authorized by the U.S. Army Corps of Engineers under the Federal Permit, the Maine General Permit (GP). [http://www.nae.usace.army.mil/Portals/74/docs/regulatory/StateGeneralPermits/ME/Maine General Permit 2015.pdf](http://www.nae.usace.army.mil/Portals/74/docs/regulatory/StateGeneralPermits/ME/Maine%20General%20Permit%202015.pdf)

You must perform the activity authorized herein in compliance with all the terms and conditions of the GP [including any attached Additional Conditions and any conditions placed on the State 401 Water Quality Certification including any required mitigation]. Please review the enclosed GP carefully, including the GP conditions beginning on page 5, to familiarize yourself with its contents. You are responsible for complying with all of the GP requirements; therefore you should be certain that whoever does the work fully understands all of the conditions. You may wish to discuss the conditions of this authorization with your contractor to ensure the contractor can accomplish the work in a manner that conforms to all requirements.

If you change the plans or construction methods for work within our jurisdiction, please contact us immediately to discuss modification of this authorization. This office must approve any changes before you undertake them.

Condition 38 of the GP (page 16) provides one year for completion of work that has commenced or is under contract to commence prior to the expiration of the GP on October 13, 2020. You will need to apply for reauthorization for any work within Corps jurisdiction that is not completed by October 13, 2021.

This authorization presumes the work shown on your plans noted above is in waters of the U.S. Should you desire to appeal our jurisdiction, please submit a request for an approved jurisdictional determination in writing to the undersigned.

No work may be started unless and until all other required local, State and Federal licenses and permits have been obtained. **This includes but is not limited to a Flood Hazard Development Permit issued by the town if necessary.**

II. STATE ACTIONS: PENDING [☒], ISSUED [☐], DENIED [☐] DATE _____

APPLICATION TYPE: PBR: ☒ TIER 1: ☐ TIER 2: ☐ TIER 3: ☐ LURC: ☐ DMR LEASE: ☐ NA: ☐

III. FEDERAL ACTIONS:

JOINT PROCESSING MEETING: 1/31/20 LEVEL OF REVIEW: CATEGORY 1: ☐ CATEGORY 2: ☒

AUTHORITY (Based on a review of plans and/or State/Federal applications): SEC 10 ☐, 404 ☒ 10/404 ☐, 103 ☐

EXCLUSIONS: The exclusionary criteria identified in the general permit do not apply to this project.

FEDERAL RESOURCE AGENCY OBJECTIONS: EPA NO, USF&WS NO, NMFS NO

If you have any questions on this matter, please contact my staff at 207-623-8367 at our Augusta, Maine Project Office. In order for us to better serve you, we would appreciate your completing our Customer Service Survey located at http://corpsmapu.usace.army.mil/cm_apex/f?p=136:4:0

JAY L. CLEMENT
SENIOR PROJECT MANAGER
MAINE PROJECT OFFICE

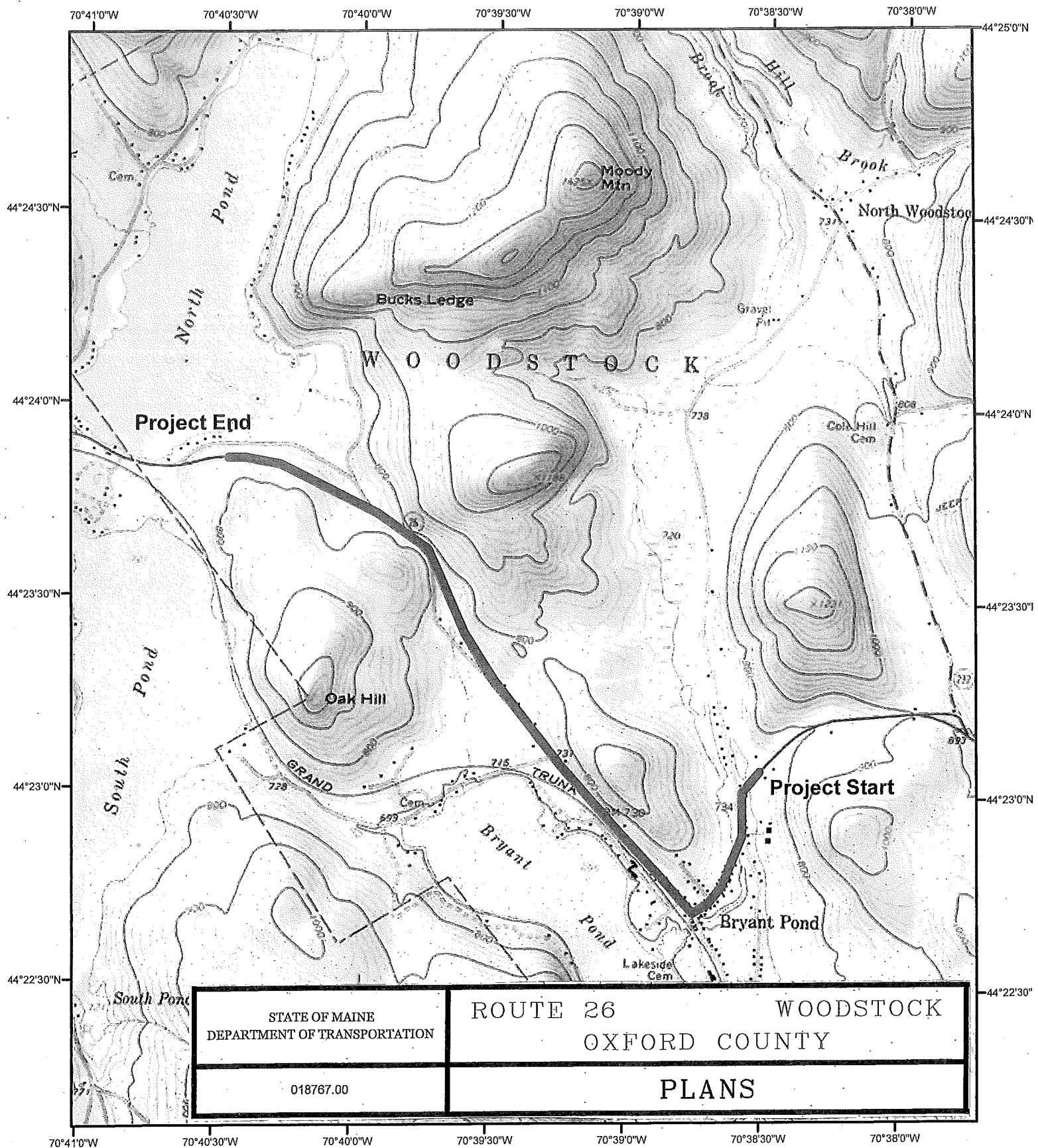
FRANK J. DELGIUDICE
CHIEF, PERMITS & ENFORCEMENT BRANCH
REGULATORY DIVISION
DATE 3/27/20



**US Army Corps
of Engineers®**
New England District

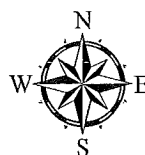
**PLEASE NOTE THE FOLLOWING CONDITIONS FOR
DEPARTMENT OF THE ARMY
GENERAL PERMIT
NO. NAE-2020-00314**

1. This authorization requires you to 1) notify us before beginning work so we may inspect the project, and 2) submit a Compliance Certification Form. You must complete and return the enclosed Work Start Notification Form(s) to this office at least two weeks before the anticipated starting date. You must complete and return the enclosed Compliance Certification Form within one month following the completion of the authorized work and any required mitigation (but not mitigation monitoring, which requires separate submittals).
2. The permittee shall assure that a copy of this permit is at the work site whenever work is being performed and that all personnel performing work at the site of the work authorized by this permit are fully aware of the terms and conditions of the permit. This permit, including its drawings and any appendices and other attachments, shall be made a part of any and all contracts and sub-contracts for work which affects areas of Corps of Engineers' jurisdiction at the site of the work authorized by this permit. This shall be done by including the entire permit in the specifications for the work. If the permit is issued after construction specifications but before receipt of bids or quotes, the entire permit shall be included as an addendum to the specifications. The term "entire permit" includes permit amendments. 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 of the entire permit, and no contract or sub-contract shall require or allow unauthorized work in areas of Corps of Engineers jurisdiction.
3. The permittee and his contractor(s) shall minimize the potential for effects to salmon and both sturgeon species by conducting all construction activities for the project in accordance with the Maine DOT - approved Soil Erosion and Water Pollution Control Plan. Instream turbidity will be visually monitored and all erosion controls will be inspected daily to ensure that the measures taken are adequate. If inspection shows that the erosion controls are ineffective, immediate action will be taken to repair, replace, or reinforce controls as necessary.
4. All exposed soils resulting from the construction will be promptly seeded and mulched in order to achieve vegetative stabilization.
5. All areas of temporary fill shall be restored to their original contour and character upon completion of the work.
6. In water work shall be conducted between July 15 and September 30 in order to minimize potential impacts to fisheries and local water quality.

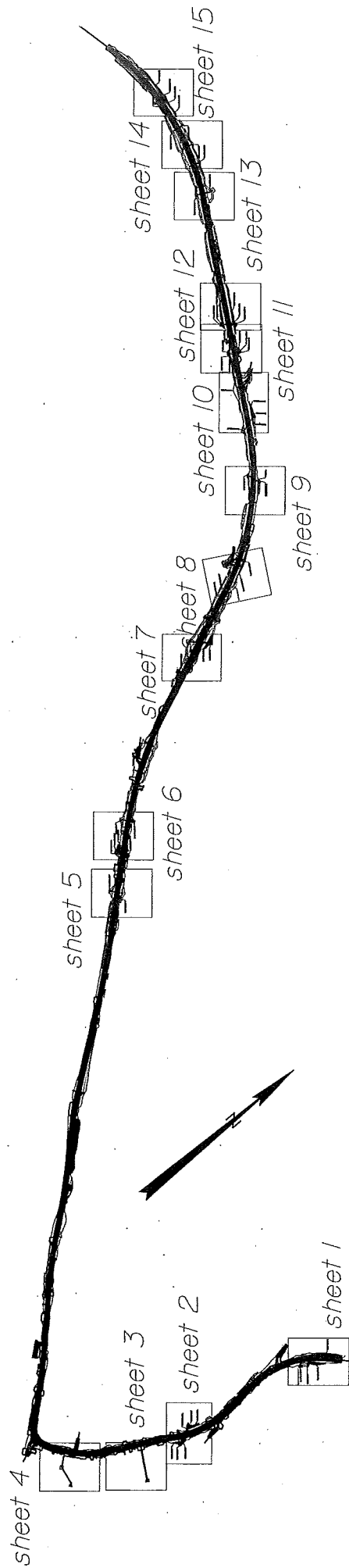


Project Location Map
Route 26 Highway Rehabilitation
WIN 18767.00
Woodstock, ME (Oxford County)

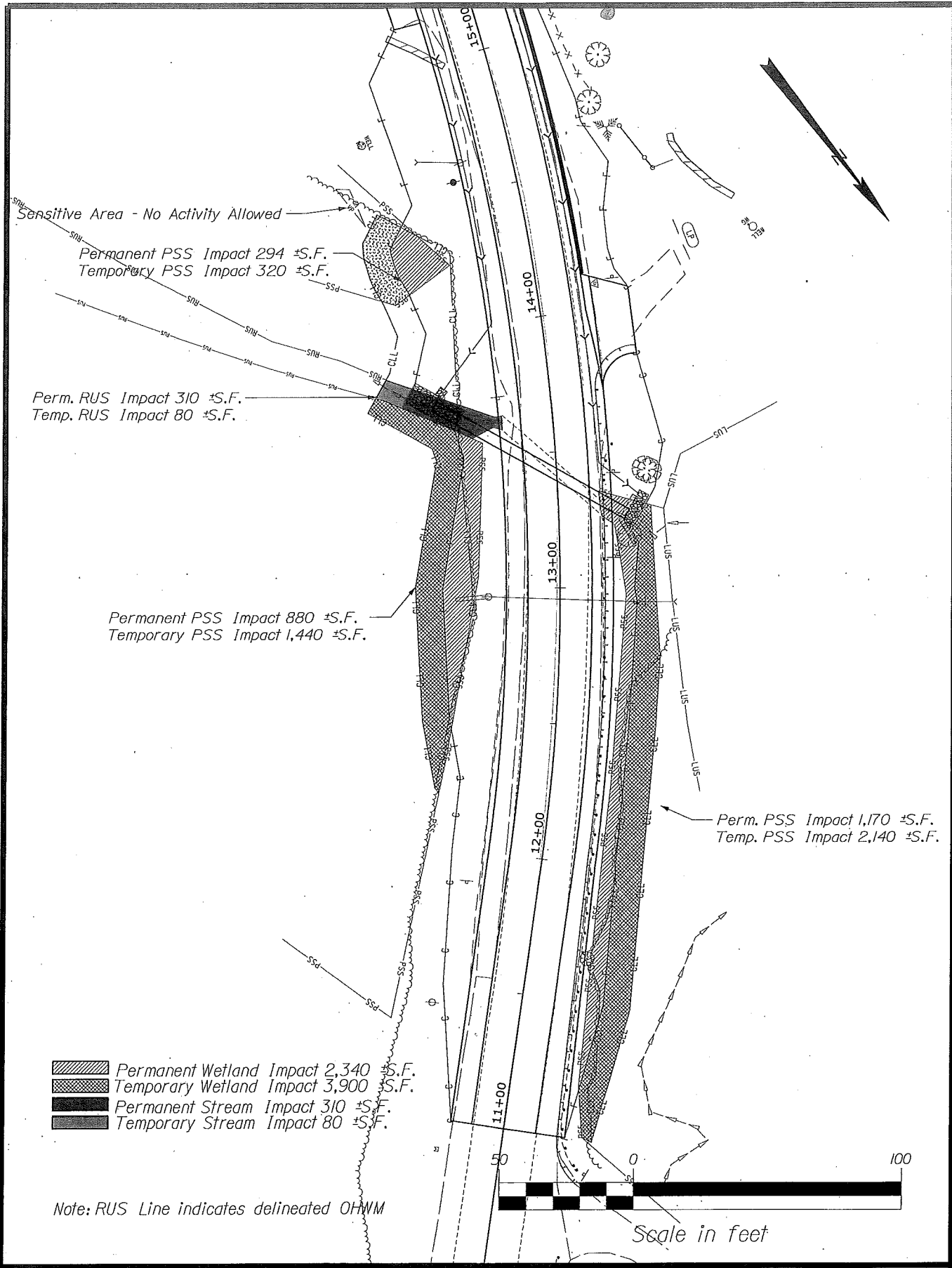
Project Start: 44.384445, -70.641852
Project End: 44.39787, -70.673916



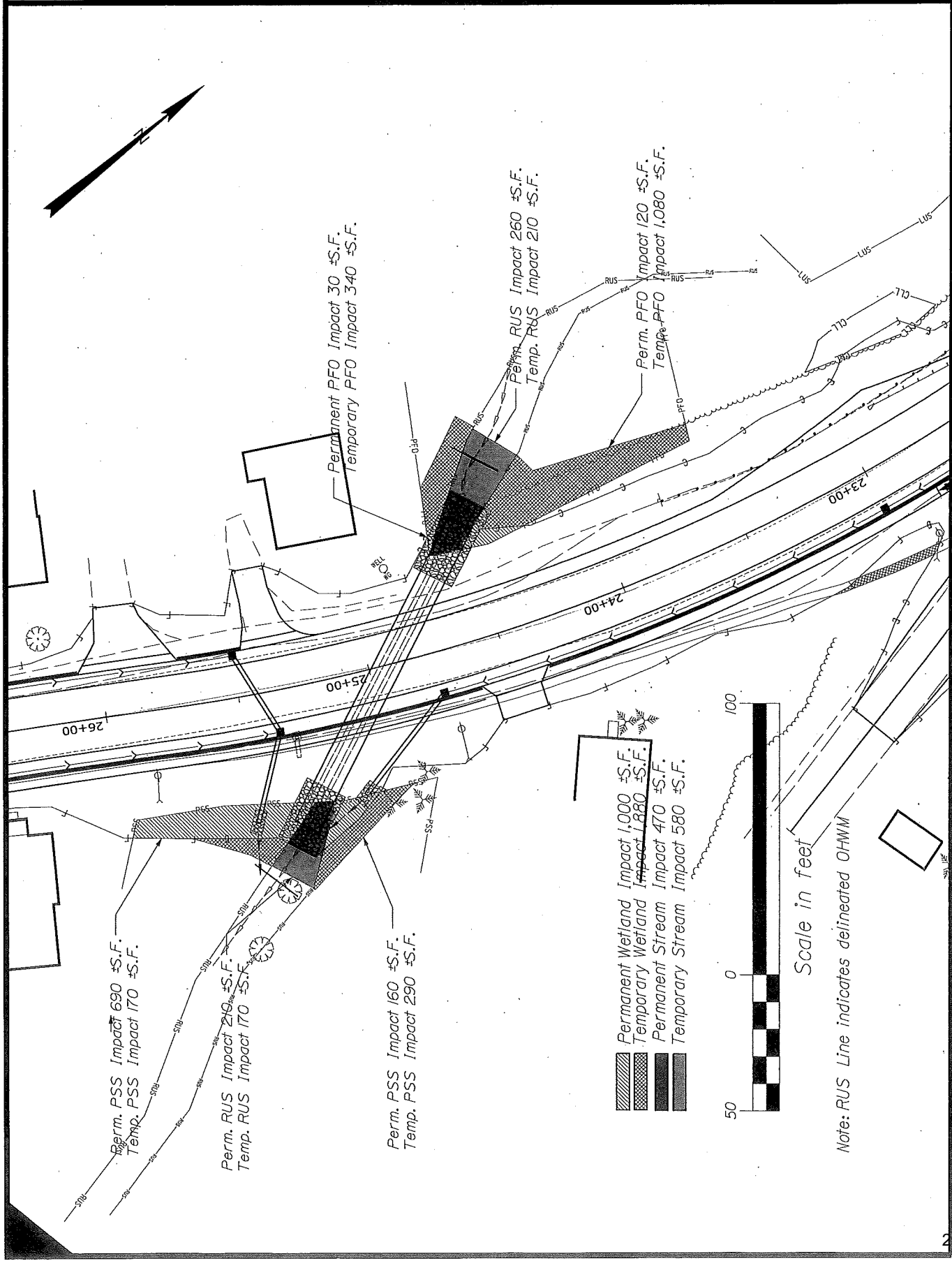
0 0.5 1 Miles



STATE OF MAINE DEPARTMENT OF TRANSPORTATION	ROUTE 26 WOODSTOCK OXFORD COUNTY	INDEX
018767.00	PLANS	



STATE OF MAINE DEPARTMENT OF TRANSPORTATION	ROUTE 26 WOODSTOCK OXFORD COUNTY	SHEET NUMBER 1
018767.00	PLANS	OF 15



-  Permanent Wetland Impact 110 ±S.F.
-  Temporary Wetland Impact 260 ±S.F.
-  Permanent Stream Impact 0 ±S.F.
-  Temporary Stream Impact 0 ±S.F.

Note: RUS Line indicates delineated OHWM



Scale in feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

ROUTE 26 WOODSTOCK
OXFORD COUNTY

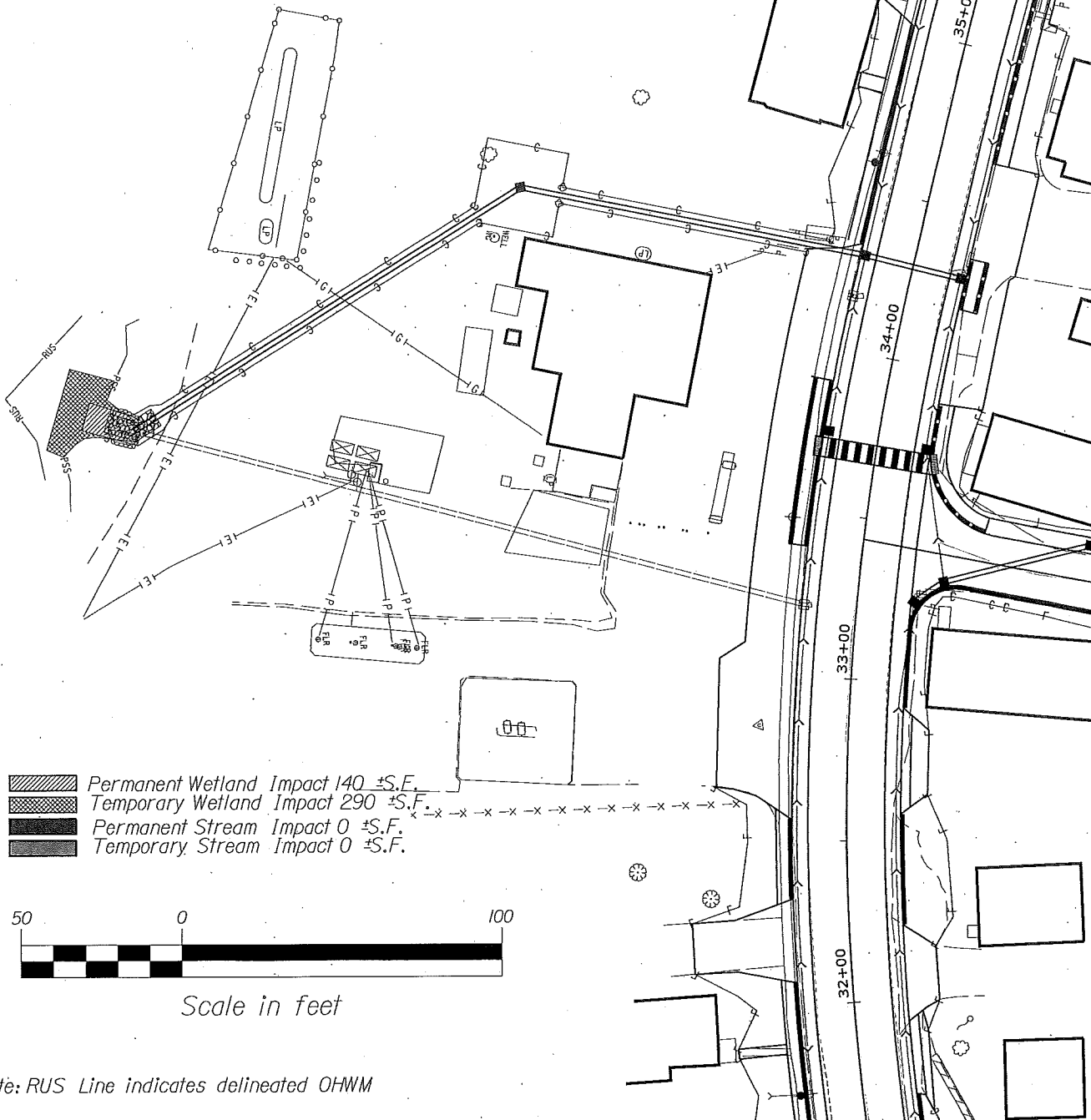
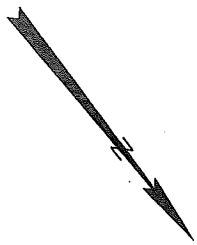
SHEET NUMBER

3

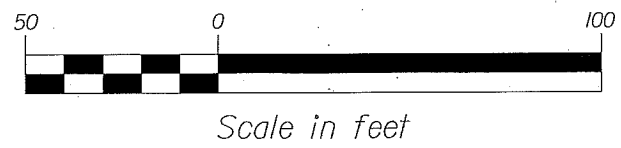
018767.00

PLANS

OF 15



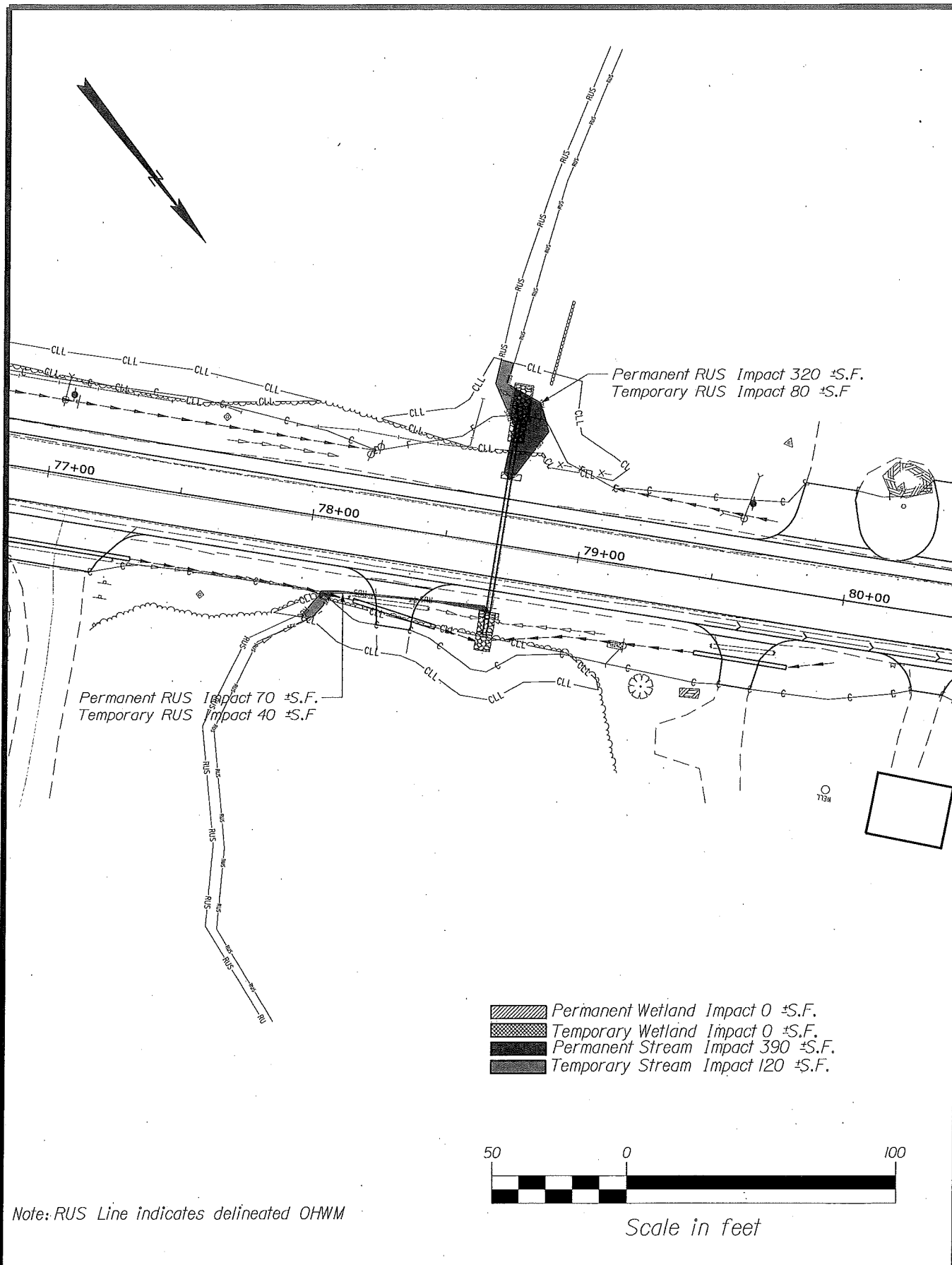
- Permanent Wetland Impact 140 $\pm$ S.F.
- Temporary Wetland Impact 290 $\pm$ S.F.
- Permanent Stream Impact 0 $\pm$ S.F.
- Temporary Stream Impact 0 $\pm$ S.F.



