

MAINE TURNPIKE AUTHORITY

MAINE TURNPIKE

CONTRACT DOCUMENTS

CONTRACT 2022.01

Pavement Rehabilitation and Drainage Improvements
MM 102.6 TO MM 109.1

NOTICE TO CONTRACTORS

PROPOSAL

CONTRACT AGREEMENT

CONTRACT BOND

FINAL LIEN AND CLAIM WAIVER AND AFFIDAVIT

SPECIFICATIONS

MAINE TURNPIKE AUTHORITY
SPECIFICATIONS

The Specifications are divided into two parts:
Part I, Supplemental Specifications and Part II, Special
Provisions.

The Maine Turnpike Supplemental Specifications are additions
and alterations to the 2014 Maine Department of
Transportation Standard Specifications. See Subsection 100.1.

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MAINE TURNPIKE AUTHORITY

NOTICE TO CONTRACTORS

Sealed Proposals will be received by the Maine Turnpike Authority for:

CONTRACT 2022.01

Pavement Rehabilitation and Drainage Improvements
MM 102.6 TO MM 109.1

at the office of the Maine Turnpike Authority, 2360 Congress Street, Portland, ME, until 1:00 p.m., prevailing time as determined by the Authority on February 24, 2022, at which time and place the Proposals will be publicly opened and read. Bids will be accepted from Contractors **prequalified** by the Maine Department of Transportation for Paving Construction Projects. All other bids may be rejected. This Project includes a wage determination developed by the State of Maine Department of Labor.

The pavement rehabilitation work consists of milling and paving two 12 foot wide lanes and the shoulders for both northbound and southbound. Excess material in the median will be removed to restore proper drainage, catch basins will be rebuilt and adjusted as necessary, drainage outlets will be replaced as necessary. Pavement markings, maintenance of traffic and all other work incidental thereto will be completed in accordance with the Plans and Specifications.

The half size Plans and Contract Documents may be obtained from the Authority upon payment of Fifty (\$50.00) Dollars for each set, which payment will not be returned. Checks shall be made payable to: Maine Turnpike Authority. The Plans and Contract Documents may also be downloaded from a link on our website at <http://www.maineturnpike.com/project-and-planning/Construction-Contracts.aspx>.

For general information regarding Bidding and Contracting procedures, contact Nate Carll, Purchasing Manager, at (207) 482-8115. For information regarding Schedule of Items, plan holders list and bid results, visit our website at <http://www.maineturnpike.com/project-and-planning/Construction-Contracts.aspx> . For Project specific information, fax all questions to Nate Carll, Purchasing Manager, at (207) 871-7739 or email ncarll@maineturnpike.com. Responses will not be prepared for questions received by telephone. Bidders shall not contact any other Authority staff or Consultants for clarification of Contract provisions, and the Authority will not be responsible for any interpretations so obtained.

All work shall be governed by the Specifications entitled "State of Maine, Department of Transportation, Standard Specifications, Revision of November 2014", "Standard Details, Revision of November 2014" and "Best Management Practices for Erosion and Sediment Control", latest issue. Copies and recent updates to these publications can be downloaded at: <http://www.maine.gov/mdot/contractors/publications/> .

Proposals must be accompanied by an original bid bond, certified or cashier's check payable to the Maine Turnpike Authority in an amount not less than Five (5%) Percent of the Total Amount in the Proposal, but not less than \$500.00. The Bidder to whom a Contract is awarded will be required to furnish a Surety Corporation Bond, satisfactory to the Authority, on the standard Contract Bond form of the Authority, for a sum not less than the Total Amount of the Proposal.

Proposals must be made upon the Proposal Forms furnished by the Authority separately with the Contract Documents, and must be enclosed in the sealed special addressed envelope provided therefore bearing the name and address of the Bidder, the name of the Contract, and the date and time of Proposal opening on the outside.

A pre-bid conference will be held on February 10, 2022 at 11:00 a.m. at the Maine Turnpike Authority, 2360 Congress Street, Portland, Maine.

The Authority reserves the unqualified right to reject any or all Proposals and to accept that Proposal which in its sole judgment will under all circumstances serve its best interest.

MAINE TURNPIKE AUTHORITY

Nate Carll
Purchasing Manager
Maine Turnpike Authority

Portland, Maine

Maine Turnpike Authority

MAINE TURNPIKE

PROPOSAL

CONTRACT 2022.01

Pavement Rehabilitation and Drainage Improvements
MM 102.6 TO MM 109.1

MAINE TURNPIKE AUTHORITY

PROPOSAL

CONTRACT 2022.01

Pavement Rehabilitation and Drainage Improvements
MM 102.6 TO MM 109.1

TO MAINE TURNPIKE AUTHORITY:

The pavement rehabilitation work consists of milling and filling two 12 foot wide lanes and the shoulders for both northbound and southbound. Excess material in the median will be removed to restore proper drainage, catch basins will be rebuilt and adjusted as necessary, drainage outlets will be replaced as necessary. Pavement markings, maintenance of traffic and all other work incidental thereto will be completed in accordance with the Plans and Specifications.

This Work will be done under a Contract known as Contract 2022.01 according to the Plans and Specifications which are on file in the office of the Maine Turnpike Authority, 2360 Congress Street, Portland, Maine.

On the acceptance of this Proposal for said Work, the undersigned will give the required bond with good security conditioned for the faithful performance of said Work, according to said Plans and Specifications, and the doing of all other work required by said Specifications for the consideration herein named and with the further condition that the Maine Turnpike Authority shall be saved harmless from any and all damages that might accrue to any person, persons or property by reason of the carrying out of said Work, or any part thereof, or by reason of negligence of the undersigned, or any person or persons under his employment and engaged in said Work.

The undersigned hereby declares that he/she has carefully examined the Plans, Specifications and other Contract Documents, and that he/she will contract to carry out and complete the said Work as specified and delineated at the price per unit of measure for each scheduled item of Work stated in the Schedule of Prices as follows:

It is understood that the TOTAL AMOUNT stated by the undersigned in the following Schedule of Prices is based on approximate quantities and will be used solely for the comparison of bids, and that the quantities stated in the Schedule of Prices for the various items are estimates only and may be increased or decreased all as provided in the Specifications.

SCHEDULE OF BID PRICES
CONTRACT NO. 2022.01
Pavement Rehabilitation and Drainage Improvements
MM 102.6 to MM 109.1

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
202.202	Removing Pavement Surface - Mainline	Square Yard	280,700				
202.2026	Remove Pavement Surface - Drainage Paths	Square Foot	385				
202.205	Rumble Strips	Each	122,400				
403.2081	Hot Mix Asphalt, 12.5mm (Polymer Modified)- RAP	Ton	24,500				
403.2084	Hot Mix Asphalt, 12.5mm Nominal Maximum Size(sidewalks, drives, islands & incidentals)	Ton	180				
403.211	Hot Mix Asphalt (shimming)	Ton	150				
409.15	Bituminous Tack Coat - Applied	Gallon	17,590				
419.30	Full Depth Bituminous Sawcut	Linear Foot	900				
419.301	Saw Cutting and Sealing Bituminous Pavement	Linear Foot	156				
424.323	Asphalt Rubber Mastic Crack Sealant	Pound	39,700				
459.06	Bituminous Concrete Waterway - Type I	Each	12				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
BROUGHT FORWARD:							
470.08	Berm Dropoff Correction - Grindings	Ton	1,200				
470.081	Berm Correction	Linear Foot	21,000				
520.23	Asphaltic Plug Joint	Linear Foot	136				
603.199	24 inch Culvert Pipe - Option III	Linear Foot	58				
603.28	Concrete Collar	Each	3				
604.182	Clean Existing Catch Basin And Manhole	Each	60				
604.186	Rebuild Catch Basin to Grade - Type IV	Each	10				
610.08	Plain Rip Rap	Cubic Yard	15				
613.319	Erosion Control Blanket	Square Yard	1,150				
615.07	Loam	Cubic Yard	90				
619.1202	Temporary Mulch	Lump Sum	1				
620.58	Erosion Control Geotextile	Square Yard	75				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
BROUGHT FORWARD:							
627.73	Temporary Pavement Marking Line Tape	Linear Foot	5,200				
627.78	Temporary Pavement Marking Line	Linear Foot	203,400				
627.812	Temporary Raised Pavement Markers	Each	13,500				
627.94	Pavement Marking Tape	Linear Foot	2,650				
627.941	Pavement Marking Tape - Dotted White Lane Line, 6-inch width	Linear Foot	300				
627.942	Pavement Marking Tape - Dotted White Lane Line, 12-inch width	Linear Foot	160				
629.05	Hand Labor, Straight Time	Hour	20				
631.10	Air Compressor (including operator)	Hour	20				
631.11	Air Tool (including operator)	Hour	20				
631.12	All Purpose Excavator (including operator)	Hour	30				
631.172	Truck - Large (including operator)	Hour	30				
631.36	Foreman	Hour	20				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
BROUGHT FORWARD:							
652.30	Flashing Arrow	Each	4				
652.35	Construction Signs	Square Foot	4,550				
652.3611	Maintenance of Traffic Control Devices, Mill and Fill	Lump Sum	1				
652.411	Portable - Changeable Message Sign	Each	4				
652.45	Truck Mounted Attenuator	Cal. Day	75				
652.452	Automated Trailer Mounted Speed Limit Sign	Each	2				
656.50	Baled Hay, in place	Each	70				
656.632	30 inch Temporary Silt Fence	Linear Foot	400				
659.10	Mobilization	Lump Sum	1				
TOTAL:							

Acknowledgment is hereby made of the following Addenda received since issuance of the Plans and Specifications: _____

Accompanying this Proposal is an original bid bond, cashiers or certified check on _____ Bank, for _____, payable to the Maine Turnpike Authority. In case this Proposal shall be accepted by the Maine Turnpike Authority and the undersigned should fail to execute a Contract with, and furnish the security required by the Maine Turnpike Authority as set forth in the Specifications, within the time fixed therein, an amount of money equal to Five (5%) Percent of the Total Amount of the Proposal for the Contract awarded to the undersigned, but not less than \$500.00, obtained out of the original bid bond, cashier's or certified check, shall become the property of the Maine Turnpike Authority; otherwise the check will be returned to the undersigned.

The performance of said Work under this Contract will be completed during the time specified in Subsection 107.1.

It is agreed that time is of the essence of this Contract and that I (we) will, in the event of my (our) failure to complete the Work within the time limit named above, pay to Maine Turnpike Authority liquidated damages in the amount or amounts stated in the Specifications.

The undersigned is an Individual/Partnership/Corporation under the laws of the State of _____, having principal office at _____, thereunto duly authorized.

_____ (SEAL)

_____ (SEAL)

*Affix Corporate Seal
or Power of Attorney
Where Applicable*

_____ (SEAL)

By: _____

Its: _____

Information below to be typed or printed where applicable:

INDIVIDUAL:

_____	_____
(Name)	(Address)

PARTNERSHIP - Name and Address of General Partners:

_____	_____
(Name)	(Address)

_____	_____
(Name)	(Address)

_____	_____
(Name)	(Address)

_____	_____
(Name)	(Address)

INCORPORATED COMPANY:

_____	_____
(President)	(Address)

_____	_____
(Vice-President)	(Address)

_____	_____
(Secretary)	(Address)

_____	_____
(Treasurer)	(Address)

MAINE TURNPIKE AUTHORITY
MAINE TURNPIKE
YORK TO AUGUSTA
CONTRACT AGREEMENT

This Agreement made and entered into between the Maine Turnpike Authority, and sometimes termed the “Authority”, and _____

_____ herein termed the “Contractor”:

WITNESSETH: That the Authority and the Contractor, in consideration of the premises and of the mutual covenants, considerations and agreements herein contained, agree as follows:

FIRST: The parties hereto mutually agree that the documents attached hereto and herein incorporated and made a part hereof collectively evidencing and constituting the entire Contract to the same extent as if herein written in full, are the Notice to Contractors, the Accepted Proposal, the Specifications, the Plans, this Agreement, the Contract Bond and all Addenda to the Contract Documents duly issued and herewith enumerated:

SECOND: The Contractor for and in consideration of certain payments to be made as hereafter specified, hereby covenants and agrees to perform and execute all of the provisions of this Contract and of all documents and parts attached hereto and made a part thereof, and at his own cost and expense to furnish and perform everything necessary and required to construct and complete, ready for its intended purpose, in accordance with the Contract and such instructions as the Engineer may give, acceptable to the Authority, in the times provided, all of the Work covered and included under Contract No. _____ covering _____ as herein described.

THIRD: In consideration of the performance by the Contractor of his covenants and agreements as herein set forth, the Authority hereby covenants and agrees to pay the Contractor according to the Schedule of Prices set forth in the Proposal with additions and deductions as elsewhere herein provided in the times and in the manner stated in the Specifications. This Agreement shall insure to the benefit of, and shall be binding upon the parties hereto, and upon their respective successors and assigns; but neither party hereto shall assign or transfer his interest herein in whole or in part without the consent of the other, except as herein provided.

IN WITNESS WHEREOF the parties to this Agreement have executed the same in quintuplicate.

AUTHORITY -

MAINE TURNPIKE AUTHORITY

By: _____

Title: CHAIRMAN

Date of Signature: _____

ATTEST:

Secretary

CONTRACTOR -

CONTRACTOR

By: _____

Title: _____

Date of Signature: _____

WITNESS:

CONTRACT BOND

KNOW ALL MEN BY THESE PRESENTS that _____
of _____ in the County of _____ and 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 Maine Turnpike Authority in the sum of _____ Dollars (\$_____.____),
to be paid to said Maine Turnpike Authority, or its successors, for which payment, well and truly
to be made, we bind ourselves, our heirs, executors, successors and assigns jointly and severally
by these presents.

The condition of this obligation is such that the Principal, designated as Contractor in the
foregoing Contract No. _____ shall faithfully perform the Contract on his part and
satisfy all claims and demands incurred for the same and shall pay all bills for labor, material,
equipment and all other items contracted for, or used by him, in connection with the Work
contemplated by said Contract, and shall fully reimburse 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.

Signed and sealed this _____ day of _____, A.D., 202____

Witnesses:

CONTRACTOR

_____ (SEAL)

SURETY

_____ (SEAL)

(Surety must attach copy of Power of Attorney showing authority of Office or Agent to execute bonds)

FINAL LIEN AND CLAIM WAIVER AND AFFIDAVIT

Upon receipt of the sum of _____, which sum represents the total amount paid, including the current payment for work done and materials supplied for Project No. _____, in _____, Maine, under the undersigned's Contract with the Maine Turnpike Authority.

The undersigned, on oath, states that the Final Payment of _____ is the final payment for all work, labor, materials, services and miscellaneous (all of which are hereinafter referred to as "Work Items") supplied to the said Project through _____ and that no additional sum is claimed by the undersigned respecting said Project.

The undersigned, on oath, states that all persons and firms who supplied Work Items to the undersigned in connection with said Project have been fully paid by the undersigned for such Work Items or that such payment will be fully effected immediately upon receipt of this payment.

In consideration of the payment herewith made, the undersigned does fully and finally release and hold harmless the Maine Turnpike Authority, and its Surety, if any, from any and all claims, liens or right to claim or lien, arising out of this Project under any applicable bond, law or statute.

It is understood that this Affidavit is submitted to assure the Owner and others that all liens and claims relating to the Work Items furnished by the undersigned are paid.

(Contractor)

By: _____

Title: _____

State of MAINE
County of _____

I, _____, hereby certify on behalf of _____
(Company Officer) *(Company Name)*
its _____, being first duly sworn and stated that the foregoing representations are
(Title)
are true and correct upon his own knowledge and that the foregoing is his free act and deed in said capacity
and the free act and deed of the above-named

(Company Name)

The above-named, _____, personally appeared before me this ____ day of _____ and swears that this is his free act and deed.

(SEAL)

Notary Public
My Commission Expires: _____

MAINE TURNPIKE AUTHORITY

SPECIFICATIONS

PART I – SUPPLEMENTAL SPECIFICATIONS

(Rev. November 10, 2016)

*Supplemental Specifications available on the Maine Turnpike Authority website
<http://www.maineturnpike.com/Projects-Planning/Construction-Contracts.aspx>*

MAINE TURNPIKE AUTHORITY

SPECIFICATIONS

PART II – SPECIAL PROVISIONS

PART II - SPECIAL PROVISIONS

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PART II - SPECIAL PROVISIONS

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PART III - APENDICES

MAINE TURNPIKE AUTHORITY

SPECIFICATIONS

PART II - SPECIAL PROVISIONS

All work shall be governed by the Maine Department of Transportation Standard Specifications, Revision of November 2014, except for that work which applies to sections of the Maine Department of Transportation Standard Specifications which are amended by the Maine Turnpike Supplemental Specifications and the following modifications, additions and deletions.

General Description of Work

The pavement rehabilitation work consists of milling and filling two 12 foot wide lanes and the shoulders for both northbound and southbound. Excess material in the median will be removed to restore proper drainage, catch basins will be rebuilt and adjusted as necessary, drainage outlets will be replaced as necessary. Pavement markings, maintenance of traffic and all other work incidental thereto will be completed in accordance with the Plans and Specifications.

Plans

The drawings included in these Contract Documents, and referred to as the Plans, show the general character of the work to be done under this Contract. They bear the general title “Maine Turnpike – Contract 2022.01 – Pavement Rehabilitation and Drainage Improvements MM 102.6 to MM 109.1 The right is reserved by the Resident to make such minor corrections or alterations in the Plans as he deems necessary without change in the unit prices on the Schedule of Prices of the Proposal.

101.2 Definition

Holidays

The following is added after Memorial Day in the Supplemental Specifications:

Independence Day 2022 (Fourth of July)	12:00 p.m. preceding Thursday to 6:00 a.m. the following Tuesday.
Juneteenth Day 2022 (June 20, 2022)	12:00 p.m. preceding Friday to 6:00 a.m. the following Tuesday.