Scale in feet

Note: RUS Line indicates delineated OHWM

STATE OF MAINE DEPARTMENT OF TRANSPORTATION	ROUTE 26 WOODSTOCK OXFORD COUNTY	SHEET NUMBER 4
018767.00	PLANS	OF 15



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

ROUTE 26

WOODSTOCK

OXFORD COUNTY

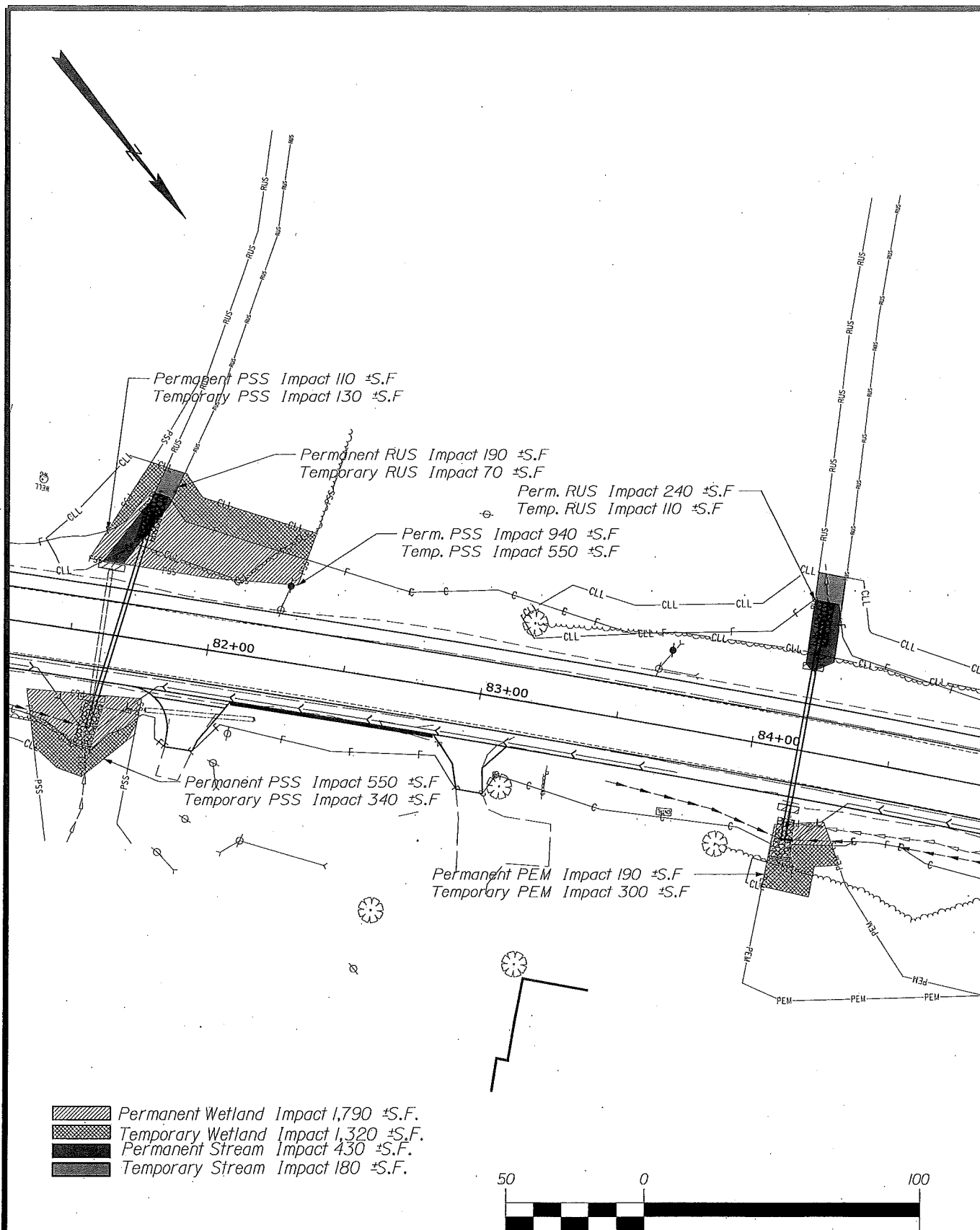
SHEET NUMBER

5

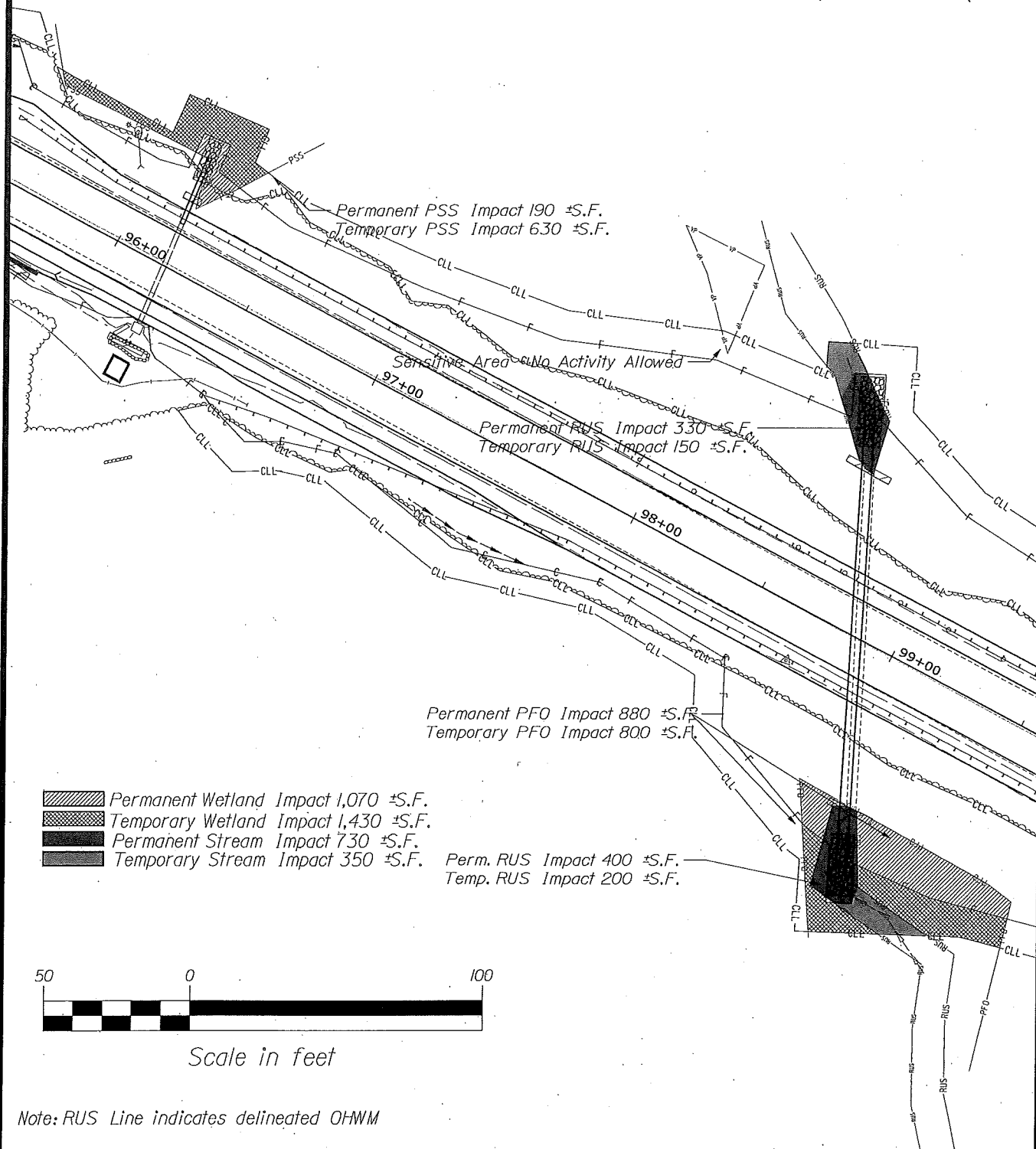
018767.00

PLANS

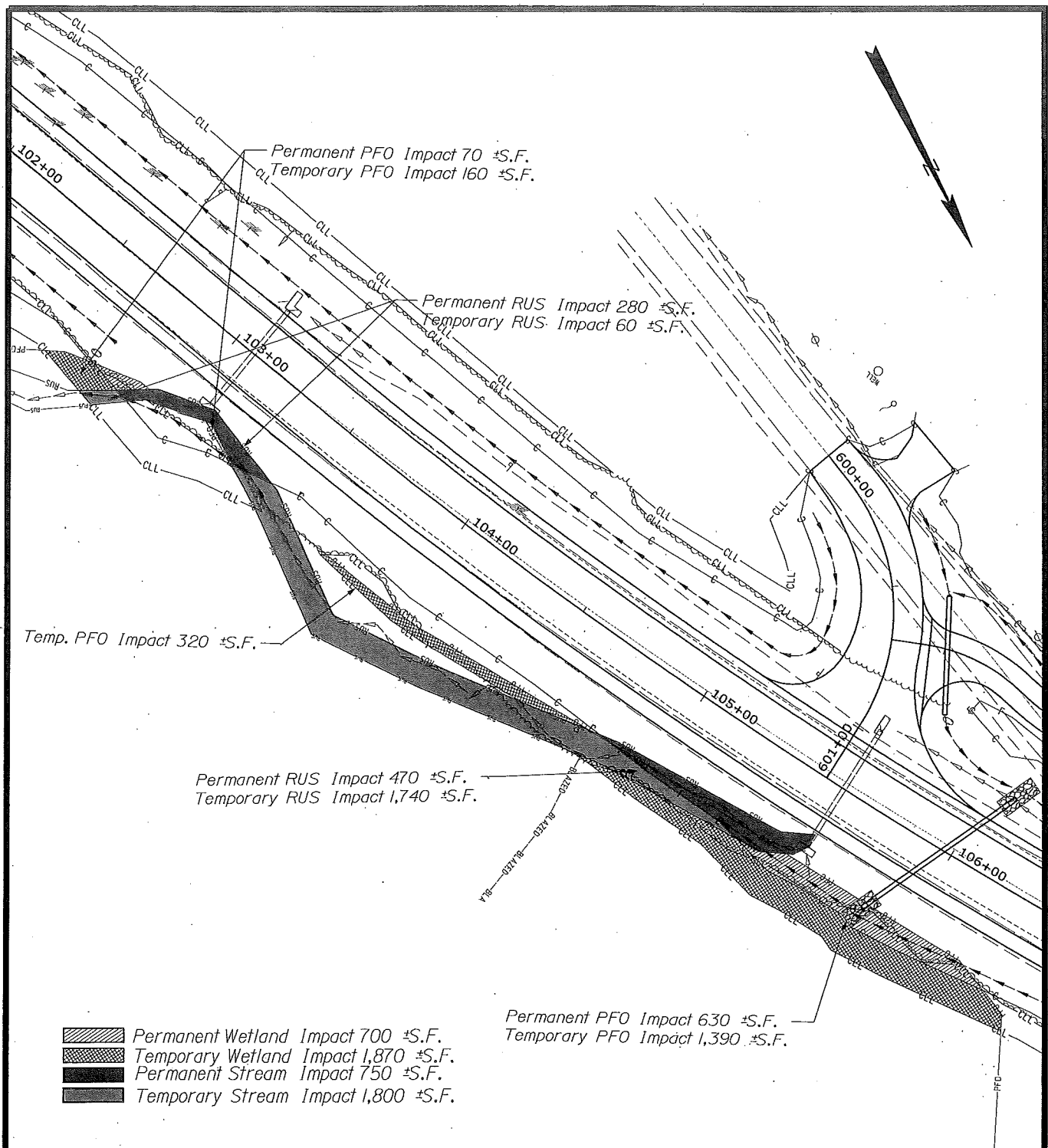
OF 15



STATE OF MAINE DEPARTMENT OF TRANSPORTATION	ROUTE 26 WOODSTOCK OXFORD COUNTY	SHEET NUMBER 6
018767.00	PLANS	OF 15



STATE OF MAINE DEPARTMENT OF TRANSPORTATION	ROUTE 26 WOODSTOCK OXFORD COUNTY	SHEET NUMBER 7
018767.00	PLANS	OF 15



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

ROUTE 26 WOODSTOCK
OXFORD COUNTY

SHEET NUMBER

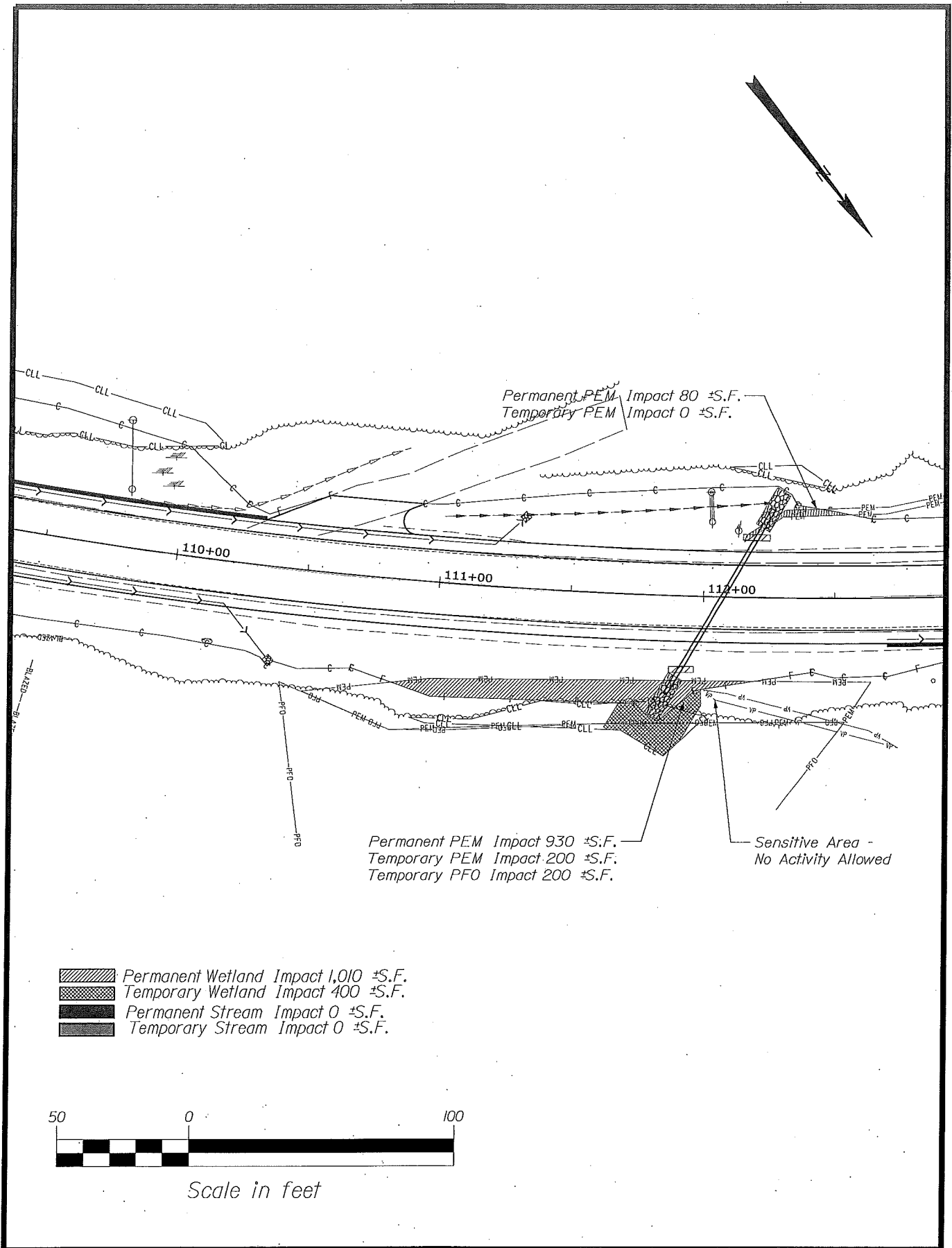
8

018767.00

PLANS

OF 15

286



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

ROUTE 26 WOODSTOCK
OXFORD COUNTY

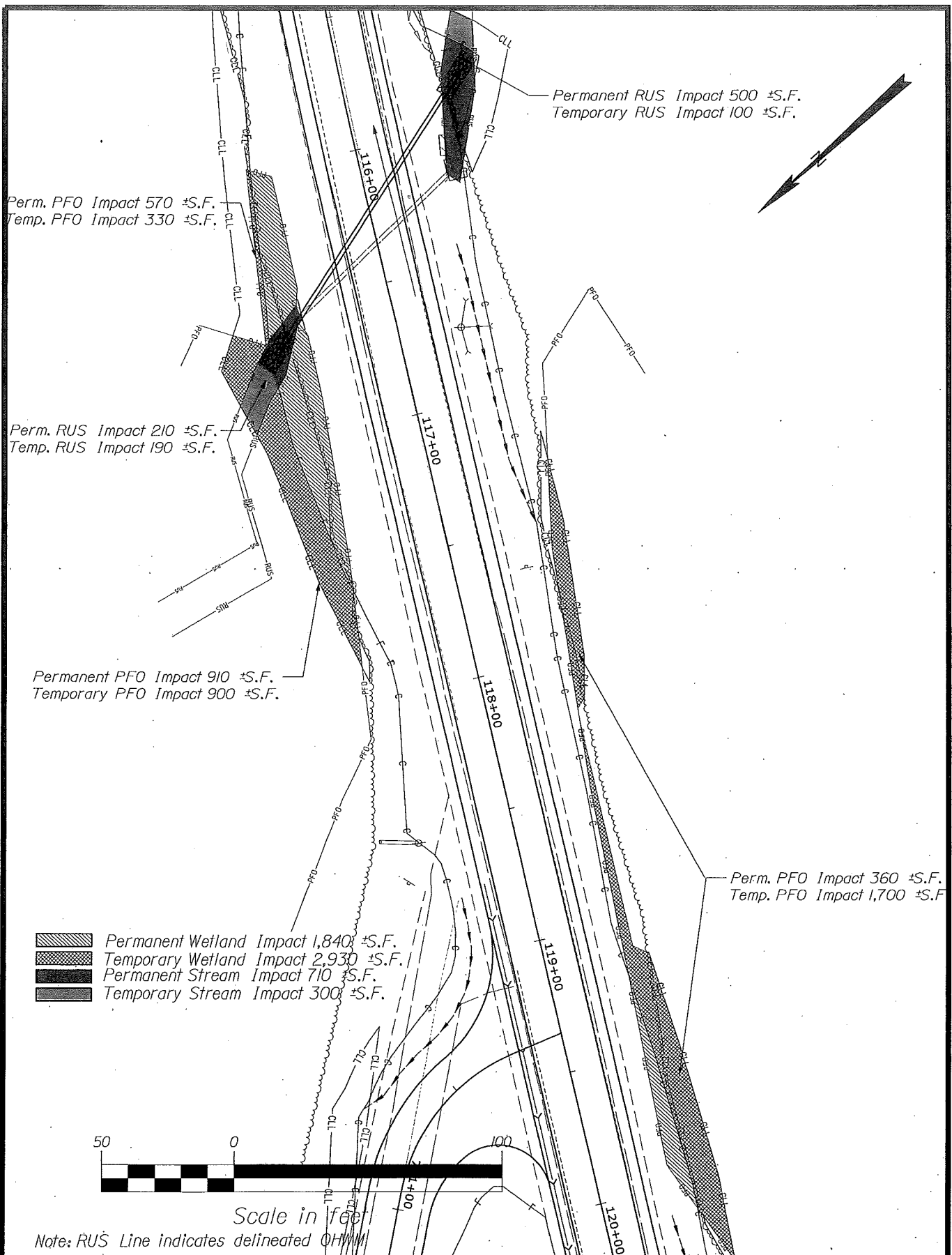
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9

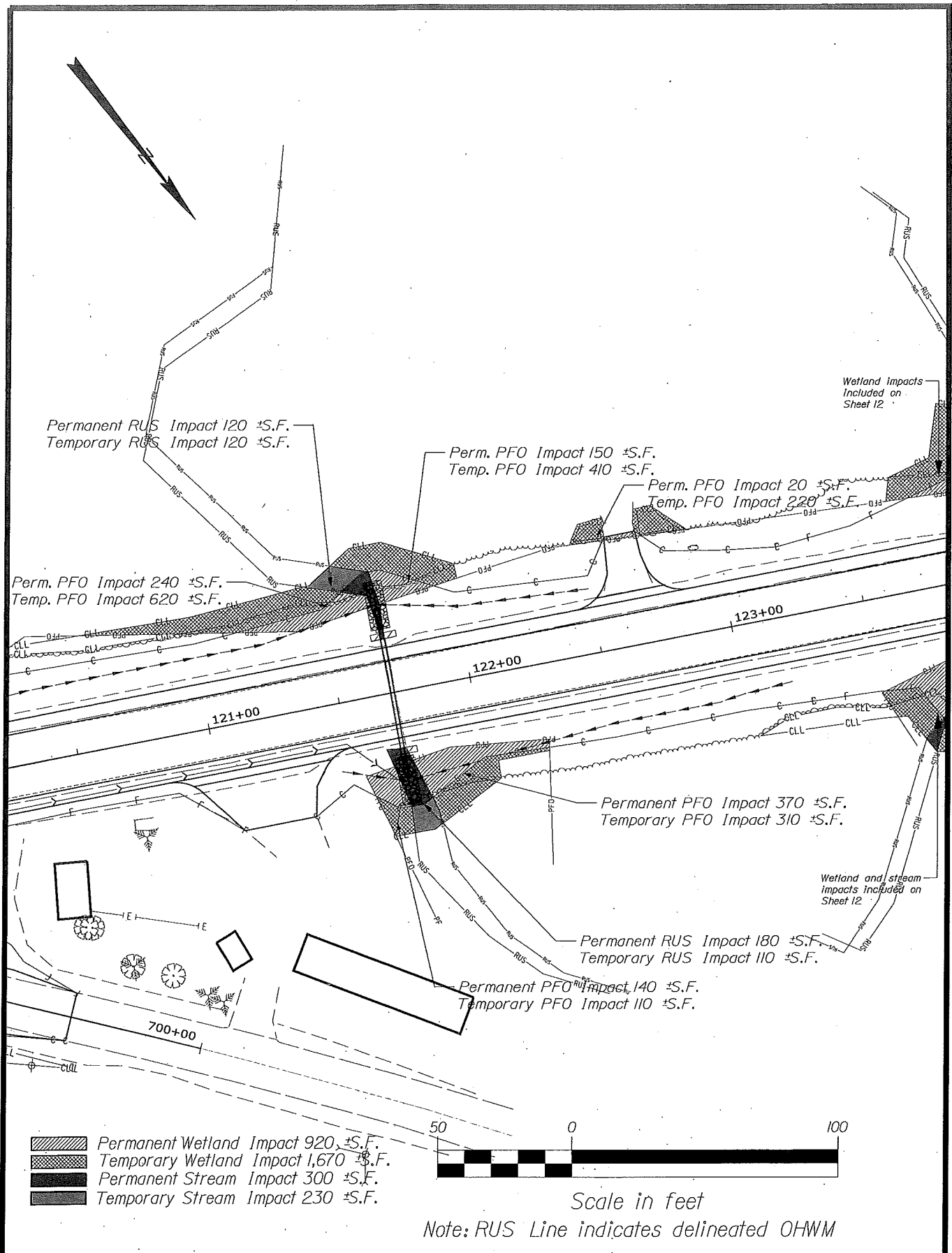
018767.00

PLANS

OF 15



STATE OF MAINE DEPARTMENT OF TRANSPORTATION	ROUTE 26 WOODSTOCK OXFORD COUNTY	SHEET NUMBER 10
018767.00	PLANS	OF 15



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

ROUTE 26

WOODSTOCK

OXFORD COUNTY

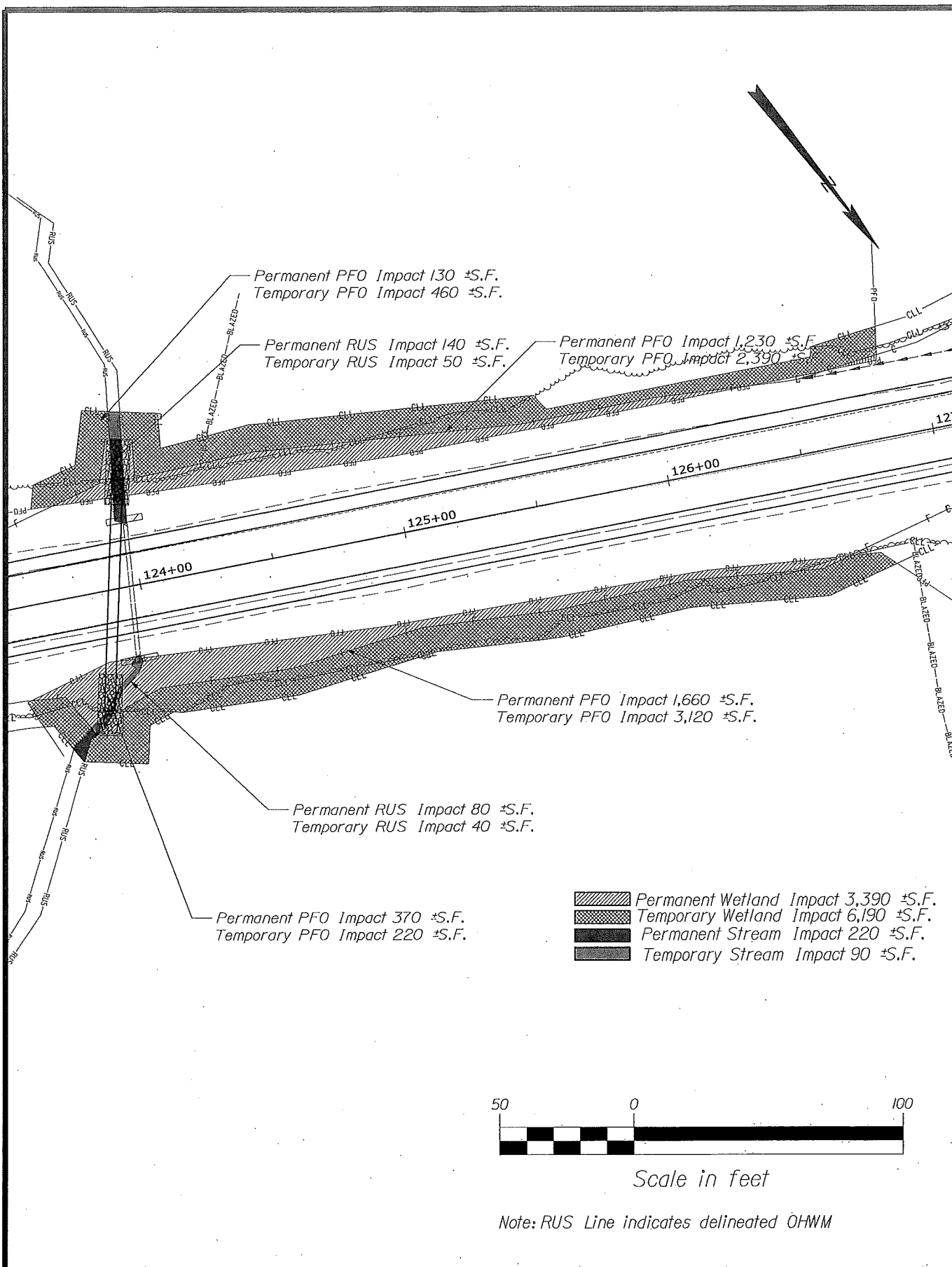
SHEET NUMBER

11

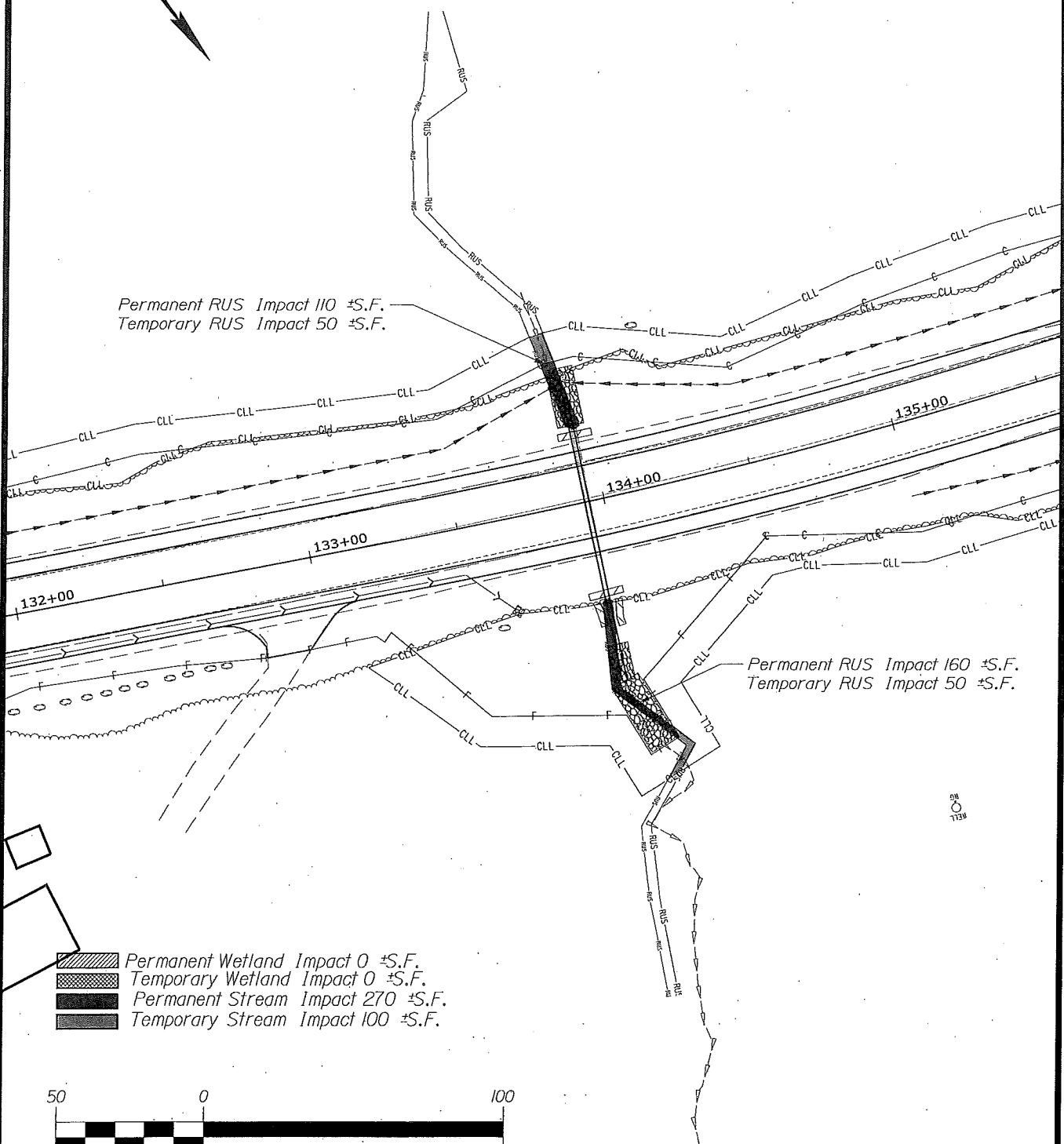
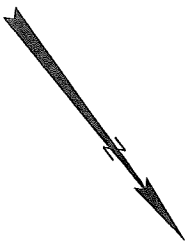
018767.00

PLANS

OF 15



STATE OF MAINE DEPARTMENT OF TRANSPORTATION	ROUTE 26 WOODSTOCK OXFORD COUNTY	SHEET NUMBER 12
018767.00	PLANS	OF 15



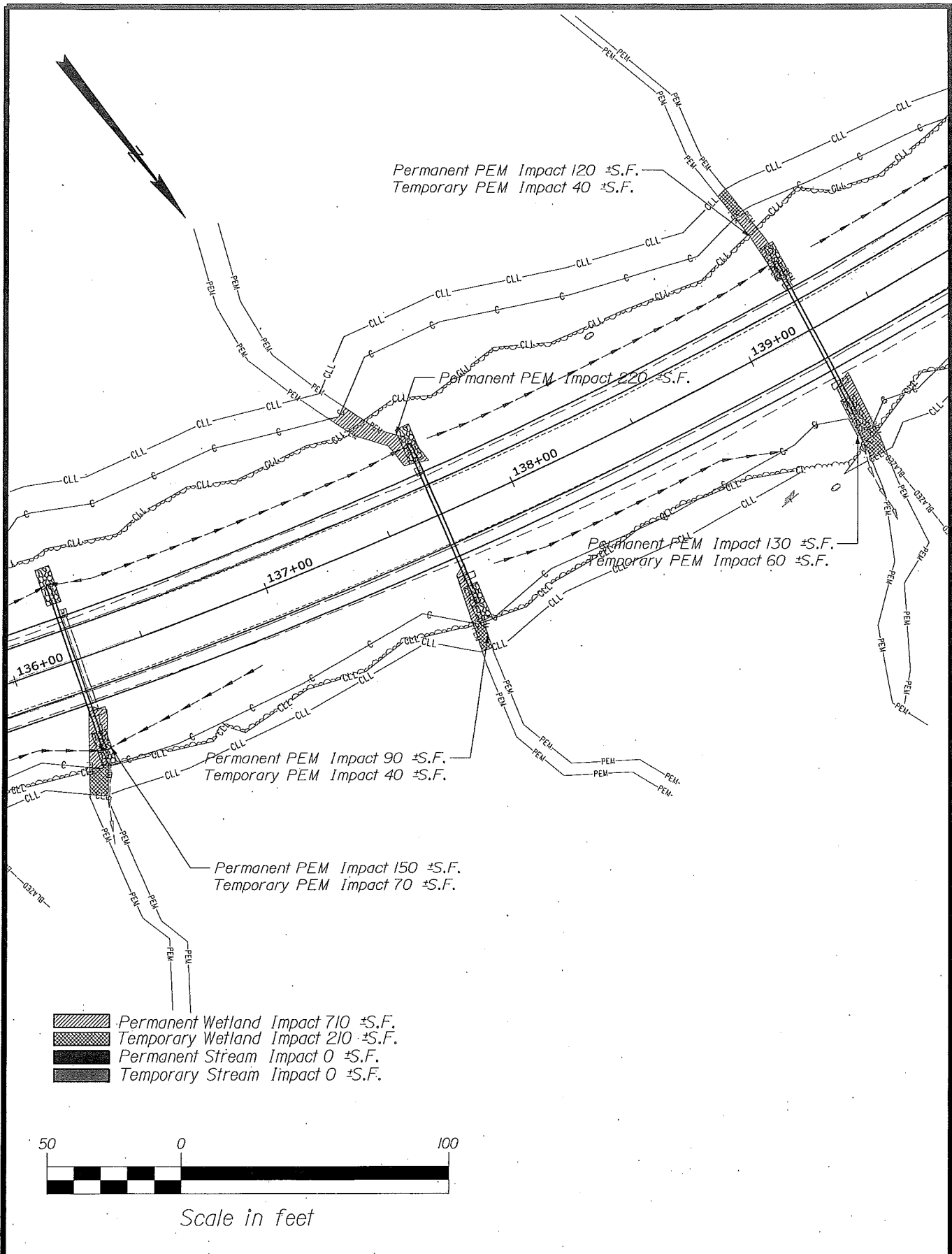
-  Permanent Wetland Impact 0 ±S.F.
-  Temporary Wetland Impact 0 ±S.F.
-  Permanent Stream Impact 270 ±S.F.
-  Temporary Stream Impact 100 ±S.F.



Scale in feet

Note: RUS Line indicates delineated OHWM

STATE OF MAINE DEPARTMENT OF TRANSPORTATION	ROUTE 26 WOODSTOCK OXFORD COUNTY	SHEET NUMBER 13
018767.00	PLANS	OF 15



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

ROUTE 26 WOODSTOCK
OXFORD COUNTY

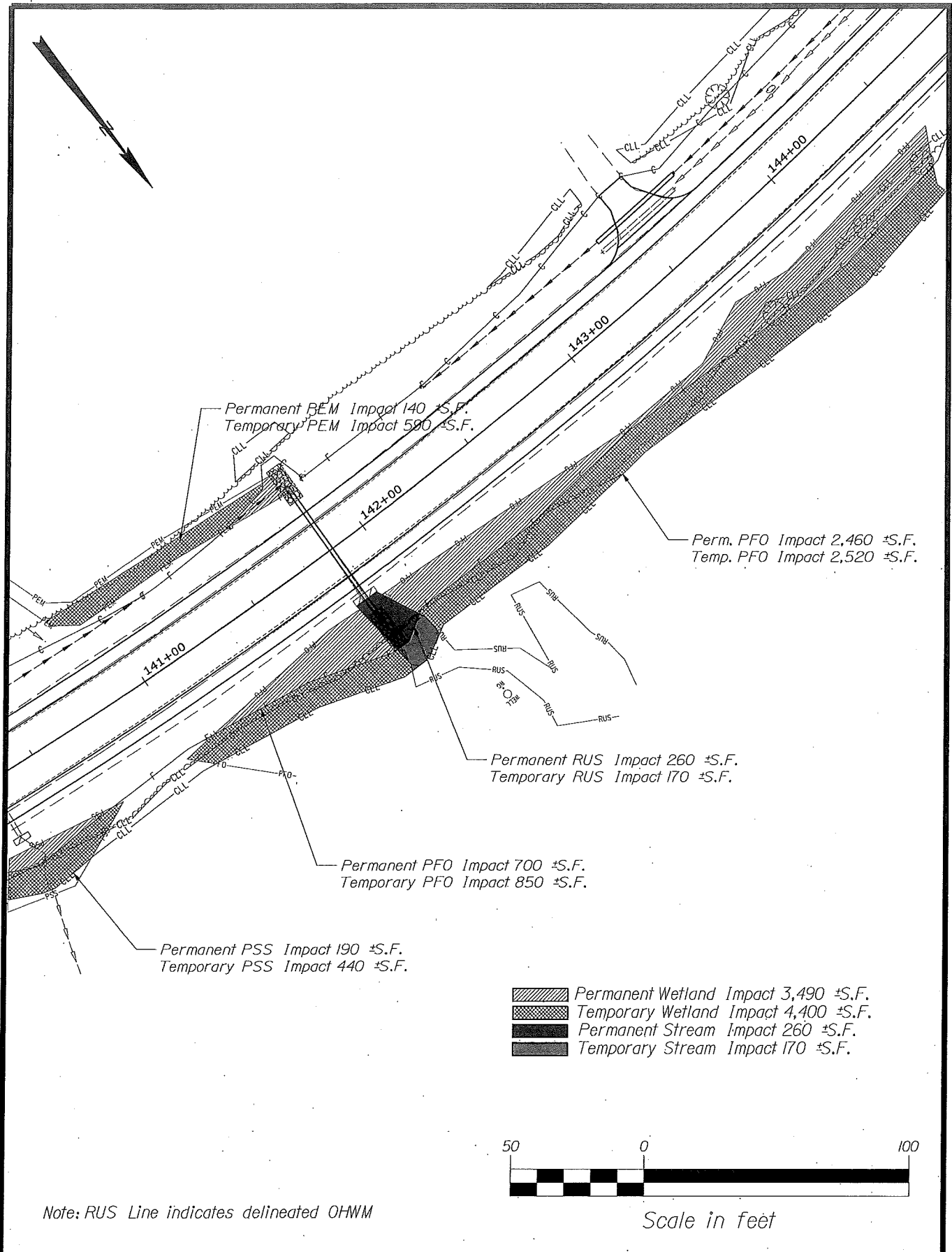
SHEET NUMBER

14

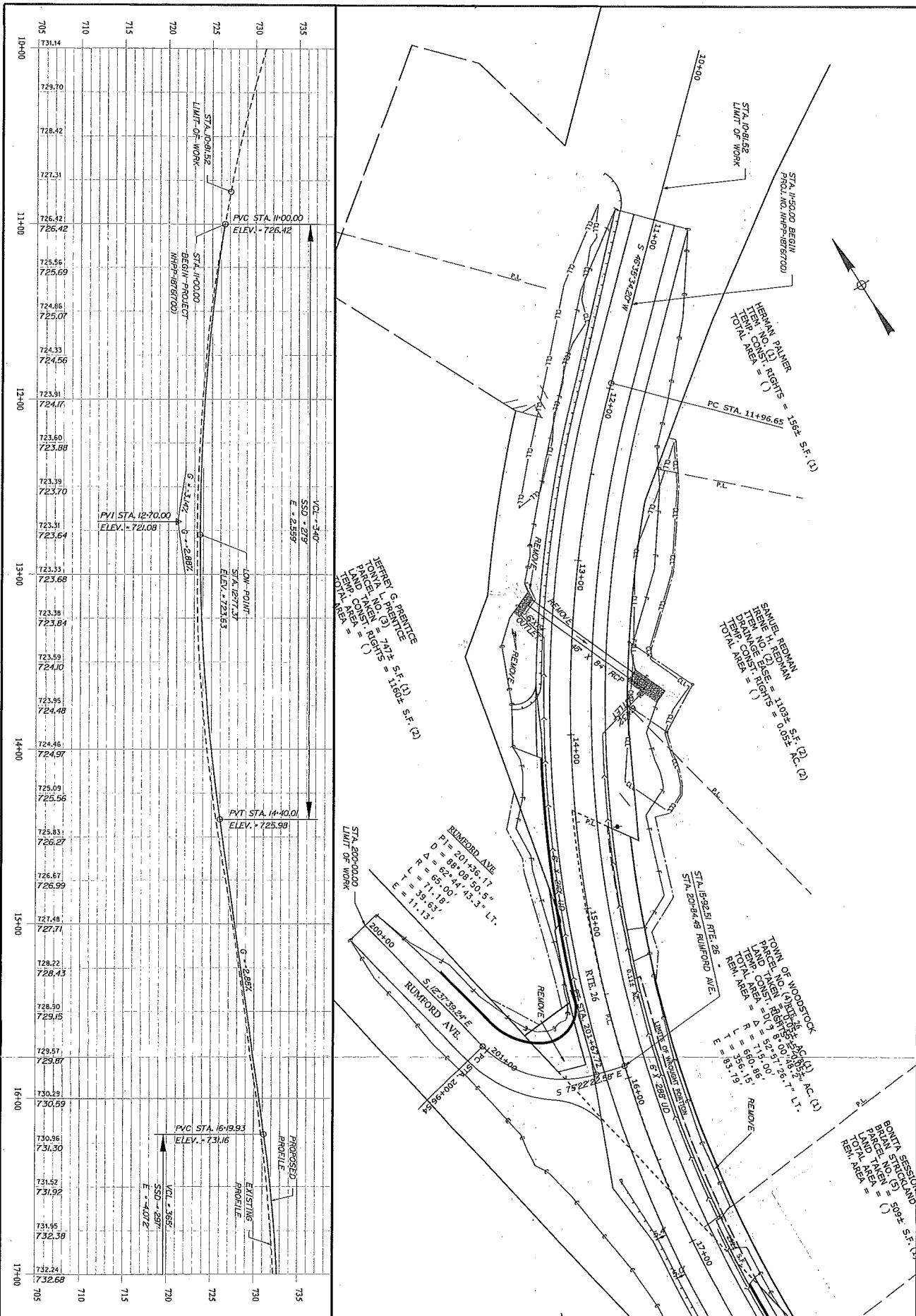
018767.00

PLANS

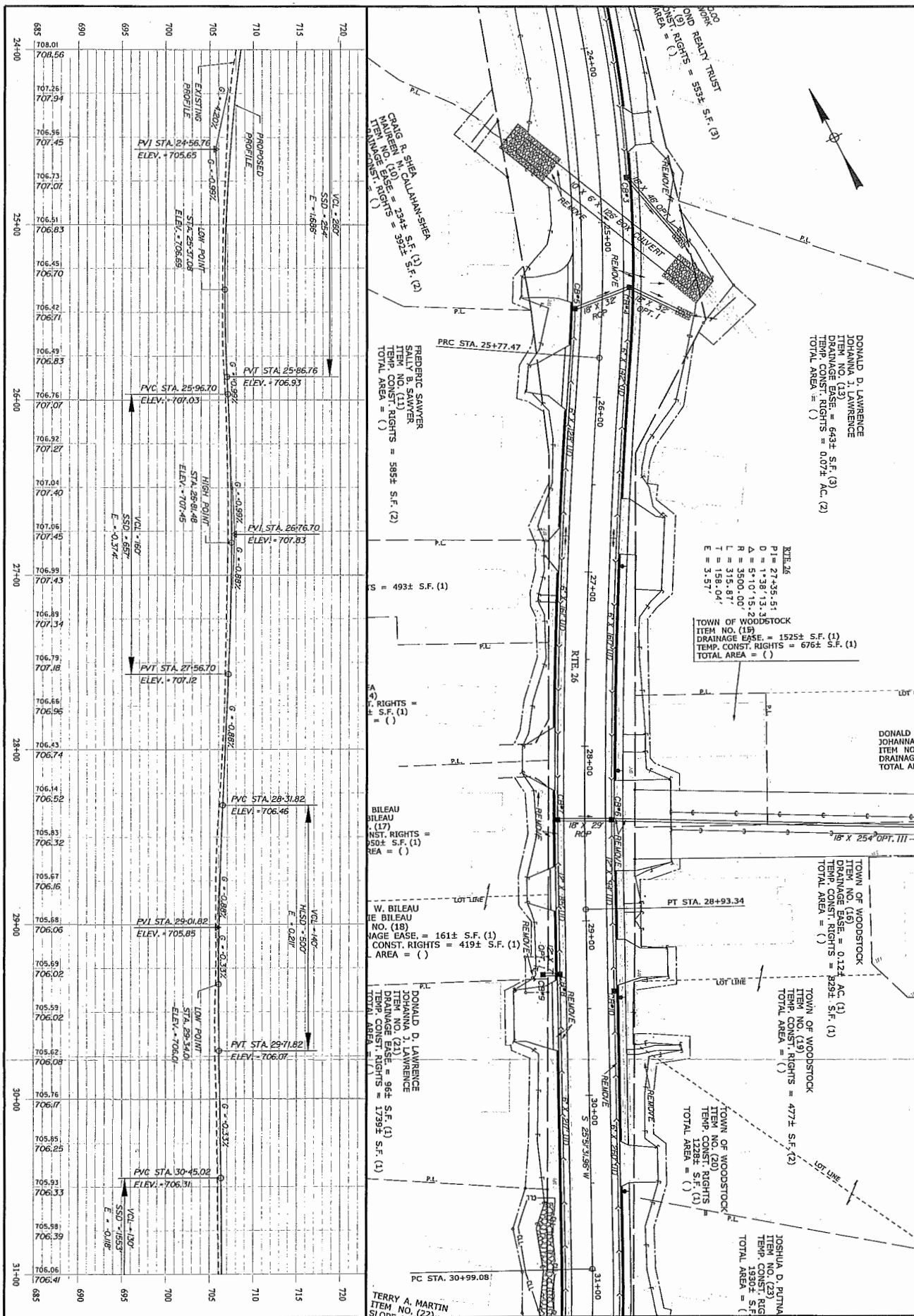
OF 15



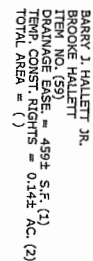
STATE OF MAINE DEPARTMENT OF TRANSPORTATION	ROUTE 26 WOODSTOCK OXFORD COUNTY	SHEET NUMBER 15
018767.00	PLANS	OF 15



OF -	8	SHEET NUMBER	WOODSTOCK ROUTE 26 PLANS	PROJ. MANAGER				BY		DATE		STATE OF MAINE	
				DESIGN-DETAILED		1/26/2020	1/26/2020	1/26/2020	SIGNATURE		DEPARTMENT OF TRANSPORTATION		
				CHECKED-REVIEWED		1/26/2020	1/26/2020	1/26/2020					
				DESIGN-DETAILED		1/26/2020	1/26/2020	1/26/2020					
				DESIGN-DETAILED		1/26/2020	1/26/2020	1/26/2020					
				REVISIONS 1		1/26/2020	1/26/2020	1/26/2020	P.R. NUMBER		NHPP-1876(700)		
				REVISIONS 2		1/26/2020	1/26/2020	1/26/2020			WIN		
				REVISIONS 3		1/26/2020	1/26/2020	1/26/2020			WIN 018767.00		
				REVISIONS 4		1/26/2020	1/26/2020	1/26/2020	DATE		HIGHWAY PLANS		
				FIELD CHANGES		1/26/2020	1/26/2020	1/26/2020					



SHEET NUMBER 10	WOODSTOCK ROUTE 26		PLANS		STATE OF MAINE DEPARTMENT OF TRANSPORTATION NHPP-1876(700) WIN WIN 018767.00 HIGHWAY PLANS
	PROJ. MANAGER: SPIDANAGAN	BY: [Signature]	DATE: [Date]	SIGNATURE: [Signature]	
	DESIGN DETAIL: [Signature]	DESIGN DETAIL: [Signature]	DESIGN DETAIL: [Signature]	P.E. NUMBER: [Signature]	
	REVISIONS: 1 [Signature]	REVISIONS: 2 [Signature]	REVISIONS: 3 [Signature]	DATE: [Date]	
FIELD CHANGES: [Signature]		[Signature]			



BROOKE HALLETT
PARCEL NO. (62)
LAND TAKEN = 0.05± AC. (1)
DRAINAGE EASE. = 1971± S.F. (2)
TEMP. CONST. RIGHTS = 0.10± AC. (4)
TOTAL AREA = ()
REM. AREA =

STATE OF MAINE

NHPP-1876(700)

WIN
WIN 018767.00 **HIGHWAY PLANS**

296

17
OF

SHEET NUMBER

WOODSTOCK
ROUTE 26

PLANS

PROJ.MANAGER	SPROJ.MANAGER	BY	DATE	
DESIGN-DETAILED	DESIGNER18	DESIGNER18	PROJECT18	SIGNATURE
CHECKED-REVIEWED	DESIGNER18	DESIGNER18	PROJECT18	
DESIGN2-DETAILED2	DESIGNER21	DESIGNER21	PROJECT21	P.E. NUMBER
DESIGN2-DETAILED2	DESIGNER21	DESIGNER21	PROJECT21	
REVISIONS 1	DESIGNER18	DESIGNER18	REVISION18	DATE
REVISIONS 2	DESIGNER18	DESIGNER18	REVISION18	
REVISIONS 3	DESIGNER18	DESIGNER18	REVISION18	
REVISIONS 4	DESIGNER18	DESIGNER18	REVISION18	
FIELD CHANGES	DESIGNER18	DESIGNER18	REVISION18	

ELINOR ANDREWS
ITEM NO. (63)
SLOPE EASE. = 484± S.F. (1)
TEMP. CONST. RIGHTS =
1973± S.F. (1)
TOTAL AREA = ()

CENTRAL MAINE POWER CO.
 ITEM NO. (64) RT. 26
 SLOPE BASE = 1232' S.F.
 DRAINAGE BASE = 6411' S.H. 1282' + 81.95'
 TEM. CONST. RIGHTS = 7118' E. 574025.3"
 TOTAL AREA = 5 RT. 1
 Δ = 2:07.45"
 R = 8000.00'
 L = 297.45'
 T = 146.74'
 E = 1.38'

SLOPE EASE. = 1428± S.F. (1)
DRAINAGE EASE. = 835± S.F. (2)
TEMP. CONST. RIGHTS = 1186± S.F. (1)
TOTAL AREA = ()

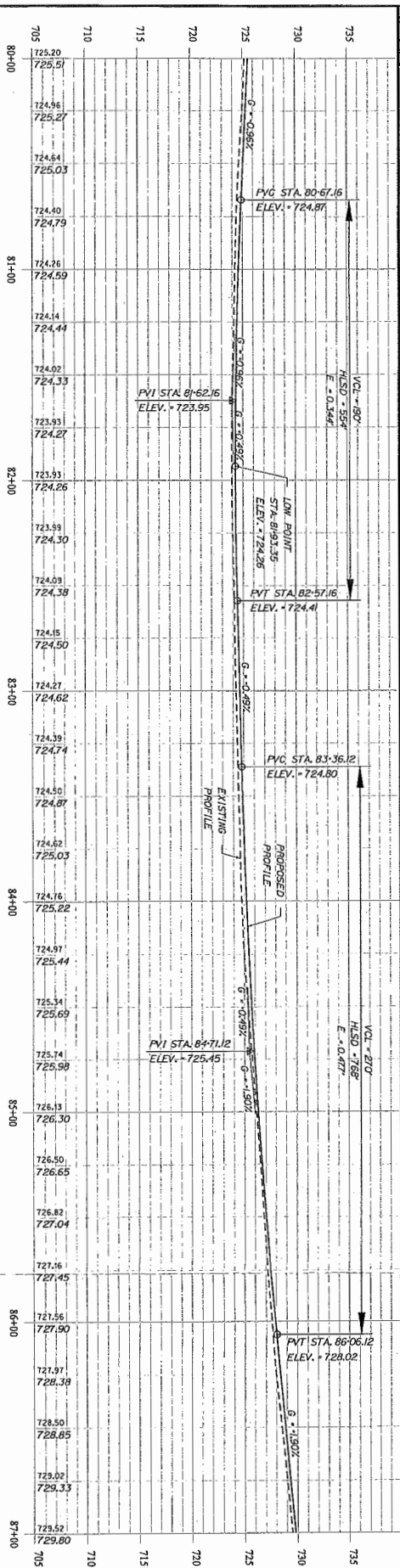
KATHY PARKER
ITEM NO. (68)
SLOPE LEASE. = $798 \pm$ S.F. (1)
TEMP. CONST. RIGHTS = $0.09 \pm$ AC. (2)
TOTAL AREA = ()

RT.26
P1 = 80+45.23
D = 0°28'38.9"
Δ = 0°50'24.8" LT
R = 12000.00'
L = 175.97'
T = 87.99'
E = 0.32'

JAMES MOORE II
PARCEL NO. (65)
LAND TAKEN = 0.08± AC. (1)
DRAINAGE EASE. = 965± S.F. (2)
TEMP. CONST. RIGHTS = 0.09± AC. (2)
TOTAL AREA = ()
REM. AREA = ()

REM. AREA

TOTAL AREA = (



WOODSTOCK
ROUTE 26

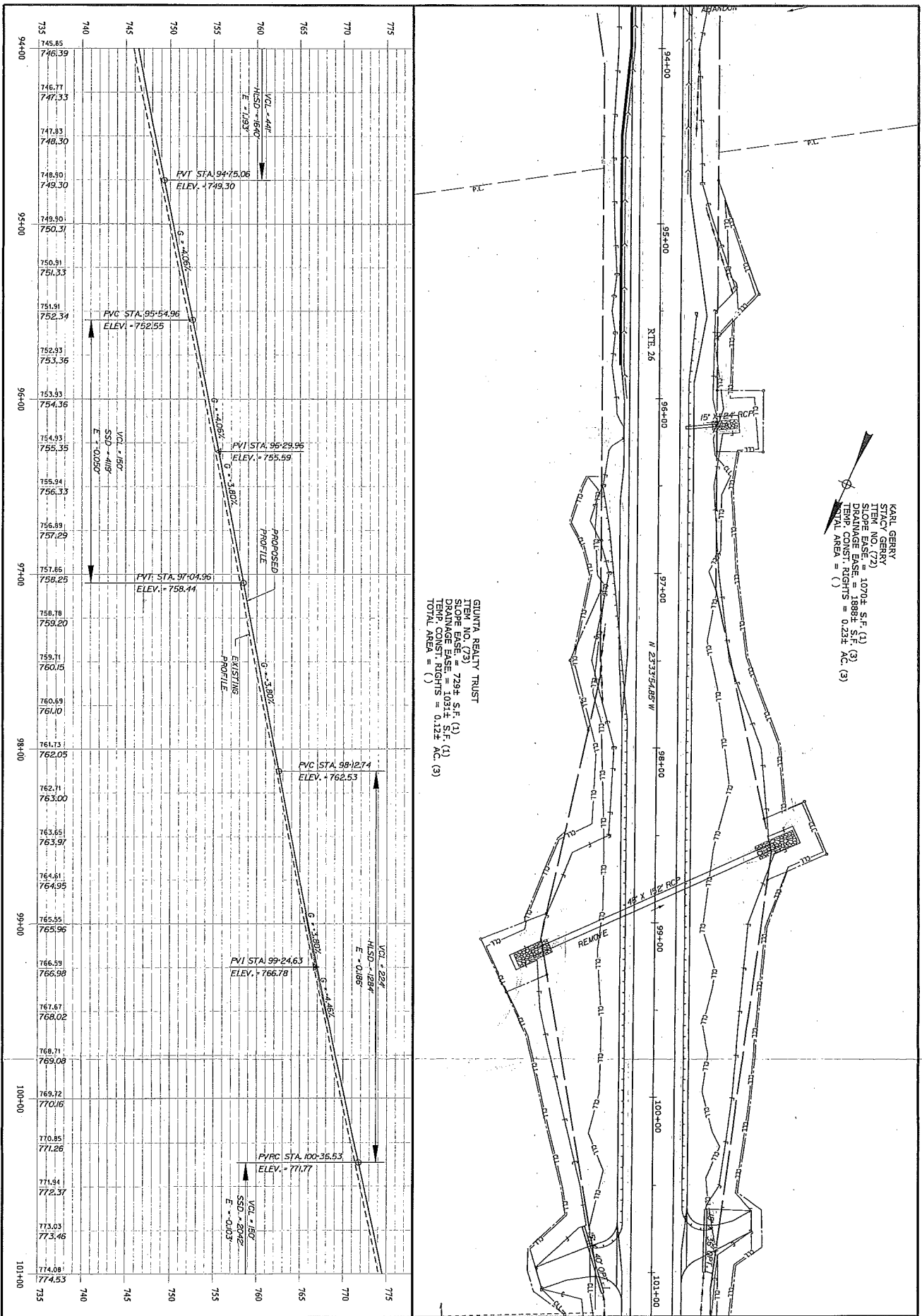
PLANS

PROJ. MANAGER	SPRINT MANAGERS	BY	DATE	
DESIGN-DETAILED	Designer 18	Estimator 15	Projector 16	SIGNATURE
CHECKED-REVIEWED				
DESIGN-DETAILED	Designer 28	Estimator 23	Projector 23	P.E. NUMBER
DESIGN-DETAILED	Designer 38	Estimator 33	Projector 33	
REVISIONS 1	Revisioner 18		Revised 18	DATE
REVISIONS 2	Revisioner 28		Revised 28	
REVISIONS 3	Revisioner 38		Revised 38	
REVISIONS 4	Revisioner 48		Revised 48	
FIELD CHANGES	Fieldchange 8		Fielddate 8	

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-1876(700)

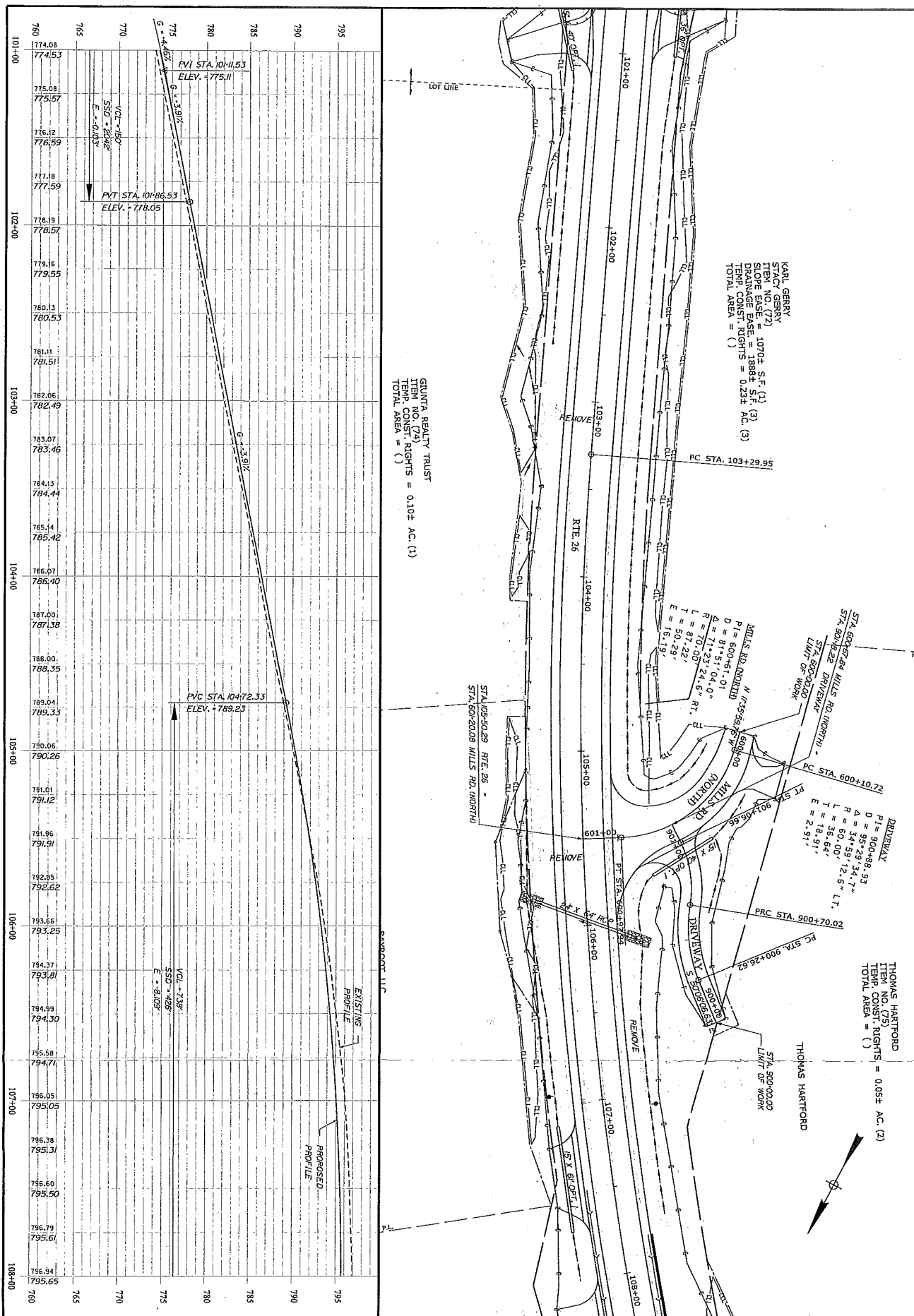
WIN
WIN 018767.00 **HIGHWAY PLANS**



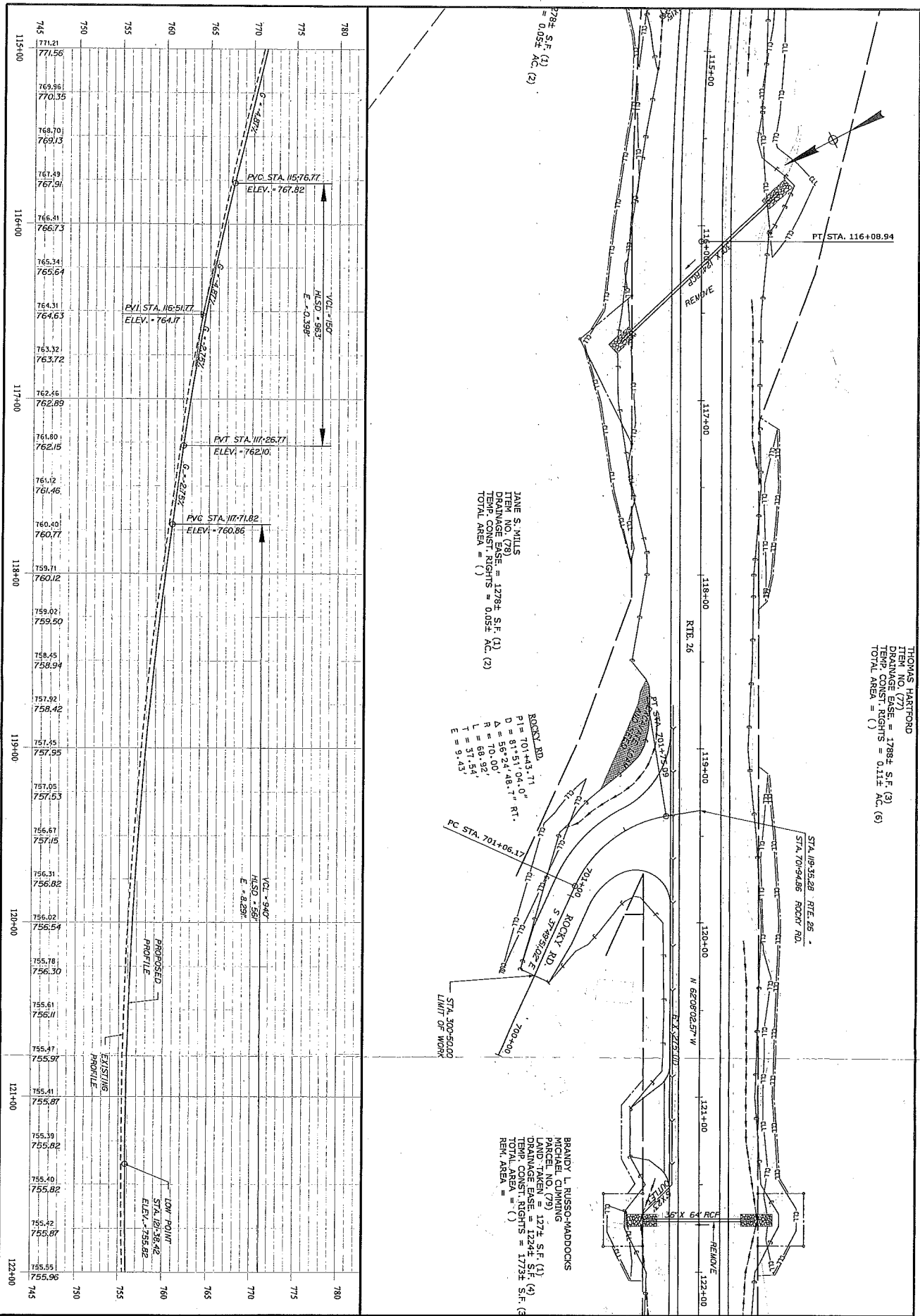
GUINIA REALTY TRUST
 (TOWN NO. 79) 729+ S.F. (1)
 SLOPE BASE = 1031 S.F. (1)
 DRAINAGE BASE = 1031 S.F. (1)
 TEMP. CONST. RIGHTS = 0.122 AC. (3)
 TOTAL AREA = ()

KARL GERRY
 STACY GERRY
 (TOWN NO. 72) 1070+ S.F. (1)
 SLOPE BASE = 1070 S.F. (1)
 DRAINAGE BASE = 1070 S.F. (1)
 TEMP. CONST. RIGHTS = 0.231 AC. (3)
 TOTAL AREA = ()

SHEET NUMBER 20 OF -	WOODSTOCK ROUTE 26 PLANS		STATE OF MAINE DEPARTMENT OF TRANSPORTATION NHPP-1876(700)
	DESIGN-DETAILED CHECKED-REVIEWED DESIGN-DETAILED REVISIONS 1 REVISIONS 2 REVISIONS 3 REVISIONS 4 FIELD CHANGES	BY DATE DATE DATE DATE DATE DATE DATE	SIGNATURE P.E. NUMBER DATE
	WIN WIN 018767.00 HIGHWAY PLANS		
	298		







JANE S. MILLS
ITEM NO. (78)
DRAINAGE EASE = 1278± S.F. (1)
TEMP. CONST. RIGHTS = 0.05± AC. (2)
TOTAL AREA = ()

ROCKY RD.
P1 = 101'±3.71'
D = 81'±51'04.0" RT.
Δ = 84'±24'48.7"
R = 70.00'
L = 68.92'
T = 37.54'
E = 3.43'

BRANDY L. RUSSO-MADDOCKS
ITEM NO. (79)
LAND TAKEN = 127± S.F. (1)
DRAINAGE EASE = 1224± S.F. (4)
TEMP. CONST. RIGHTS = 173± S.F. (3)
TOTAL AREA = ()

THOMAS HARTFORD
ITEM NO. (77)
DRAINAGE EASE = 1788± S.F. (3)
TEMP. CONST. RIGHTS = 0.11± AC. (6)
TOTAL AREA = ()

STA. 119+35.28 R.T.E. 26
STA. 120+94.86 ROCKY RD.

R.T.E. 26

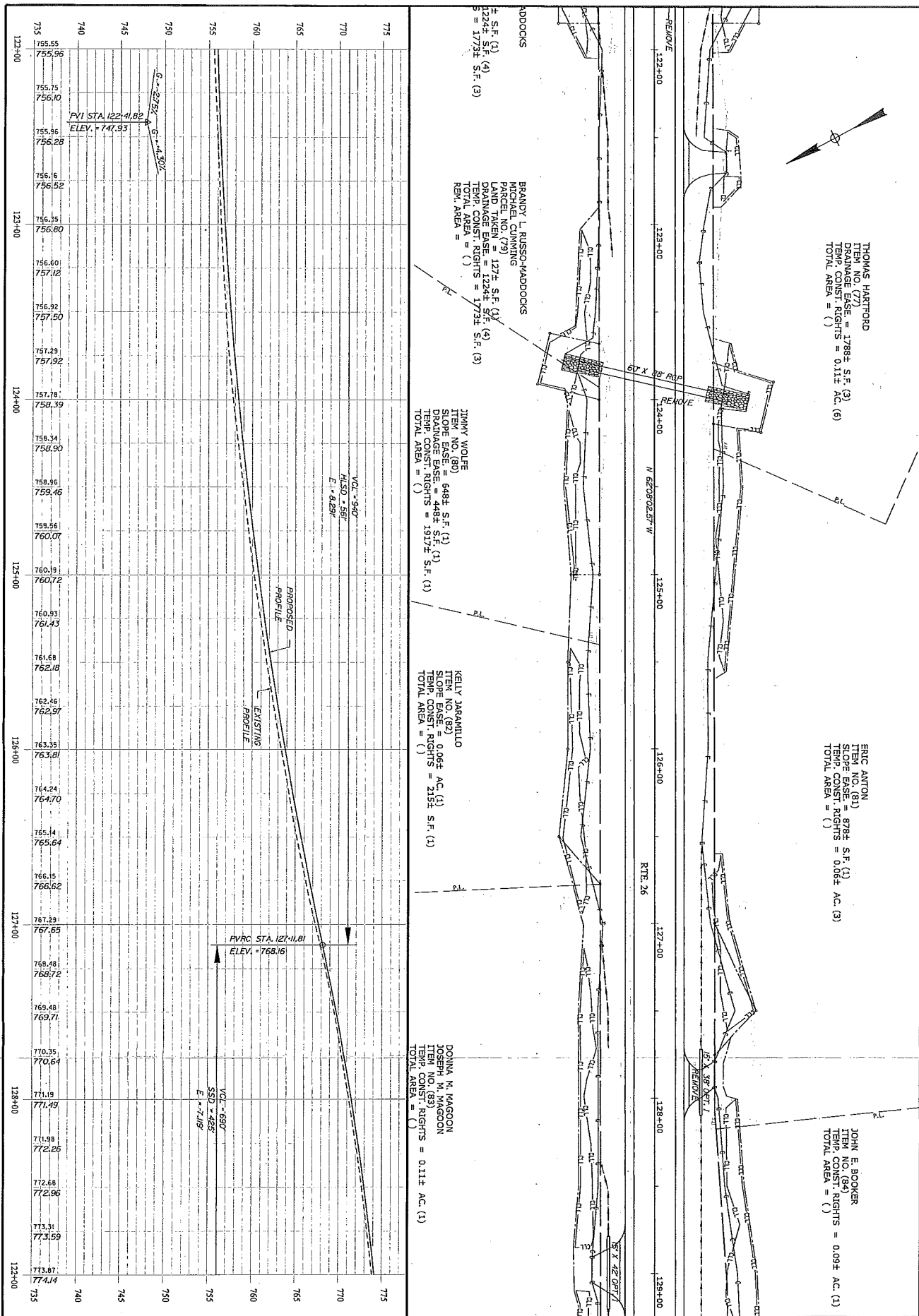
N 62°08'02.57" W

REMOVE

REMOVE

REMOVE

SHEET NUMBER 23 OF -	WOODSTOCK ROUTE 26 PLANS		STATE OF MAINE DEPARTMENT OF TRANSPORTATION NHPP-1876(700) WIN WIN 018767.00 HIGHWAY PLANS
	PROJ. MANAGER DESIGNED CHECKED-REVIEWED DESIGNED-DETAILS REVISIONS 1 REVISIONS 2 REVISIONS 3 REVISIONS 4 FIELD CHANGES	BY DATE DATE DATE DATE DATE DATE DATE	SIGNATURE P.E. NUMBER DATE DATE
	BRANDY L. RUSSO-MADDOCKS ITEM NO. (79) LAND TAKEN = 127± S.F. (1) DRAINAGE EASE = 1224± S.F. (4) TEMP. CONST. RIGHTS = 173± S.F. (3) TOTAL AREA = ()		
	JANE S. MILLS ITEM NO. (78) DRAINAGE EASE = 1278± S.F. (1) TEMP. CONST. RIGHTS = 0.05± AC. (2) TOTAL AREA = ()		
	THOMAS HARTFORD ITEM NO. (77) DRAINAGE EASE = 1788± S.F. (3) TEMP. CONST. RIGHTS = 0.11± AC. (6) TOTAL AREA = ()		



THOMAS HASTON
ITEM NO. (77)
DRAINAGE EASE = 1788± S.F. (3)
TEMP. CONST. RIGHTS = 0.11± AC. (6)
TOTAL AREA = ()

ERIC ANTON
ITEM NO. (82)
SLOPE EASE = 878± S.F. (1)
TEMP. CONST. RIGHTS = 0.06± AC. (3)
TOTAL AREA = ()

JOHN E. BOKER
ITEM NO. (84)
TEMP. CONST. RIGHTS = 0.09± AC. (1)
TOTAL AREA = ()

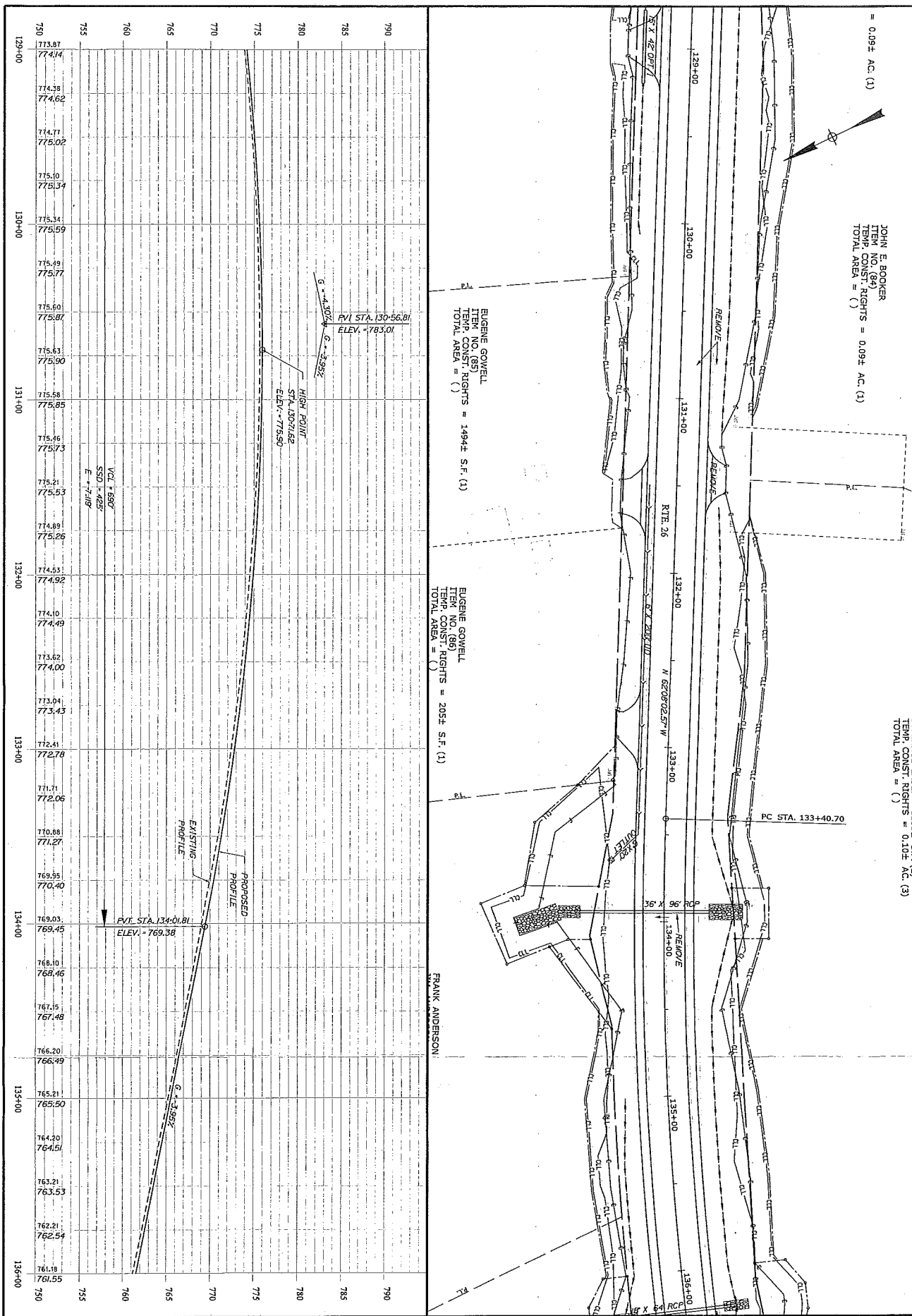
BRANDY L. RUSSO-MADDUCKS
MICHAEL CUMMING
ITEM NO. (79)
SLOPE EASE = 127± S.F. (1)
DRAINAGE EASE = 1224± S.F. (4)
TEMP. CONST. RIGHTS = 1773± S.F. (3)
TOTAL AREA = ()

JIMMY WOLFE
ITEM NO. (80)
SLOPE EASE = 648± S.F. (1)
DRAINAGE EASE = 448± S.F. (1)
TEMP. CONST. RIGHTS = 1317± S.F. (1)
TOTAL AREA = ()

KELLY JARAMILLO
ITEM NO. (81)
SLOPE EASE = 0.06± AC. (1)
TEMP. CONST. RIGHTS = 215± S.F. (1)
TOTAL AREA = ()

DONNA M. MAGGON
JOSEPH M. MAGGON
ITEM NO. (83)
TEMP. CONST. RIGHTS = 0.11± AC. (1)
TOTAL AREA = ()

SHEET NUMBER 24 OF -	WOODSTOCK ROUTE 26 PLANS		PROJ. WINNER: 1/26/2020 DESIGNED: 1/26/2020 CHECKED: 1/26/2020 DESIGNED-DETAIL: 1/26/2020 CHECKED-DETAIL: 1/26/2020 REVISIONS: 1 REVISIONS: 2 REVISIONS: 3 REVISIONS: 4 FIELD CHANGES: 1/26/2020	BY: 1/26/2020 DATE: 1/26/2020 SIGNATURE: _____ P.E. NUMBER: _____ DATE: 1/26/2020	STATE OF MAINE DEPARTMENT OF TRANSPORTATION NHPP-1876(700) WIN WIN 018767.00 HIGHWAY PLANS



JOHN E. BOOKER
ITEM NO. (84)
TEMP. CONST. RIGHTS = 0.09± AC. (1)
TOTAL AREA = ()

EUGENE GOWELL
ITEM NO. (85)
TEMP. CONST. RIGHTS = 149± S.F. (1)
TOTAL AREA = ()

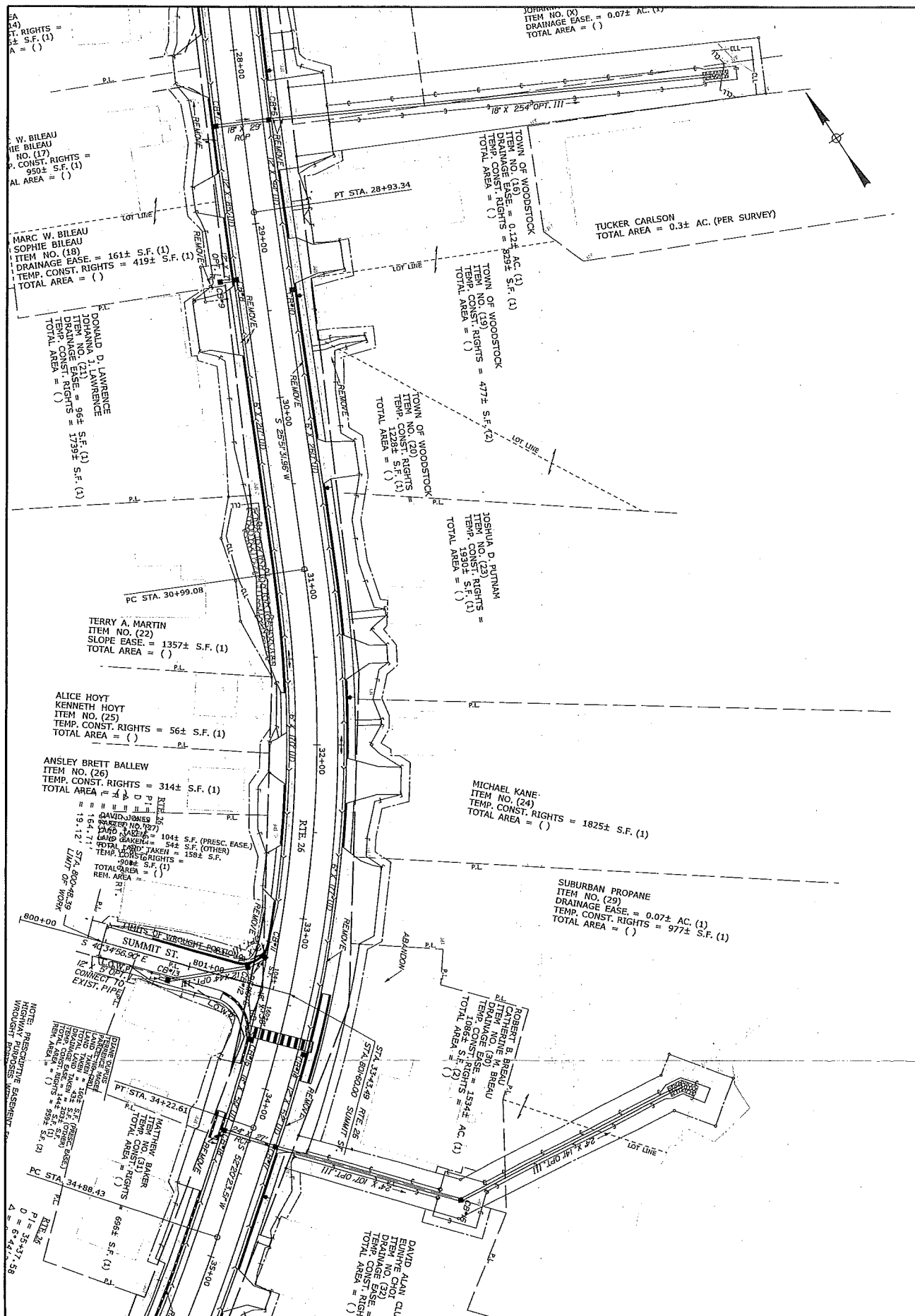
EUGENE GOWELL
ITEM NO. (86)
TEMP. CONST. RIGHTS = 205± S.F. (1)
TOTAL AREA = ()

DRAINAGE EASE. = 118± S.F. (2)
TEMP. CONST. RIGHTS = 0.10± AC. (3)
TOTAL AREA = ()

FRANK ANDERSON

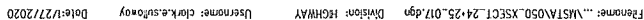
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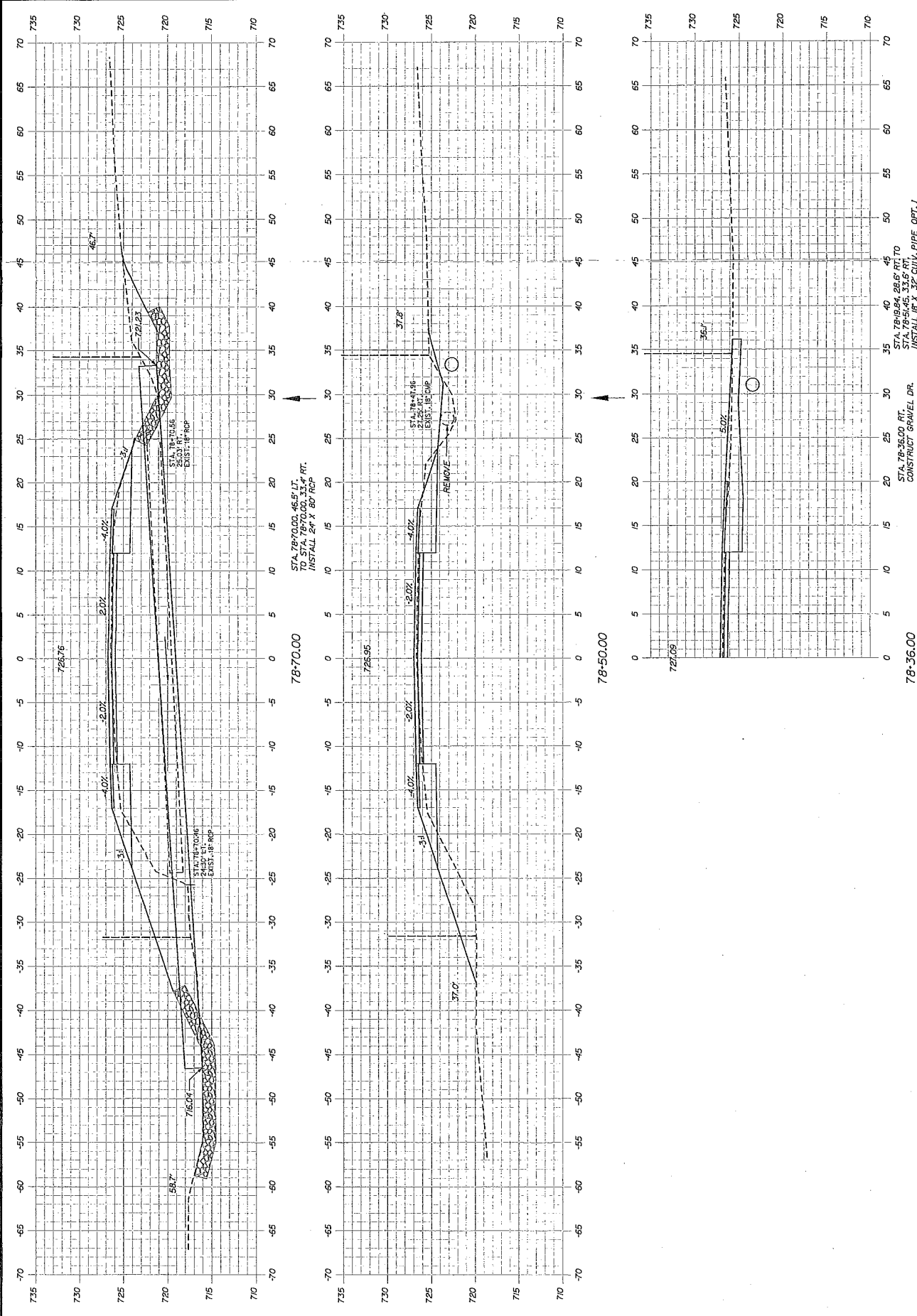
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51
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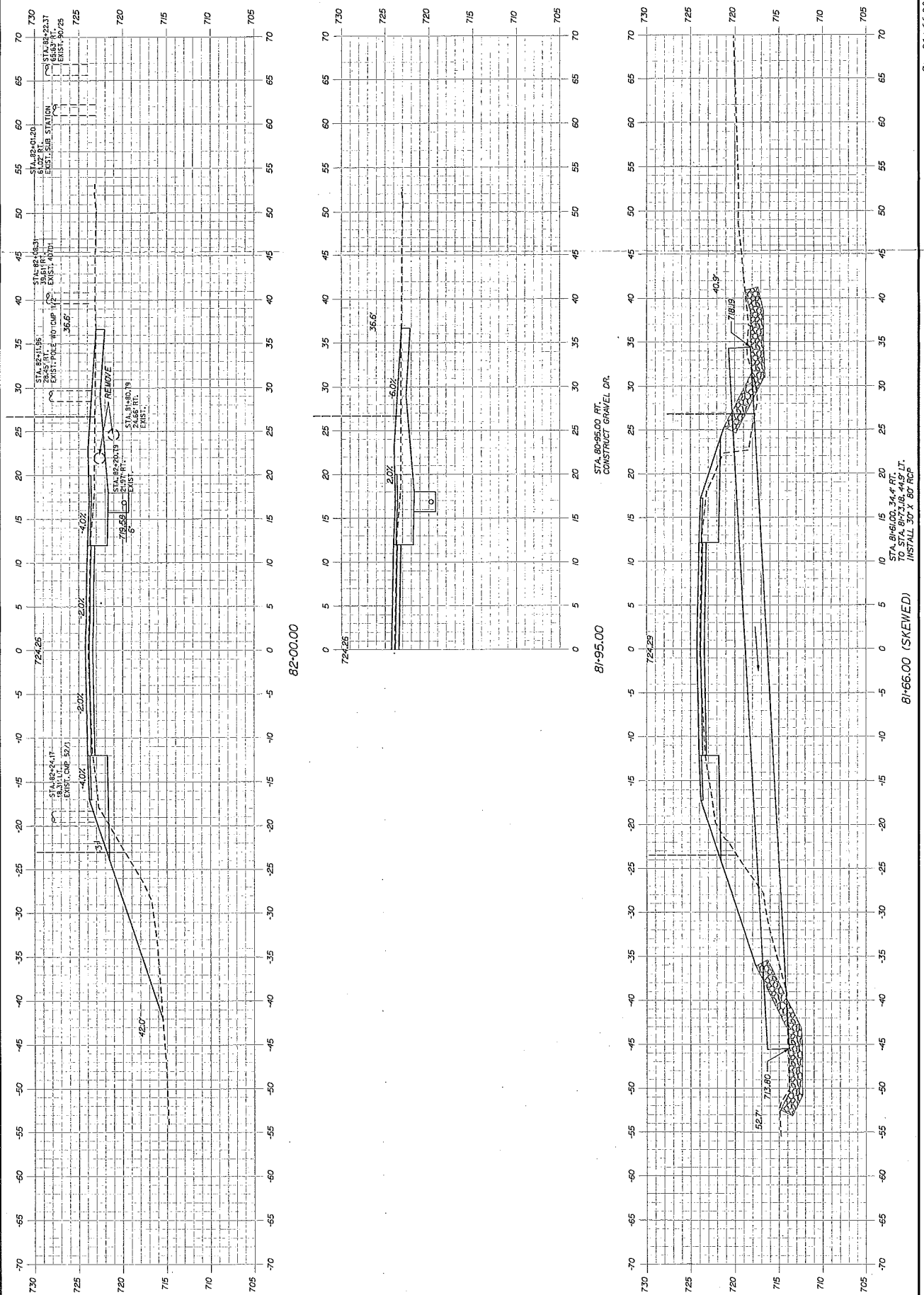
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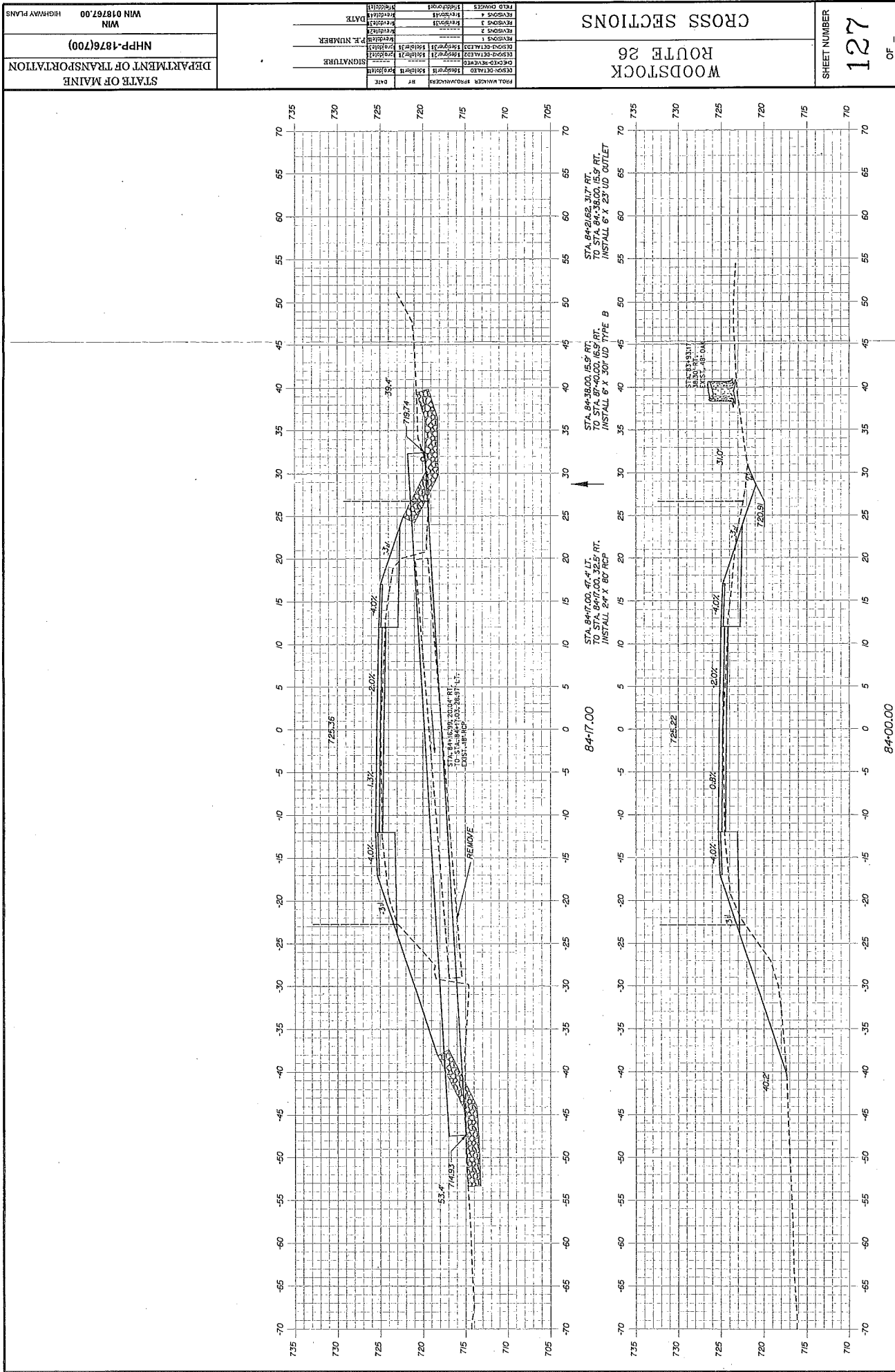