103.4 Notice of Award

The following sentence is added:

The Maine Turnpike Authority Board is scheduled to consider the Contract Award on March 3, 2022.

104.3.8 Wage Rates and Labor Laws

Section 104.3.8 Wage Rates and Labor Laws has been amended as follows:

The fair minimum hourly rates determined by the State of Maine Department of Labor for this Contract are as follows:

**Prevailing Wage Rates for 2022
Kennebec County will be issued in an Addendum**

105.8.2 Permit Requirements

The Project is subject to the Stormwater Memorandum of Agreement for Stormwater Management Between the Maine Department of Transportation, Maine Turnpike Authority, and Maine Department of Environmental Protection (Stormwater MOA). Under the Stormwater MOA, all MTA construction, operation, and maintenance activities are subject to Maine Stormwater Law Basic Standards through implementation of MaineDOT's Best Management Practices for Erosion and Sedimentation Control (MaineDOT BMP Manual), which are the Contractor's responsibility to implement.

The LOD for this Contract has been estimated to be **6.4 acres** (median restoration) plus three pipe culvert end replacements, which is considered 'routine maintenance' under the Maine Construction General Permit. The Contractor shall prepare a LOD plan illustrating the Contractor's proposed limit of earthwork disturbance. The LOD plan shall show all construction access locations, field office locations, material and temporary waste storage locations, as well as include the Contract limits of earthwork disturbance. All applicable erosion and sedimentation control devices needed shall be detailed on the Contractor's LOD plan and are not limited to those devices shown on the Contract LOD plan. **This Plan shall be submitted for review and approval, to the Resident within 14 days of Contract award.** Payment for creating, revising, and completing this plan shall be incidental to Item 659.10, Mobilization.

At any time during the Contract, if the Limit of Disturbance needs to be adjusted to accommodate construction activities, the Contractor shall resubmit the LOD plan (including any additional erosion and sedimentation control measures needed) to the Resident for review and approval prior to any additional disturbance taking place:

- If the cumulative area of disturbance exceeds the estimated LOD noted above, by less than one acre, the Resident shall have a minimum of five (5) working days to approve the revised LOD plan.
- If the cumulative area of disturbance exceeds the estimated LOD noted above, by over one acre, the Resident shall first approve of the plan and then possibly submit the NOI for Maine DEP approval. The approval may take a minimum of 14 working days once filed with Maine DEP.

Compliance with the erosion and sedimentation control requirements outlined in this Contract is required by the Contractor.

The Project requires permit authorization for wetland impacts under Section 404 of the Clean Water Act, through the U.S. Army Corps of Engineers Maine Programmatic General Permit, Category 1 Self Verification Notice. The Authority has filed a Self Verification Notice with the U.S. Army Corps of Engineers and anticipates having permit authorization by March 1, 2022 or sooner. No culvert end replacement work or work in wetlands may occur until permit authorization is received by the Authority. The Project is subject to the General Conditions of the Department of the Army Maine General Permits dated October 14, 2020 through October 14, 2025, as well as the project-specific authorization and conditions issued by the Army Corps Maine Project Office,

including a prohibition on tree clearing during the months of June and July. A copy of the Maine General Permits General Conditions is provided in the Appendix. The project-specific permit authorization and associated conditions will be provided by the Authority when they are received. The Contractor is responsible for executing all work under this contract in accordance with the U.S. Army Corps of Engineers permit authorization.

The wetland impacts related to implementation of the Project are authorized under the State of Maine Natural Resource Protection Act (NRPA) pursuant to Title 38 MRSA 480-Q exemptions for existing crossings and minor alterations in freshwater wetlands.

The Contractor shall comply with the conditions outlined in the Army Corps General Permit and project-specific authorization and the Maine Stormwater Law Basic Standards through implementation of the MaineDOT BMP Manual. The Contractor shall indemnify and hold harmless the Maine Turnpike Authority or its agents, representatives and employees against any and all claims, liabilities or fines arising from or based on the violation of the above noted permits and authorizations.

107.1 Contract Time and Contract Completion Date

This Subsection is amended by the addition of the following:

The work shall be substantially completed by September 16, 2022 and all work shall be completed on or before October 7, 2022.

107.1.1 Substantial Completion

This Subsection is amended by the addition of the following:

Substantially complete shall be defined by the Authority as the following:

- All paving and line work have been completed.
- All drainage and median work have been completed.
- No lane closures, except for demobilization (removal of construction signs, drums, and general clean-up).
- All disturbed slopes, seeded and mulched, temporary erosion control mix and/or blanket are installed where necessary.

Supplemental Liquidated damages on a calendar day basis in accordance with Subsection 107.8 shall be assessed for each calendar day that substantial completion is not achieved.

107.4.6 Prosecution of Work

The Milling activities shall not begin until the following activities have been completed:

- All outside pipe work and median drainage work excluding paved waterways
- Median Berm Correction
- Riprap installation

The following Subsection is added:

107.4.7 Limitations of Operations:

Roadway and Clear Zone--Traffic Control Requirements

The construction shall proceed expeditiously. Once milling and/or paving operations commence for every day/night not worked (milling or paving) when work is allowed by Contract and weather, the Contractor will be charged a fee in the amount of \$1,000 (excluding inclement weather days).

The Contractor will be allowed to work on both bounds at the same time. The Contractor shall complete his milling operation in one bound prior to beginning his milling operation in the other bound unless otherwise approved by the Resident. The paving operation shall begin within seven calendar days of all milling being complete per bound. The Contractor shall complete the paving operation in one bound prior to beginning his paving operation in the other bound. The Contractor will be allowed to work in two separate work areas on each roadway. The work areas are not required to be in the same lane.

The Contractor shall begin the paving operation in Lane 1 (inside passing lane), followed by Lane 2, (travel lane).

The Contractor shall secure all catch basin grates with Sikaflex 1a before being allowed to shift traffic onto the outside shoulder. This work will be incidental to Item 652.361.

The Contractor shall limit the milling operations such that the shoulders are milled up to the same station as the adjacent lane during each shift.

The Contractor shall limit the milling operations such that temporary pavement markings or pavement markers are applied daily prior to the roadway being open to traffic.

Lane closure(s) will not be allowed over a weekend or Holidays unless approved otherwise by the Resident.

The Contractor shall keep a 12 foot wide lane open for traffic during his milling and paving operations unless approved otherwise by the Resident. **However, the Minimum main line width for a single travel lane shall be 14 ft and minimum ramp widths of 16 ft which must be maintained at all times, from ½ hour before sunrise and ½ hour after sunset as indicated on the Sunrise/Sunset Table at: <http://www.sunrisesunset.com/usa/Maine.asp> . If the Project town is not listed, the closest town on the list will be used as agreed at the Preconstruction Meeting.**

Temporary bituminous ramps will be required at all butt joints.

Traffic will be allowed to traverse the longitudinal joint where the pavement is lower in one lane than the adjacent lane.

SPECIAL PROVISION

SECTION 202

REMOVING STRUCTURES AND OBSTRUCTIONS

(Removing Pavement Surface-Mainline)

202.01 Description

The following sentences are added:

This work shall also consist of removing the surface of the bituminous concrete pavement in all locations to the depth, width, grade, and cross section on the mainline as shown on the Plans or as directed by the Resident.

Removal of approach pavement shall be completed using a milling machine meeting the requirements in the first two paragraphs of section 202.061.

Areas requiring shim pavement to reach final pavement grade shall not be milled.

This work shall also consist of construction of temporary ramps at all butt joints as shown in the Maine DOT Standard Details, November 2014 Edition – Pavement Overlay Butt Joint Detail (Roadways), Page 202(01) or as approved by the Resident. The length of the temporary ramp shall be at least 1/2 L.

202.031 Removing Existing Bituminous Pavement and Concrete Wearing Surface from Bridges

The following paragraph is added:

The Contractor shall selectively remove the top 1½ inch of the existing deck pavement on the Central Street Overpass bridges, and the top 1 ½ inches of the existing deck pavement on the Northern Avenue Overpass bridges, with a milling machine. The lower 1-1/2inches of pavement and the high performance membrane on the Central Street Overpass and the Northern Avenue Overpass bridges is scheduled to remain in place. The bottom 1 ½” of the asphaltic plug joints on the Central Street Overpass bridges are also scheduled to remain in place. Extreme care shall be taken to avoid damaging the existing bituminous pavement and asphaltic plug joints intended to remain. All existing bituminous pavement and asphaltic plug joints, intended to remain, damaged by the Contractor's removal operations shall be repaired by the Contractor as approved by the Resident at no additional cost to the Authority.