WOODSTOCK
ROUTE 26
CROSS SECTIONS

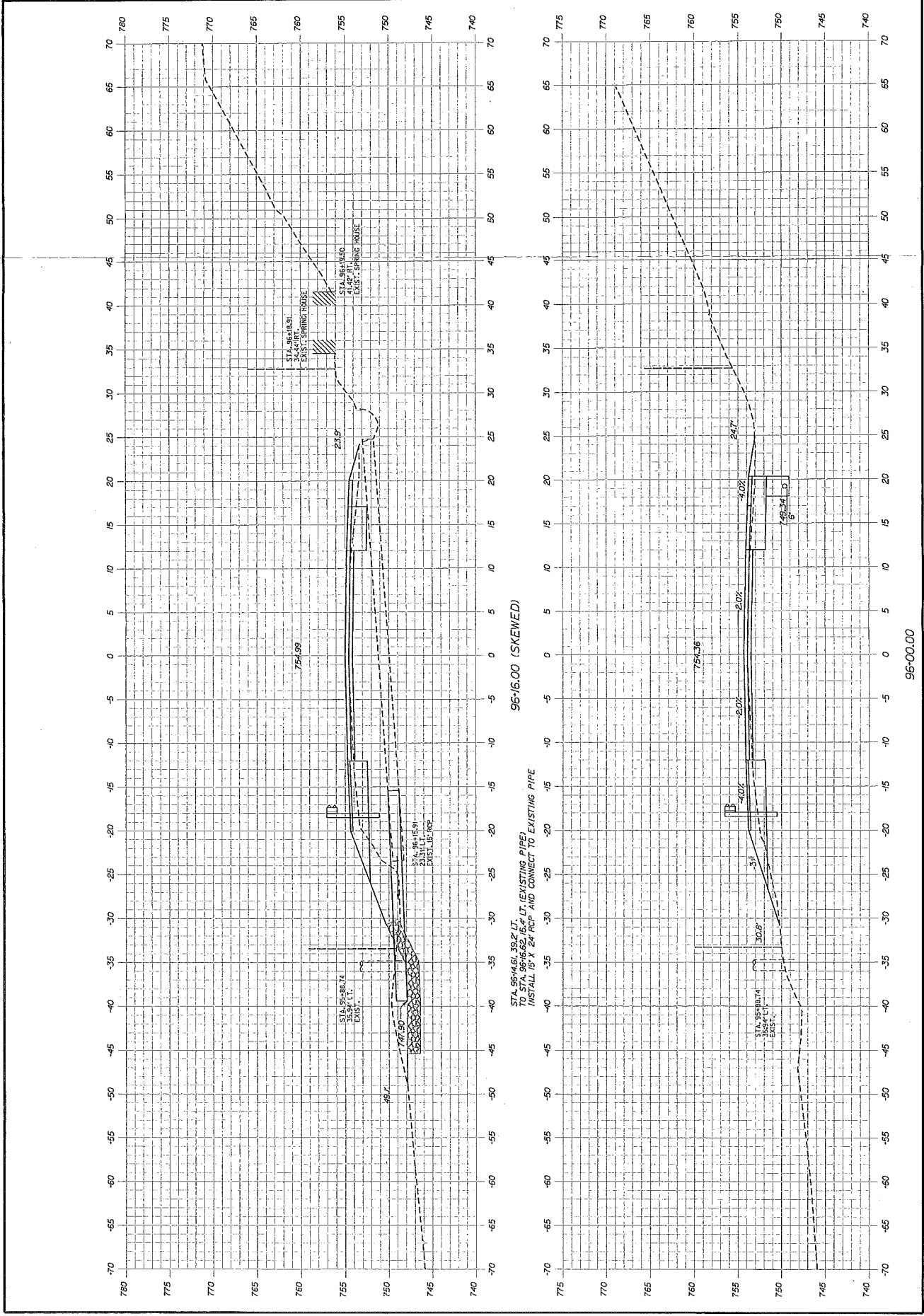
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STATE OF MAINE	WIN	HIGHWAY PLANS
DEPARTMENT OF TRANSPORTATION	NHPP-1876(700)	WIN 018767.00



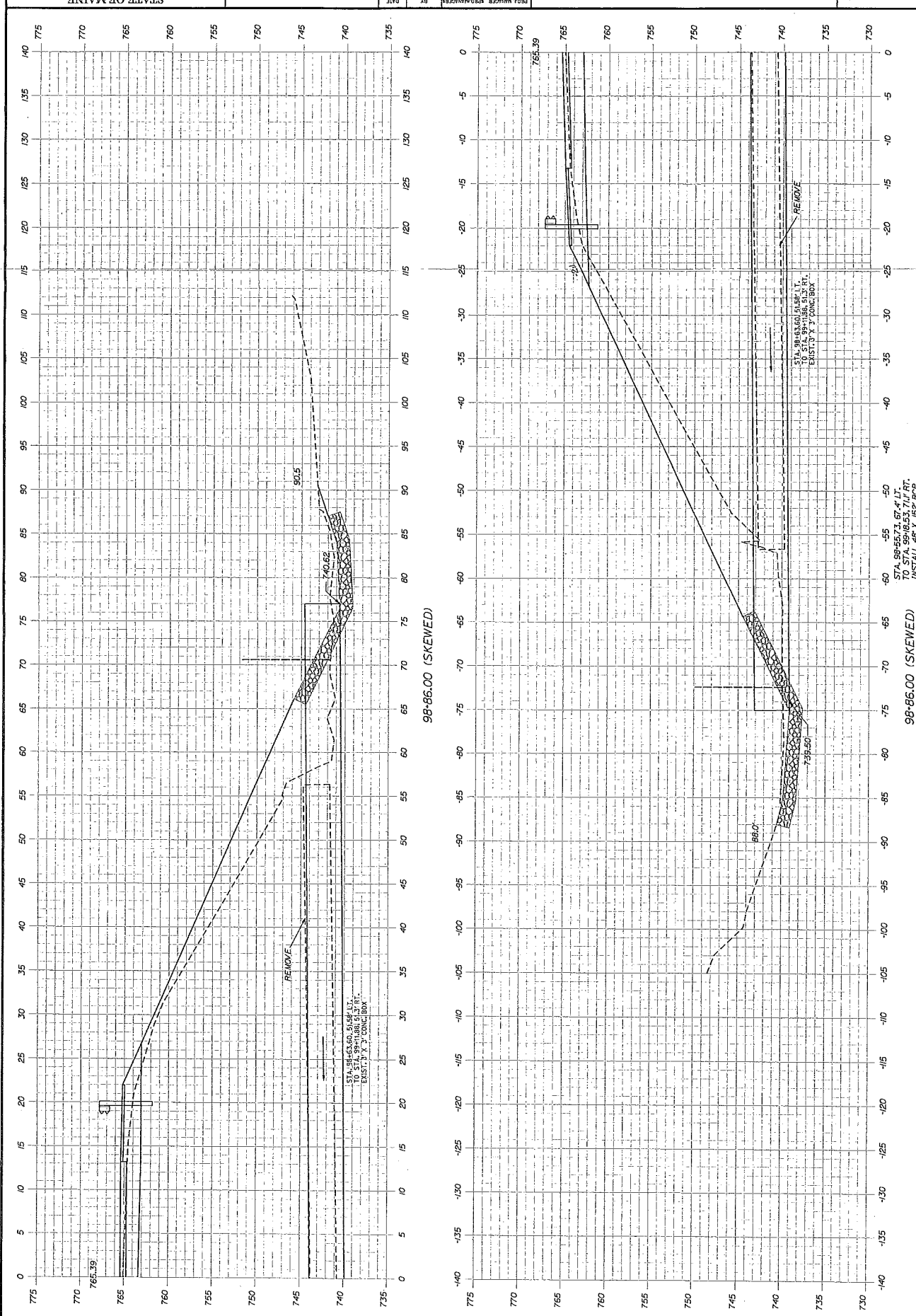


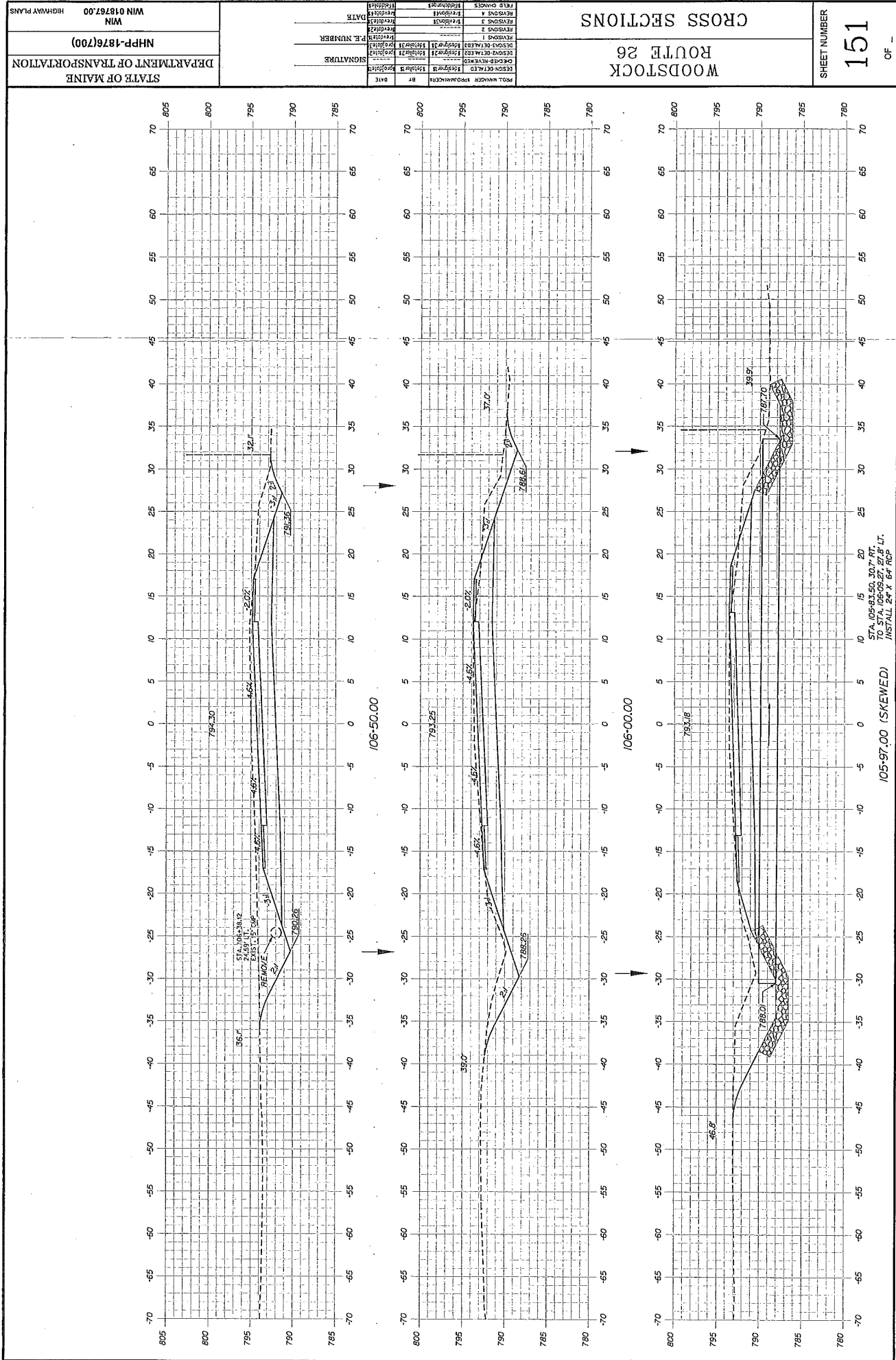
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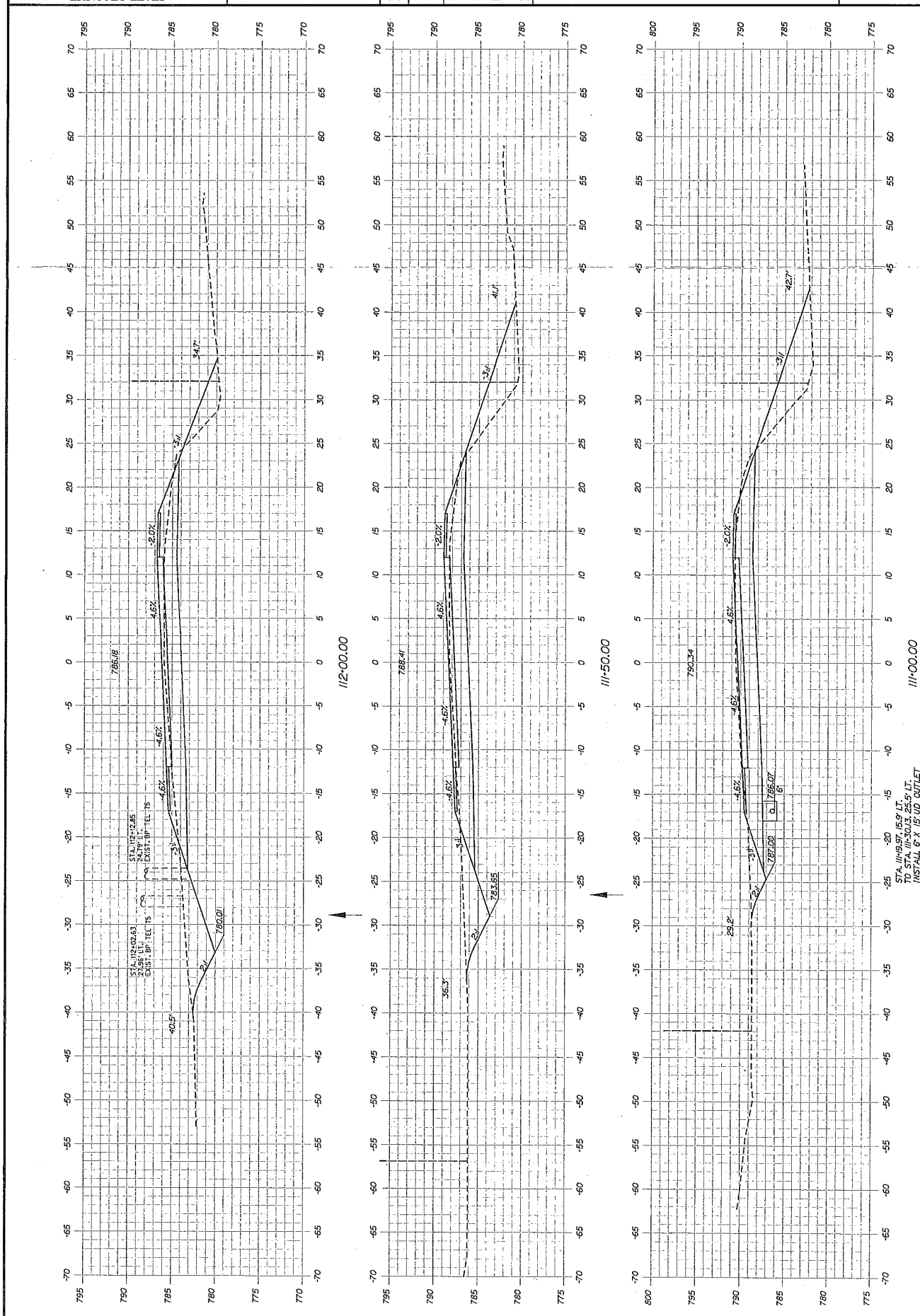


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STATE OF MAINE DEPARTMENT OF TRANSPORTATION NHP-1876(700) WIN WIN 018767.00 HIGHWAY PLANS	

WOODSTOCK
ROUTE 26
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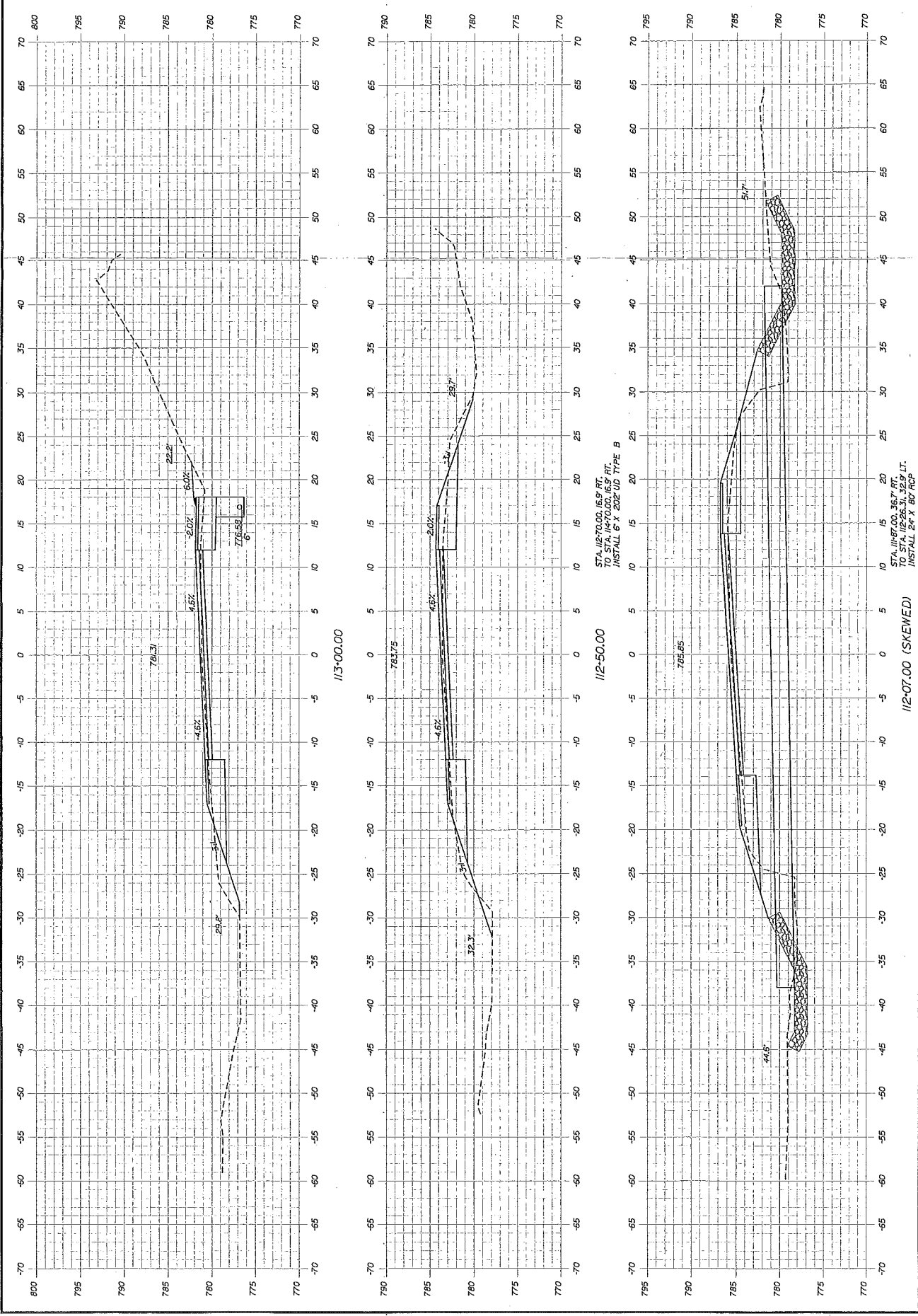
STATE OF MAINE DEPARTMENT OF TRANSPORTATION	NHPP-1876(700)	WIN WIN 018767.00 HIGHWAY PLANS



WOODSTOCK
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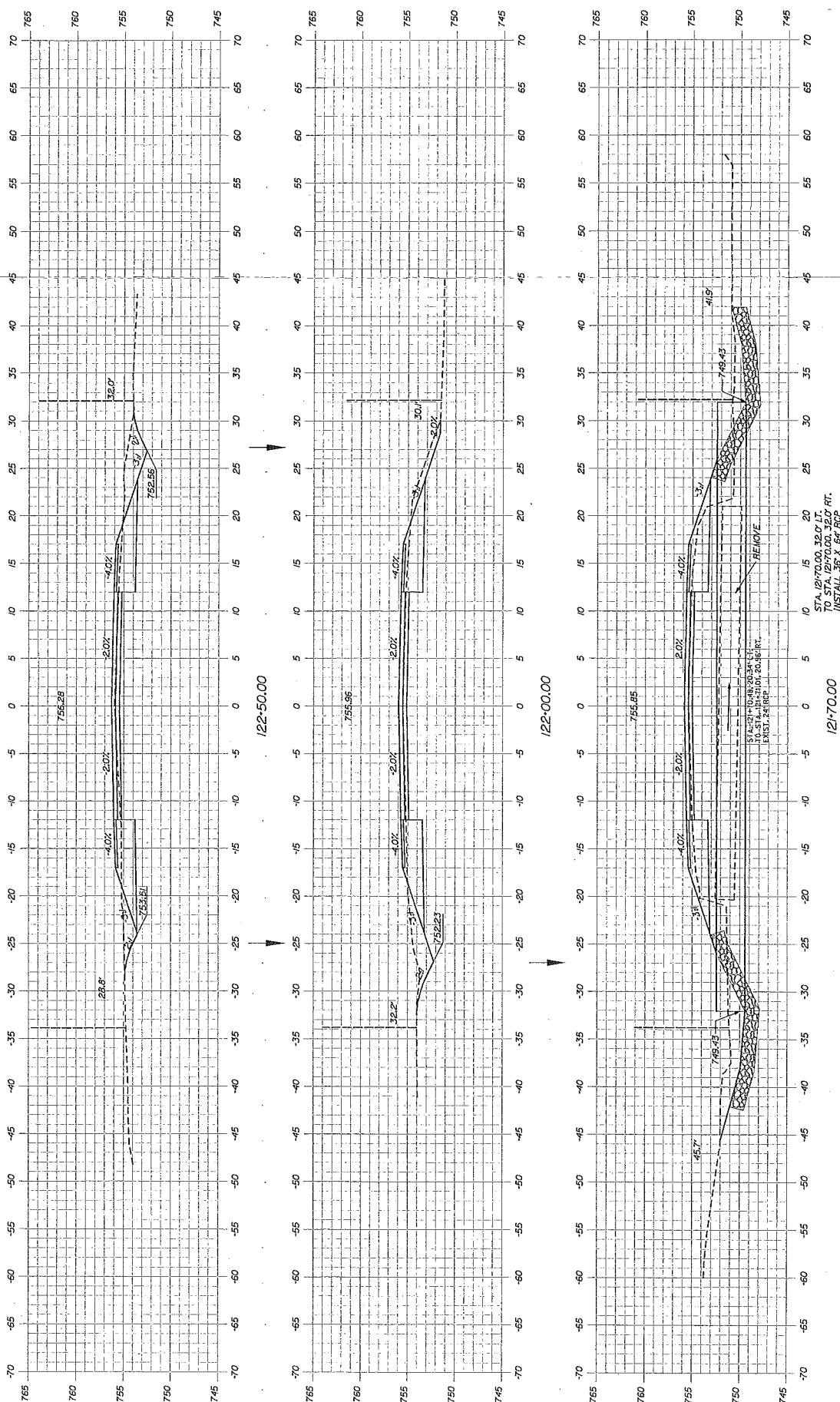
STATE OF MAINE
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HIGHWAY PLANS
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WOODSTOCK
ROUTE 26
CROSS SECTIONS

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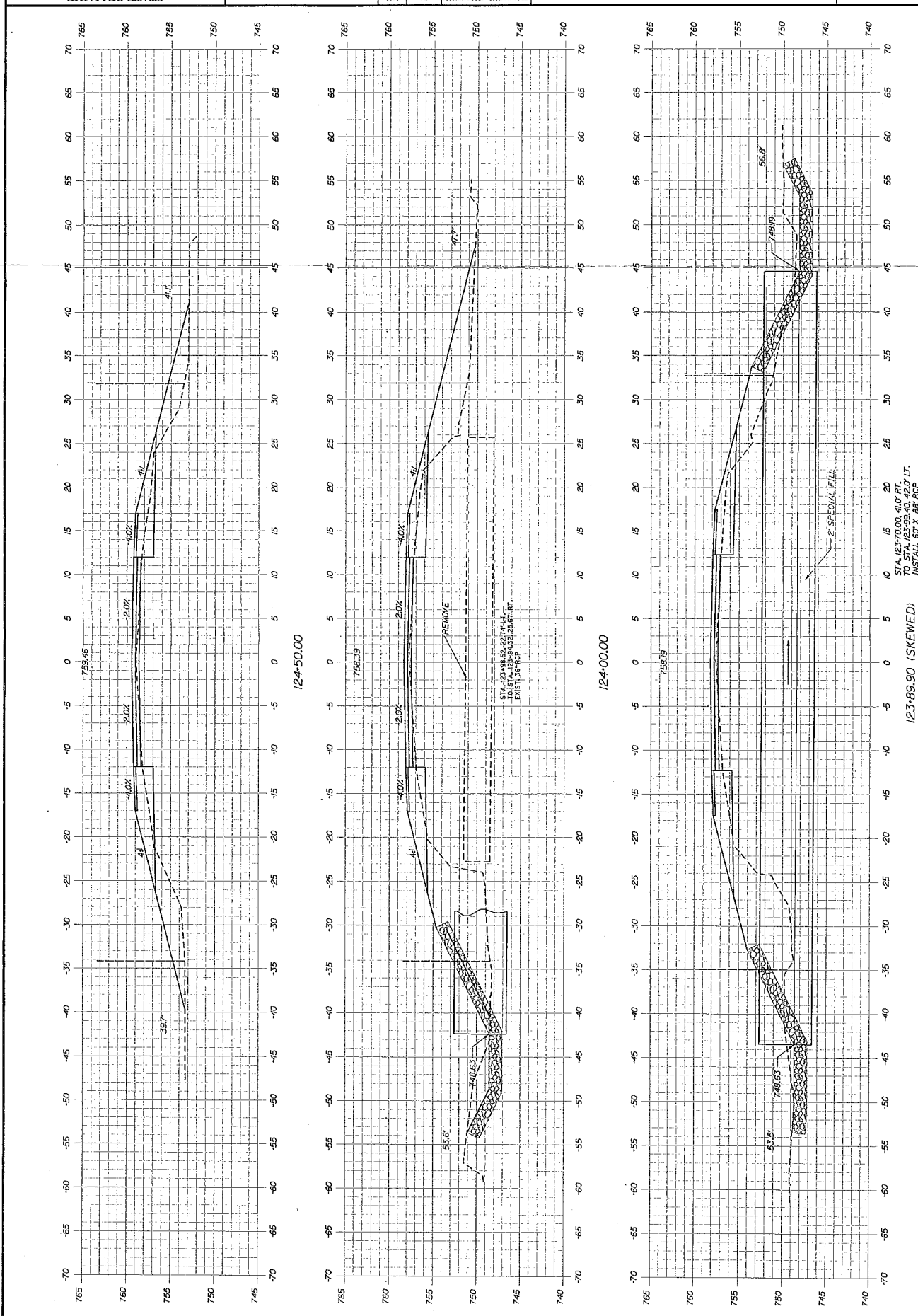
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WOODSTOCK
ROUTE 26
CROSS SECTIONS

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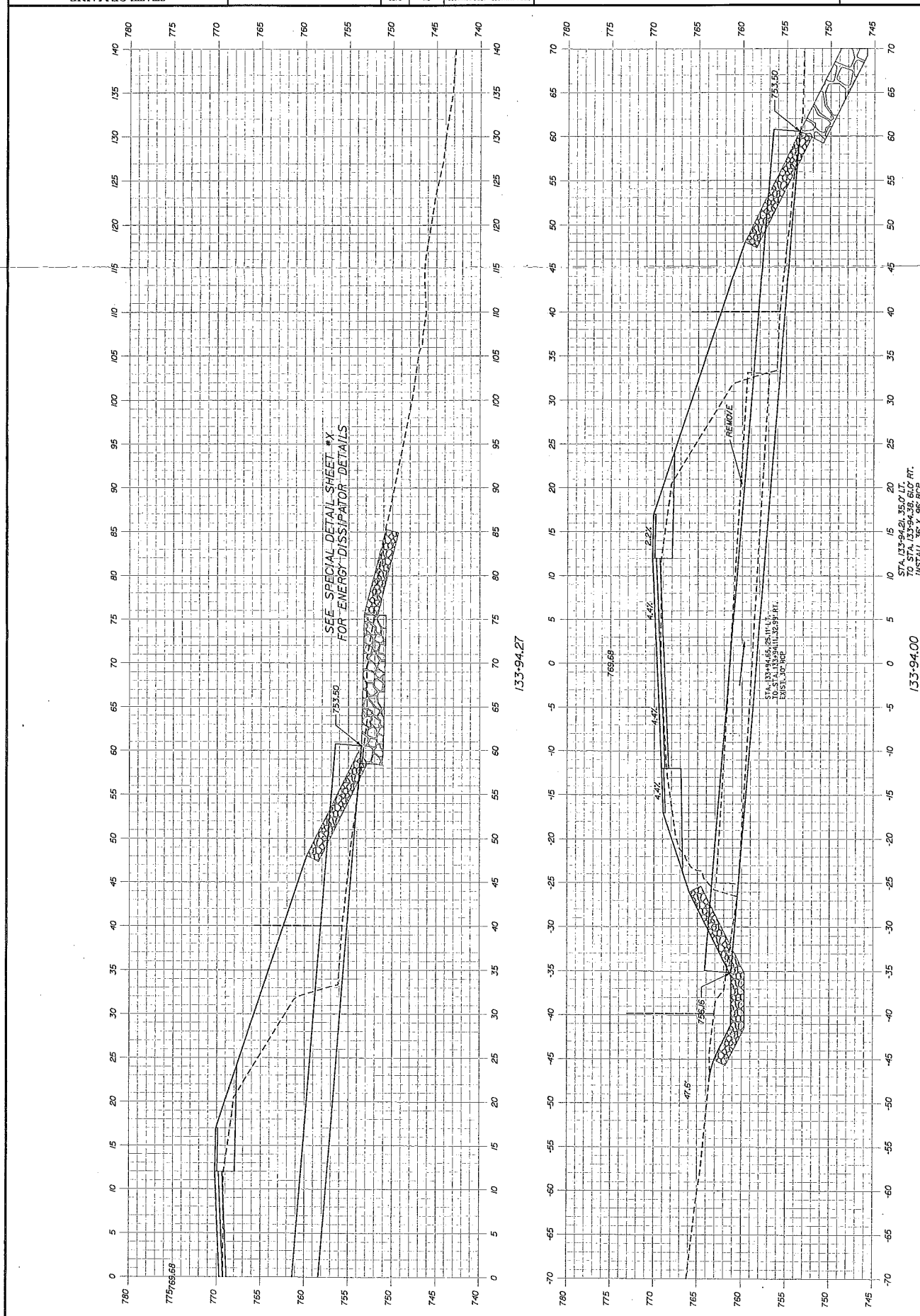
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WOODSTOCK
ROUTE 26
CROSS SECTIONS

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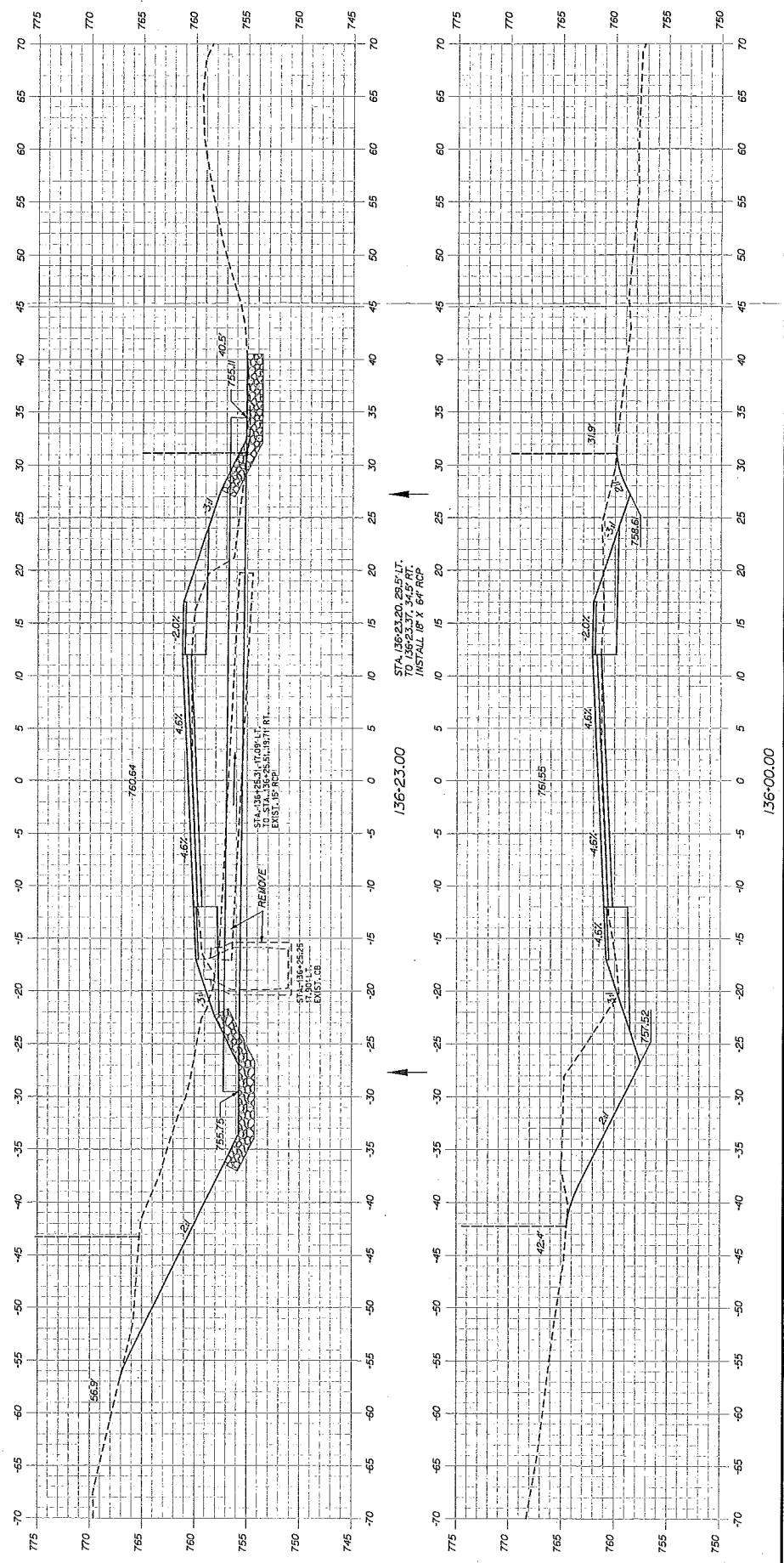
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ROUTE 26
CROSS SECTIONS

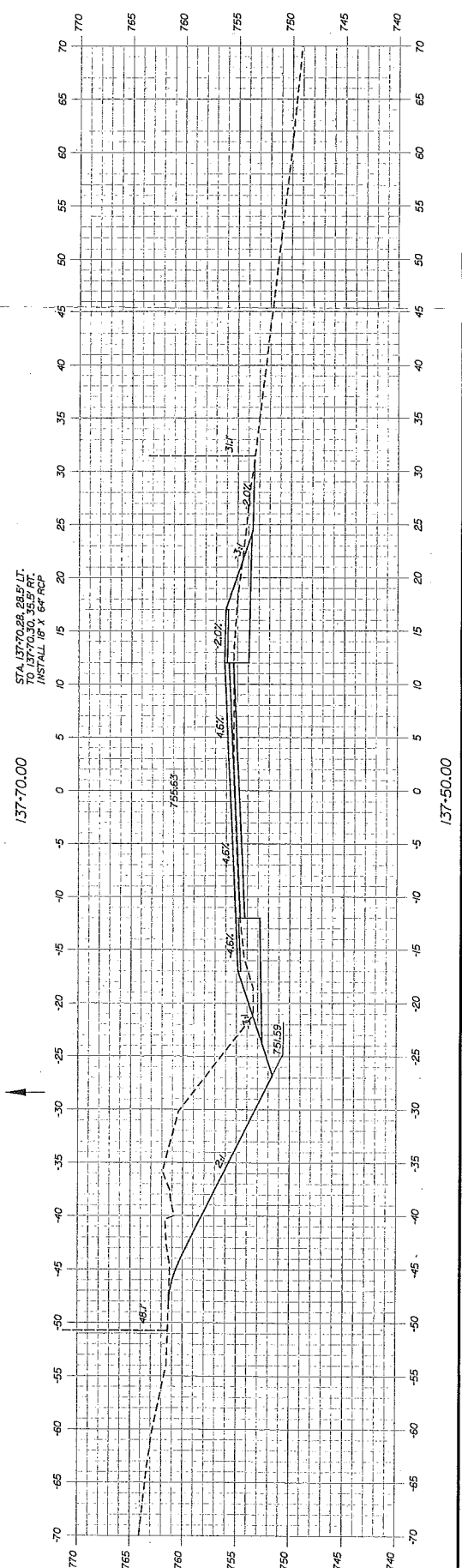
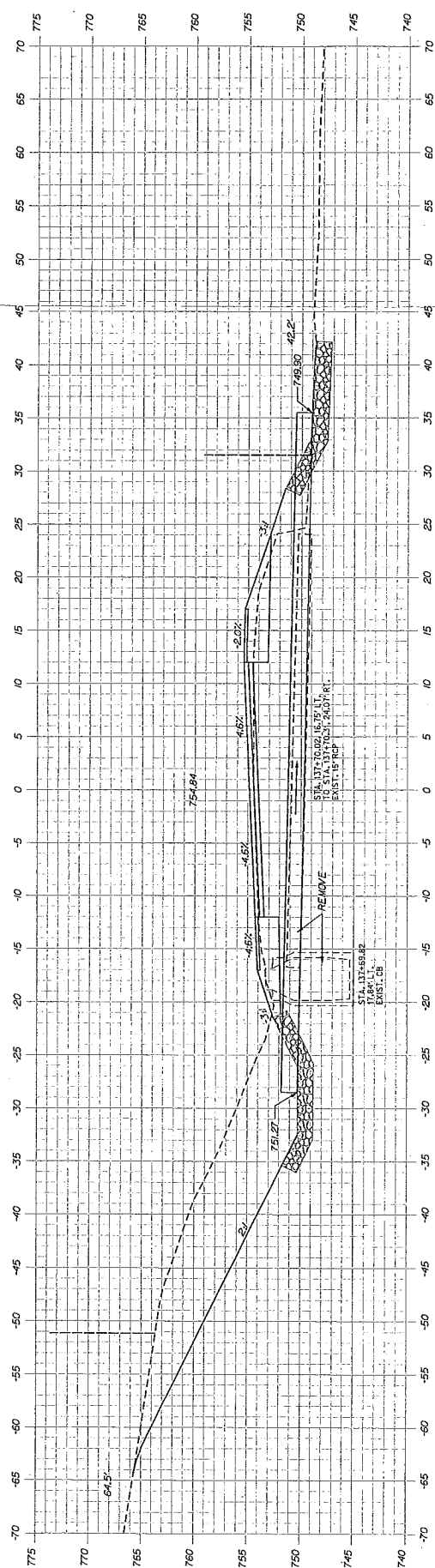
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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
NHP-1876(700)
WIN
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HIGHWAY PLANS



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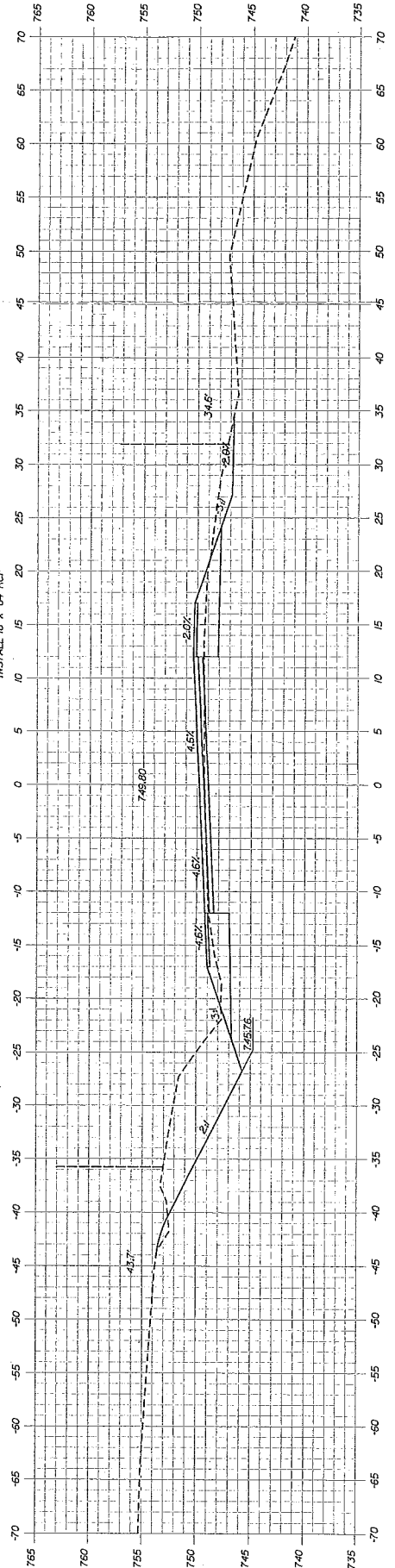
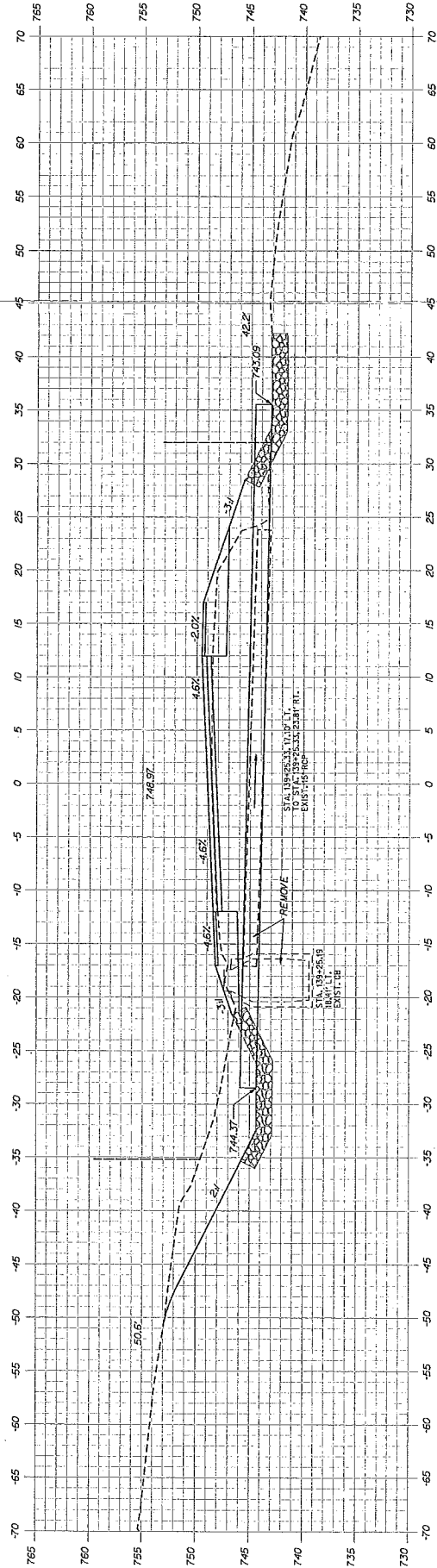
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DEPARTMENT OF TRANSPORTATION		WIN 018767.00	



WOODSTOCK
ROUTE 26
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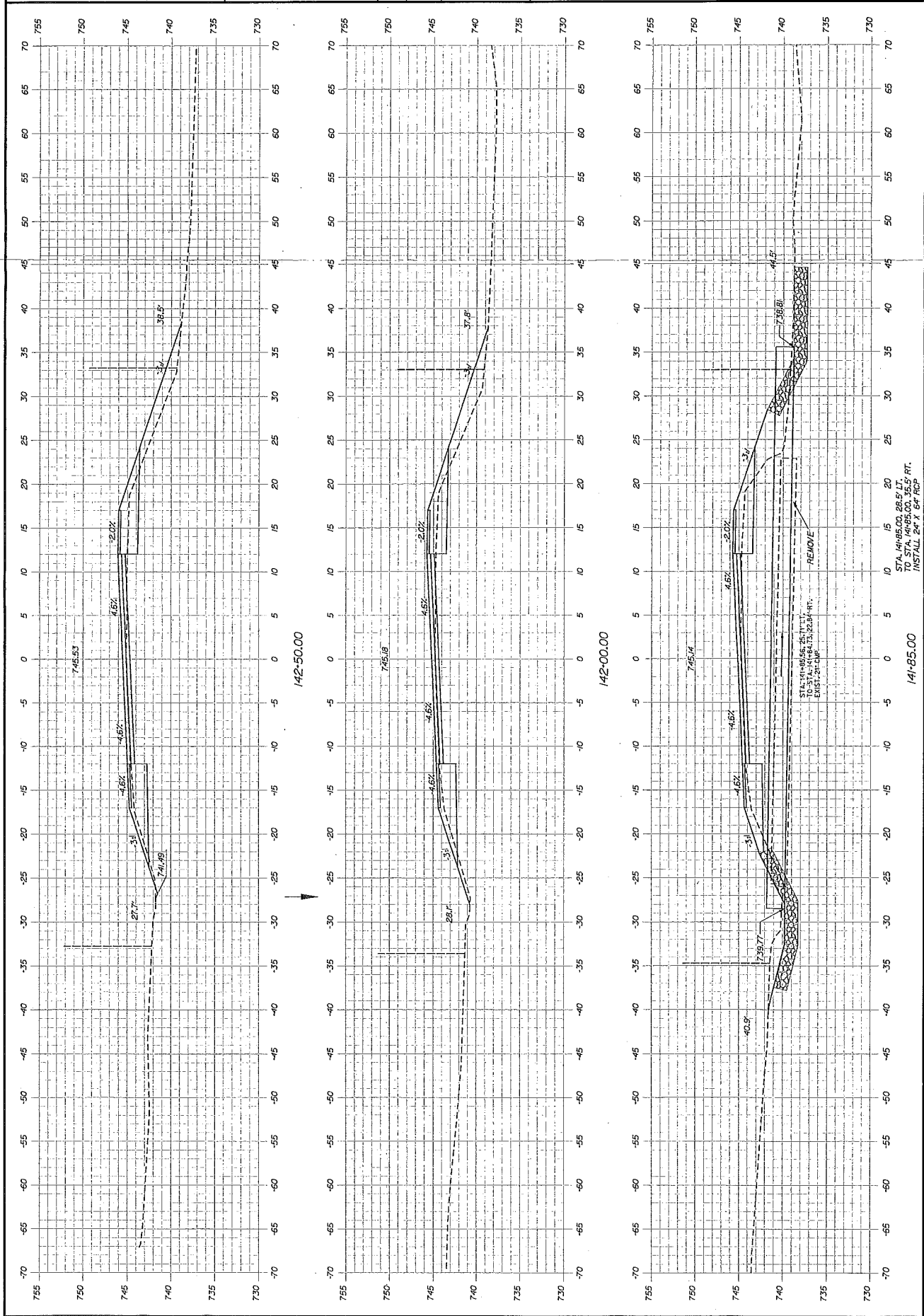
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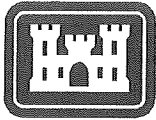


WOODSTOCK
ROUTE 26
CROSS SECTIONS

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STATE OF MAINE	NHPP-1876(700)	WIN	WIN 018767.00	HIGHWAY PLANS





**US Army Corps
of Engineers®**
New England District

WORK-START NOTIFICATION FORM
(Minimum Notice: Two weeks before work begins)

EMAIL TO: jay.l.clement@usace.army.mil

or

MAIL TO:

Jay Clement
US Army Corps of Engineers
Maine Project Office
442 Civic Center Drive
Augusta, Maine 04330

Corps of Engineers Permit No. NAE-2020-00314 was issued to the Maine Dept. of Transportation. This work is located in unnamed streams and adjacent wetlands at Woodstock, Maine and authorized the permittee to place temporary and permanent fill in order to reconstruct a 2.51 mile section of Route 26. This work will result in approximately 4,580 s.f. of permanent and 3,830 s.f. of temporary stream bed impact, and 16,050 s.f. of permanent and 24,230 s.f. of temporary wetland impact.

The people (e.g., contractor) listed below will do the work, and they understand the permit's conditions and limitations.

PLEASE PRINT OR TYPE

Name of Person/Firm: _____

Business Address: _____

Phone & email: () _____ () _____

Proposed Work Dates: Start: _____ Finish: _____

Permittee/Agent Signature: _____ Date: _____

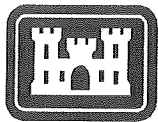
Printed Name: _____ Title: _____

Date Permit Issued: _____ Date Permit Expires: _____

FOR USE BY THE CORPS OF ENGINEERS

PM: Clement Submittals Required: No

Inspection Recommendation: Inspect as convenient



**US Army Corps
of Engineers®**
New England District

(Minimum Notice: Permittee must sign and return notification
within one month of the completion of work.)

COMPLIANCE CERTIFICATION FORM

Permit Number: NAE-2020-00314

Project Manager Clement

Name of Permittee: Maine Dept. of Transportation

Permit Issuance Date: _____

Please sign this certification and return it to the following address upon completion of the activity and any mitigation required by the permit. You must submit this after the mitigation is complete, but not the mitigation monitoring, which requires separate submittals.

* MAIL TO: U.S. Army Corps of Engineers, New England District *
* Permits and Enforcement Branch C *
* Regulatory Division *
* 696 Virginia Road *
* Concord, Massachusetts 01742-2751 *

Please note that your permitted activity is subject to a compliance inspection by an U.S. Army Corps of Engineers representative. If you fail to comply with this permit you are subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above referenced permit was completed in accordance with the terms and conditions of the above referenced permit, and any required mitigation was completed in accordance with the permit conditions.

Signature of Permittee

Date

Printed Name

Date of Work Completion

() _____
Telephone Number

() _____
Telephone Number

**DEPARTMENT OF THE ARMY
GENERAL PERMIT FOR
THE STATE OF MAINE**

The New England District of the U.S. Army Corps of Engineers (Corps) hereby issues a General Permit (GP) for activities subject to Corps jurisdiction in waters of the U.S. within the boundaries of the State of Maine. This GP is issued in accordance with Corps regulations at 33 CFR 320 - 332 [see 33 CFR 325.2(e)(2)]. This GP authorizes activity-specific categories of work that are similar in nature and cause no more than minimal individual and cumulative adverse environmental impacts. Refer to Page 2 for the list of activities and Appendix A for activity specific conditions of eligibility in inland and tidal waters.

I. GENERAL CRITERIA

1. In order for activities to qualify for this GP, they must meet the GP's terms and eligibility criteria (Pages 1–4), General Conditions (GC) (Pages 5 – 20), and Appendix A - Definition of Categories.
2. Under this GP, projects may qualify for the following:
 - Category 1: Category 1 Self -Verification Notification Form is required (SVNF – see Appendix B).
 - Category 2: Application to and written approval from the Corps is required (Pre-Construction Notification (PCN)). No work may proceed until written approval from the Corps is received.

If your project is ineligible for Category 1, it may qualify for Category 2 or an Individual Permit and you must submit an application (see Page 3). The thresholds for activities eligible for Categories 1 and 2 are defined in Appendix A. This GP does not affect the Corps Individual Permit review process or activities exempt from Corps regulation.

3. Prospective permittees need to read:
 - a. Section II to determine if the activity requires Corps authorization.
 - b. Sections III and IV to determine if the activity may be eligible for authorization under this GP, specifically whether it is eligible for Self-Verification (SV) or whether Pre-Construction Notification (PCN) is required.
4. Permittees must ensure compliance with all applicable General Conditions in Section IV. The Corps will consider unauthorized any activity requiring Corps authorization if that activity is under construction or completed and does not comply with all of the terms and conditions.
5. Project proponents are encouraged to contact the Corps with questions at any time. Pre-application meetings (see 33 CFR 325.1(b)), whether arranged by the Corps or requested by permit applicants, are encouraged to facilitate the review of projects. Pre-application meetings and/or site visits can help streamline the permit process by alerting the applicant to potentially time-consuming concerns that are likely to arise during the evaluation of their project (e.g., avoidance, minimization and compensatory mitigation requirements, historic properties, endangered species, essential fish habitat, and dredging contaminated sediments).

II. CORPS JURISDICTION/ACTIVITIES COVERED

1. Permits are required from the Corps of Engineers for the following work:

a. The construction of any structure in, over or under any navigable water of the United States (U.S.)¹, the excavating or dredging from or depositing of material in such waters, or the accomplishment of any other work affecting the course, location, condition, or capacity of such waters. The Corps regulates these activities under Section 10 of the Rivers and Harbors Act of 1899. See 33 CFR 322;

b. The discharge of dredged or fill material and certain discharges associated with excavation into waters of the U.S. (e.g. sidecasting). The Corps regulates these activities under Section 404 of the Clean Water Act (CWA). See 33 CFR 323; and

c. The transportation of dredged material for the purpose of disposal in the ocean. The Corps regulates these activities under Section 103 of the Marine Protection, Research and Sanctuaries Act. See 33 CFR 324.

2. Related laws:

33 CFR 320.3 includes a list of related laws, including: Section 401 of the CWA, Section 402 of the CWA, Section 307(c) of the Coastal Zone Management (CZM) Act of 1972, The National Historic Preservation Act of 1966, the Endangered Species Act, the Fish and Wildlife Act of 1956, the Marine Mammal Protection Act of 1972, Magnuson-Stevens Act, and Section 7(a) of the Wild and Scenic Rivers Act.

3. An activity listed below may be authorized by this GP only if that activity and the permittee satisfy all of the GP's terms and conditions. Any activity not specifically listed below may still be eligible for the GP; applicants are advised to contact the Corps for a specific eligibility determination. Category 1 and Category 2 eligibility criteria for each activity in both Inland and Tidal waters can be found in Appendix A.

1. Repair, Replacement, Expansion, and Maintenance of Authorized Structures and Fills
2. Moorings
3. Structures, Floats and Lifts
4. Aids to Navigation, and Temporary Recreational Structures
5. Dredging, Disposal of Dredged Material, Beach Nourishment, and Rock Removal and Relocation
6. Discharges of Dredged or Fill Material Incidental to the Construction of Bridges
7. Bank and Shoreline Stabilization
8. Residential, Commercial, Industrial, and Institutional Developments, and Recreational Facilities
9. Utility Line Activities
10. Linear Transportation Projects
11. Mining Activities
12. Boat Ramps and Marine Railways
13. Land and Water-Based Renewable Energy Generation Facilities and Hydropower Projects
14. Reshaping Existing Drainage Ditches and Mosquito Management
15. Oil Spill and Hazardous Material Cleanup
16. Cleanup of Hazardous and Toxic Waste
17. Scientific Measurement Devices
18. Survey Activities
19. Agricultural Activities
20. Fish and Wildlife Harvesting, Enhancement, and Attraction Devices
21. Habitat Restoration, Establishment and Enhancement Activities
22. Previously Authorized Activities
23. Stream & Wetland Crossings
24. Aquaculture

Note: Multiple activities may be authorized in the same GP, e.g. a recreational pier (#3) with an associated mooring (#2) or a windpower facility (#13) with an associated transmission line (#9).

¹ Defined in Appendix F, Definitions and at 33 CFR 328.
Section II

III. PROCEDURES

1. State Approvals. Applicants are responsible for applying for and obtaining any of the required state or local approvals. Federal and state jurisdictions may differ in some instances. State permits may be required for specific projects regardless of the general permit category.

In order for authorizations under this GP to be valid, when any of the following state approvals or statutorily-required reviews is also required, the approvals must be obtained prior to the commencement of work in Corps jurisdiction.

- Maine Department of Environmental Protection (DEP): Natural Resources Protection Act (NRPA) permit, including permit-by-rule (PBR) and general permit authorizations; Site Location of Development Act permit; Maine Waterway Development and Conservation Act permit; and Maine Hazardous Waste, Septage, and Solid Waste Management Act license.
- Maine Department of Conservation, Agriculture & Forestry: Land Use Planning Commission (LUPC) permit.
- Maine Department of Marine Resources: Aquaculture Leases.
- Maine Department of Conservation, Bureau of Parks and Lands, Submerged Lands: Submerged Lands Lease.

NOTE: This GP may also be used to authorize projects that are not regulated by the State of Maine (e.g., certain seasonal floats or moorings).

2. How to Obtain/Apply for Authorization.

a. Category 1 (Self-Verification): Self-Verification Notification Form (SVNF) required. The SVNF is required for all SV eligible work in Maine unless otherwise stated in Appendix A. Activities that are eligible for SV are authorized under this GP and may commence without written verification from the Corps provided the prospective permittee has:

i. Confirmed that the activity will meet the terms and conditions of Category 1. Consultation with the Corps and/or other relevant federal and state agencies may be necessary to ensure compliance with the applicable general conditions (GCs) and related federal laws such as the National Historic Preservation Act (see GC 6), the Endangered Species Act (GC 8) and the Wild and Scenic Rivers Act (GC 9). Prospective permittees are encouraged to contact the Corps with SV eligibility questions. Activities not meeting the SV criteria must submit a PCN to the Corps.

ii. Submitted the SVNF (see GC 27 and Appendix B) to the Corps. **NOTE: A copy of a state permit application form may be an acceptable surrogate for the SVNF. Whichever form chosen needs to include a location map, plans, and an Official Species List for federally listed threatened or endangered species (Reference Appendix D).**

b. Category 2 (Pre-Construction Notification (PCN)): Application to and written verification from the Corps is required before work can proceed. For activities that do not qualify for SV or where otherwise required by the terms of the GP, the permittee must submit a PCN and obtain a written permit before starting work in Corps jurisdiction.

i. The Corps will coordinate review of all activities requiring PCN with federal and state agencies and federally recognized tribes, as appropriate. To be eligible and subsequently authorized, an activity must result in no more than minimal individual and cumulative effects on the aquatic environment as determined by the Corps in accordance with the criteria listed within this GP. This may require project modifications involving avoidance, minimization, or compensatory mitigation for unavoidable impacts to ensure that the net adverse effects of a project are no more than minimal.

ii. The Corps will attempt to issue a written eligibility determination within the state's review period. Regardless, work eligible for Category 2 may not proceed before Corps written approval is received.

c. All applicants for Category 2 projects must:

- i. Apply directly to the Corps using the state application form or the Corps application form (ENG Form 4345²), and apply directly to the state (DEP, LUPC, BPL or DMR) as applicable using the appropriate state form, if the work is regulated by the Corps and the state; or
 - ii. Apply directly to the Corps using the Corps application form (ENG Form 4345²) if the work is regulated by the Corps but not the state (DEP, LUPC, BPL or DMR).
 - iii. Provide application information (see “Information Typically Required” in Appendix C) to help ensure the application is complete and to speed project review.
 - iv. Obtain an Official Species List of federally threatened or endangered species in the project area (GC 8).
 - v. Submit a copy of their application materials to the Maine Historic Preservation Commission (MHPC) and all five Indian tribes listed at Appendix E, at the same time, or before, they apply to the Corps, to be reviewed for the presence of historic, archaeological or tribal resources in the permit area that the proposed work may affect. Submittals to the Corps shall include information to indicate that this has been done (a copy of the applicant’s cover letter to MHPC and tribes or a copy of the MHPC and tribal response letters is acceptable).
- d. Work that is not regulated by the State of Maine, but is subject to Corps jurisdiction, may still be eligible for authorization under this GP.

e. Emergency Situations: 33 CFR 325.2(e)4 states that an “emergency” is a situation which would result in an unacceptable hazard to life, a significant loss of property, or an immediate, unforeseen, and significant economic hardship if corrective action requiring a permit is not undertaken within a time period less than the normal time needed to process the application under standard procedures.” Emergency work is subject to the same terms and conditions of this GP as non-emergency work, and similarly, must qualify for authorization under the GP; otherwise an IP is required. The Corps will work with all applicable agencies to expedite verification according to established procedures in emergency situations.

3. Individual Permits. Projects that are not authorized by this GP require an Individual Permit (IP) (33 CFR 325.5) and proponents must submit an application directly to the Corps. This GP does not affect the Corps IP review process or activities exempt from Corps regulation. For general information and application form, see the Corps website or contact the Corps (see Appendix E). The Corps encourages applicants to apply concurrently for a Corps IP and applicable state permits.

The Corps retains discretionary authority on a case-by-case basis to elevate a GP eligible project to an IP based on concerns for the aquatic environment or for any other factor of the public interest [33 CFR 320.4(a)]. Whenever the Corps notifies an applicant that an IP is required, no work in Corps jurisdiction may be conducted until the Corps issues the required authorization in writing indicating that work may proceed.

4. Enforcement/Non-Compliance. Work performed without the required Corps of Engineers permits is subject to administrative, civil, and criminal penalties. The Corps will evaluate unauthorized activities for enforcement action under 33 CFR 326.

The Corps will consider unauthorized any activity requiring Corps authorization if that activity is under construction or completed and does not comply with all of the terms and conditions of a GP or an IP. The Corps may elect to suspend enforcement proceedings if the permittee modifies his project to comply with a GP.

After considering whether a violation was knowing or intentional, and other indications of the need for a penalty, the Corps can elect to terminate an enforcement proceeding with an after-the- fact authorization under a GP, if all terms and conditions of the GP have been satisfied, either before or after the activity has been accomplished.

² Located at www.nae.usace.army.mil/missions/regulatory under “Forms & Publications.”
Section III

IV. GENERAL CONDITIONS

To qualify for GP authorization, the prospective permittee must comply with the following general conditions, as applicable.

1. Other Permits
2. Federal Jurisdictional Boundaries
3. Minimal Direct, Secondary, and Cumulative Impacts
4. Mitigation (Avoidance, Minimization, and Compensatory Mitigation)
5. Single and Complete Projects
6. Historic Properties
7. Corps Projects and Property
8. Federal Threatened and Endangered Species
9. Wild and Scenic Rivers
10. Navigation
11. Federal Liability
12. Utility Line Installation and Removal
13. Heavy Equipment in Wetlands or Mudflats
14. Temporary Fill
15. Restoration of Special Aquatic Sites (including wetland areas).
16. Soil Erosion, Sediment and Turbidity Controls
17. Time of Year Windows/Restrictions.
18. Aquatic Life Movements & Management of Water Flows
19. Water Quality and Coastal Zone Management
20. Floodplains and Floodways
21. Storage of Seasonal Structures
22. Spawning, Breeding, and Migratory Areas
23. Vernal Pools
24. Invasive and Other Unacceptable Species
25. Programmatic Agreements
26. Permit On-Site
27. Self-Verification Notification Form (SVNF)
28. Inspections
29. Maintenance
30. Property Rights
31. Transfer of GP Verifications
32. Modification, Suspension, and Revocation
33. Special Conditions
34. False or Incomplete Information
35. Abandonment
36. Enforcement Cases
37. Duration of Authorization
38. Previously Authorized Activities
39. Discretionary Authority
40. St. John/St. Croix Rivers.
41. National Lands
42. Essential Fish Habitat (EFH)
43. Work Site Restoration
44. Bank Stabilization
45. Stream Work & Crossings and Wetland Crossings

1. Other Permits. Permittees must obtain other federal, state, or local authorizations required by law. Applicants are responsible for applying for and obtaining all required state or local approvals. This includes, but is not limited to, the project proponent obtaining a Flood Hazard Development Permit issued by the town, if necessary. Inquiries may be directed to the municipality or to the Maine Floodplain Management Coordinator at (207) 287-8063. See <http://www.maine.gov/dacf/flood/>

2. Federal Jurisdictional Boundaries

a. Applicability of this GP shall be evaluated with reference to federal jurisdictional boundaries. Applicants are responsible for ensuring that the boundaries used satisfy the federal criteria defined at 33 CFR 328 “Waters of the U.S.” and 33 CFR 329 “Navigable Waters of the U.S.”

NOTE: Waters of the U.S. include the subcategories “navigable waters of the U.S.” and “wetlands.”

b. For Category 1 projects, proponents are not required to delineate the waters of the U.S. that they plan to impact, but must approximate the square footage of impacts in order to determine the review category (1 or 2 or Individual Permit). For projects filling <15,000 square feet (SF) of waters of the U.S. that do not qualify for Category 1 (e.g., vernal pool, secondary or endangered species impacts, etc.) and therefore require an application to the Corps (PCN), and for those filling ≥15,000 SF, applicants shall delineate all waters of the U.S. that will be filled (direct impacts) in accordance with the Corps of Engineers Wetlands Delineation Manual and the most recent regional supplement (see Appendix C). In addition, applicants shall approximately identify all waters of the U.S. on the property and *known* waters adjacent to the property in order for the Corps to evaluate secondary impacts. The waters of the U.S. shall be clearly shown on the project plans submitted with the application. This includes all waters of the U.S. in areas under DEP or LUPC jurisdiction regardless of whether they’re shown on LUPC zoning maps.

c. On a case-by-case basis, the Corps may modify/refine the above delineation and identification requirements for waters of the U.S. See www.nae.usace.army.mil/missions/regulatory >> Jurisdictional Limits and Wetlands for more information on delineating jurisdictional areas.

3. Minimal Direct, Secondary, and Cumulative Effects³

a. Projects authorized by this GP shall have no more than minimal direct, secondary and cumulative adverse environmental impacts. Category 2 applicants should provide information on secondary and cumulative impacts as stated in Appendix C. Compensatory mitigation may be required to offset unavoidable impacts (see GC 4) and to ensure that they are no more than minimal. Compensatory mitigation requirements will be determined on a case-by-case basis.

b. Secondary impacts to waterway and/or wetland areas, (e.g., areas drained, flooded, cleared, excavated or fragmented) shall be added to the total fill area when determining whether the project qualifies for Category 1 or 2. Direct, secondary and cumulative impacts are defined at Appendix A, Endnote 2 and Appendix F.

c. Site clearing, grading and construction activities in the upland habitat surrounding vernal pools (“Vernal Pool Management Areas”) are secondary impacts. See GC 23 for avoidance and minimization requirements and recommendations.

d. Bank stabilization activities in tidal waters are provided at Appendix A, Page 30. Direct impacts in tidal waters from contiguous bank stabilization projects in excess of 200 linear feet (Applicant or Applicant + Abutters combined) must undergo Category 2 review.

4. Mitigation (Avoidance, Minimization, and Compensatory Mitigation)

a. Discharges of dredged or fill material into waters of the U.S., including wetlands, shall be avoided and minimized to the maximum extent practicable through consideration of alternatives. The Corps may require compensatory mitigation of unavoidable direct and secondary impacts associated with Category 2 projects on a case-by-case basis.

b. Applicants proposing work in jurisdictional waters should consider riparian/forested buffers for stormwater management and low impact development (LID) best management practices (BMPs) to reduce

³ Direct, secondary and cumulative effects are defined at Appendix F, Definitions and Acronyms.

impervious cover and manage stormwater to minimize secondary impacts to aquatic resources to the maximum extent practicable.⁴

c. Compensatory mitigation⁵ for effects to waters of the U.S., including direct, secondary and temporal⁶, may be required for permanent impacts that exceed the SV area limits, and may be required for temporary impacts that exceed the SV area limits, to offset unavoidable impacts which remain after all appropriate and practicable avoidance and minimization has been achieved and to ensure that the adverse effects to the aquatic environment are no more than minimal. Proactive restoration projects or temporary impact work with no lasting secondary effects may generally be excluded from this requirement. Refer to Appendix G.

5. Single and Complete Projects⁷

a. This GP shall not be used to piecemeal work and shall be applied to single and complete projects. When determining the review category in Appendix A (Category 1 or 2) for a single and complete project, proponents must include any permanent historic fill placed since October 1995 that is associated with that project and all currently proposed temporary and permanent impact areas.

b. A single and complete project must have independent utility⁷.

c. Unless the Corps determines the activity has independent utility:

i. This GP shall not be used for any activity that is part of an overall project for which an Individual Permit is required.

ii. All components of a single project and/or all planned phases of a multi-phased project (e.g., subdivisions should include all work such as roads, utilities, and lot development) shall be treated together as constituting one single and complete project.

d. For linear projects, such as power lines or pipelines with multiple crossings, the single and complete project is all crossings of a single water of the U.S. (i.e., single waterbody) at a specific location. For linear projects crossing a single waterbody several times at separate and distant locations, each crossing is considered a single and complete project. However, individual channels in a braided stream or river, or individual arms of a large, irregularly-shaped wetland or lake, etc., are not separate waterbodies and crossings of such features cannot be considered separately. If any crossing requires a Category 2 activity, then the entire linear project shall be reviewed as one project under Category 2.

6. Historic Properties

a. No undertaking shall cause effects (defined at 33 CFR 325 Appendix C and 36 CFR 800) on properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places⁸, including previously unknown historic properties within the permit area, unless the Corps or another Federal action agency has satisfied the consultation requirements of Section 106 of the National Historic Preservation Act (NHPA). The State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (THPO) and the National Register of Historic Places can assist with locating information on: i) previously identified historic properties; and ii) areas with potential for the presence of historic resources, which may require identification and evaluation by qualified historic preservation and/or archaeological consultants in consultation with the Corps and the SHPO and/or THPO(s).

⁴ See: www.nae.usace.army.mil/missions/regulatory >> State General Permit >> Permit Resources >> Mitigation for this additional information: a) "Wetland BMP Manual - Techniques for Avoidance & Minimization," b) riparian/forested buffer BMPs, and c) LID BMPs. LID BMPs include, but are not limited to: replacing curbs and gutters with swales; using an open space design for subdivisions; using permeable, pervious or porous pavements; constructing bio-retention systems; and/or, adding a green roof or rain garden.

⁵ Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR 332. See also the New England District Compensatory Mitigation Guidance at www.nae.usace.army.mil/regulatory >> Mitigation.

⁶ Temporal loss: The time lag between the loss of aquatic resource functions caused by the permitted impacts and the replacement of aquatic resource functions at the compensatory mitigation site(s) (33 CFR 332.2).

⁷ Single and Complete Project and Independent Utility are defined in Appendix F - Definitions.

⁸ The majority of historic properties are not listed on the National Register of Historic Places and may require identification and evaluation by qualified historic preservation and/or archaeological consultants in consultation with the Corps and the SHPO and/or THPO(s).

b. For activities eligible for SV, proponents must ensure and document that the activity will not cause effects as stated in 6(a). Proponents must submit a PCN if the authorized activity may cause effects as stated in 6(a) as soon as possible to ensure that the Corps is aware of any potential effects of the permitted activity on any historic property to ensure all Section 106 requirements are met.

c. All PCNs shall: i) show notification to the SHPO and applicable THPO(s)⁹ for their identification of historic properties, ii) state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties, and iii) include any available documentation from the SHPO or THPO(s) indicating that there are or are not historic properties affected. Starting consultation early in project planning can save proponents time and money.

d. If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

7. Corps Projects and Property

a. In addition to any authorization under this GP, proponents must contact the Corps Real Estate Division at (978) 318-8585 for work occurring on or potentially affecting Corps properties and/or Corps-controlled easements to initiate reviews and determine what real estate instruments are necessary to perform work. Permittees may not commence work on Corps properties and/or Corps-controlled easements until they have received any required Corps real estate documents evidencing site-specific permission to work.

b. Any proposed temporary or permanent alteration, or modification or use, including occupation, of a federal project (including but not limited to a levee, dike, floodwall, channel, anchorage, breakwater, seawall, bulkhead, jetty, wharf, pier or other work built but not necessarily owned by the United States), which would obstruct or impair the usefulness of the federal project in any manner, and/or would involve changes to the authorized federal project's scope, purpose, and/or functioning that go beyond minor modifications required for normal operations and maintenance, is not eligible for SV and requires review and approval by the Corps pursuant to 33 USC 408. Where Section 408 is applicable, a decision on a Department of the Army general permit application will not be rendered prior to the decision on a Section 408 request.

c. Any structure or work within any Corps Federal Navigation Project (FNP) or its buffer zone¹⁰, shall be subject to removal at the owner's expense prior to any future Corps dredging or the performance of periodic hydrographic surveys. See GC 10 for more requirements related to FNPs.

8. Federal Threatened and Endangered Species

a. No activity is authorized which: i) is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species; ii) "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed; or iii) violates the ESA.

b. **All applicants must request an Official Species List from the US Fish & Wildlife Service and must include the list in the Corps permit application. To request an Official Species List, refer to the instructions in Appendix D.**

c. **For federally listed species in tidal waters, applicants should contact the National Marine Fisheries Service at: <http://www.greateratlantic.fisheries.noaa.gov/protected/section7/>**

⁹ Appendix E, 3(a)&(b). Historic Resources, provides contact information and each tribe's "area of concern."

¹⁰ See Appendix H for a list of FNPs. The buffer zone is equal to three times the authorized depth of the FNP.

d. A PCN is required if a threatened or endangered species, a species proposed for listing as threatened or endangered, or designated or proposed critical habitat (all hereinafter referred to as “listed species or habitat”), as identified under the ESA, is present in the action area¹¹.

e. Federal agencies should follow their own procedures for complying with the requirements of the ESA but should coordinate that consultation with the Corps as well.

9. Wild and Scenic Rivers.¹² Any activity that occurs in the designated main stem of, within 0.25 mile up or downstream of the designated main stem of, or in tributaries within .25 miles of the designated main stem of a National Wild and Scenic River, or in “bordering and contiguous wetlands” (see Appendix A, Endnote 1) that are adjacent to the designated main stem of a National Wild and Scenic River, or that has the potential to alter flows within a river within the National Wild and Scenic River System, is not eligible for Category 1 regardless of size of the impacts. This condition applies to both designated Wild and Scenic Rivers and rivers officially designated by Congress as study rivers for possible inclusion while such rivers are in an official study status. National Wild and Scenic Rivers System segments for Maine as of October 2015 include: Allagash River beginning at Telos Dam continuing to Allagash checkpoint at Eliza Hole Rapids, approximately 3 miles upstream of the confluence with the St. John River (length = 92 miles); and 11.25 miles of the York River, in the State of Maine, from its headwaters at York Pond to the mouth of the river at York Harbor, plus its tributaries (currently under study).

10. Navigation

a. Any structure or work that extends closer to the horizontal limits of any Corps Federal Navigation Project (see Appendix H) than a distance of three times the project’s authorized depth shall be subject to removal at the owner’s expense prior to any future Corps dredging or the performance of periodic hydrographic surveys. This is applicable to Category 1 and 2. Reference Appendix A, Page 28 (Mooring) and Page 29 (Structures, Floats & Lifts).

b. There shall be no unreasonable interference with navigation by the existence or use of the activity authorized herein, and no attempt shall be made by the permittee to prevent the full and free use by the public of all navigable waters at or adjacent to the activity authorized herein.

c. The permittee understands and agrees that if future U.S. operations require the removal, relocation, or other alteration of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the U.S. No claim shall be made against the U.S. on account of any such removal or alteration.

d. A PCN is required for all work in, over or under an FNP or its buffer zone unless otherwise indicated in Appendix A. (Reference Appendix A, Endnote 13, Page 36)

11. 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 U.S. 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.

12. Utility Line Installation and Removal

a. Subsurface utility lines shall remain subsurface. If it is necessary to discharge dredged or filled material not previously authorized in order to keep such utility lines buried or restore them to their original subsurface condition, a PCN and written verification from the Corps may be required (e.g., in the case of side

¹¹ The “Endangered Species Consultation Handbook – Procedures for Conducting Consultation and Conference Activities Under Section 7 of the ESA,” defines action area as “all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action. [50 CFR 402.02].”