The following subsection is added:

202.061 Removing Pavement Surface

This Subsection is deleted and replaced with the following:

The equipment for removing the bituminous surface, excluding bridge decks, shall be a power-operated milling machine or grinder capable of removing the bituminous concrete pavement to the required depth, transverse cross slope, and profile grade using an automated grade and slope control system. The controls shall automatically increase or decrease the pavement removal depth as required, and readily maintain desired cross slope to compensate for surface irregularities in the existing pavement course. The milling machine shall accurately establish profile grades by referencing from a fixed point such as a 30-foot minimum contact ski (floating beam), 24-foot non-contact ski (floating beam) with 3 or more sensors; or 3 non-contact sensors directly affixed to the fore, mid, and aft points of the milling machine. Systems designed to incorporate a contact sensor located at the mid-point of the milling machine in lieu of a non-contact sensor in conjunction with non-contact sensors at the fore and aft points will be permitted. Grade control sensors shall all be located on the same side. A single sensor, contact or otherwise, shall not be permitted. A copy of the automation operations manual shall be provided to the resident upon request. The equipment shall also have an effective means for removing excess material from the surface and preventing flying material in compliance with Subsections 105.2.5 Compliance with Health and Safety Laws and 105.2.6 Convenience of the Public, of the Specification.

The rotary drum on the machine shall be a minimum of 7 feet in width and utilize carbide tipped tools at a maximum 8mm tooth spacing pattern and a minimum triple wrap configuration. The difference in height from the top of any ridge to the bottom of the groove adjacent to that ridge shall not exceed ¼ inch. The carbide tipped tools on the rotary drum shall be continually maintained and shall be replaced as warranted to provide a uniform milled pavement texture. The forward operating speed shall be limited to a maximum speed of 50 feet per minute (fpm). The limited speed is not to be calculated on an average basis over time but shall be the actual limitation at any moment during the milling operation.

The track pads that the machine travel on shall all be of a uniform thickness equal to or exceeding the manufacturers recommendations. A copy of the manufacturers recommendations shall be provided to the resident upon request.

The Contractor shall locate, identify and remove all objects in the pavement through the work area that would be detrimental to the milling machine.

The Contractor shall be responsible for the layout of the longitudinal centerline along the crown line. The contractor shall layout the site prior to any milling. Layout shall be achieved by physical measurements obtained every 50' along the length to be milled from a fixed reference point. The contractor shall transfer the measurements to the pavement surface every 50' and apply a paint mark at each location. The marks shall then be connected by a smoothed string line and subsequent paint marks applied along the string at no greater than 10' intervals. The Resident will inspect the layout line before milling activities may begin.

The finished milled surface will be inspected before being accepted, and any deviations in the profile exceeding 3/8 inch under a 16 foot string line or straightedge placed parallel to the centerline

will be corrected. Any deviations in the cross slope that exceed 3/8 inch under a 12 foot string line or straightedge placed transversely to the centerline will be corrected. In no case shall the cross slope in a single lane width be inverted resulting in a depression as measured transverse to the direction of travel. Any cross slope inversions or depressions shall be corrected by spot shimming the area with HMA as directed by the resident prior to installing any leveling or wearing course. Any areas requiring corrections will be subject to the same acceptable surface tolerances. These corrections shall be done with no additional expense to the Authority. Excess material that becomes bonded to the milled surface shall be removed to the Resident's satisfaction before the area is accepted.

The contractor shall keep the milling of the lanes and adjacent shoulders even on a per shift basis.

If a milled safety wedge is required by the contract, it shall not be removed any sooner than 24 hours prior to paving. In no case will a vertical milled edge be permitted over a weekend or holiday. The contractor shall schedule the wedge removal accordingly.

The Contractor shall deliver the cubic yards of pavement grindings as specified below to the following Maintenance Facilities. The exact location of the stockpile shall be as directed by the Resident.

<u>Name of Facility</u>	<u>Mile Marker</u>	<u>Cubic Yards</u>
Litchfield Maintenance	Mile 92.6	1,200. CY

All surplus pavement grindings, except for the amount specified above, shall be disposed of by the Contractor off the turnpike right-of-way. All grindings shall be disposed of in accordance with the Maine Department of Environmental Protection Solid Waste Management Requirements.

202.07 Method of Measurement

The removal of existing pavement surface – mainline will be measured by the square yard of material removed to the required depth.

The following sentences are added:

Transporting and stockpiling of the pavement grindings at the maintenance facilities will not be measured separately for payment, but shall be incidental to the Removing Pavement Surface items.

Installation of temporary bituminous ramps will not be measured separately for payment, but shall be incidental to the Contract.

Removal of temporary bituminous ramps will not be measured separately for payment, but shall be incidental to the Contract.

Installation of and removal of longitudinal safety wedges will not be measured separately for payment, but shall be incidental to the Contract.

202.08 Basis of Payment

Removing Pavement Surface – Mainline will be paid for at unit price per square yard which price shall be full compensation for removing and disposing of the bituminous and gravel materials.

Payment will be made under:

Pay Item

Pay Unit

202.202 Removing Pavement Surface – Mainline

Square Yard

SPECIAL PROVISION

SECTION 202

REMOVING STRUCTURES AND OBSTRUCTIONS

(Removing Pavement Surface – Drainage Paths)

202.01 Description

The following paragraphs are added:

This work shall consist of grinding drainage paths in the existing inside and outside bituminous shoulders on the mainline and interchange ramps as necessary. The depth shall match the elevation of the adjacent milled travel lane. Locations and lengths of removal shall be as shown on the Plans or as directed by the Resident.

This work shall also consist of repaving the shoulder drainage paths with bituminous pavement to match the existing grades on each side of the drainage path to coincide with the paving operation of the adjacent travel lane as shown on the Plans or as directed by the Resident.

The following Subsection is added:

202.011 Materials

Grinding shall be done in accordance with Section 202.

Bituminous pavement shall conform to Section 401,

Bituminous tack coat shall conform to Section 409.

Joint sealant shall conform to Federal Specifications SS-S-1401C.

202.06 Removing Bituminous Concrete Pavement

This Subsection is deleted and replaced with the following:

The drainage paths shall be milled concurrently with the adjacent travel lane milling. The drainage paths shall be located such that they include all of any milled section of an impacted rumble strip.

The drainage paths shall be installed at the roadway low points of the sag vertical curves and at 500 foot intervals in both the outside and inside shoulders. Drainage paths shall not be installed within 500 feet of the crest of a vertical curve. The drainage paths shall extend from the edge of the milled travel lane (Lane 2) and daylight six feet into the outside shoulder and from the edge of the milled passing lane (Lane 1) and the edge of pavement (4'-0") without guardrail.

All grindings shall be disposed of in accordance with the Maine Department of Environmental Protection Solid Waste Management Requirements.

The Contractor may request that the Resident waive the requirement for the installation of drains at 500 foot intervals. The Resident will consider the weather forecast as well as the Contractor’s proposed paving schedule when reviewing the request.

The tapered sides of the outside drainage paths shall be milled to form a vertical face prior to paving. The drainage paths shall be joint sealed, tack coated, and paved concurrently with the adjacent lane.

The Contractor shall not be required to replace the shoulder rumble strips removed for the drainage paths.

Vehicles will be permitted to traverse unfilled drainage paths.

202.07 Method of Measurement

The second paragraph is deleted and replaced with the following:

Removing Pavement Surface – Drainage Paths shall be measured by the square foot.

202.08 Basis of Payment

The following is added after the last paragraph:

Removing Pavement Surface – Drainage Paths shall be paid for at the Contract unit price per square foot which includes all grinding, tack coat, sealant, bituminous pavement, equipment, labor, and incidentals necessary to satisfactorily complete the work.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
202.2026 Removing Pavement Surface – Drainage Paths	Square Foot

SPECIAL PROVISION

SECTION 202

REMOVING STRUCTURES AND OBSTRUCTIONS

(Rumble Strips)

202.01 Description

The following sentences are added after the first paragraph:

This work shall consist of cutting a pattern of rumble strips from MM 102.6 to MM 109.1 on the northbound and southbound roadways at the locations shown on the Plans. Rumble strips shall not be placed across ramp openings or on bridges.

This work also consists of cutting a pattern of rumble strips at the New Gloucester ORT MM67.0 northbound and southbound as shown in the Appendix. The MTA will perform the maintenance of traffic at the New Gloucester location and will require a 72 hour advance notice.

202.065 Rumble Strips

The rumble strips shall not be cut until the Contractor has placed the permanent pavement markings at the required locations.

At proposed rumble strip locations, the bituminous concrete paved surface shall be removed by milling in strips as detailed on the Plans and as directed by the Resident. The pattern will be 80 feet of rumble strips followed by a 20 foot space repeated along the entire length on the outside shoulder. The inside shoulder shall be continuous. The rumble strips shall be normal to the baseline of the roadway on tangent sections and radial on curves. The Contractor shall be responsible for the layout of the rumble strips. The milling machines for this type of rumble strip are designed by:

Surface Preparation Technology
81 Texaco Road
Mechanicsburg, PA 17055
Tel. (717) 697-1450

L&C Flashing Barricades
60 Walpole Street
Canton, MA 02021
Tel. (508) 580-6700

Thomas Grinding
110 Fox Lane Southwest
Moore Haven, FL 33471
Tel. (863) 946-1461

The milling machine shall be equipped with a 20 foot pointer to provide longitudinal grade control.

202.07 Method of Measurement

The following paragraph is added:

Rumble Strips will be measured by the actual number cut, completed and accepted.

Layout of rumble strips, disposal of milled bituminous pavement and roadway cleanup will not be measured separately for payment, but shall be incidental to this item.