¹² Additional information can be found at: <http://www.rivers.gov>.

casting into wetlands from utility trenches). Certain repair, replacement or maintenance activities may be eligible for Category 1 – refer to Appendix A.

b. Subsurface utility lines must be installed at a sufficient depth to avoid damage from anchors, dredging, etc., and to prevent exposure from erosion and stream adjustment. In accordance with Corps New England District Regulation NEDER 1110-1-9 (www.nae.usace.army.mil/missions/regulatory >> [Useful Links and Documents](#)), as an absolute minimum, the bottom cover associated with the initial installation of utility lines under navigable waters and navigation channels shall be 48 inches in soil or 24 inches in rock excavation in competent rock unless specified in a written determination. These minimum bottom cover requirements for pipelines and cables shall be measured from the maximum depth of dredging to the top of the utility. The maximum depth of dredging, in waterways having existing FNPs, is generally considered to be the authorized project depth plus any allowance for advanced maintenance and the allowable overdepth for dredging tolerances. In waterways that do not have existing FNPs, this depth should be taken as two feet below the existing bottom or maximum depth of proposed dredging, as applicable.

c. Aerial utility lines that cross navigable waters must meet minimum clearances. See 33CFR322.5(i).

d. For horizontal directional drilling work, returns of drilling fluids to the surface (i.e., frac-outs) are not authorized and require restoration to the maximum extent practicable in accordance with the terms and conditions of this GP. The permittee and its contractor shall have onsite and shall implement the procedures detailed in a frac-out contingency plan for monitoring drilling operations and for the immediate containment, control and recovery/removal of drilling fluids released into the environment should a discharge of material occur during drilling operations.

e. Within the context of any new installations, any abandoned or inactive utility lines should be removed and faulty lines (e.g., leaking hazardous substances, petroleum products, etc.) should be removed or repaired to the extent practicable. A PCN and written verification from the Corps is required if they are to remain in place, e.g., to protect sensitive areas or ensure safety.

f. No work shall drain a water of the U.S. by providing a conduit for water on or below the surface. Trench plugs installed along pipelines may be effective.

13. Heavy Equipment in Wetlands or Mudflats. Operating heavy equipment other than fixed equipment (drill rigs, fixed cranes, etc.) within wetlands shall be minimized, and such equipment shall not be stored, maintained or repaired in wetlands, to the maximum extent practicable. Where construction requires heavy equipment operation in wetlands, the equipment shall either have low ground pressure (typically <3 psi), or it shall be placed on swamp/construction/timber mats (herein referred to as “construction mats” and defined at Appendix A, Endnote 4) that are adequate to support the equipment in such a way as to minimize disturbance of wetland soil and vegetation. Construction mats are to be placed in the wetland from the upland or from equipment positioned on swamp mats if working within a wetland. Dragging construction mats into position is prohibited. Other support structures that are capable of safely supporting equipment may be used with written Corps authorization (Category 2 authorization or Individual Permit). Similarly, the permittee may request written authorization from the Corps to waive use of mats during frozen, dry or other conditions. An adequate supply of spill containment equipment shall be maintained on site. Construction mats should be managed in accordance with the Construction Mat BMPs at www.nae.usace.army.mil/missions/regulatory >> State General Permits >> Permit Resources.

14. Temporary Fill. Temporary fill that qualifies for Category 1 (e.g., <15,000 SF of combined temporary and permanent fill associated with the single and complete project) or is authorized in writing under Category 2, shall adhere to the following:

a. All temporary fill and disturbed soils shall be stabilized to prevent its eroding into waters of the U.S. where it is not authorized. Work shall include phased or staged development to ensure only areas under active development are exposed and to allow for stabilization practices as soon as practicable, typically within three calendar days after disturbance. Accelerated stabilization (the providing of temporary or permanent cover by the end of the work day to prevent erosion) shall be employed as necessary. Temporary fill must be placed in a manner that will prevent it from being eroded by expected high flows.

b. Unconfined temporary fill authorized for discharge into waters of the U.S. (e.g., temporary stream crossings) shall consist of material that minimizes impacts to water quality (e.g. washed stone, stone, etc.).

c. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable when temporary structures, work, and discharges of dredged or fill material, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Place materials in a location and manner that does not adversely impact surface or subsurface water flow into or out of the wetland. Temporary fill authorized for discharge into wetlands shall be placed on geotextile fabric or other appropriate material laid on the pre-construction wetland grade where practicable to minimize impacts and to facilitate restoration to the original grade. Construction mats are excluded from this requirement.

d. Temporary fill, construction mats and corduroy roads shall be entirely removed as soon as they are no longer needed to construct the authorized work. Temporary fill shall be placed in its original location or disposed of at an upland site and suitably contained to prevent its subsequent erosion into waters of the U.S. To qualify for Category 1, temporary fill placed during the: i.) growing season must be removed before the beginning of the next growing season; and ii.) non-growing season may remain throughout the following growing season, but must be removed before the beginning of the next growing season.

e. Temporary fill, construction mats and corduroy roads are considered temporary only if they are removed as soon as they are no longer needed to construct the authorized work.

f. Construction debris and/or deteriorated materials shall not be located in waters of the U.S.

15. Restoration of Special Aquatic Sites (Including Wetland Areas)

a. Temporary fills must be removed in their entirety and the affected areas restored to their pre-construction condition, function and elevation. Restoration shall typically commence no later than the completion of construction.

b. For excavated areas, “restored to pre-construction condition, function and elevation” means careful removal of existing soil and vegetation, separate topsoil and subsoil stockpiling, soil protection, and replacement back to the original location such that the original soil layering and vegetation schemes are approximately the same, unless otherwise authorized. Plan for natural settling that will occur (the initial post-restoration elevation of the backfilled areas should be above the desired final grade as topsoil may settle by 33% to 50%), minimize compaction, and ensure that topsoil is void of gravel and subsoil. A minimum of 4 inches of topsoil should be at the surface after the soil has settled. Wetland areas temporarily disturbed shall be stabilized (e.g., seeded or planted). Seed mixes and vegetation shall include only plant species native to New England and shall not include any species listed as “Invasive and Other Unacceptable Plant Species” in the “New England District Compensatory Mitigation Guidance” (see GC 24 and refer to Appendix G). This list may be updated periodically.

c. Limit compaction to the minimum needed to promote a successful seedbed; avoid a ‘fluffy’ seedbed, which is susceptible to erosion until the plants get established, and a compacted topsoil layer, which is counter-productive and will lead to greater erosion susceptibility down the road. Test soils for compaction. A soil probe, auger, or shovel should be able to retrieve samples of post-restoration profile. Equipment refusal shall be considered a failure of restoration, in which case the soil should be restored through deep-ripping and/or de-compaction, or other appropriate methods, and wetland hydrology must be maintained. See the BMPs at [>> State General Permits >> Permit Resources >> Restoration](http://www.nae.usace.army.mil/missions/regulatory).

d. In areas of authorized temporary disturbance, cut woody vegetation (trees, shrubs, etc.) shall be cut at or above ground level and not uprooted in order to prevent disruption to the wetland soil structure and to allow stump sprouts to revegetate the work area, unless otherwise authorized.

e. Trenches shall be constructed or backfilled so that the trench does not drain waters of the U.S. (e.g., materials or methods that create a French drain effect).

16. Soil Erosion, Sediment and Turbidity Controls

a. Adequate sedimentation and erosion control management measures, practices and devices, such as phased construction, installation of sediment control barriers (i.e. silt fence, vegetated filter strips, geotextile silt fences, erosion control mixes, hay bales or other devices) downhill of all exposed areas, retention of existing vegetated buffers, application of temporary mulching during construction, and permanent seeding and stabilization shall be installed and properly maintained to reduce erosion and retain sediment on-site during and after construction. They shall be capable of preventing erosion; of collecting sediment, suspended and floating materials; and of filtering fine sediment.

- b. Temporary sediment control barriers shall be removed upon completion of work, but not until all disturbed areas are permanently stabilized. The sediment collected by these sediment barriers shall be removed and placed at an upland location and stabilized to prevent its later erosion into a waterway or wetland.
- c. All exposed soil and other fills shall be permanently stabilized at the earliest practicable date .

17. Time of Year Work Windows/Restrictions. For activities where work is authorized in streams and tidal waters that causes turbidity or sediment re-suspension or other construction related disturbances, work must be conducted during the following TOY work windows (not during the TOY restrictions) unless otherwise authorized by the Corps under Category 2 review:

	<u>TOY Restriction</u> (no work)	<u>TOY Work Window</u> (work allowed)
Non-tidal waters	Oct. 01 through Jul. 14	Jul. 15 through Sep. 30
Tidal waters	Apr. 10 through Nov. 07	Nov. 08 through Apr. 09

Alternate windows authorized under Category 2 may include species specific windows recommended by the Maine Dept. of Marine Resources and/or Maine Dept. of Inland Fisheries & Wildlife.

18. Aquatic Life Movements & Management of Water Flows

- a. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. Unless otherwise stated, activities impounding water in a stream require a PCN to ensure impacts to aquatic life species are avoided and minimized. All permanent and temporary crossings of waterbodies (e.g., streams, wetlands) shall be:
 - i. Suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species; and
 - ii. Properly aligned and constructed to prevent bank erosion or streambed scour both adjacent to and inside the culvert. Permanent and temporary crossings of wetlands shall be suitably culverted, spanned or bridged in such a manner as to preserve hydraulic and ecological connectivity between the wetlands on either side of the road.
- b. To avoid adverse impacts on aquatic organisms, the low flow channel/thalweg shall remain unobstructed during periods of low flow, except when it is necessary to perform the authorized work.
- c. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the preconstruction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

19. Water Quality and Coastal Zone Management

- a. Applicants must satisfy any conditions imposed by the state and EPA, where applicable, in their CWA § 401 Water Quality Certifications (WQC) for this GP, or in any Individual § 401 WQC. See Appendix E for state-specific contact information and to determine if any action is required to obtain a 401 WQC. The Corps may require additional water quality management measures to ensure that the authorized activity does not cause or contribute to a violation of water quality standards. All projects authorized by this GP shall be designed, constructed and operated to minimize or eliminate the discharge of pollutants.
- b. Applicants must satisfy any additional conditions imposed by the state in their Coastal Zone Management (CZM) Act consistency concurrences for this GP, or in any Individual CZM consistency concurrences. The Corps may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

20. Floodplains and Floodways

- a. Appropriate measures must be taken to minimize flooding to the maximum extent practicable.
- b. Activities within 100-Year Floodplains must comply with applicable Federal Emergency Management Agency (FEMA)-approved state and/or local floodplain management permitting requirements. Proponents may need to coordinate with FEMA and apply for a formal change to the flood insurance study products or forward a set of project plans and relevant technical documentation in a digital format to the Risk

Analysis Branch Chief, Mitigation Division, FEMA, Region 1, 99 High Street, Boston, Massachusetts 02110. Applicants should provide a copy of any documentation to the Corps along with the PCN.

c. Proponents may have to obtain a Flood Hazard Development Permit issued by the town. Inquiries may be directed to the municipality or to the Maine Floodplain Management Coordinator at (207) 287-8063. See <http://www.maine.gov/dacf/flood/>

21. Storage of Seasonal Structures. Seasonal or recreational structures such as pier sections, floats, aquaculture structures, etc. that are removed from the waterway for a portion of the year (often referred to as seasonal structures) shall be stored in an upland location landward of mean high water (MHW) or ordinary high water (OHW) and not in wetlands, tidal wetlands, their substrate or on mudflats. These seasonal structures may be stored on the fixed, pile-supported portion of the structure that is waterward of MHW or OHW. Seasonal storage of structures in navigable waters, e.g., in a protected cove on a mooring, requires Corps approval and local harbormaster approval.

22. Spawning, Breeding, and Migratory Areas

a. Jurisdictional activities and impacts such as excavations, discharges of dredged or fill material, and/or suspended sediment producing activities in jurisdictional waters that provide value as fish migratory areas, fish and shellfish spawning or nursery areas, or amphibian and migratory bird breeding areas, during spawning or breeding seasons shall be avoided and minimized to the maximum extent practicable.

b. Jurisdictional activities in waters of the United States that provide value as breeding areas for migratory birds must be avoided to the maximum extent practicable. The permittee is responsible for obtaining any “take” permits required under the USFWS’s regulations governing compliance with the Migratory Bird Treaty Act or the Bald and Golden Eagle Protection Act. The permittee should contact the appropriate local office of the USFWS to determine if such “take” permits are required for a particular activity (See Appendix E).

23. Vernal Pools

a. Only vernal pools that meet the current definition of waters of the U.S. are regulated by the Corps.

b. Direct and indirect adverse effects to all vernal pools (VPs), including their envelopes and critical terrestrial habitats (VP Management Areas¹³), shall be avoided and minimized to the maximum extent practicable. Site clearing, grading, and construction activities associated with a regulated activity in the VP Management Area may cause these adverse effects to the VP.

c. The State of Maine has specific protections for vernal pools.¹⁴

d. When any regulated activities occur within 750 feet of a vernal pool, the following management practices must be followed for all work within any VP Management Area (750’ of a VP’s edge) *in order to qualify for Category I*:

- i. No disturbance within the VP Depression or VP Envelope (area within 100 feet of the VP Depression’s edge)¹⁵;
- ii. Maintain a minimum of 75% of the Critical Terrestrial Habitat (area within 100-750 feet of the VP Depression’s edge) as unfragmented forest with at least a partly-closed canopy of overstory trees to provide shade, deep litter and woody debris;
- iii. Maintain or restore forest corridors connecting wetlands and significant vernal pools;
- iv. Minimize forest floor disturbance; and
- v. Maintain native understory vegetation and downed woody debris.

¹³ The Corps VP Management Area, which includes the VP and a 750’ radius from the VP’s edge, is defined at Appendix A, Endnote 5.

¹⁴ Appendix G, 10(a)-(d) provides links to the state’s Significant Wildlife Habitat regulations and references that provide impact minimization measures to reference when designing projects.

¹⁵ The no disturbance requirement in the VP envelope [see (b)(i)(1)], and (b)(i)(2), do not apply to temporary impacts associated with construction mats in previously disturbed areas of existing utility project (e.g., transmission lines, gas pipelines) or linear transportation project (e.g., roads, highways, railways, trails, airport runways and taxiways) right-of-ways provided there is a Vegetation Management Plan that avoids, minimizes and mitigates impacts to aquatic resources.

vi. Cape Cod style-curbing or no curbing options shall be used on new roads to facilitate amphibian passage. (Reference Appendix G)

e. A PCN is required for any regulated activity within 750' of a vernal pool when all work within the VP Management Area does not comply with the Category 1 requirements in (d) above. Information on directional buffers in accordance with the VP Directional Buffer Guidance document may be provided in order to demonstrate minimal impact and avoid compensation requirements (Reference Appendix G). Conservation of the un-impacted area within the VP Management Area will often be required.

f. GC 2 requires applicants to delineate or approximately identify on the project plans all waters of the U.S., which contain vernal pools.

g. GC 23(b-d) do not apply to projects that are within a municipality and meet the provisions of a Corps-approved VP Special Area Management Plan (VP SAMP) and are otherwise eligible for self-verification.

24. Invasive and Other Unacceptable Species¹⁶

a. The introduction or spread of invasive or other unacceptable plant or animal species on the project site or areas adjacent to the project site caused by the site work shall be avoided to the maximum extent practicable. For example, construction mats and equipment shall be thoroughly cleaned and free of vegetation and soil before and after use. The introduction or spread of invasive plant or animal species on the project site caused by the site work shall be controlled.

b. No cultivars, invasive or other unacceptable plant species may be used for any mitigation, bioengineering, vegetative bank stabilization or any other work authorized by this GP. However, non-native species and cultivars may be used when it is appropriate and specified in a written verification, such as using *Secale cereale* (Annual Rye) to quickly stabilize a site. All PCNs should explain the reason for using non-native species or cultivars.

25. Programmatic Consultations or Agreements. The Corps requirements to comply with Section 106 of the NHPA, Section 7 of the Endangered Species Act or Essential Fish Habitat conservation under the Magnuson-Stevens Act may be satisfied by a Programmatic Agreement with the Corps, New England District or another federal action agency. Any Corps, New England District Programmatic Agreements will be available on our website.

26. Permit On Site. The permittee shall ensure that a copy of this GP and any accompanying authorization letter with attached plans are at the site of the work authorized by this GP whenever work is being performed and that all construction personnel performing work which may affect waters of the U.S. are aware of its terms and conditions. The entire permit authorization shall be made a part of any and all contracts and subcontracts for work that affects areas of Corps jurisdiction at the site of the work authorized by this GP. This shall be achieved by including the entire permit authorization in the specifications for work. The term "entire permit authorization" means this entire GP and the authorization letter (including its drawings, plans, appendices and other attachments) and also includes permit modifications. If the authorization letter is issued after the construction specifications, but before receipt of bids or quotes, the entire permit authorization shall be included as an addendum to the specifications. If the authorization letter is issued after receipt of bids or quotes, the entire permit authorization shall be included in the contract or subcontract. Although the permittee may assign various aspects of the work to different contractors or subcontractors, all contractors and subcontractors shall be obligated by contract to comply with all environmental protection provisions contained within the entire GP authorization, and no contract or subcontract shall require or allow unauthorized work in areas of Corps jurisdiction.

¹⁶ For the purposes of this GP, plant species that are considered invasive and unacceptable are provided in Appendix G "Invasive and other Unacceptable Plant Species" of our document "Compensatory Mitigation Guidance" at www.nae.usace.army.mil/missions/regulatory >> Mitigation. Chapter 4(e) Planting is also particularly relevant. The June 2009 "Corps of Engineers Invasive Species Policy" provides policy, goals and objectives and is located at www.nae.usace.army.mil/missions/regulatory >> Invasive Species. Additional information can be found at: www.eddmaps.org/ipane.

27. Self-Verification Notification Form (SVNF). Permittees must complete and submit the SVNF provided at Appendix B to the Corps for work authorized by this GP unless otherwise noted in Appendix A. **NOTE: A copy of a state permit application form may be an acceptable surrogate for the SVNF provided either form used also include plans and an Official Species List of federally listed threatened or endangered species.**

28. Inspections. The permittee shall allow the Corps 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 this GP and any written verification. The Corps may also require post-construction engineering drawings for completed work, post-dredging survey drawings for any dredging work, or other post-construction reports. To facilitate these inspections, the permittee shall complete and return to the Corps the following forms:

- For Category 1/Self-Verification: The SVNF (see Appendix B).
- For Category 2/PCN: The a) Work-Start Notification Form and b) Compliance Certification Form, when either is provided with the authorization letter.

29. Maintenance

a. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable general conditions and activity-specific conditions to a written verification.

b. The requirement in (a) above does not include maintenance of dredging projects. Each maintenance dredging event exceeding the self-verification limits requires a new PCN unless an unexpired, written PCN or other Corps authorization specifies that the permittee may “dredge and maintain” an area for a particular time period. Self-verification or PCN maintenance dredging includes only those areas and depths previously authorized and actually dredged. Maintenance dredging with ocean or open water disposal will always require a PCN and at least Category 2 review.

c. Some maintenance activities may not be subject to regulation under Section 404 in accordance with 33 CFR 323.4(a)(2). Refer to Appendix A, Endnote 7.

30. Property Rights. This GP does not convey any property rights, either in real estate or material, or any exclusive privileges, nor does it authorize any injury to property or invasion of rights or any infringement of federal, state, or local laws or regulations.

31. Transfer of GP Verifications. When the structures or work authorized by this GP are still in existence at the time the property is transferred, the terms and conditions of this GP, including any special conditions, will continue to be binding on the entity or individual who received the GP authorizations, as well as the new owner(s) of the property. If the permittee sells the property associated with a GP verification, the permittee may transfer the GP verification to the new owner by submitting a letter to the Corps (see Appendix E for address) to validate the transfer. A copy of the GP verification must be attached to the letter, and *the letter must contain the new owner’s contact information and the following statement and signature:*

“When the structures or work authorized by this GP are still in existence at the time the property is transferred, the terms and conditions of this GP, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this GP and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.”

(Transferee)

(Date)

32. Modification, Suspension, and Revocation. Any work authorized under this GP by self-verification or PCN may be either modified, suspended, or revoked, in whole or in part, pursuant to the policies and procedures of 33 CFR 325.7. Any such action shall not be the basis for any claim for damages against the U.S.

33. Special Conditions. The Corps may independently, or at the request of the federal resource agencies, impose other special conditions on a project authorized pursuant to this GP that are determined necessary to minimize adverse navigational and/or environmental effects or based on any other factor of the public interest. Failure to comply with all terms and conditions of the authorization, including special conditions, constitutes a permit violation and may subject the permittee to criminal, civil or administrative penalties and/or an ordered restoration.

34. False or Incomplete Information. If the Corps makes a determination regarding the eligibility of a project under this GP and subsequently discovers that it has relied on false, incomplete or inaccurate information provided by the permittee, the Corps may determine that the GP authorization is not valid; modify, suspend or revoke the authorization; and the U.S. Government may institute legal proceedings.

35. Abandonment. If the permittee decides to abandon the activity authorized under this GP, unless such abandonment is merely the transfer of property to a third party, he/she may be required to restore the area to the satisfaction of the Corps.

36. Enforcement cases. This GP does not apply to any existing or proposed activity in Corps jurisdiction associated with an ongoing Corps or EPA enforcement action, until such time as the enforcement action is resolved or the Corps or EPA, as appropriate, determines that the activity may proceed independently without compromising the enforcement action.

37. Duration of Authorization. This GP expires on October 12, 2020. Activities authorized under this GP that have commenced (i.e., are under construction) or are under contract to commence before this GP expires will have until October 12, 2021 to complete the activity under the terms and conditions of the current GP.

38. Previously Authorized Activities.

a. Projects that have received authorization (Category 1 or 2) from the Corps and that were completed under the previous PGPs, nationwide permits, regional general permits or letters of permission, shall remain authorized.

b. Activities authorized pursuant to 33 CFR Part 330.3 (“Activities occurring before certain dates”) are not affected by this GP.

c. Any work not commenced nor completed that was authorized in a written letter from the Corps under the GP in effect between October 12, 2010 and October 12, 2015 remains authorized subject to the terms and general conditions of this GP along with any special conditions in the authorizing written letter. Exception – if previously authorized work is not commenced and a new federally listed threatened or endangered species could be affected, the Corps must consult with the Service(s) prior to re-authorizing the work under this GP. Requests for re-authorization must include an updated Official Species list. To request an Official Species List, refer to the instructions in Appendix D.

39. Discretionary Authority. Notwithstanding compliance with the terms and conditions of this permit, the Corps retains discretionary authority to require Category 2 or Individual Permit review based on concerns for the aquatic environment or for any other factor of the public interest [33 CFR 320.4(a)]. This authority is invoked on a case-by-case basis whenever the Corps determines that the potential consequences of the proposal warrant a higher level of review based on the concerns stated above. This authority may be invoked for projects that may contribute to cumulative environmental impacts that are more than minimal or if there is a special resource or concern associated with a particular project that is not already covered by the remaining conditions of the GP and that warrants greater review. Whenever the Corps notifies an applicant that an Individual Permit may be required, the project is not authorized under this GP and no work may be conducted until an Individual Permit is obtained or until the Corps notifies the applicant that further review has demonstrated that the work may proceed under this GP.

40. St. John/St. Croix Rivers. Work within the Saint John and Saint Croix River basins that requires approval of the International Joint Commission is not eligible for Category 1 and a PCN to the Corps is required if any temporary or permanent use, obstruction or diversion of international boundary waters could affect the natural

flow or levels of waters on the Canadian side of the line; or if any construction or maintenance of remedial works, protective works, dams, or other obstructions in waters downstream from boundary waters could raise the natural level of water on the Canadian side of the boundary.

41. National Lands. Activities that impinge upon the value of any National Wildlife Refuge, National Forest, National Marine Sanctuary, National Park or any other area administered by the National Park Service, U.S. Fish and Wildlife Service (USFWS) or U.S. Forest Service are not eligible for Category 1 and require a PCN.

42. Essential Fish Habitat (EFH). Any work in the following rivers and streams, including all tributaries to the extent that they are currently or were historically accessible for salmon migration, shall not be authorized under Category 1 of the GP and must be screened for potential impacts to EFH (see Appendix G for more information).

Androscoggin River	Aroostook River	Boyden River	Dennys River
Ducktrap River	East Machias River	Hobart Stream	Kennebec River
Machias River	Narraguagus River	Orland River	Passagassawaukeag River
Patten Stream	Penobscot River	Pleasant River	Presumpscot River
Saco River	Sheepscot River	St. Croix River	Tunk Stream
			Union River

The above does not apply to the following activities which may qualify for Category 1 work:

- Exploratory drilling and borings for bridges.
- Moorings (see Appendix A, Page 28 for Category 1 thresholds and requirements)
- Structures, floats & lifts (see Appendix A, Page 29 for Category 1 thresholds and requirements)
- Other activities specified in a programmatic agreement with NMFS.

43. Work Site Restoration

a. Wetland areas where permanent disturbance is not authorized shall be restored to their original condition and elevation, which under no circumstances shall be higher than the pre-construction elevation. Original condition means careful protection and/or removal of existing soil and vegetation, and replacement back to the original location such that the original soil layering and vegetation schemes are approximately the same, unless otherwise authorized.

b. Upon completion of construction, all disturbed wetland areas (the disturbance of these areas must be authorized) shall be properly stabilized. Any seed mix shall contain only plant species native to New England and shall not contain any species listed in the “Invasive and Other Unacceptable Plant Species” Appendix in the “New England District Compensatory Mitigation Guidance” (see GC 24 and refer to Appendix G). This list may be updated periodically.

c. In areas of authorized temporary disturbance, if trees are cut they shall be cut at ground level and not uprooted in order to prevent disruption to the wetland soil structure and to allow stump sprouts to revegetate the work area, unless otherwise authorized.

44. Bank Stabilization

a. Projects involving construction or reconstruction/maintenance of bank stabilization structures within Corps jurisdiction shall be designed to minimize environmental effects, effects to neighboring properties, scour, etc. to the maximum extent practicable.

b. Project proponents must design and construct bank stabilization projects using this sequential minimization process: avoidance of aquatic resource impacts, diversion of overland flow, vegetative stabilization, stone-sloped surfaces, and walls/bulkheads. Vertical walls/bulkheads shall only be used in situations where reflected wave energy can be tolerated.

c. Inland Water bank stabilization activities necessary for erosion prevention must meet all of the following criteria: i) No material is placed in excess of the minimum needed for erosion protection; ii) The activity is no more than 500 feet in total length along the bank(s); iii) The activity will not exceed an average of one cubic yard per running foot placed along the bank below the plane of the ordinary high water mark; iv) Structures angled steeper than 1H:1V and any material other than angular or sub-angular stone or fiber roll revetments require at least a Category 2 review; v) The activity does not involve discharges of dredged or fill

material into special aquatic sites; vi) No material is of the type, or is placed in any location, or in any manner, to impair surface water flow into or out of any water of the U.S.; vii) No material is placed in a manner that will be eroded by normal or expected high flows (properly anchored trees and treetops may be used in low energy areas); and viii) The activity is not a stream channelization activity.

d. Bank stabilization activities in tidal waters are provided at Appendix A, Page 30 & 31. Direct impacts in tidal waters from contiguous bank stabilization projects in excess of 200 linear feet (Applicant or Applicant + Abutters combined) must undergo Category 2 review.

45. Stream Work and Crossings & Wetland Crossings

Notes:

a. For *Stream Work and Crossings* below, conditions (a) and (b) apply to Inland Waters and Wetlands (see Appendix A, Page 1 for definition) and Navigable Waters (see Appendix A, Page 27 for definition). Conditions (c)-(l) below only apply to Inland Waters and Wetlands that are streams. All new and replacement crossings in Navigable Waters require an application to the Corps and at least a Category 2 review.

b. In-stream work in a watershed occupied by listed Atlantic salmon, Atlantic sturgeon, or shortnose sturgeon [see GC 8(b)] and some stream work such as crossings on EFH waters (see GC 42) is not eligible for Category 1.

c. “High-Quality Stream Segments” are shown at www.maine.gov/dep/gis/datamaps and may be useful in evaluating impacts to fisheries. GIS shape files are under “Other Google Earth Interactive Maps” and PDFs by county are under “DEP GIS Maps.” See Appendix E for more state contact information.

Conditions for Stream Work and Crossings:

a. All permanent crossings of rivers, streams, brooks, etc. (hereon referred to as “streams”) shall be suitably culverted, bridged, or otherwise designed to i) withstand and to prevent the restriction of high flows to qualify for Category 1, and ii) not obstruct the movement of or not substantially disrupt the necessary life-cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, beyond the actual duration of construction unless the activity’s primary purpose is to impound water to qualify for Category 1 or 2. (*NOTE: Areas of fill and/or cofferdams must be included in total waterway/wetlands impacts to determine applicability of this GP.*)

b. Any work that temporarily or permanently impacts upstream or downstream flood conditions, or permanently impacts wetlands in excess of Category 1 thresholds, must be reviewed at least under Category 2. See the documents referenced in Appendix G, 8(c) and (d) for guidance.

c. New Stream Crossings. For new stream crossings to qualify for Category 1:

i. Must ensure compliance with GC 45(a) and GC 45(b) above.

ii. Shall be designed and constructed in accordance with the Corps General Stream Crossing

Standards provided on Page 19 and the stream simulation document listed at Appendix G, 8(a).

d. Replacement Stream Crossings. For replacement stream crossings to qualify for Category 1:

i. Must ensure compliance with GC 45(a) and GC 45(b) above.

ii. Shall be designed and constructed in accordance with the Corps General Stream Crossing

Standards provided on Page 19 and the stream simulation document listed at Appendix G, 8(a).

e. Culvert Extensions. Culvert extensions on culverts that do not meet the Corps General Stream Crossing Standards do not qualify for Category 1 and require an application to the Corps and at least Category 2 review.

f. Temporary Stream Crossings.

Note: The General Stream Crossing Standards don’t apply to temporary stream crossings.

i. Temporary stream crossings or cofferdams shall be used for equipment access across streams [see Appendix G, 8(e)]. Note: Areas of fill and/or cofferdams must be included in total waterway/wetlands impacts to determine the review category in Appendix A.

ii. Temporary stream crossings shall be removed within 180 days to qualify for Category 1.

iii. Temporary stream crossings that are not spans¹⁷ (typically culverts) must be designed in accordance with 1-6 below to qualify for Category 1. Category 2 applications should include information demonstrating 2-6 below:

1. Installed and removed during the low flow period specified in GC 45(l) below.
2. Placed on geotextile fabric or other material where practicable to ensure restoration to the original grade. Soil may not be used to construct or stabilize these structures and rock must be large enough to allow for easy removal without disrupting the streambed.
3. Designed and maintained to withstand and pass high flows. Water height should be no higher than the top of the culvert's inlet. A minimum culvert diameter of two feet is required to pass debris. Culverts must be aligned to prevent bank erosion or streambed scour.
4. Equipped with energy dissipating devices installed downstream if necessary to prevent scour.
5. Designed and maintained to prevent soil from entering the waterbody.
6. Removed upon the completion of work. Impacts to the streambed or banks requires restoration to their original condition using stream simulation methods¹⁸.

g. Slip Lining. Work using slip lining (retrofitting an existing culvert by inserting a smaller diameter pipe), invert lining, or resulting in decreased diameter, does not qualify for Category 1, either as new work or maintenance activities.

h. Work in Flowing Waters. To qualify for Category 1, no unconfined fill [see GC 14(b)] or excavation in flowing waters is allowed. To accomplish this:

i. Bank stabilization work below ordinary high water (OHW) shall utilize erosion controls such as inflatable cofferdams, jersey barrier, silt screen, turbidity curtain, etc. where practicable to prevent sediment input to the stream and to minimize turbidity and sedimentation impacts for sensitive life stages. Bank stabilization above OHW must utilize erosion controls.

ii. Management techniques such as temporary flume pipes, culverts, cofferdams, etc. must be used to maintain normal flows within the stream boundary's confines, or water diversions may be used immediately up and downstream of the work footprint (see Appendix A, Endnote 6) or work must be performed in the dry under no flow conditions, or under very low flow conditions following the practices in GC 45(a).

i. Minimization. In order to make the Category 2 review process more efficient and result in a faster decision, new and replacement stream crossings should be designed using the least intrusive and environmentally damaging method following this sequential minimization process: 1) spans with no stream impacts, 2) spans with stream impacts, and 3) embedded culverts with stream simulation or low-slope design.

j. Maintenance Requirements. The permittee shall maintain the work authorized herein in good condition and in conformance with the terms and general conditions of this permit to facilitate aquatic life passage as stated in GC 45(a). Culverts that develop "hanging" inlets or outlets, result in bed washout, or a stream that doesn't match the characteristics of the substrate in the natural stream channel such as mobility, slope, stability confinement will require maintenance or repair to comply with this GC. This does not apply to GC 45(f) above.

k. Maintenance and Replacement Information. An existing stream crossing must be authorized and in compliance with all conditions of its authorization(s) to qualify for maintenance not subject to regulation. See Appendix A, Endnote 7. A non-serviceable crossing is not eligible for maintenance and is therefore considered as a replacement crossing [see GC 45(d)].

l. Work Window. For projects that otherwise meet the terms of Category 1, in-stream construction work shall be conducted during the low flow period July 15 – September 30 in any year. Projects that are not to be conducted during that time period are ineligible for Category 1 and shall be screened pursuant to Category 2, regardless of the waterway and wetland fill and/or impact area.

Corps General Stream Crossing Standards (required for Category 1; recommended for Category 2):

- a. Culverts must be embedded:

¹⁷ For the purposes of this GP, spans are bridges, three-sided box culverts, open-bottom culverts or arches that span the stream with footings landward of bankfull width.

¹⁸ Design and construction shall be in accordance with the stream simulation document listed at Appendix G, 8(a).

- ≥ 2 feet for box culverts and other culverts with smooth internal walls,
- ≥ 1 foot for corrugated pipe arches
- ≥ 1 foot and at least 25 percent for corrugated round pipe culverts

b. **For new crossings**, spans¹⁷ are required to avoid or cause minimal disruption to the streambed and to meet the requirements of General Condition 45(a) and 45(b). Footings and abutments must be landward of 1.2 times bankfull width. To the greatest extent practicable, work in the stream shall be minimized, and design and construction shall allow the streambed's natural structure and integrity to remain intact. Any fill or excavation of the streambed below bankfull width other than footings, support pilings, or work specified in 45(h)ii requires Category 2 review and, unless demonstrated otherwise, stream simulation¹⁸ to establish substrate and banks in the span structure and work area as specified in (d) and (e) below.

c. **For replacement crossings**, spans¹⁷ are required to meet the requirements of General Condition 45(a) and 45(b). Footings and abutments shall be landward of 1.2 times bankfull width. Unless demonstrated otherwise, stream simulation¹⁸ is required to establish substrate and banks in the span structure and work area as specified in (d) and (e) below.

d. Crossings must have a natural bottom substrate within the structure matching the characteristics of the substrate in the natural stream channel and the banks (mobility, slope, stability, confinement, grain and rock size) at the time of construction and over time as the structure has had the opportunity to pass significant flood events. To allow terrestrial passage for wildlife and prevent undermining the footings, crossings shall have a bank on both sides of the stream matching the horizontal profile of the existing stream and banks¹⁸. Note: Installation of substrate material within smaller culverts may not be safe or practicable. In these cases, it may be necessary to allow for natural deposition and bed development unless alternative methods are identified.

e. Crossings must be designed and constructed¹⁸ with appropriate bed forms and streambed characteristics so that water depths and velocities are comparable to those found in the natural channel at a variety of flows. In order to provide appropriate water depths and velocities at a variety of flows and especially low flows, it is usually necessary to reconstruct the streambed or preserve the natural channel within the structure. Otherwise, the width of the structure needed to accommodate higher flows will create conditions that are too shallow at low flows. The grain and rock size, and arrangement of streambed materials within the structure should be in accordance with (d) above. Flows could go subsurface within the structure if only large material is used without smaller material filling the voids.

Conditions for Wetland Crossings:

a. All temporary and permanent crossings of wetlands shall be suitably culverted, bridged, or otherwise designed to: i) Withstand and prevent the restriction of high flows, ii) Not obstruct the movement of or not substantially disrupt the necessary life-cycle movements of those species of aquatic life indigenous to the wetland, including those species that normally migrate through the area, beyond the actual duration of construction unless the activity's primary purpose is to impound water. See Appendix E for the Maine DEP's crossing standards.

b. To qualify for Category 1, new and replacement wetland crossings that are permanent shall be culverted, spanned or bridged in such a manner as to preserve hydraulic and ecological connectivity, at its present level, between the wetlands on either side of the road. To meet this requirement, we recommend that culverts, spans or bridges be placed at least every 50 feet with an opening at least 2 feet high and 3 feet wide at ground level where practicable. Closed bottom culverts shall be embedded at least 6 inches with a natural bottom.

c. In the case of non-compliance, the permittee shall take necessary measures to correct wetland damage due to lack of hydraulic and ecological connectivity.

d. Any work that results in flooding, results in impacts to wetlands on either side of the wetland crossing in excess of Category 1 thresholds, or impacts wetland drainage from the upgradient side of the wetland crossing does not qualify for Category 1.