202.08 Basis of Payment

The following sentences are added:

Rumble Strips will be paid for at the Contract unit price per each, which price shall be full compensation for all labor, materials, equipment and incidental items of work for a complete installation.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
202.205	Rumble Strips	Each

SPECIAL PROVISION

SECTION 203

EXCAVATION AND EMBANKMENT

203.01 Description

203.04 General

The following sentence is added to the end of the third paragraph.

There are no approved waste storage areas or waste areas within the Project limits unless shown on the Plans. Unsuitable materials shall be disposed of off-site in accordance with Subsection 203.06.

All excavations shall be accomplished in accordance with the applicable OSHA Standards. The Resident reserves the right to request the Contractor to prepare an excavation plan. This plan shall include, but not necessarily be limited to, the limit and depth of excavation, side slope, shoring, trench box and utility support.

No grading or grubbing is allowed in wetlands that will be cleared where no other work is proposed.

203.10 Embankment Construction - General

The thirteenth and fourteenth paragraphs are deleted and replaced with the following:

All portions of the embankment shall be compacted in accordance with the designated embankment compaction requirements specified for the Project.

The existing slopes should be benched as shown on the drawings prior to placing additional fill. Embankment fill should be placed in lifts which extend laterally beyond the limits of the design side slopes such that the specified degree of compaction is achieved within the limits of the completed embankment. The slopes should then be trimmed back to design dimensions.

203.16 Winter Construction of Embankments

The word “core” is deleted from the first and second sentences in the first paragraph.

203.18 Method of Measurement

The following paragraphs are added:

There will be no additional payment for the required excavation plan, and costs shall be incidental to the Excavation items.

SPECIAL PROVISION

SECTION 401

HOT MIX ASPHALT PAVEMENT

Section 401 of the Maine Turnpike Authority 2016 Supplemental Specifications is modified as follows:

401.01 Description

The following paragraph is added:

A Quality Control Plan (QCP) is required.

401.02 Materials

Section 401.02 is deleted in its entirety and replaced with the following:

Aggregates for HMA Pavements Coarse Aggregate and fine aggregate for HMA pavements shall be graded such 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. 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

Mainline Surface HMA Coarse aggregate: The material retained on the No. 4 sieve, shall consist of angular fragments obtained from crushed quarry stone and be free of dirt or other objectionable materials. Coarse aggregate shall have a Micro-Deval value of 15.0 percent or less as determined by AASHTO T 327. The crushed stone shall have a maximum of 1.5% material finer than the No. 200 mesh when tested in accordance with AASHTO T-11. Flat and elongated particles shall not exceed a maximum of 8% at a 5:1 ratio in accordance with ASTM D-4791. Coarse aggregate angularity shall be a minimum of 95/90 in accordance with AASHTO T-335.

Mainline Surface HMA Fine aggregate: The material passing the No. 4 sieve, shall be crushed manufactured sand free from dirt, clay balls, or other objectionable material. Natural sand may be incorporated into the mix at a rate no greater than 10 percent by weight of total aggregate. The unconfined void content of the fine aggregate blend shall be a 45 minimum value when tested in accordance with AASHTO T-304, method A. AASHTO T-176 sand equivalent value shall be 45 minimum. The fine aggregate blend, excluding RAP, shall have a Micro-Deval of 15.0 percent or less calculated as a weighted average of the individual fine aggregates tested in accordance with ASTM D-7428. No individual fine aggregate shall have a Micro-Deval value greater than 18.0 percent.

Asphalt Low Modulus Joint Sealer: Asphalt Low Modulus Joint Sealer shall be a modified asphalt and rubber compound designed for sealing and improving the strength and performance of the base asphalt cement and shall conform to ASTM D6690 Type IV and the following specifications:

Cone Penetration	90-150
Flow @ 60°C [140°F]	3.0mm [1/8 in] max
Bond, non-immersed	Three 12.7mm [½ in] specimens pass 3 cycles @ 200% extension @ -29°C [-20°F]
Resilience, %	60 min
Asphalt Compatibility, ASTM D5329	pass*

* There shall be no failure in adhesion, formation of any oily exudate at the interface between the sealant and asphaltic concrete or other deleterious effects on the asphaltic concrete or sealant when tested at 60°C [140°F].

The contractor shall provide the Resident or authorized representative with a copy of the material manufacturer's recommendations pertaining to heating, application, and reheating prior to the beginning of operations or the changing of materials.

Section 401.021 Recycled Asphalt Materials

Delete the second paragraph and replace with the following:

In the event that RAP source or properties change, the Contractor shall notify the Authority of the change and submit new documentation stating the new source or properties. A plant produced test batch meeting all requirements including Hamburg Wheel Tracker results.

Section 401.03 Composition of Mixtures

Section 401.03 is deleted in its entirety and replaced with the following:

HMA pavement mixtures for base, intermediate, shim and local road bridge projects shall be a currently approved MDOT design unless otherwise noted. A maximum of 20% RAP may be used. VMA shall meet the requirements listed in Table 1.

HMA pavement mixtures for Mainline surface paving projects shall conform to the following requirements:

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). The Contractor may use a maximum of 15 percent reclaimed asphalt pavement (RAP) in any mainline surface course.

The Contractor shall submit a job mix formula (JMF) developed for each specified mixture at least 30 days prior to placement.

The JMF shall establish a single percentage of aggregate passing each sieve size within the limits shown in Subsection 703.09. The mixture shall be designed and produced, including all production tolerances, to comply with the allowable control points for the particular type of mixture as outlined in Subsection 703.09. The JMF shall state the original source, gradation, and percentage to be used of each portion of the aggregate and mineral filler if required. It shall also state the proposed PGAB content, the name and location of the refiner, the supplier, the source of PGAB submitted for approval, the type of PGAB modification if applicable, and the location of the terminal if applicable.

In addition, the Contractor shall provide the following information with the proposed JMF:

- Properly completed JMF indicating all mix properties (Gmm, VMA, VFB, etc.).
- Stockpile Gradation Summary.
- Test reports for individual aggregate consensus properties
- Design Aggregate Structure Consensus Property Summary.
- Design Aggregate Structure Trial Blend Gradation Plots (0.45 power chart).
- Trial Blend Test Results for at least three different aggregate blends.
- Selected design aggregate blend.
- Test results for the selected design aggregate blend at a minimum of three binder contents.
- Test results for final selected blend compacted to N_{max} .
- Specific Gravity for the PGAB to be used.
- Recommended mixing and compaction temperatures from the PGAB supplier.
- Data Sheets (SDS) For PGAB.
- Asphalt Content vs. Air Voids trial blend curve.
- Test report for Contractor's Verification sample.

- Summary of RAP test results (if used), including count, average and standard deviation of binder content and gradation.

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, 75 ton for fine aggregate stockpiles before the JMF may be submitted. The Authority shall obtain samples for laboratory testing. The Contractor shall also make available to the Authority the PGAB proposed for use in the mix in enough quantity to test the properties of the asphalt and to produce samples for testing of the mixture. Before the start of paving, the Contractor and the Authority’s representative shall test a production sample in the Contractor’s laboratory for evaluation. If the Authority finds the mixture acceptable, an approved JMF will be forwarded to the Contractor. The Authority will then notify the Contractor that paving may commence. 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 within 24 hours of receipt of the first Acceptance test result for an individual JMF. Adjustments will be allowed of up to 2% on the percent passing the 2.36 mm sieve through the 0.075 mm and 3% on the percent passing the 4.75 mm or larger sieves. Adjustments will be allowed on the %PGAB of up to 0.2 percent. Adjustments will be allowed on GMM of up to 0.010.

Approved mix designs from the previous calendar year may be carried over, however no aim changes will be granted for a carryover mix design and the initial design must not be older than the previous paving season.

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 except natural sand 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. Natural sand may be adjusted up to 5 percent from the amount listed on the JMF but shall not exceed 10% by weight of total aggregates. The cold feed percentage for RAP may be reduced up to five 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.

TABLE 1
VOLUMETRIC DESIGN CRITERIA

Design ESAL’s (Millions)	Required Density (Percent of G _{mm})			Voids in the Mineral Aggregate (VMA)(Minimum Percent)				Voids Filled with Binder (VFB) (Minimum %)	Fines/Eff. Binder Ratio
				Nominal Maximum Aggregate Size (mm)					
	N _{initial}	N _{design}	N _{max}	19	12.5	9.5	4.75		
10 to <30	≤89.0	96.0	≤98.0	13.5	14.5	15.5	15.5	65-80	0.6-1.2

As part of the JMF submittal, there are Hamburg Wheel Tracker requirements, the Contractor shall provide the Authority the test results in accordance with AASHTO T324. The results shall be

generated by a third-party independent testing laboratory as approved by the Authority. The test results for each individual specimen as well as the average shall meet the requirements of Table 1A

TABLE 1A
HAMBURG WHEEL TRACKER REQUIREMENTS

Specified PG Binder Grade	Test Temperature (°C)	Maximum Rut Depth (mm)	Minimum Number of Passes	Minimum Allowable SIP*
64-28	45	12.5	20,000	15,000
64E-28	48	8.0	20,000	15,000
70E-34	50	6.3	20,000	15,000

Section 401.031 Warm Mix Technology

Add the following to the end of the first paragraph:

Weather and seasonal limitations as outlined in section 401.06 may be reduced by a maximum 5°F with the use of WMA except for HMA being placed over bridge deck membrane.