 Robert J. Desista
 Deputy Chief, Regulatory Division
 For DISTRICT ENGINEER

DATE

10/13/15

APPENDIX A: DEFINITION OF CATEGORIES

APPENDIX A: DEFINITION OF CATEGORIES		
A. INLAND WATERS AND WETLANDS	Inland Waters and Wetlands: Waters that are regulated under Section 404 of the Clean Water Act, including rivers, streams, lakes, ponds and wetlands, and <i>excluding Section 10 Navigable Waters of the U.S. (tidal and freshwater)</i> . The jurisdictional limits are the ordinary high water (OHW) mark in the absence of adjacent wetlands, beyond the OHW mark to the limit of adjacent wetlands when adjacent wetlands are present, and the wetland limit when only wetlands are present. For the purposes of this GP and designated activities, fill placed in the area between the mean high water (MHW) and the high tide line (HTL), and in the bordering and contiguous wetlands ¹ to tidal waters are reviewed in the Navigable Waters section. (See B. Navigable Waters on page 27 below.) Projects not meeting Category 1 require an application for review as a Category 2 or Individual Permit project. All Category 1 and 2 projects must comply with all of this GP’s applicable terms (Pages 1 – 4) and General Conditions (Pages 5–20).	
ACTIVITY	CATEGORY 1 Self-Verification Eligible (SVNF Required)	CATEGORY 2 (PCN Required)
1. Repair, Replacement, Expansion, and Maintenance of Authorized Structures and Fills	Repair or maintenance of existing, currently serviceable, authorized fills with no expansion or change in use: • Conditions of the original authorization apply. • Minor deviations in fill design allowed.⁷ • The repair, rehabilitation, or replacement of those structures or fills destroyed or damaged by storms, floods, fire or other discrete events is authorized, provided the repair, rehabilitation, or replacement is commenced, or is under contract to commence, within two years of the date of their destruction or damage. • No effect on federally listed endangered or threatened species or critical habitat.	Replacement of non-serviceable fills, or repair/maintenance of serviceable fill, with expansion <3 acres, or with a change in use.
2. Moorings	NA – moorings in non-navigable inland waters are not subject to Corps jurisdiction. Note: Moorings placed in freshwater navigable waters are reviewed in the Navigable Waters section. (See B. Navigable Waters on Page 28 below.)	NA
3. Structures, Floats & Lifts	For solid fill or crib supported structures on inland waters, <15,000 square feet (SF) of waterway and/or wetland fill, associated secondary impacts ² , and temporary fills. • No effect on federally listed endangered or threatened species or critical habitat. • Note: Temporary or permanent structures placed in freshwater navigable waters are reviewed in the Navigable Waters section. (See B. Navigable Waters on page 29 below.	1. Work not eligible for Category 1 2. ≥15,000 SF to <3 acres of inland waterway and/or wetland fill and associated secondary impacts (e.g., areas drained, flooded, fragmented, or excavated).
4. Aids to Navigation and Temporary Recreational Structures	NA - this activity in non-navigable inland waters is not subject to Corps jurisdiction. Note: Aids to Navigation and other structures placed in freshwater navigable waters are reviewed in the Navigable Waters section. (See B. Navigable Waters on page 30 below.)	NA

5. Dredging, Disposal of Dredged Material, Beach Nourishment, and Rock Removal and Relocation	1. For regulated discharges associated with excavation, and disposal <15,000 SF inland waterway and/or wetland impacts. 2. The activity does not occur in navigable waters of the U.S. 3. Stream channelization, relocation or loss of streambed including impoundments or discharge of tailings into streams does not occur. 4. No effect on federally listed endangered or threatened species or critical habitat.	1. Work not eligible for Category 1 2. ≥15,000 SF to <3 acres of inland waters.
6. Discharges of Dredged or Fill Material Incidental to the Construction of Bridges	NA - For discharges incidental to the construction of bridges in inland waters of the U.S. refer to Activity 23 (Stream and Wetland Crossings) and GC 45. Note: Discharges of Dredged or Fill Material Incidental to the Construction of Bridges in freshwater navigable waters are reviewed in the Navigable Waters section. (See B. Navigable Waters on page 30 below.)	NA
7. Bank and Shoreline Stabilization	Inland bank stabilization <500 FT long and ≤1 CY of fill per linear foot below OHW, provided: • ≤1 cubic yard of fill per linear foot placed along the bank waterward of ordinary high water. • Work complies with the GCs (GC 44 in particular), including: ○ No structures angled steeper than 1H:1V allowed. Only rough-faced stone or fiber roll revetments allowed. ○ No in-stream work involving fill or excavation in flowing waters (see GC 45(h)). • In-water work limited to Jul 15 – Sep 30. • No work in vernal pools⁵ or SAS³. • No effect on federally listed endangered or threatened species or critical habitat.	Work not eligible for Category 1
8. Residential, Commercial, Industrial, and Institutional Developments, and Recreational Facilities	1. <15,000 SF of inland waterway and/or wetland fill and associated secondary impacts² (e.g., areas drained, flooded, fragmented, mechanically cleared or excavated). Fill area includes all temporary and permanent fill, and regulated discharges associated with excavation. Construction mats are considered as fill. [See GC 14] <u>Provided:</u> • Historic fill + proposed impact area <15,000 SF complies with GC 5, Single and Complete Projects. • No work in special aquatic sites (SAS)⁴ other than wetlands. • No effect on federally listed endangered or threatened species or critical habitat. 2. For work in Vernal Pool (VP) Management Areas (includes VPs)⁵:	1. Work not eligible for Category 1. 2. ≥15,000 SF to <3 acres of inland waterway and/or wetland fill and associated secondary impacts (e.g., areas drained, flooded, fragmented, or excavated). Fill area includes all temporary and permanent fill (including mats), and regulated discharges associated with excavation. 3. <i>Mechanical clearing without grubbing or other soil disturbance > 3 acres as a secondary impact may still be eligible for Category 2 at the discretion of the Corps.</i> See GC 2 and Appendix C for wetland delineation

	• See GC 23 and Appendix C for VP delineation requirements. • See GC 23 to determine if work qualifies for Category 1 or 2. • See Appendix G for VP documents providing mitigation guidance.	requirements.
9. Utility Line Activities	1. <15,000 SF of inland waterway and/or wetland fill, associated secondary impacts², and temporary fills. 2. The activity does not occur in, over, or under navigable waters of the U.S. 3. Intake structures that are dry hydrants used exclusively for firefighting activities with no stream impoundments. 4. There is no permanent change in pre-construction contours in waters of the U.S. 5. Material resulting from trench excavation is temporarily side cast into waters of the U.S. for ≤3 months and is placed in such a manner that it is not dispersed by currents or other forces. 6. The utility line is placed within and does not run a) parallel to, or b) along a streambed. 7. Stream channelization, relocation or loss of streambed including impoundments does not occur. 8. No effect on federally listed endangered or threatened species or critical habitat. 9. There is no discharge in SAS other than non-tidal wetlands. 10. Construction mats⁴ of any area necessary to conduct activities that were previously authorized, authorized under Category 1, or not subject to regulation (see Endnote 7). Authorized construction mats must be in place for <3 months, removed immediately upon work completion, and the wetlands must be restored (see GC 43). 11. Stream crossings must comply with GC 17.	1. Work not eligible for Category 1 2. ≥15,000 SF to <3 acres of inland waterway and/or wetland fill and associated secondary impacts (e.g., areas drained, flooded, fragmented, or excavated). Fill area includes all temporary and permanent fill (including mats), and regulated discharges associated with excavation. 3. <i>Mechanical clearing without grubbing or other soil disturbance >3 acres as a secondary impact may still be eligible for Category 2 at the discretion of the Corps.</i>
10. Linear Transportation Projects (not including stream crossings) For stream crossings, refer to Activity 23	1. <15,000 SF of inland waterway and/or wetland fill associated secondary impacts (e.g., areas drained, flooded, fragmented, mechanically cleared or excavated). Fill area includes all temporary and permanent fill, and regulated discharges associated with excavation. Construction mats are considered fill. (See GC 14.) Provided: • Historic fill + proposed impact area <15,000 SF and complies with GC 5 single and complete projects. • No work in special aquatic sites (SAS) other than wetlands. 2. Construction mats⁴ of any area necessary to conduct activities that were previously authorized, authorized under Category 1, or not subject to regulation (see Endnote 7). Authorized construction mats must be in place for <3 months, removed immediately upon work completion, and the wetlands must be restored (see GC 43). 3. No effect on federally listed endangered or threatened species or critical habitat.	1. ≥15,000 SF to <3 acres of inland waterway and/or wetland fill and associated secondary impacts (e.g., areas drained, flooded, fragmented, or excavated). Fill area includes all temporary and permanent fill (including mats), and regulated discharges associated with excavation. 2. <i>Mechanical clearing without grubbing or other soil disturbance >3 acres as a secondary impact may still be eligible for Category 2 at the discretion of the Corps.</i>

11. Mining Activities	1. <15,000 SF of inland waterway and/or wetland fill, associated secondary impacts, and temporary impacts. 2. The activity does not occur in navigable waters of the U.S. 3. Stream channelization, relocation or loss of streambed including impoundments or discharge of tailings into streams does not occur. 4. No effect on federally listed endangered or threatened species or critical habitat.	1. Work not eligible for Category 1. 2. ≥15,000 SF to <3 acres of inland waterway and/or wetland fill and associated secondary impacts (e.g., areas drained, flooded, fragmented, or excavated). Fill area includes all temporary and permanent fill (including mats), and regulated discharges associated with excavation.
12. Boat Ramps	1. <15,000 SF of inland waterway and/or wetland fill, associated secondary impacts, and temporary impacts. 2. No effect on federally listed endangered or threatened species or critical habitat.	1. Work not eligible for Category 1 2. >15,000 SF and < 3 acres of impact.
13. Land and Water-Based Renewable Energy Generation Facilities and Hydropower Projects	<i>For land-based facilities:</i> 1. <15,000 SF of inland waterway and/or wetland fill, associated secondary impacts, and temporary impacts. 2. Stream channelization, relocation or loss of streambed including impoundments does not occur. 3. No effect on federally listed endangered or threatened species or critical habitat. <i>For water-based facilities and hydropower projects:</i> No new facilities are eligible.	<i>For land-based activities:</i> 1. Work not eligible for Category 1. 2. >15,000 SF and < 3 acres impact. 3. <i>Mechanical clearing without grubbing or other soil disturbance >3 acres as a secondary impact may still be eligible for Category 2 at the discretion of the Corps.</i> <i>For water-based facilities and hydropower projects:</i> > 3 acres of impact will require an IP.
14. Reshaping Existing Drainage Ditches & Mosquito Management	Not Applicable	Not Applicable
15. Oil Spill and Hazardous Material Cleanup	Jurisdictional activities required for the containment and cleanup of oil and hazardous substances that are subject to the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR 300) provided that the work is done in accordance with the Spill Control and Countermeasure Plan required by 40 CFR 112.3 or any existing state contingency plan and provided that the Regional Response Team (if one exists in the area) concurs with the proposed containment and cleanup action. SAS³ must typically be restored in place at the same elevation. Note: SVN^F or a surrogate state reporting form may be submitted after the fact.	Work not eligible for Category 1

16. Cleanup of Hazardous and toxic waste	Specific jurisdictional activities to effect the containment, stabilization, or removal of hazardous or toxic waste materials, including court ordered remedial action plans or related settlements, which are performed, ordered or sponsored by a government agency with established legal or regulatory authority. SAS should be restored in place at the same elevation. • <15,000 SF of inland waterway and/or wetland fill, associated secondary impacts, and temporary impacts. • No stream channelization, relocation or loss of streambed occurs. • The project does not involve establishing new disposal sites or expanding existing sites used for the disposal of hazardous or toxic waste. • No effect on federally listed endangered or threatened species or critical habitat.	Work not eligible for Category 1
17. Scientific Measurements Devices	1. Scientific measurement devices whose purpose is to measure and record scientific data, such as staff gages, water recording devices, water quality testing and improvement devices, and similar structures. This excludes any biological sampling devices. Structures may not restrict or concentrate movement of aquatic organisms. 2. No effect on federally listed endangered or threatened species or critical habitat.	Work not eligible for Category 1
18. Survey Activities	1. Jurisdictional survey activities, such as core sampling, seismic exploratory operations, plugging of seismic shot holes and other exploratory-type bore holes, exploratory trenching, soil surveys, sampling, and historic resources surveys (but not recovery). Exploratory trenches must be restored in accordance with GC 43. The construction of temporary pads is authorized provided the discharge doesn't exceed 25 CY. This doesn't authorize permanent structures or the drilling and the discharge of excavated material from test wells for oil and gas exploration (the plugging of such wells is authorized). 2. No effect on federally listed endangered or threatened species or critical habitat.	Work not eligible for Category 1
19. Agricultural Activities	1. For those activities subject to Corps jurisdiction¹⁶, <15,000 SF of inland waterway and/or wetland fill, associated secondary impacts, and temporary impacts. 2. No stream channelization, relocation, loss of streambed, or farm ponds in streams. 3. No effect on federally listed endangered or threatened species or critical habitat.	1. ≥15,000 SF to <3 acres of inland waterway and/or wetland fill and associated secondary impacts (e.g., areas drained, flooded, fragmented, or excavated). Fill area includes all temporary and permanent fill (including mats), and regulated discharges associated with excavation. 2. > 3 acres of impact will require an IP.

20. Fish and Wildlife Harvesting, Enhancement and Attraction Devices and Activities	NA - this activity in non-navigable inland waters, if not involving a discharge of dredged or fill material, is not subject to Corps jurisdiction. Note: Related structures placed in freshwater navigable waters (e.g. the upper Penobscot or Kennebec Rivers) are reviewed in the Navigable Waters section. (See B. Navigable Waters on Page 33 below.)	Not Applicable
21. Habitat Restoration, Establishment and Enhancement Activities	<15,000 SF of inland waterway and/or wetland fill, associated secondary impacts, and temporary impacts. - The activity is supported in writing by a local, state, or non-Corps Federal environmental agency. Water impoundments require PCN. - No conversion of i) a stream to wetland or vice versa, wetland to a pond or uplands, and ii) one wetland type to another. - No dam removal. - No effect on federally listed endangered or threatened species or critical habitat.	- Work not eligible for Category 1 - Aquatic habitat restoration, establishment, and the enhancement of wetlands and riparian areas and the restoration and enhancement of streams and other open waters with impacts of any area $\geq 15,000$ SF, provided those activities result in net increase in overall aquatic resource functions and services.⁸
22. Previously Authorized Activities	Any work not commenced nor completed that was authorized in a written letter from the Corps under the GP in effect between October 12, 2010 and October 12, 2015. The terms and general conditions of this GP apply along with any special conditions in the written authorization.	
23. Stream & Wetland Crossings	- River, stream and brook work and crossings: - Must comply with GC 45 in particular, including: - No slip lining [see GC 45 (g)]. - No in-stream work involving fill or excavation in flowing waters [see GC 45(h)]. - In-stream work limited to Jul 15 – Sep 30 [see GC 45 (l)]. - No work in riffles and pools³. - No stream relocations. - No dams or dikes⁶. - No effect on federally listed endangered or threatened species or critical habitat. <15,000 SF of inland waterway and/or wetland fill, associated secondary impacts, and temporary impacts. - Wetland crossings must comply with the particularly relevant GC 45.	Work not eligible for Category 1
24. Aquaculture (freshwater)	For land based installations, <15,000 SF of inland waterway and/or wetland fill, associated secondary impacts, and temporary impacts. - In-stream/in-water work limited to Jul 15 – Sep 30. - No effect on federally listed endangered or threatened species or critical habitat. Note: Related structures placed in freshwater navigable waters are reviewed in the Navigable Waters section. (See B. Navigable Waters, below.)	Work not eligible for Category 1

B. NAVIGABLE WATERS	Navigable Waters of the United States: Waters that are subject to the ebb and flow of the tide and/or the tidal and non-tidal portions of the Federally designated navigable waters (the Penobscot River, Kennebec River, and Lake Umbagog) (Section 10 Rivers and Harbors Act of 1899). The jurisdictional limits are the mean high water (MHW) line in tidal waters and the ordinary high water (OHW) mark in non-tidal portions of the federally designated navigable rivers. For the purposes of this GP, fill placed in the area between the mean high water (MHW) and the high tide line (HTL), and in the bordering and contiguous wetlands¹ to tidal waters are also reviewed in this Navigable Waters section. Projects not meeting Category 1 require an application for review as a Category 2 or Individual Permit project. All Category 1 and 2 projects must comply with all of this GP's applicable terms (Pages 1 - 4) and General Conditions (Pages 5 - 20).
ACTIVITY	CATEGORY 1 Self-Verification Eligible (SVNF Required)
1. Repair, Replacement, Expansion, and Maintenance of Authorized (or grandfathered) Structures and Fills	CATEGORY 2 (PCN Required) 1. Replacement of non-serviceable structures and fills or repair/maintenance of serviceable structures or fills, with fill, replacement or expansion <1 acre, or with a change in use. 2. <1 acre temporary or permanent fill, excavation and/or secondary impacts. Fill area includes all temporary and permanent waterway fills, provided: • Temporary or permanent fill in eelgrass¹⁴ <1000 SF. • Permanent fill in SAS (excluding eelgrass¹⁴) <4300 SF. 3. Standard Pile Driving Conditions. Work involving piles shall adhere to one of the four methods below: • Piles installed in-the-dry during low water or in-water between Nov. 8th - Apr. 9th, or • Must be drilled and pinned to ledge, or • Vibratory hammers used to install any size and quantity of wood, concrete or steel piles, or • Impact hammers limited to one hammer and <50 piles installed/day with the following: wood piles of any size, concrete piles ≤18-inches diameter, steel piles <12-inches diameter if the hammer is ≤3000 lbs and a wood cushion is used between the hammer and steel pile, and • For the methods above: - o In-water noise levels shall not exceed >187dB cSEL re 1μPa or 206dB peak re 1μPa at a distance >10m from the pile being installed, and - o In-water noise levels >150dB peak re 1μPa shall not exceed 12 consecutive hours on any given day and a 12 hour recovery period (i.e., in-water noise below 150dB peak re 1μPa) must be provided between work days. • Existing derelict, degraded or abandoned piles in the project area that are affected by project activities should be removed and properly disposed of in an upland location landward of MHW or OHW and not in wetlands, tidal wetlands, their substrate or mudflats.

2. Moorings	1. Private, non-commercial, non-rental, single-boat moorings, provided: • Authorized by the local harbormaster/town. • Not associated with any boating facility.¹¹ • Boat or mooring not located in a Federal Navigation Project or buffer zone¹² other than in a Federal Anchorage¹². Moorings in a Federal Anchorage not associated with a boating facility¹¹ and are not for rent. • No interference with navigation. • No new moorings located in SAS³. Prior to installation of moorings, a site-specific eelgrass survey should be conducted to document that eelgrass is not present. • When existing, authorized moorings in SAS³ are going to be replaced, they should be replaced with low impact mooring technology that prevents mooring chains from resting or dragging on the bottom substrate at all tides and helical anchors, or equivalent SAS protection systems where practicable. 2. Minor relocation of previously authorized moorings, provided: • Authorized by the local harbormaster/town. • Not located in SAS³ • No interference with navigation. • Cannot be relocated into a Federal Navigation Project¹² other than a Federal Anchorage¹² Note: Cat 1 eligible moorings do not require SVNf.	1. Moorings associated with an existing boating facility¹¹. An eelgrass¹⁴ survey may be required. 2. Moorings that don't meet the terms in Category 1 and don't require an Individual Permit. This includes private moorings with no harbormaster or means of local approval. 3. Moorings located such that they, and/or vessels docked or moored at them, are within the buffer zone of the horizontal limits¹³ of a Federal Channel¹². (See Appendix H.) The buffer zone is equal to 3 times the authorized depth of that channel. 4. An IP is required for moorings within the horizontal limits¹¹, or with moored vessels that extend, into the horizontal limits of a Federal Navigation Project¹², except those in Federal Anchorages¹². <i>For 1-4 above, siting of new individual moorings in SAS³, including eelgrass¹⁴, should be avoided to the maximum extent practicable. If SAS³ cannot be avoided, plans should show elastic mooring systems that prevent mooring chains from resting or dragging on the bottom substrate at all tides and helical anchors, or equivalent SAS protection systems, where practicable. For moorings that appear to impact SAS, the Corps may require an eelgrass survey.</i>
3. Structures, Floats and Lifts	1. Reconfiguration of existing authorized structures shall occur in-the-dry during low water. 2. Minor relocation of <u>previously authorized</u> floats or moored floats/lobster cars, provided: • Authorized by the local harbormaster/town. • Not located in SAS³. • No interference with navigation. • Cannot be relocated into a Federal Navigation Project¹² other than a Federal Anchorage¹².	1. New structures or floats, including floatways/skidways, built to access waterway (seasonal and permanent). Includes both pile supported and crib supported structures. 2. Expansions to existing boating facilities¹¹ • Pile-supported structures <400 SF, with attached floats totaling ≤200 SF. • Structures are ≤4' wide and have at least a 1:1 height:width ratio¹¹. • Floats supported a minimum of 18" above the substrate during all tides. • Structures & floats not located within 25' of any eelgrass⁸. • Moored vessels not positioned over SAS³.

	• <i>The Corps may require a letter of no objection from the abutter if structure is to be within 25 feet of the property line.</i> • <i>No structure extends across >25% of the waterway width at mean low water.</i> • <i>Not located within the buffer zone of the horizontal limits¹³ of a Corps Federal Navigation Project (FNP) (Appendix F). The buffer zone is equal to three times the authorized depth of that FNP.</i> 3. An Individual Permit is required for structures or floats, including floatways/skidways, located such that they and/or vessels docked or moored at them are within the horizontal limits¹³ of a Corps Federal Navigation Project¹² (see Appendix H). 4. An Individual Permit is required for structures & floats associated with a new or previously unauthorized boating facility¹¹. 5. Standard Pile Driving Conditions. Work involving piles shall adhere to one of the four methods below: • Piles installed in-the-dry during low water or in-water between Nov. 8th - Apr. 9th, or • Must be drilled and pinned to ledge, or • Vibratory hammers used to install any size and quantity of wood, concrete or steel piles, or • Impact hammers limited to one hammer and <50 piles installed/day with the following: wood piles of any size, concrete piles ≤18-inches diameter, steel piles <12-inches diameter if the hammer is ≤3000 lbs and a wood cushion is used between the hammer and steel pile, and • For the methods above: ○ In-water noise levels shall not exceed >187dB cSEL re 1μPa or 206dB peak re 1μPa at a distance >10m from the pile being installed, and ○ In-water noise levels >150dB peak re 1μPa shall not exceed 12 consecutive hours on any given day and a 12 hour recovery period (i.e., in-water noise below 150dB peak re 1μPa) must be provided between work days. • Existing derelict, degraded or abandoned piles in the project area that are affected by project activities should be removed and properly disposed of in an upland location landward of MHW or OHW and not in wetlands, tidal wetlands, their substrate or mudflats.

4. Aids to Navigation and Temporary Recreational Structures	1. Temporary buoys, markers, floats, etc. for recreational use during specific events, provided they are removed within 30 days after use is discontinued. 2. The placement of aids to navigation and regulatory markers which are approved by and installed in accordance with the requirements of the U.S. Coast Guard. (See 33 CFR 66, Chapter I, subchapter C).” Note: Cat 1 eligible aids to navigation and regulatory markers do not require SVNf.	Work not eligible for Category 1
5. Dredging, Disposal of Dredged Material, Beach Nourishment, and Rock Removal and Relocation	1. Maintenance dredging¹⁰ for navigational purposes <1,000 CY with upland disposal. Includes return water from upland contained disposal area, provided: • Proper siltation controls are used. • Dredging & disposal operation limited to Nov. 8 – Apr. 9. • No impact to SAS³. • No dredging in intertidal areas. • No dredging within 100’ of shellfish beds. • No dredging in areas designated as Critical Habitat for Atlantic salmon [see GC 8(b) & (c)]. • For dredging in tidal waters outside of Atlantic salmon critical habitat, applicants must contact NMFS (see GC 8) to ensure no impacts to listed species such as shortnose sturgeon, Atlantic surgeon, and listed sturgeon critical habitat. • Project proponents must contact the USFWS for work on coastal beaches to ensure no impacts to piping plovers, roseate terns, rufa red knot, or their habitat [see GC 8(c)]. • No underwater blasting. 2. Maintenance dredging is not eligible for Category 1 if conducted in tidal portions of the Penobscot river upstream of a line extending from Turner Point in Castine to Moose Point (formerly Squaw Point) on Cape Jellison in Stockton Springs or in tidal portions of the Kennebec or Androscoggin Rivers upstream of a line extending from Doubling Point in Arrowsic to Hospital Point in West Bath.	1. Maintenance dredging¹⁰ ≥1,000 CY, new dredging <25,000 CY, or projects not meeting Category 1. Includes return water from upland contained disposal areas. Disposal includes: • Upland. • Beach nourishment (above mean high water) of any area provided the dredging’s primary purpose is navigation or the sand is from an upland source. • Open water & confined aquatic disposal, if Corps finds the material suitable. 2. Beach nourishment associated with dredging when the primary purpose is not navigation requires at least a Category 2 review. 3. Maintenance or new dredging¹⁰ and/or disposal in or affecting a SAS³ requires an Individual Permit.

6. Discharges of Dredged or Fill Material Incidental to the Construction of Bridges	1. Discharges of dredged or fill material incidental to the construction of bridges across navigable waters of the U.S., including cofferdams, abutments, foundation seals, piers, and temporary construction and access fills provided the U.S. Coast Guard authorizes such discharges as part of the bridge permit or appropriate approval. 2. Causeways and approach fills are not included in this category and require Category 2 or Individual Permit authorization.	<1 acre temporary or permanent fill, excavation and/or secondary impacts (e.g., areas drained, flooded, fragmented or mechanically cleared). Fill area includes all temporary and permanent waterway fills, provided: • Temporary or permanent fill in eelgrass¹⁴ <1000 SF. • Permanent fill in SAS (excluding eelgrass¹⁴) <4300 SF.
7. Bank and Shoreline Stabilization	1. Bank stabilization projects <200 linear feet provided: • ≤1 cubic yard of fill per linear foot placed along the bank waterward of high tide line. No fill or equipment will occur in SAS³. • Work conducted in the intertidal zone must be conducted in-the-dry during low water. • No structures angled steeper than 1H:1V and only rough-faced stone or fiber roll revetments allowed. • No driving of piles or sheeting. 2. Bank stabilization projects in excess of 200 linear feet (Applicant or Applicant + Abutters combined) must undergo Category 2 review.	1. Work not eligible for Category 1. 2. <1 acre temporary or permanent fill, excavation and/or secondary impacts (e.g., areas drained, flooded, fragmented or mechanically cleared). Fill area includes all temporary and permanent waterway fills, provided: • Temporary or permanent fill in eelgrass¹⁴ <1000 SF. • Permanent fill in SAS (excluding eelgrass¹⁴) <4300 SF.
8. Residential, Commercial, and Industrial Institutional Developments, and Recreational Facilities	Not Eligible	1. <1 acre temporary or permanent fill, excavation and/or secondary impacts (e.g., areas drained, flooded, fragmented or mechanically cleared). Fill area includes all temporary and permanent waterway fills, provided: • Temporary or permanent fill in eelgrass¹⁴ <1000 SF. • Permanent fill in SAS (excluding eelgrass¹⁴) <4300 SF. 2. Conversions of previously authorized pile supported buildings over navigable waters to residences, offices, or other non-water dependent uses require at least a Category 2 review. 3. Floating house boats or businesses on floats require Category 2 review.
9. Utility Line Activities	1. Repair or maintenance of existing, currently serviceable, authorized utilities with no expansion or change in use: • Conditions of the original authorization apply. • Trenching or filling is confined to the existing footprint. • In water work conducted between Nov 8 and Apr 9. • No new impact to SAS. 2. Particularly relevant is GC12. 3. <u>New work</u> in, over, or under navigable waters requires a PCN and Category 2 review. 4. Except for aerial utility lines, work is not eligible for Category 1 if conducted in tidal portions of the Penobscot River upstream of a line extending from Turner Point in Castine to Moose Point (formerly	1. New or replacement installations or work not otherwise eligible for Category 1. 2. <1 acre temporary or permanent fill, excavation and/or secondary impacts (e.g., areas drained, flooded, fragmented or mechanically cleared). Fill area includes all temporary and permanent waterway fills, provided: • Temporary or permanent fill in eelgrass¹⁴ <1000 SF. • Permanent fill in SAS (excluding eelgrass¹⁴) <4300 SF. 3. Particularly relevant is GC12

	Squaw Point) on Cape Jellison in Stockton Springs or in tidal	
10. Linear Transportation Projects (Not Including Stream Crossings)	Not eligible	<1 acre temporary or permanent fill, excavation and/or secondary impacts (e.g., areas drained, flooded, fragmented or mechanically cleared). Fill area includes all temporary and permanent waterway fills, provided: • Temporary or permanent fill in eelgrass¹⁴ <1000 SF. • Permanent fill in SAS (excluding eelgrass¹⁴) <4300 SF.
11. Mining Activities	Not Eligible	Not Eligible
12. Boat Ramps and Marine Railways	1. No new impact to SAS 2. Marine railway and boat ramp work not eligible for maintenance⁷ (i.e. not currently serviceable⁷) may be replaced “in-kind” with minor deviations⁷ provided: • Work is in the intertidal zone. • No fill expansion below high tide line. • Work conducted in-the-dry during low water. 3. No new boat ramps or marine railways.	1. Work not eligible for Category 1 2. <1 acre temporary or permanent fill, excavation and/or secondary impacts (e.g., areas drained, flooded, fragmented or mechanically cleared). Fill area includes all temporary and permanent waterway fills, provided: • Temporary or permanent fill in eelgrass¹⁴ <1000 SF. • Permanent fill in SAS (excluding eelgrass¹⁴) <4300 SF.
13. Land and Water-Based Renewable Energy Generation Facilities and Hydropower Projects	Not Eligible	1. <1 acre temporary or permanent fill, excavation and/or secondary impacts (e.g., areas drained, flooded, fragmented or mechanically cleared). Fill area includes all temporary and permanent waterway fills, provided: • Temporary or permanent fill in eelgrass¹⁴ <1000 SF. • Permanent fill in SAS (excluding eelgrass¹⁴) <4300 SF. 2. No new impoundments.
14. Reshaping Existing Drainage Ditches and Mosquito Management	1. ≤500 linear feet of drainage ditch will be modified. The reshaping of the ditch cannot increase drainage capacity beyond the original as-built capacity nor can it expand the area drained by the ditch as originally constructed (i.e., the capacity of the ditch must be the same as originally constructed and it cannot drain additional wetlands or other waters of the U.S.). 2. No new ditches or relocation of drainage ditches constructed in waters of the U.S.; the location of the centerline of the reshaped drainage ditch must be approximately the same as the location of the centerline of the original drainage ditch. 3. No effect on federally listed endangered or threatened species or critical habitat	1. Work not eligible for Category 1 2. <1 acre temporary or permanent fill, excavation and/or secondary impacts (e.g., areas drained, flooded, fragmented or mechanically cleared). Fill area includes all temporary and permanent waterway fills, provided: • Temporary or permanent fill in eelgrass¹⁴ <1000 SF. • Permanent fill in SAS (excluding eelgrass¹⁴) <4300 SF.

15. Oil Spill and Hazardous Material Cleanup	Jurisdictional activities required for the containment and cleanup of oil and hazardous substances that are subject to the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR 300) provided that the work is done in accordance with the Spill Control and Countermeasure Plan required by 40 CFR 112.3 and any existing state contingency plan and provided that the Regional Response Team (if one exists in the area) concurs with the proposed containment and cleanup action. SAS ³ must typically be restored in place at the same elevation. Note: SVNf or a surrogate state reporting form may be submitted after the fact. No SVNf is required for Category 1 eligible containment booms.	Work not eligible for Category 1
16. Cleanup of Hazardous and Toxic Waste	Not eligible - except for booms placed for hazardous and toxic waste containment and absorption and prevention which are eligible for SV. Note: No SVNf is required for Category 1 eligible containment booms.	Specific jurisdictional activities with impacts of any area required to affect the containment, stabilization, or removal of hazardous or toxic waste materials that are performed, ordered, or sponsored by a government agency with established legal or regulatory authority. Wetlands and other SAS must typically be restored in place at the same elevation to qualify.
17. Scientific Measurement Devices	Scientific measurement devices whose purpose is to measure and record scientific data, such as staff gages, water recording devices, water quality testing and improvement devices, and similar structures. Structures may not restrict or concentrate movement of aquatic organisms; no activity results in a hazard to navigation; and no activity requiring underwater blasting.	1. Work not eligible for Category 1 2. <1 acre temporary or permanent fill, excavation and/or secondary impacts (e.g., areas drained, flooded, fragmented or mechanically cleared). Fill area includes all temporary and permanent waterway fills, provided: • Temporary or permanent fill in eelgrass ¹⁴ <1000 SF. • Permanent fill in SAS (excluding eelgrass ¹⁴) <4300 SF.
18. Survey Activities	Jurisdictional survey activities such as exploratory drilling, surveying and sampling activities, excluding any biological sampling devices. Does not include any activity requiring underwater blasting, seismic exploratory operations, or oil and gas exploration and fill for roads or construction pads. No activity may result in a hazard to navigation.	1. Work not eligible for Category 1 2. <1 acre temporary or permanent fill, excavation and/or secondary impacts (e.g., areas drained, flooded, fragmented or mechanically cleared). Fill area includes all temporary and permanent waterway fills, provided: • Temporary or permanent fill in eelgrass ¹⁴ <1000 SF. • Permanent fill in SAS (excluding eelgrass ¹⁴) <4300 SF.
19. Agricultural Activities	Not Eligible	Not Eligible

20. Fish & Wildlife Harvesting, Enhancement and Attraction Devices and Activities (Not Aquaculture)	Fish and wildlife harvesting, enhancement, and attraction devices and activities such as pound nets, crab traps, crab dredging, eel pots, lobster traps, and clam and oyster digging, and small fish attraction devices such as open water fish concentrators (sea kites, etc.). This does not authorize artificial reefs or impoundments and semi-impoundments of waters of the U.S. for the culture or holding of motile species such as lobster, or the use of covered oyster trays or clam racks. No activity that may result in a hazard to navigation. Note: A SVNf is not required for these Category 1 eligible devices and activities.	1. Work not eligible for Category 1. 2. Impoundments or semi-impoundments of waters of the U.S. for the culture or holding of motile species such as lobster and new fish weirs with an impounded area $\leq \frac{1}{2}$ acre. For Aquaculture operations, refer to Activity 24.
21. Habitat Restoration, Establishment and Enhancement Activities	1. Cultch placement in tidal waters is eligible for SV provided there are no salt marsh or vegetated shallow impacts. 2. SAS planting and transplanting ≤ 100 SF in tidal waters; 3. No artificial or living reefs. 4. The activity is authorized in writing by a local, state, or non-Corps federal environmental agency. Water impoundments require PCN. 5. No conversion of i) a stream to wetland or vice versa, wetland to a pond or uplands, and ii) one wetland type to another. 6. No dam removal. 7. Shellfish habitat enhancement such as brushing the flats is eligible for Category 1, <i>but not the use of netting which requires Category 2 review.</i>	1. Work not eligible for Category 1. 2. Aquatic habitat restoration, establishment and enhancement provided those activities are proactive and result in net increases in aquatic resource functions and services.⁸
22. Previously Authorized Activities	Any work not commenced nor completed that was authorized in a written letter from the Corps under the GP in effect between October 12, 2010 and October 12, 2015. The terms and general conditions of this GP apply along with any special conditions in the written authorization.	
23. Stream & Wetland Crossings	Not Eligible	All temporary or permanent crossings of tidal navigable waters or adjacent tidal wetlands not eligible as maintenance require a PCN. GC 45 applies
24. Aquaculture	Not Eligible	Shellfish & finfish aquaculture (with the exception of Atlantic salmon and any other salmonid, or other federally listed endangered or threatened species), or other aquaculture facilities with no more than minimal individual and cumulative impacts to environmental resources or navigation. This is inclusive but not limited to cages, nets, bags, racks, long lines, fences, posts, poles, predator screening, etc. Aquaculture guidelines are provided at: www.maine.gov/dmr/aquaculture/index.htm.

Endnotes/Definitions

¹**Bordering and Contiguous Wetlands:** A bordering wetland is immediately next to its adjacent waterbody and may lie at, or below, the ordinary high water mark (mean high water in navigable waters) of that waterbody and is directly influenced by its hydrologic regime. Contiguous wetlands extend landward from their adjacent waterbody to a point where a natural or manmade discontinuity exists. Contiguous wetlands include bordering wetlands as well as wetlands that are situated immediately above the ordinary high water mark and above the normal hydrologic influence of their adjacent waterbody. Note, with respect to the federally designated navigable rivers, the wetlands bordering and contiguous to the tidally influenced portions of those rivers are reviewed under “II. Navigable Waters.”

² **Direct, Secondary, and Cumulative Impacts/Effects:**

Direct Impacts: The immediate loss of aquatic ecosystem within the footprint of the fill.

Secondary Impacts: These are effects on an aquatic ecosystem that are associated with a discharge of dredged or fill materials, but do not result from the actual placement of the dredged or fill material. Information about secondary effects on aquatic ecosystems shall be considered prior to the time final section 404 action is taken by permitting authorities. Some examples of secondary effects on an aquatic ecosystem are a) fluctuating water levels in all impoundment and downstream associated with the operation of a dam, b) septic tank leaching and surface runoff from residential or commercial developments on fill, and c) leachate and runoff from a sanitary landfill located in waters of the U.S. Put another way, secondary effects are those impacts outside the footprint of the fill that arise from and are associated with the discharge of dredged or fill material, including the operation of an activity or facility associated with the discharge. Examples may include habitat fragmentation; interruption of travel corridors for wildlife (for example, for amphibians that migrate to and from seasonal or vernal pools used as breeding habitat); hydrologic regime changes; and impacts from operation and maintenance activities for constructed facilities; such as noise/lighting, storm water runoff, and road kill of wetland dependent wildlife. Using the directions contained in the guidelines, we consider the circumstances of a proposed discharge and the project of which it is a part to evaluate the scope, extent, severity, and permanence of direct, secondary, and cumulative adverse effects upon the aquatic ecosystem.

Cumulative Impacts: The extent of past, present, and foreseeable developments in the area may be an important consideration in evaluating the significance of a particular project's impacts. Although the impacts associated with a particular discharge may be minor, the cumulative effect of numerous similar discharges can result in a large impact. Cumulative impacts should be estimated only to the extent that they are reasonable and practical.

³**Special Aquatic Sites:** Includes wetlands and saltmarsh, mudflats, riffles and pools, and vegetated shallows (predominantly comprised of eelgrass in Maine).

⁴**Construction Mats:** Constructions, swamp and timber mats (herein referred to as “construction mats”) are generic terms used to describe structures that distribute equipment weight to prevent wetland damage while facilitating passage and providing work platforms for workers and equipment. They are comprised of sheets or mats made from a variety of materials in various sizes. A timber mat consists of large timbers bolted or cabled together. Corduroy roads, which are not considered to be construction mats, are cut trees and/or saplings with the crowns and branches removed, and the trunks lined up next to one another. Corduroy roads are typically installed as permanent structures. Like construction mats, they are considered as fill whether they're installed temporarily or permanently.

⁵**Vernal Pools:** A vernal pool, also referred to as a seasonal forest pool, is a temporary to semi-permanent body of water occurring in a shallow depression that typically fills during the spring or fall and may dry during the summer. Vernal pools have no permanent inlet or outlet and no viable populations of predatory fish. A vernal pool may provide the primary breeding habitat for wood frogs (*Rana sylvatica*), spotted salamanders (*Ambystoma maculatum*), blue-spotted salamanders (*Ambystoma laterale*), and fairy shrimp (*Eubranchipus* sp.), as well as valuable habitat for other plants and wildlife, including several rare, threatened, and endangered species. A vernal pool intentionally created for the purposes of compensatory mitigation is included in this definition. For the purposes of this GP, the presence of any of the following species in any life stage in any abundance level/quantity would designate the waterbody as a vernal pool: fairy shrimp, blue spotted salamanders, spotted salamanders or wood frogs. The Corps may determine during a Category 2 review that a waterbody should not be regulated as a VP based on available evidence. For the purposes of this GP, the VP Management Areas are the: Vernal Pool Depression (includes the vernal pool depression up to the spring or fall high water mark, and includes any vegetation growing within the depression), Vernal Pool Envelope (area within 100 FT of the VP Depression's edge) and Critical Terrestrial Habitat (area within 100-750 FT of the Vernal Pool Depression's edge). [*Note: Critical Terrestrial Habitat is defined as 100 -750 FT on page 243 of the document “Science and Conservation of Vernal Pools in Northeastern North America.” Calhoun and deMaynadier, 2008, which is referenced in Appendix G, page 3, Paragraph 10(b).

⁶ **Water Diversions:** Water diversions are activities such as bypass pumping or water withdrawals. Temporary flume pipes, culverts or cofferdams where normal flows are maintained within the stream boundary's confines aren't water diversions. "Normal flows" are defined as no change in flow from pre-project conditions.

⁷ **Maintenance:** a) The repair, rehabilitation, or replacement of any previously authorized, currently serviceable structure or fill, or of any currently serviceable structure or fill authorized by 33 CFR 330.3 – "Activities occurring before certain dates," provided that the structure or fill is not to be put to uses differing from those uses specified or contemplated for it in the original permit or the most recently authorized modification.

- Minor deviations in the structure's configuration or filled area, including those due to changes in materials, construction techniques, or current construction codes or safety standards that are necessary to make repair, rehabilitation, or replacement are authorized.
- Currently serviceable means useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.
- No seaward expansion for bulkheads or any other fill activity is considered Category 1 maintenance.
- Only structures or fills that were previously authorized and are in compliance with the terms and condition of the original authorization can be maintained as a non-regulated activity under 33 CFR 323.4(a)(2), or in accordance with the Category 1 or 2 thresholds in Appendix A.

b) The state's maintenance provisions may differ from the Corps and may require reporting and written authorization from the state.

c) Contact the Corps to determine whether stream crossing replacements require a written application to the Corps for at least a Category 2 review.

d) Exempted Maintenance. In accordance with 33 CFR 323.4(a)(2), any discharge of dredged or fill material that may result from any of the following activities is not prohibited by or otherwise subject to regulation under Section 404 of the CWA: "Maintenance, including emergency reconstruction of recently damaged parts, of currently serviceable structures such as dikes, dams, levees, groins, riprap, breakwaters, causeways, bridge abutments or approaches, and transportation structures. Maintenance does not include any modification that changes the character, scope, or size of the original fill design."