Section 401.04 Temperature Requirements

Add the following line item after the third bullet:

- Any HMA placed over bridge deck membrane shall have a minimum temperature of 300° F measured directly behind the screed in the uncompacted mat.

Add the following paragraph:

No vehicular loads shall be permitted on newly completed pavement until adequate stability has been attained and the material has cooled sufficiently to prevent distortion or loss of fines. The newly paved area may be opened to traffic after the internal temperature of the pavement has cooled to 120° F. The Resident will test the internal temperature of the pavement and shall be the sole judge as to the opening to traffic. The period of time before opening to traffic may be extended at the discretion of the Resident. The lane closure may not be removed until the internal temperature has cooled to 120° F.

Section 401.06 Weather and Seasonal Limitations

The first paragraph shall be deleted and replaced with:

The Contractor may place Hot Mix Asphalt Pavement for use other than a traveled way wearing course, provided that the air temperature as determined by an approved thermometer (placed in the shade at the paving location) is 45°F or higher and the area to be paved is not frozen. The Contractor may place Hot Mix Asphalt Pavement as traveled way wearing course, provided the air temperature determined as above is 50°F or higher. For the purposes of this Section, the traveled

way includes truck lanes, ramps, approach roads, shoulders, and auxiliary lanes. The atmospheric temperature for all courses on bridge decks shall be 50°F or higher.

Section 401.08 Hauling Equipment Trucks for Hauling HMA

Add the following paragraphs:

The undercarriage of haul units actively hauling HMA to the site shall be relatively free of dust / mud agglomerations. Haul units found to be contaminating the paving surface shall be removed from the site and cleaned prior to returning.

The contractor shall supply enough haul units such that paving is continuous and without any stops or paver speed changes during the installation of ramp or mainline wearing courses utilizing an MTV. or any course placed on a bridge deck. The contractor will be charged a fee of \$1,000. for every occurrence if paving is either stopped or the paver must slow down to avoid stopping due to inadequate number of haul units at the sole discretion of the Authority.

Section 401.09 Pavers

Add the following to the end of the fourth paragraph:

The forward operating speed of the paver shall be limited based on the course being placed. A shim or leveling course shall have a maximum speed of 50 feet per minute (fpm). Any base, intermediate, or surface course shall have a maximum paver speed of 40 fpm. The limited speed is not to be calculated on an average basis over time but shall be the actual limitation at any moment during the paving operation.

Section 401.091 Material Transfer Vehicle (MTV)

The first paragraph shall be deleted and replaced with:

When required by Special Provision Section 403, the paver shall be supplied mixture by a material transfer vehicle (Roadtec SB2500 or approved equal) capable of receiving and storing bituminous mixture from haul trucks, remixing, and delivering the mix to the paver hopper in a consistently uniform manner.

The fourth paragraph shall be deleted and replaced with:

The MTV shall be designed so that the mix receives additional mixing action.

Section 401.11 Preparation of Existing Surface

Add the following paragraph:

The contractor will be permitted to be generally innovative in methods to dry existing wet or damp pavement. Any method which causes damage or burning of the existing pavement, or which causes debris to fly into traffic shall be discontinued.

Section 401.111 Layout

The contractor shall layout the site prior to any pavement course or final striping. Layout shall be achieved by physical measurements obtained every 50’ along the length to be paved or striped from a fixed reference point. The contractor shall transfer the measurements to the pavement surface every 50’ and apply a paint mark at each location. The marks shall then be connected by a smoothed string line and subsequent paint marks applied along the string at no greater than 10’ intervals. The Resident will inspect the layout line before associated activities may begin.

Section 401.165 Longitudinal Joint Density

The first paragraph shall be deleted and replaced with:

When noted in Special Provision Section 403, the Authority will measure the pavement density of longitudinal joints between adjoining mainline travel lanes in both the unconfined and confined condition as determined by the days paving operation.

The eighth paragraph shall be deleted and replaced with:

The minimum density of the completed pavement shall be 92.0 percent of the theoretical maximum density obtained. Two consecutive failing tests shall result in production shut down. Prior to resuming paving operations, the contractor quality control unit shall satisfy the Authority that the paving operation will produce joint densities in compliance with the Specifications.

The eleventh paragraph and associated table shall be deleted and replaced with:

Payment reduction will be applied to each subplot that has a density lower than 92.0% as outlined below.

PERCENT COMPACTION	PERCENT PAY
92.0 or greater	100
91.9 to 90.0	95
89.9 to 88.5	90
88.4 or less	80

Section 401.17 Joints

Delete the following sentence from the third paragraph:

“The Authority may allow feathered or "lap" joints on lower base courses or when matching existing base type pavements.”

The fourth paragraph shall be deleted and replaced with:

When required by Special Provision Section 403, Mainline Longitudinal joints shall be constructed as notched-wedge joint and constructed in a manner that will best ensure joint integrity.

Section 401.18 Quality Control

Add the following paragraph v. to the QCP requirements

v. The contractor shall provide a detailed plan outlining how the number of haul units will be determined and supplied to the project to prevent the paver from stopping on mainline wearing course and bridge deck paving over membrane

The following shall be added to section c. Quality Control Technician(s) QCT:

The QCT shall be on site during paving operations performing quality control activities. QCT's shall not act as equipment operators, trainers or laborers.

Section 401.191 Inspection/Testing

In paragraph nine delete and replace Item #8 with:

8. Secure High-Speed Internet Access

401.21 Method of Measurement

The second paragraph shall be deleted and replaced with:

A reduction in payment will occur when the voids, asphalt content, and density are other than the limits specified below for 100 percent payment. The payment reduction for voids and PGAB content and density will be based upon each subplot (500 tons) of production as specified in Subsections 401.162, 401.163, 401.164, and 401.165. The Contractor may request one retest for each failing subplot for core density only. The original core density and the recut core density shall be averaged together to determine payment for the subplot. No retest will be allowed for voids or asphalt content. The Contractor shall pay \$250.00 for each additional core tested. Pavement restoration will not be measured separately for payment but shall be incidental to the respective pay item.

SPECIAL PROVISION

SECTION 401

HOT MIX ASPHALT PAVEMENTS

(HMA using Hydrated Lime)

The following sections of Section 400 have been revised with following additional requirements.

401.01 Description

The Contractor shall compose Hot Mix Asphalt (HMA) Pavement with aggregate, Performance Graded Asphalt Binder (PGAB), hydrated lime, and mineral filler if required. Hydrated Lime shall be utilized in all mixtures so denoted in Special Provision 403 - Hot Mix Asphalt Pavement.

401.02 Materials

Materials shall meet the requirements specified.

Hydrated Lime

AASHTO 216

401.03 Composition of Mixtures

The Contractor shall compose the Hot Mix Asphalt Pavement with aggregate, Performance Graded Asphalt Binder (PGAB), hydrated lime 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).

Hydrated lime shall be used in all HMA at a rate of one percent (1%) by weight of the total dry aggregate including RAP aggregate, if used. The Contractor shall obtain a shipping ticket for each shipment of hydrated lime. The Contractor shall provide the Resident with a copy of each shipping ticket from the supplier, including the date, time and weight of hydrated lime shipped and used in HMA production. The Contractor shall submit a material data sheet for the hydrated lime to the Resident for approval.

The Contractor shall provide the following information with the proposed JMF:

Safety Data Sheets (SDS) for hydrated lime

Supplier and source for Hydrated Lime

401.13 Preparation of Aggregates

The Contractor shall add water to the aggregates as required to maintain a minimum total aggregate moisture content of 3 percent. The Contractor shall mix the lime uniformly with the aggregate before introducing the aggregate into the dryer or dryer drum. Hydrated lime introduction systems must be controlled by a proportioning device to the amount required on the JMF plus or minus 0.1% of the target.

The Contractor shall add lime to the aggregate by one of the following methods:

- A. The Contractor shall add lime to the combined cold feed aggregate using an enclosed in-line cold feed mechanical pugmill mixer. The Contractor shall use a twin-shaft, continuous mixing pugmill with mixing paddles to thoroughly blend the lime with the aggregate. The Contractor shall adjust the retention time of the mixture in the pugmill so no unmixed lime is visible after the lime and aggregate exit the pugmill.
- B. The Contractor shall add lime to the combined cold feed aggregate by introducing the lime between aggregate layers as the aggregate flows from the cold feed bins. The Contractor shall thoroughly mix the lime and aggregate on the conveyor belt. The Contractor shall provide a lime introduction system so that no unmixed lime is visible before the lime and combined aggregate enter the drum.

The cold storage for hydrated lime shall be a separate bulk storage bin with a vane feeder or other approved feeder system which can be readily calibrated. The system shall provide a means for convenient sampling of the hydrated lime additive and verifying the quantity of lime dispensed. If the hydrated lime is to be introduced directly into the plant then the additive equipment shall be synchronized with the cold feed controls to operate concurrently with the cold feed operation. The system will be configured to automatically adjust the hydrated lime feed to variations in the cold aggregate feed. The hydrated lime system shall have out-of-tolerance sensing ability by weight, and have a means to indicate the out-of-tolerance condition.

401.14 Mixing

Hydrated lime shall be added into the HMA aggregate mixture prior to the aggregate blend mixing with the PGAB. Aggregate feed rate, or pugmill mixing times shall be adjusted to ensure complete blending of Hydrated Lime and aggregate before the PGAB is added.

401.18 Quality Control

The Contractor shall provide a written supplement to the project specific QCP outlining the proposed methods of adding and mixing the hydrated lime for approval by the Authority. This written summary shall also provide information describing how the Contractor will perform quality control on the addition of hydrated lime, specifically the method of introduction and how the lime use will be measured to assure that the specified percentage is consistently added, and appropriately mixed. The supplemental QCP covering hydrated lime introduction shall be provided to the Authority at least one week prior to the prepave meeting.

SPECIAL PROVISION

SECTION 403

HOT MIX ASPHALT PAVEMENT

403.01 Description

This work shall also consist of the construction, maintenance and removal of all temporary bituminous ramps at locations as shown on the Plans or as directed by the Resident.

403.02 General

The Contractor shall compose the Hot Mix Asphalt Pavement with aggregate, Performance Graded Asphalt Binder (PGAB), and mineral filler if required. The Performance Graded Asphalt Binder (PGAB) shall be polymer modified as detailed in this special provision and shall conform to the requirements of AASHTO M 332 (including Appendix 1). The PG64E-28 Binder shall contain a minimum of 2.25% Styrene-Butadiene-Styrene (SBS) polymer {BWT} in a homogeneous blend with a minimum average percent recovery of 75% as determined by AASHTO T350 @ 3.2 kPA (R3.2) on RTFO residue at 64°C to assure significant polymer load and performance. The stability of the modified binder shall be verified in accordance with ATSM D7173 using the Dynamic Shear Rheometer (DSR). The DSR $G^*/\sin(\delta)$ results from the top and bottom sections of the ATSM D7173 test shall not differ by more than 10%. The results of ASTM D7173 shall be included on the Certified Test Report.

When required PG70E-34 Binder shall be modified with Styrene-Butadiene-Styrene (SBS) polymer {BWT} in a homogeneous blend with a minimum average percent recovery of 75% as determined by AASHTO T350 @ 3.2 kPA (R3.2) on RTFO residue at 70°C to assure significant polymer load and performance. The stability of the modified binder shall be verified in accordance with ATSM D7173 using the Dynamic Shear Rheometer (DSR). The DSR $G^*/\sin(\delta)$ results from the top and bottom sections of the ATSM D7173 test shall not differ by more than 10%. The results of ASTM D7173 shall be included on the Certified Test Report.

403.03 Construction

All areas which have been milled or overlaid shall have a minimum length temporary ramp constructed as determined by the Resident at the milled or overlaid limits prior to opening the roadway to traffic. Temporary ramps shall be constructed using the same material as being placed on that day or as directed by the Resident. All temporary ramps are to be constructed on a sand joint. The Contractor shall be responsible for all repairs and maintenance required for the temporary ramps.

The Contractor shall be responsible for the layout of the longitudinal centerline between the travel lanes.

The sand and loose debris adjacent to the median guardrail shall be removed and disposed of by the Contractor off of Turnpike property.

The forty-five degree pavement safety edge needed between adjacent lanes shall be incidental to the 202 pay items.

Lane 2 and the eight foot shoulder shall be pulled as one.

403.04 Method of Measurement

The construction and removal of temporary ramps on sand joints, and maintaining the ramps will not be measured separately for payment, but shall be incidental to Items 403.

The removal of sand and loose debris will not be measured separately for payment, but shall be incidental to paving items.

Hot Mix Asphalt, 12.5 mm (Polymer Modified pavement with (up to) 15% RAP, placed as a wearing surface will be measured under Item 403.2081 Hot Mix Asphalt, 12.5 mm (Polymer Modified) - RAP.

403.05 Basis of Payment

Hot Mix Asphalt, 12.5 mm (Polymer Modified) pavement with (up to) 15% RAP, placed as a wearing surface will be paid under Item 403.2081 Hot Mix Asphalt, 12.5 mm (Polymer Modified) – RAP.

The following pay items are added:

<u>Pay Item</u>		<u>Pay Unit</u>
403.2081	Hot Mix Asphalt, 12.5 mm (Polymer Modified) – RAP	Ton
403.2084	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size (sidewalks,drives, Islands & incidentals)	Ton

SPECIAL PROVISION

SECTION 403

HOT MIX ASPHALT PAVEMENT

Course	HMA Grading	Item Number	Total Thickness	No. of Layers	Complimentary Notes
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Mainline Mill and Fill/Overlay

Wearing	12.5 mm	403.2081	1.5"	1	A,D,E,F,G,H,I,J,K

Truck Turnout S.B. 104.90 Lane

Wearing	12.5 mm	403.2084	2.0"	1	C,I
Binder	12.5 mm	403.2084	2.0"	1	C,I

Spot Shims/Delaminated Areas/Incidentals (As Directed by the Resident)

Shim	9.5 mm	403.211	variable	1	C,I
Incidentals	12.5 mm	403.2084	variable	1	C,I

COMPLEMENTARY NOTES

- A. The required PGAB for this mixture shall be **64E-28**.
- B. RAP may not be used.
- C. The Maine DOT will conduct the job mix verification. The aggregate qualities shall meet the design traffic level of 3 to <10 million ESALS for mix placed under this contract. Minimum and Maximum PGAB content limits from 401.21 shall not apply.
- D. The MTA will conduct the job mix verification. The aggregate qualities shall meet the design traffic level of 10 to <30 million ESALS for mix placed under this contract. The design verification, Quality Control, and Acceptance tests for this mix will be performed at **75 gyrations**. (N design)
- E. A material transfer vehicle (MTV) shall be used for the placement of Hot Mix Asphalt wearing surface on all roadways including acceleration and deceleration lanes and all ramps.
- F. Joints shall be constructed as the "notched wedge" type in accordance with Subsection 401.17.
- G. Joint density will be measured in accordance with Subsection 401.165.
- H. PGAB shall conform to the provisions of 403.02 – Polymer Modified PGAB for HMA
- I. The contractor shall furnish a quality control technician equipped with an approved densometer to ensure density requirements are met.
- J. Hydrated Lime shall be incorporated into the mixture.

K. The antistrip additive Zycotherm SP manufactured by Zydex Industries shall be incorporated into the PGAB at a rate of 0.125%.

SPECIAL PROVISION

SECTION 409

BITUMINOUS TACK COAT

409.01 Description

This Subsection is deleted and replaced with the following:

This work consists of furnishing and applying one uniform application of UltraTack (NTSS-1HM) by Blacklidge as indicated in this specification and as per manufacturers' recommendation. The application rate shall be 0.06 gal/yd²

409.05 Equipment

Add "or as determined by the Resident", after the words "gal/yd²]" in the fourth line of the second paragraph of this Subsection.

409.06 Preparation of Surface

The following paragraph is added:

All existing pavement and shoulder areas on which bituminous concrete mixtures are to be placed shall receive a tack coat. The surface area where the tack coat is to be applied shall be dry and cleaned of all dirt, sand, and loose material. Cleaning shall be accomplished by use of revolving brooms or mechanical sweepers. Undesirable material not removed by the above means shall be cleaned by hand sweeping or scraping, or a combination of both. Small areas otherwise inaccessible may be swept with hand brooms. The tack coat shall be applied only when the existing surface is dry.

409.08 Method of Measurement

The following paragraphs are added:

Measurement will be based on delivery slips made out in duplicate by the Contractor and signed by the Resident, or his representative, at the point of delivery. One of these slips shall be retained by the Resident and one by the Contractor. Delivery slips shall be furnished by the Contractor and shall provide space for identifying the vehicle and driver, for stating the volume of material carried, the source of the material, the date, and the Resident or his representative's signature.

Material included in the delivery slips and not used or rejected shall be deducted from the amount being measured for payment. Each day's delivery slips shall be reconciled by the Contractor and the Resident within 24-hours.

Cleaning of the surface area where tack coat is to be applied shall be incidental to Item 409.152, Bituminous Tack Coat - Applied.

409.09 Basis of Payment

The following pay items are added:

<u>Pay Item</u>		<u>Pay Unit</u>
409.152	Bituminous Tack Coat NTSS-1HM Trackless– Applied	Gallon

SPECIAL PROVISION

SECTION 419

SAWING AND SEALING JOINTS IN BITUMINOUS PAVEMENT

(Sawing Bituminous Pavement)
(Saw Cutting and Sealing Bituminous Pavement)

419.01 Description

This work consists of sawing bituminous pavement as shown on the Plans, as specified herein or as approved by the Resident.

This work also consists of saw cutting and sealing bituminous pavement at Northern Avenue Overpass as shown on the Plans, as specified herein or as approved by the Resident.