⁸ **Aquatic Habitat Restoration, Establishment and Enhancement:** The Corps will decide if a project qualifies and must determine in consultation with federal and state agencies that the net effects are beneficial. The Corps may refer to Nationwide Permit 27 published in the 3/12/07 Federal Register. Activities authorized here may include, but are not limited to: the removal of accumulated sediments; the installation, removal, and maintenance of small water control structures, dikes, and berms; the installation of current deflectors; the enhancement, restoration, or establishment of riffle and pool stream structure; the placement of in-stream habitat structures; modifications of the stream bed and/or banks to restore or establish stream meanders; the backfilling of artificial channels and drainage ditches; the removal of existing drainage structures; the construction of small nesting islands in inland waters; the construction of open water areas; the construction of native shellfish species habitat over unvegetated bottom for the purpose of habitat protection or restoration in tidal waters; shellfish seeding; activities needed to reestablish vegetation, including plowing or discing for seed bed preparation and the planting of appropriate wetland species; mechanized land clearing to remove non-native invasive, exotic, or nuisance vegetation; and other related activities. Only native plant species should be planted at the site.

⁹ **Brushing the Flats:** The placement of tree boughs, wooden lath structure, or small-mesh fencing on mudflats to enhance recruitment of soft-shell clams (*Mya arenaria*).

¹⁰ **Maintenance Dredging:** This includes only those areas and depths previously authorized by the Corps and dredged. The Corps may require proof of authorization. Maintenance dredging typically refers to the routine removal of sediment to maintain the design depths of serviceable navigation channels, harbors, basins, marinas, boat launches, and port facilities. Maintenance dredging is conducted for navigational purposes and does not include any expansion of the previously dredged area or depth. The Corps may review a maintenance dredging activity as new dredging if sufficient time has elapsed to allow for the colonization of SAS, shellfish, etc.

¹¹ **Boating Facilities:** Facilities that provide for a fee, rent, or sell mooring space, such as marinas, yacht clubs, boat clubs, boat yards, town facilities, dockminiums, etc.

¹² **Federal Navigation Projects (FNPs):** FNPs are comprised of Federal Channels and Federal Anchorages. See Appendix F for their location and contact the Corps for more information. "Horizontal Limits" is the outer edge of an FNP. "Buffer Zone" is equal to three times the authorized depth of that channel.

¹³ **Horizontal Limits:** The outer edge of a Federal Navigation Project (FNP). See Appendix F and contact the Corps for information on FNP's.

¹⁴ **Eelgrass (*Zostera marina*):** A type of rooted aquatic vegetation that exists in intertidal and shallow subtidal areas known as vegetated shallows. See www.nero.noaa.gov/hcd/ for eelgrass survey guidance. Note: Eelgrass surveys should be conducted between May and October unless otherwise directed.

¹⁵ **Structures:** The height of structures shall at all points be equal to or exceed the width of the deck. For the purpose of this definition, height shall be measured from the marsh substrate to the bottom of the longitudinal support beam.

¹⁶ **Agricultural Activities:** The Clean Water Act exempts certain discharges associated with normal farming, ranching, and forestry activities such as plowing, cultivating, minor drainage, and harvesting for the production of food, fiber, and forest products, or upland soil and water conservation practices (Section 404(f)(1)(A)). Applicants are strongly advised to contact the Corps for a determination of whether their activity is exempt or requires a permit.



Appendix B: Self-Verification Notification Form
(for all tidal and non-tidal projects in Maine subject to Corps jurisdiction)

**US Army Corps
of Engineers®**
New England District

At least two weeks before work commences, complete **all** fields (write “none” if applicable) below or use the fillable form at www.nae.usace.army.mil/missions/regulatory.aspx. Send this form, a location map, any project plans, and an Official Species List (See GC 8) to the address noted below; fax to (207) 623-8206; or email to jay.l.clement@usace.army.mil. The two-week lead time is not required for emergency situations (see page 4 for definition). Please call (207) 623-8367 with questions.

Maine Project Office
U.S. Army Corps of Engineers
New England District
675 Western Avenue #3
Manchester, Maine 04351

State Permit Number: _____
Date of State Permit: _____
State Project Manager: _____

Permittee: _____
Address, City, State & Zip: _____
Phone(s) and Email: _____

Contractor: _____
Address, City, State & Zip: _____
Phone(s) and Email: _____

Consultant/Engineer/Designer: _____
Address, City, State & Zip: _____
Phone(s) and Email: _____

Wetland/Vernal Pool Consultant: _____
Address, City, State & Zip: _____
Phone(s) and Email: _____

Project Location/Description: _____
Address, City, State & Zip: _____
Latitude/Longitude Coordinates: _____ Tax Map/Lot: _____
Waterway Name: _____
Work Description: _____

Provide any prior Corps permit numbers: _____
Proposed Work Dates: Start: _____ Finish: _____

Area of wetland impact: _____ SF (leave blank if work involves structures & no fill in Navigable Waters)
Area of waterway impact: _____ SF (leave blank if work involves structures & no fill in Navigable Waters)
Area of compensatory mitigation provided: _____ SF

Work will be done under the following Appendix A categories (circle all that apply):

I. Inland Waters and wetlands: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
II. Navigable Waters: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

Your name/signature below, as permittee, indicates that you accept and agree to comply with the terms, eligibility criteria, and general conditions of Category 1 of the Maine General Permit.

Permittee Printed Name: _____

Permittee Signature: _____ Date: _____



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New England District

Appendix C: Content of Pre-Construction Notification

In addition to the following required information, the applicant must provide additional information as the Corps deems essential to make a public interest determination including, where applicable, a determination of compliance with the Section 404(b)(1) guidelines or ocean dumping criteria. Such additional information may include environmental data and information on alternate methods and sites as may be necessary for the preparation of the required environmental documentation. For a more comprehensive checklist, go to www.nae.usace.army.mil/missions/regulatory >> Forms >> Application and Plan Guideline Checklist. Please check with the Corps for project-specific requirements.

Information required for all projects:

- ☐ Corps application form ([ENG Form 4345](#)) or appropriate state application form (see Appendix E). Forms may need to be supplemented to include the information noted below.
- ☐ Proof of notification to the SHPO and the appropriate THPOs (see Appendix E).
- ☐ Official Species List for any federally listed endangered or threatened species (Instructions at Appendix D)
- ☐ Drawings, sketches, or plans (detailed engineering plans and specifications are not required) that are legible, reproducible (color is encouraged, but features must be distinguishable in black and white), no larger than 11"x17", with bar scale. Wetland area impact sheets should have the highest resolution possible to show work within Corps jurisdiction (do not just reduce project overview or cut large-scale plan into quadrant sheets). Provide locus map and a plan overview of the entire property with a key index to the individual impact sheets. A locus map on a section of color USGS topographic map is encouraged. Digital submissions are encouraged.
- ☐ Include:
 - ☐ All direct, secondary, permanent and temporary effects the project would cause, including the anticipated amount of impacts to waters of the U.S. expected to result from the activity, in acres, linear feet, or other appropriate unit of measure.
 - ☐ Any historic permanent fill associated with each single and complete project.
 - ☐ Cross-section views of all wetland and waterway fill areas and wetland replication areas.
 - ☐ Delineation of all wetlands, other special aquatic sites (vegetated shallows, saltmarsh, mudflats, riffles and pools, coral reefs, and sanctuaries and refuges), and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Use Federal delineation methods and include Corps wetland delineation data sheets (see GC 2).
 - ☐ MLW and MHW elevations in tidal waters. Show the HTL elevations when fill is involved. Show OHW elevation in lakes and non-tidal streams.
 - ☐ Existing and proposed conditions.
 - ☐ For vegetated shallow and eelgrass survey guidance, see www.nae.usace.army.mil/missions/regulatory >> Jurisdictional Limits and Wetlands >> Submerged Aquatic Vegetation Survey Guidance for the New England Region.
 - ☐ Show all known VPs on the project site. See GC 23 for vernal pool identification requirements.
- ☐ Volume, type, and source of fill material to be discharged into waters and wetlands, including the area(s) (in square feet or acres) of fill in wetlands, below OHW in inland waters and below the HTL in coastal waters.

- An Official Species List of federally “listed species or critical habitat” present in the action area (see GC 8).
- A restoration plan showing how all temporary fills and structures will be removed and the area restored to pre-project conditions (see GC 43).

Information that may be required:

- Photographs of wetland/waterway to be impacted. Photos at low tide are preferred for work in tidal waters.
- For drawings, sketches, or plans:
 - The vertical datum for all coastal projects must be in U.S. survey feet and referenced to MLLW and current tidal epochs, with a reference chart showing conversion factor to NAVD88; do not use local datum. See www.nae.usace.army.mil/missions/regulatory >> Forms and Publications >> Vertical Datum - FEMA (Jul 2007);
 - The horizontal state plane coordinates shall be in U.S. survey feet and based on the appropriate state plane coordinate system.
- For the construction of a filled area or pile or float-supported platform, the use of, and specific structures to be erected on, the fill or platform.
- For the discharge of dredged or fill material into waters of the U.S. or the transportation of dredged material for the purpose of disposing of it in ocean waters, the source of the material; the purpose of the discharge, a description of the type, composition and quantity of the material; the method of transportation and disposal of the material; and the location of the disposal site.
- For the discharge of dredged or fill material into waters of the U.S., include a statement describing how impacts to waters of the U.S. are to be avoided and minimized. Include either a statement describing how impacts to waters of the U.S. are to be compensated for or a statement explaining why compensatory mitigation should not be required for the proposed impacts.
- Purpose and need for the proposed activity;
- Limits and coordinates of any Federal Navigation Project in the vicinity of the project area.
- Limits and coordinates of any proposed mooring field, reconfiguration zone or aquaculture activity. Provide coordinates for all corners;
- Schedule of construction/activity;
- Names and addresses of adjoining property owners;
- Location and dimensions of adjacent structures;
- List of authorizations required by other Federal, interstate, state, or local agencies for the work, including all approvals received or denials already made.
- Identification and description of potential impacts to Essential Fish Habitat (defined at VI. Definitions and Acronyms).
- Identification of potential discharges of pollutants to waters, including potential impacts to impaired waters, in the project area (see GC 19).
- Invasive Species Control Plan (see GC 24). For sample control plans, see www.nae.usace.army.mil/missions/regulatory >> Invasive Species.
- Wildlife Action Plan (WAP) maps. Contact Maine Inland Fisheries & Wildlife (Appendix E) or on line at http://www.maine.gov/ifw/wildlife/conservation/action_plan.html

Information for dredging projects that may be required:

- Sediment testing, including physical (e.g., grain-size analysis), chemical and biological testing. For projects proposing open water disposal, applicants are encouraged to contact the Corps as early as possible regarding sampling and testing protocols. Sampling and testing of sediments without such contact should not occur and if done, would be at the applicant’s risk.
- The area in square feet and volume of material to be dredged below mean high water.

- ☐ Existing and proposed water depths.
- ☐ Type of dredging equipment to be used.
- ☐ Nature of material (e.g., silty sand).
- ☐ Any existing sediment grain size and bulk sediment chemistry data for the proposed or any nearby projects.
- ☐ Information on the location and nature of municipal or industrial discharges and occurrence of any contaminant spills in or near the project area.
- ☐ Shellfish survey.
- ☐ Location of the disposal site (include locus sheet).
- ☐ Identification and description of any potential impacts to Essential Fish Habitat.
- ☐ Delineation of submerged aquatic vegetation (e.g., eelgrass beds).

Information for aquaculture projects that may be required:

- ☐ Maine Aquaculture guidelines and joint Corps/Maine DMR applications may be found at: www.maine.gov/dmr/aquaculture/index.htm.
- ☐ In addition to the information required above, applications must also include:
 - ☐ Whether canopy predator nets are being used.

Appendix D: Instruction for USFWS IPaC Project Builder/Official Species List

NOTE: These instructions are subject to change by the USFWS. Users should check this GP's Corps webpage for the latest instructions or click [here](#).

In your internet browser go to <http://ecos.fws.gov/ipac/>

1. Click on get started.
2. Click on enter project location.
3. Search or zoom to your project location. (You can enter an address and then zoom in with your mouse).
4. Define your area. (Select the polygon tool and click around the boundary of your project.) or (Use the draw a line tool for linear projects)

Note: You can change/select the map from Streets to Satellite or Topo in the lower left corner of the map.

5. Click finished drawing then click confirm and select continue.

6. On the next page under Tasks (lower left), select Request an official species list. The pane will open. Select "request official species list" again.

7. A new page will open. Fill in the project information blanks with the project name, brief description, project type, lead agency, and contact information. Be sure to check the box to verify this is a legitimate project. Click on Submit Official Species List Request.

8. You will be sent an e-mail with instructions to complete the request by clicking on the link provided.

9. The site will open Official Species List Request Completed. Under the Maine Ecological Services Field Office address you will see "Official Species List Document". Click on that link and your document will open. Save and or print a copy and **include the entire report with your application.**

Note, you will receive a second e-mail with the same information. You can save the link in the event you need to return to the IPaC site for an updated list.

If a period of time has passed since your initial "Official Species List" identifier number was generated, you may choose to generate an "UPDATED SPECIES LIST". To do this, return to the IPaC homepage at <http://ecos.fws.gov/ipac> site. In the middle of the page, click the purple "Need an updated species list" link.

On the request an "Updated Official Species List" page, complete the information in the boxes provided. You will need the project specific official consultation code generated and stated on the original official list as well as the email address entered with the original submission.

Click "Request Updated Species List". Print, or save.

Appendix E: Contacts and Tribal Areas of Interest

1. Federal

U.S. Army Corps of Engineers
Maine Project Office
675 Western Avenue #3
Manchester, ME 04351
(207) 623-8367 (phone); (207) 623-8206 (fax)

Federal Emergency Management Agency
99 High St.
Boston, MA 02110
(877) 336-2734 (phone)
(Flood Plain Management)

U.S. Environmental Protection Agency
5 Post Office Square
Suite 100 (OEP05-2)
Boston, MA 02109-3912
(617) 918-1589 (phone)

National Marine Fisheries Service
55 Great Republic Drive
Gloucester, MA 01930
(978) 281-9102 (phone); (978) 281-9301 (fax)
(Federal endangered species & EFH)

U.S. Fish and Wildlife Service
Maine Field Office
17 Godfrey Drive, Suite 2
Orono, ME 04473
(207) 866-3344 (phone); (207) 866-3351 (fax)
(Federal endangered species)

National Park Service
North Atlantic Region
15 State Street
Boston, MA 02109
(617) 223-5203 (phone)
(Wild and Scenic Rivers)

National Marine Fisheries Service
Maine Field Office
17 Godfrey Drive Suite 1
Orono, ME 04473
(207) 866-7379 (phone); (207) 866-7342 (fax)
(Federal endangered species)

Commander (dpb)
First Coast Guard District
One South Street - Battery Bldg
New York, NY 10004-1466
(212) 668-7021 (phone); (212) 668-7967 (fax)
(bridge permits)

2. State of Maine

a. Department of Environmental Protection *(State permits & Water Quality Certifications)*

Division of Land Resource Regulation
Bureau of Land and Water Quality
17 State House Station
Augusta, Maine 04333
(207) 287-7688 (phone)

Eastern Maine Regional Office
106 Hogan Road
Bangor, Maine 04401
(207) 941-4570 (phone)

Southern Maine Regional Office
312 Canco Road
Portland, Maine 04103
(201) 822-6300 (phone)

Northern Maine Regional Office
1235 Central Drive - Skyway Park
Presque Isle, Maine 04769
(207) 764-0477 (phone)

b. Department of Agriculture, Conservation and Forestry

i. Maine Land Use Planning Commission (LUPC) (*State permits & Water Quality
Certifications in the unorganized areas of the State*)

Augusta Office
22 State House Station
Augusta, Maine 04333-0022
(207) 287-2631 (phone); (207) 287-7439 (fax)

Greenville Regional Office
43 Lakeview Drive
P.O. Box 1107
Greenville, Maine 04441
(207) 695-2466 (phone); (207) 695-2380 (fax)

Rangeley Regional Office
133 Fyfe Road
PO Box 307
West Farmington, ME 04992
(207) 670-7493 (phone); (207) 287-7439 (fax)

Downeast Regional Office
106 Hogan Rd, Suite 8
Dorothea Dix Complex
Bangor, Maine 04401
(207) 941-4052 (phone); (207) 941-4222 (fax)

Ashland Regional Office
45 Radar Road
Ashland, ME 04732-3600
(207) 435-7963 (phone); (207) 435-7184 (fax)

East Millinocket Regional Office
191 Main Street
East Millinocket, ME 04430
(207) 746-2244 (phone); (207) 746-2243 (fax)

ii. Maine Coastal Program

Department of Agriculture, Conservation and Forestry
Bureau of Resource Information and Land Use Planning
17 Elkins Lane {physical address}
State House Station 93
Augusta, Maine 04333-0038
(207) 287-2801 (phone); (207) 287-2353 (fax)
(*CZM consistency determinations*)

iii. Division of Parks and Public Lands

22 State House Station
Augusta, Maine 04333
(207) 287-3061 (phone); (207) 287-6170 (fax)
(*submerged lands leases*)

c. Department of Marine Resources

P.O. Box 8
West Boothbay Harbor, Maine 04575
(207) 633-9500 (phone); (207) 624-6024 (fax)
(*aquaculture leases*)

3. Historic Properties

a. State Historic Preservation Officer (SHPO)

Mr. Kirk F. Mohny, Director

Maine Historic Preservation Commission (MHPC)

65 State House Station

Augusta, Maine 04333-0065

(207) 287-2132 (phone); (207) 287-2335 (fax)

Area of concern: The entire State of Maine

b. Tribal Historic Preservation Officers (THPOs)

Note: The area of concern for each tribe is the entire State of Maine

THPO & Environmental Planner

Houlton Band of Maliseet Indians

88 Bell Road

Littleton, Maine 04730

(207) 532-4273, x215 (phone)

(207) 532-6883 (fax)

envplanner@maliseets.com

ogs1@maliseets.com

THPO

Aroostook Band of Micmacs

7 Northern Road

Presque Isle, Maine 04769

(207) 764-1972 (phone); (207) 764-7667 (fax)

jpictou@mimca-nsn.gov

THPO

Passamaquoddy Tribe of Indians

Pleasant Point Reservation

P.O. Box 343

Perry, Maine 04667

(207) 853-2600 (phone); (207) 853-6039 (fax)

soctomah@gmail.com

THPO

Penobscot Nation

Cultural and Historic Preservation Dept.

12 Wabanaki Way

Indian Island, Maine 04468

(207) 817-7471 (phone)

chris.sockalexis@penobscotnation.org

THPO

Passamaquoddy Tribe of Indians

Indian Township Reservation

P.O. Box 301

Princeton, Maine 04668

(207) 796-2301 (phone)

(207) 796-5256 (fax); soctomah@gmail.com

4. Organizational Websites (Note – Subject to Change):

U.S. Army Corps of Engineers, N.E. District

U.S. Army Corps of Engineers, Headquarters

U.S. Environmental Protection Agency

National Marine Fisheries Service

U.S. Fish and Wildlife Service

National Park Service

Maine Department of Environmental Protection

Maine Department of Agriculture,

Conservation and Forestry

Maine Land Use Planning Commission

Maine Department of Marine Resources

State of Maine - Aquaculture Guidelines

www.nae.usace.army.mil/missions/regulatory.aspx

See above link>>Useful Links>>Federal Agency Links

www.epa.gov/owow/wetlands

www.nmfs.noaa.gov

www.fws.gov/mainefieldoffice

www.nps.gov/rivers/index.html

www.maine.gov/dep

www.maine.gov/acf/index.shtml

www.maine.gov/doc/lupc/commission/offices.shtml

www.maine.gov/dmr/index.htm

www.maine.gov/dmr/aquaculture/index.htm

Appendix F: Definitions

Definitions

Attendant Features: Occurring with or as a result of; accompanying.

Biodegradable: A material that decomposes into elements found in nature within a reasonably short period of time and will not leave a residue of plastic or a petroleum derivative in the environment after degradation. Examples of biodegradable materials include jute, sisal, cotton, straw, burlap, coconut husk fiber (coir) or excelsior. In contrast, degradable plastics break down into plastic fragments that remain in the environment after degradation.

Boating facilities: These provide, rent or sell mooring space, such as marinas, yacht clubs, boat yards, dockminiums, town facilities, land/home owners, etc. Not classified as boating facilities are piers shared between two abutting properties or town mooring fields that charge an equitable user fee based on the actual costs incurred.

Brushing the Flats: The placement of tree boughs, wooden lath structure, or small-mesh fencing on mudflats, or any bottom disturbance (e.g., discing, plowing, raking, etc.), to enhance recruitment of shellfish.

Buffer Zone: The buffer zone of an FNP is equal to three times the authorized depth of the FNP.

Construction mats: Constructions, swamp and timber mats (herein referred to as “construction mats”) are generic terms used to describe structures that distribute equipment weight to prevent wetland damage while facilitating passage and providing work platforms for workers and equipment. They are comprised of sheets or mats made from a variety of materials in various sizes. A timber mat consists of large timbers bolted or cabled together. Corduroy roads, which are not considered to be construction mats, are cut trees and/or saplings with the crowns and branches removed, and the trunks lined up next to one another. Corduroy roads are typically installed as permanent structures. Like construction mats, they are considered as fill whether they are installed temporarily or permanently.

Cumulative effects: See “Direct, secondary, and cumulative effects.”

Direct, secondary, and cumulative effects:

Direct Effects: The loss of aquatic ecosystem within the footprint of the discharge of dredged or fill material. Direct effects are caused by the action and occur at the same time and place.

Secondary Effects: These are effects on an aquatic ecosystem that are associated with a discharge of dredged or fill materials, but do not result from the actual placement of the dredged or fill material. Information about secondary effects on aquatic ecosystems shall be considered prior to the time final Section 404 action is taken by permitting authorities. Some examples of secondary effects on an aquatic ecosystem are a) aquatic areas drained, flooded, fragmented, or mechanically cleared, b) fluctuating water levels in all impoundment and downstream associated with the operation of a dam, c) septic tank leaching and surface runoff from residential or commercial developments on fill, and d) leachate and runoff from a sanitary landfill located in waters of the U.S. See 40 CFR 230.11(h).

Cumulative Effects: The changes in an aquatic ecosystem that are attributable to the collective effect of a number of individual 1) discharges of dredged or fill material, or 2) structures. Although the impact of a particular discharge may constitute a minor change in itself, the cumulative effect of numerous such piecemeal changes can result in a major impairment of the water resources and interfere with the productivity and water quality of existing aquatic ecosystems. See 40 CFR 230(g).

Dredging:

Maintenance Dredging: Includes areas and depths previously authorized by the Corps and dredged. The Corps may require proof of authorization. Maintenance dredging typically refers to the routine removal of accumulated sediment from channel beds to maintain the design depths of navigation channels, harbors, marinas, boat launches and port facilities. Routine maintenance dredging is conducted regularly for navigational purposes (typically at least once every ten years) and does not include any expansion of the previously dredged area or depth. The Corps may review a maintenance dredging activity as new dredging if sufficient time has elapsed to allow for the colonization of SAS,

shellfish, etc. The main characteristics of maintenance dredging projects are variable quantities of material; soft, uncompacted soil; contaminant content possible; thin layers of material; occurring in navigation channels and harbors; repetitive activity

New Dredging: Dredging of an area or to a depth that has never been authorized by the Corps or dredged.

Dredged material & discharge of dredged material: These are defined at 323.2(c) and (d). The term dredged material means material that is excavated or dredged from waters of the U.S.

Essential Fish Habitat (EFH): This is broadly defined to include those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.

Fill material & discharge of fill material: These are defined at 323.2(e) and (f). The term fill material is defined as material placed in waters of the U.S. where the material has the effect of either replacing any portion of a water of the U.S. with dry land or changing the bottom elevation of any portion of a water of the U.S.

Federal anchorages, Federal channels and Federal turning basin: Refer to Appendix H for those in Maine

Federal navigation projects (FNPs): These areas are maintained by the Corps; authorized, constructed and maintained on the premise that they will be accessible and available to all on equal terms; and are comprised of Federal Anchorages, Federal Channels and Federal Turning Basins. The buffer zone is equal to three times the authorized depth of a FNP. More information on the following FNPs is provided at www.nae.usace.army.mil/missions/navigation.aspx >> Navigation Projects.

Flume: An open artificial water channel, in the form of a gravity chute, that leads water from a diversion dam or weir completely aside a natural flow. A flume can be used to measure the rate of flow.

Frac out: During normal drilling operations, drilling fluid travels up the borehole into a pit. When the borehole becomes obstructed or the pressure becomes too great inside the borehole, the ground fractures and fluid escapes to the surface.

Independent utility: A test to determine what constitutes a single and complete non-linear project in the Corps regulatory program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.

Individual Permit: A Department of the Army authorization that is issued following a case-by-case evaluation of a specific structure or work in accordance with the procedures of 33 CFR 322, or a specific project involving the proposed discharge(s) in accordance with the procedures of 33 CFR 323, and in accordance with the procedures of 33 CFR 325 and a determination that the proposed discharge is in the public interest pursuant to 33 CFR 320.

Maintenance: Regulations on maintenance are provided at 33 CFR 323.4. The following definitions are applicable:

Minor deviations: Deviations in the structure's configuration or filled area, including those due to changes in materials, construction techniques, or current construction codes or safety standards, which are necessary to make repair, rehabilitation, or replacement are permitted, provided the adverse environmental effects resulting from such repair, rehabilitation, or replacement are minimal.

Currently serviceable: Useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.

Marina reconfiguration zone: A Corps-authorized area in which permittees may rearrange pile-supported structures and floats without additional authorizations. A reconfiguration zone does not grant exclusive privileges to an area or an increase in structure or float area.

Navigable waters of the U.S.: See Waters of the U.S. below.

Overall project: See "single and complete linear project" below.

Practicable: Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

Permanent impacts: Permanent impacts means waters of the U.S. that are permanently affected by filling, flooding, excavation, or drainage because of the regulated activity. Permanent impacts include permanent discharges of dredged or fill material that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. Temporary impacts include waters of the U.S. that are temporarily filled, flooded, excavated, drained or mechanically cleared because of the regulated activity.

Pre-construction notification (PCN): A request submitted by the project proponent to the Corps for confirmation that a particular activity is authorized by this GP. The request may be a permit application, letter, or similar document that includes information about the proposed work and its anticipated environmental effects. Pre-construction notification may be required by the terms and conditions of these GPs. A PCN may be voluntarily submitted in cases where PCN is not required and the project proponent wants confirmation that the activity is authorized under this GP.

Secondary effects: See “Direct, secondary, and cumulative effects.”

Single and complete linear project: A linear project is a project constructed for the purpose of getting people, goods, or services from a point of origin to a terminal point, which often involves multiple crossings of one or more waterbodies at separate and distant locations. The term “single and complete project” is defined as that portion of the total linear project proposed or accomplished by one owner/developer or partnership or other association of owners/developers that includes all crossings of a single water of the U.S. (i.e., a single waterbody) at a specific location. For linear projects crossing a single or multiple waterbodies several times at separate and distant locations, each crossing is considered a single and complete project for the purposes of this GP. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately.

The overall project, for purposes of this GP, includes all regulated activities that are reasonably related and necessary to accomplish the project purpose.

Single and complete non-linear project: For non-linear projects, the term “single and complete project” is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. For non-linear projects, the single and complete project must have independent utility (see definition).

Special aquatic sites: These include inland and saltmarsh wetlands, mud flats, vegetated shallows, sanctuaries and refuges, coral reefs, and riffle and pool complexes. These are defined at 40 CFR 230 Subpart E.

Stream channelization: The manipulation of a stream’s course, condition, capacity, or location that causes more than minimal interruption of normal stream processes. A channelized stream remains a water of the United States.

Temporary impacts: See permanent impacts above.

Utility line: Any pipe or pipeline for the transportation of any gaseous, liquid, liquescent, or slurry substance, for any purpose, and any cable, line, or wire for the transmission for any purpose of electrical energy, telephone, and telegraph messages, and radio and television communication. The term ‘utility line’ does not include activities that drain a water of the U.S., such as drainage tile or French drains, but it does apply to pipes conveying drainage from another area.

Vegetated shallows: Permanently inundated areas that under normal circumstances support communities of rooted aquatic vegetation, such as eelgrass and widgeon grass (*Ruppia maritima*) in marine systems (doesn’t include salt marsh) as well as a number of freshwater species in rivers and lakes. Note: These areas are also commonly referred to as submerged aquatic vegetation (SAV).

Vernal pools (VPs): For the purposes of this GP, VPs are depressional wetland basins that typically go dry in most years and may contain inlets or outlets, typically of intermittent flow. Vernal pools range in both size and depth depending upon landscape position and parent material(s). Pools usually

support one or more of the following obligate indicator species: wood frog, spotted salamander, blue-spotted salamander, marbled salamander, Jefferson's salamander and fairy shrimp. However, they should preclude sustainable populations of predatory fish.

VP areas are:

- Depression (includes the VP depression up to the spring or fall high water mark, and includes any vegetation growing within the depression),
- Envelope (area within 100 feet of the VP depression's edge), and
- Critical terrestrial habitat (area within 100-750 feet of the VP depression's edge).

Note: See footnote to GC 23. The Corps may determine during the PCN review that a waterbody should not be designated as a VP based on available evidence.

Water diversions: Water diversions are activities such as bypass pumping (e.g., "dam and pump") or water withdrawals. Temporary flume pipes, culverts or cofferdams where normal flows are maintained within the stream boundary's confines aren't water diversions. "Normal flows" are defined as no change in flow from pre-project conditions.

Weir: A barrier across a river designed to alter the flow characteristics. In most cases, weirs take the form of a barrier, smaller than most conventional dams, across a river that causes water to pool behind the structure (not unlike a dam) and allows water to flow over the top. Weirs are commonly used to alter the flow regime of the river, prevent flooding, measure discharge and help render a river navigable.

Waters of the U.S. & Waters of the United States (U.S.): The term waters of the U.S. and all other terms relating to the geographic scope of jurisdiction are defined at 33 CFR 328. Also see Section 502(7) of the Federal CWA [33 USC 1352(7)]. Waters of the U.S. include jurisdictional wetlands. Not all waters and wetlands are jurisdictional. Contact the Corps with any questions regarding jurisdiction.

Navigable waters: Refer to 33 CFR 329. These waters include the following federally designated navigable waters in New England. This list represents only those waterbodies for which affirmative determinations have been made; absence from this list should not be taken as an indication that the waterbody is not navigable:

ME: All tidal waters; Kennebec River to Moosehead Lake; Penobscot River to the confluence of the East and West Branch at Medway, Maine; Lake Umbagog within the State of Maine.

Appendix G: Additional References

1. GC 2: Federal Jurisdictional Boundaries.

(a) Corps Wetlands Delineation Manual, regional supplements, and Corps Wetland Delineation Data Sheets: www.nae.usace.army.mil/missions/regulatory and then “Wetlands and Jurisdictional Limits.”

(b) The USFWS publishes the 1988 National List of Plant Species that Occur in Wetlands (www.nwi.fws.gov).

The Natural Resources Conservation Service (NRCS) publishes the current hydric soil definition, criteria and lists: <http://soils.usda.gov/use/hydric>. For the Field Indicators for Identifying Hydric Soils in N.E., see www.neiwpcc.org/hydricsoils.asp.

2. GC 5: Single and Complete Project.

Single and complete project means the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. For example, if construction of a residential development affects several different areas of a headwater or isolated water, or several different headwaters or isolated waters, the cumulative total of all filled areas should be the basis for deciding whether or not the project will be covered by Category 1 or 2.

The **Independent utility** test is used to determine what constitutes a single and complete project in the Corps regulatory program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.

3. GC 8: Threatened and Endangered Species.

(a) The following NMFS site must be referenced to ensure that listed species or critical habitat are not present in the action area [GC 8(b)] or to provide information on federally-listed species or habitat [GC 8(e)]: www.nero.noaa.gov/prot_res/esp/ListE&Tspec.pdf. Contact the USFWS for information to check for the presence of listed species (see Appendix D for contact information & procedures).

(b) The Endangered Species Act Consultation Handbook – Procedures for Conducting Section 7 Consultations and Conferences, defines action area as “all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action. [50 CFR 402.02].”

4. GC 42: Essential Fish Habitat.

As part of the GP screening process, the Corps may coordinate with NMFS in accordance with the 1996 amendments to the Magnuson-Stevens Fishery Conservation and Management Act to protect and conserve the habitat of marine, estuarine and anadromous finfish, mollusks, and crustaceans. This habitat is termed “Essential Fish Habitat (EFH)”, and is broadly defined to include “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.” There are EFH waters throughout inland and coastal waters in Maine. For additional information, see the EFH regulations 50 CFR 600 at www.nero.noaa.gov/hcd including the “Guide for EFH Descriptions” at www.nero.noaa.gov/hcd/list.htm. Additional information on the location of EFH can be obtained from NMFS (see Appendix D for contact information).

5. GC 4: Avoidance, Minimization and Compensatory Mitigation.

(a) See www.nae.usace.army.mil/missions/regulatory and then “Mitigation” to view the April 10, 2008 “Final Compensatory Mitigation Rule” (33 CFR 332) and related documents. The Q&A document states: “In order to reduce risk and uncertainty and help ensure that the required compensation is provided, the rule establishes a preference hierarchy for mitigation options. The most preferred option

is mitigation bank credits, which are usually in place before the activity is permitted. In-lieu fee program credits are second in the preference hierarchy, because they may involve larger, more ecologically valuable compensatory mitigation projects as compared to permittee-responsible mitigation. Permittee-responsible mitigation is the third option, with three possible circumstances: (1) conducted under a watershed approach, (2) on-site and in kind, and (3) off-site/out-of-kind.

(b) Compensatory mitigation may take the form of wetland preservation, restoration, enhancement, creation, and/or in lieu fee (ILF) for inclusion into the Natural Resources Mitigation Fund for projects in DEP and LURC territories. Avoidance of wetland impacts will reduce the ILF dollar total for applicants. The ILF compensation program was established to provide applicants with a flexible compensation option over and above traditional permittee responsible compensation projects. See the Maine ILF Agreement at www.nae.usace.army.mil/missions/regulatory, “Mitigation” and then “Maine,” or www.maine.gov/dep/blwq/docstand/nrpa/ILF_and_NRCP/index.htm.

6. GCs 24, 15, and 43: Invasive Species.

(a) Information on what are considered “invasive species” is provided in our “Compensatory Mitigation Guidance” document at www.nae.usace.army.mil/missions/regulatory under “Mitigation.” The “Invasive Species” section has a reference to our “Invasive Species Control Plan (ISCP) Guidance” document, located at www.nae.usace.army.mil/missions/regulatory under “Invasive Species,” which provides information on preparing an ISCP.

(b) The June 2009 “Corps of Engineers Invasive Species Policy” is at www.nae.usace.army.mil/missions/regulatory under “Invasive Species” and provides policy, goals and objectives.

7. GC 44: Bank Stabilization.

This generally eliminates bodies of water where the reflected wave energy may interfere with or impact on harbors, marinas, or other developed shore areas. A revetment is sloped and is typically employed to absorb the direct impact of waves more effectively than a vertical seawall. It typically has a less adverse effect on the beach in front of it, abutting properties and wildlife. See the Corps Coastal Engineering Manual [EM 1110-2-1100](#) at www.nae.usace.army.mil/missions/regulatory under “Useful Links and Documents” for design and construction guidance.

8. GC 45: Stream and Wetland Crossings.

(a) Projects should be designed and constructed to ensure long-term success using the most recent manual located at www.nae.usace.army.mil/missions/regulatory under “Stream and River Continuity,” currently “Stream Simulation: An Ecological Approach to Providing Passage for Aquatic Organisms at Road-Stream Crossings, by the U.S. Forest Service.” Section 5.3.3 is of particular importance. Sections 7.5.2.3 Construction Methods and 8.2.11 Stream-Simulation Bed Material Placement both show important steps in the project construction.

(b) For more information on High-Quality Stream Segments and their components see:

i. High-Quality Stream Segments are shown at www.maine.gov/dep/gis/datamaps.

ii. Class A Waters or Class AA Waters:

www.mainelegislature.org/legis/statutes/38/title38sec465.html, and

www.mainelegislature.org/legis/statutes/38/title38sec467.html.

iii. Outstanding river segments www.mainelegislature.org/legis/statutes/38/title38sec480-P.html.

(c) The Massachusetts Dam Removal and the Wetland Regulations offer guidance to evaluate the positive and negative impacts of culvert replacement, including the loss of upstream wetlands, which may be offset by the overall benefits of the river restoration. See

www.nae.usace.army.mil/missions/regulatory and then “Stream and River Continuity.”

(d) The ME DOT's document "Waterway and Wildlife Crossing Policy and Design Guide for Aquatic Organism, Wildlife Habitat, and Hydrologic Connectivity," 3rd Edition, July 2008, may be used as guidance to evaluate impacts to aquatic, wildlife and surface water resources when designing, constructing, repairing and maintaining stream crossings. Note: Adherence to this DOT document does not ensure compliance with this GP. Projects must comply with the requirements of this GP including GC 45 and the Corps General Stream Crossing Standards contained therein.

www.maine.gov/mdot/environmental-office-homepage/fishpassage/3rd%20edition%20-%20merged%20final%20version%207-01-08a1.pdf.

(e) GC 45(f): The Skidder Bridge Fact Sheet at www.nae.usace.army.mil/missions/regulatory under "Stream and River Continuity" may be a useful temporary span construction method.

9. GC 45: Wetland Crossings. The Maine DEP's crossing standards are at 06-096 DEP, Chapter 305: Permits by Rule, 9 & 10) Crossings (utility lines, pipes and cables).
www.maine.gov/dep/blwq/rules/NRPA/2009/305/305_effective_2009.pdf

10. GC 23: Protection of Vernal Pools.

(a) The state's Significant Wildlife Habitat rules ([Chapter 335](#), Section 9(C) "Habitat management standards for significant vernal pool habitat") are located at www.maine.gov/dep/blwq/docstand/nrpapage.htm#rule under "Rules."

(b) The following documents provide conservation recommendations:

i. Best Development Practices: Conserving pool-breeding amphibians in residential and commercial development in the northeastern U.S., Calhoun and Klemens, 2002. Chapter III, Management Goals and Recommendations, Pages 15 – 26, is particularly relevant. (Available for purchase at www.maineaudubon.org/resource/index.shtml and on Corps website*.)

ii. Science and Conservation of Vernal Pools in Northeastern North America, Calhoun and deMaynadier, 2008. Chapter 12, Conservation Recommendations section, Page 241, is particularly relevant. (Available for purchase via the internet. Chapter 12 is available on Corps website*.)

* www.nae.usace.army.mil/reg under "Vernal Pools."

(c) Cape Cod Curbing: For smaller roads and driveways, the most important design feature to consider is curbing. Granite curbs and some traditional curbing can act as a barrier to amphibian and hatchling turtle movements. Large numbers of salamanders have been intercepted in their migrations by curbs and catch basins. Use of Cape Cod curbs rather than traditional curbing may be one solution. Alternatively, where storm water management systems require more traditional curbing, it may be possible to design in escape ramps on either side of each catch basin. Cape Cod curbing is shown on Page 35 of the document cited in 10.b.i above. Bituminous material is not required; other materials such as granite are acceptable.

(d) The VP Directional Buffer Guidance document is located at www.nae.usace.army.mil/missions/regulatory under: 1) "State General Permits" and then "Maine," and 2) "Vernal Pools."

11. GC 29: Maintenance. River restoration projects that are designed to accommodate the natural dynamic tendencies of the fluvial system are maintained in accordance with the project's design objectives (Category 1) or the Corps authorization letter (Category 2). These projects are generally designed to support and implement channel assessment and management practices that recognize a stream's natural dynamic tendencies.

Appendix H: Federal Navigation Projects in Maine