419.02 General

The bituminous pavement to be sawed shall be accurately marked before cutting. The marking shall be in accordance with the locations as shown on the Plans or as approved by the Resident. Cutting shall be with an approved power driven saw with an abrasive blade.

Unless otherwise noted or directed, the sawcut shall be vertical, a minimum of 3/8 inch wide, and extend to the depth as shown on the Plans.

Residue or debris from the sawing operation shall be removed immediately and legally disposed of by the Contractor.

419.03 Method of Measurement

Sawing Bituminous Pavement will be measured by the linear foot of pavement actually cut and accepted. No additional payment will be made for variations in the pavement thickness.

419.04 Basis of Payment

Sawing Bituminous Pavement will be paid for at the Contract unit price per linear foot which shall be full compensation for all materials, tools, equipment labor, and all incidentals necessary for the completion of the work to the satisfaction of the Resident. The disposal of sawcut residue shall be incidental to this item.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
419.30	Sawing Bituminous Pavement	Linear Foot
419.301	Saw Cutting and Sealing Bituminous Pavement	Linear Foot

SPECIAL PROVISION

SECTION 424

ASPHALT RUBBER MASTIC CRACK SEALER

424.01 Description

This work shall consist of the furnishing and placement of a mastic material in the longitudinal, transverse and random cracks of the milled bituminous concrete pavement in accordance with these Special Provisions.

Placement shall consist of:

1. Crack cleaning and drying
2. Material preparation and application
3. Material finishing and shaping.

424.02 Materials

Elastoflex CA Type 4 shall be supplied by Maxwell Products or an approved equal designed especially for improving the strength and performance of the base asphalt cement with sealant.

424.03 Weather

Mastic shall not be applied on a wet surface or when the atmospheric temperature is below 45°F as determined by an approved thermometer (placed in the shade at the crack sealing location), or when weather conditions are otherwise unfavorable for proper construction procedures.

424.04 Equipment

Equipment used in the performance of the work shall be subject to the Resident's or authorized representative's approval and shall be maintained in a satisfactory working condition at all times.

(a) Air Compressor: Air compressors shall be portable and capable of furnishing not less than 4 yd³ of air per minute at not less than 90 psi pressure at the nozzle. The compressor shall be equipped with traps that will maintain the compressed air free of oil and water.

(b) Sweeper: Manually operated, gas powered air-broom or self-propelled sweeper designed especially for use in cleaning pavements shall be used to remove debris, dirt, and dust from the cracks.

(c) Hot Air Lance: Should operate with propane and compressed air in combination at 2000°F - 3000°F, exit air heated at 310 m/s [1000 ft/s]. The lance should draw propane from no smaller than a 100 pound tank using separate hoses for propane and air draw. The hoses shall be wrapped together with reflectorized wrap to keep them together and to protect workers in low light situations.

(d) Hand Tools: Shall consist of a square shaped box screed, brooms, shovels, metal bars with chisel shaped ends, and any other tools which may be satisfactorily used to accomplish this work. The joints shall be raked open.

(e) Melting Kettle: The unit used to melt the joint sealing compound shall be a double boiler, indirect fired type. The space between inner and outer shells shall be filled with a suitable heat transfer oil or substitute having a flash point of not less than 320°C [608°F]. The kettle shall be equipped with a satisfactory means of agitating and mixing the mastic. This may be accomplished by continuous stirring with mechanically operated paddles and/or a continuous circulating gear pump attached to the heating unit. The kettle must be equipped with thermostatic control calibrated between 200°F and 550°F.

424.05 Preparations of Cracks

All cracks 1/2 of an inch and larger shall be blown free and raked off of loose material, dirt, vegetation, and other debris by high pressure air. Material removed from the crack shall be removed from the pavement surface by means of a power sweeper or appropriate hand tools as required. Cracks showing evidence of vegetation after being blown out shall be additionally cleaned by appropriate hand tools and additionally blown out. All cracks must be blown and heated via the hot air lance 10 minutes prior to the crack being sealed. Distance between the hot air lance and the crack sealing unit should be no more than 50 ft to eliminate reinvasion of water, debris, and other incompressibles. All debris, vegetation, and water shall be removed to enhance adhesion of the crack sealing material. This work shall not be done in inclement weather.

424.06 Preparation and Placement of mastic

The mastic material shall be heated and applied at the temperature specified by the manufacturer and approved by the Resident or authorized representative. Any material that has been heated above the manufacturer's specification longer than thirty minutes shall not be used. Material that is reheated or held at temperature for an extended period of time may be used as allowed by the manufacturer's specification and approval of the Resident or authorized representative. The Contractor shall provide the Resident or authorized representative with a suitable device for verifying the mastic temperature in the kettle and at the application site.

Any over application or spills are to be removed to the satisfaction of the Resident or authorized representative. Any sealed areas with damaged or contaminated sealer or visible voids are to be removed, prepared and resealed.

Mastic shall be delivered to the crack while the cracks are still hot from the hot air lance preparation through a pressure hose line and applicator shoe. The applicator shall be controlled by the operator so that crack is not over-filled with mastic material and followed by a V-shaped squeegee to eliminate any overband. A heated steel hotplate may be used on the surface of the repair area after the mastic has been applied. Any loose material on the surface or in the crack, which may contaminate the crack sealer or impede bonding of the sealant to the pavement, is to be removed by hand tools prior to crack filling. No crack filling material shall be applied in a crack that is wet or where frost, snow, or ice is present.

Crack sealing operations shall not occur directly following milling operations. Crack sealing

shall be conducted in such a manner to minimize the time the traffic will be allowed to travel directly across the crack sealer.

424.07 Quality of Work

A Maxwell Products representative shall be present to verify the proper application, installation, material and pavement preparation on the first days' production. Excess of spilled mastic shall be removed from the pavement by approved methods and discarded. Any quality of work determined to be below normal acceptable standards will not be accepted and will be corrected and/or replaced as directed by the Resident or authorized representative at no additional expense to the Authority.

424.08 Method of Measurement

Asphalt Rubber Mastic Crack Sealer - Applied will be measured by the pound of mastic used. The manufacturer's weights of the mastic will be accepted as the basis for measurement.

424.09 Basis of Payment.

Asphalt Rubber Mastic Crack Sealer – Applied will be paid for at the contract unit price per pound complete in place. This price shall be full compensation for furnishing and placing crack sealer, including cleaning and drying cracks; and furnishing all labor, materials, tools, equipment and incidentals necessary to complete the work.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
424.323 Asphalt Rubber Mastic Crack Sealer - Applied	Pound

SPECIAL PROVISION

SECTION 459

BITUMINOUS CONCRETE WATERWAY

459.01 Description

This work shall consist of construction of bituminous concrete waterways and aprons at median catch basins in accordance with these Specifications and in close conformity with the lines and grades as shown on the Plans.

This work shall also include any additional grading with gravel borrow and loam to the median swale and/or longitudinal flow line, to match the bituminous concrete waterway to the limits and width as directed by the Resident. The top four inches of the grading shall be loam.

The bituminous concrete waterway locations are listed on the Drainage Summary sheet in the Plans.

459.02 Materials

Materials shall meet the requirements specified in the following Subsections:

Bituminous concrete shall conform to Subsection 703.09 HMA Mixture Composition – Table 1 for Grading, Type 9.5 mm. The PGAB shall be PG 64-28.

Gravel borrow shall meet the requirements of Subsection 304.02 for Aggregate Subbase Course – Gravel.

Loam shall meet the requirements of Subsection 615.02.

Seeding shall meet the requirements of Section 618 Seeding, Method Number 2.

459.03 General

The bituminous concrete waterways, including aprons, shall be constructed to the median catch basin as shown on the Plans or as directed by the Resident. The Resident may adjust the two inch swale depth to meet existing field conditions.

Excavation shall be to the required depth and width. The foundation shall be shaped and compacted to a firm even surface conforming to the section as shown on the Plans. All soft and yielding material shall be removed and replaced with acceptable material. Unless otherwise designated, the excavated walls shall be as nearly vertical as possible and the trench width no greater than necessary for the placement of the bituminous material.

The bituminous material shall be placed on the compacted base course in one course to provide the required depth when compacted. Hand tamping will be permitted for compaction. The bituminous material shall be uniformly compacted.

459.04 Method of Measurement

Bituminous Concrete Waterways will be measured by the unit installed, complete in place and accepted.

Erosion Control Blanket will not be paid for under this Item, but shall be paid for under Item 613.319.

Excavation, disposal, hot mix asphalt, gravel borrow, loam, seed and mulch will not be paid for separately but shall be incidental to Item 459.

Hay bales will not be paid for under this Item, but shall be paid for under Item 656.50.

459.05 Basis of Payment

Bituminous Concrete Waterways will be paid for at the Contract unit price each, which price shall include all excavation, backfill, grading, bituminous material, gravel borrow, loam, seeding, mulch and all labor, equipment and materials required to complete the work.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
459.06 Bituminous Concrete Waterway, Type I	Each

SPECIAL PROVISION

SECTION 470

BERM DROP OFF CORRECTION

(Berm Dropoff Correction - Grindings)
(Berm Correction)

470.01 Description

This work shall consist of furnishing and placing bituminous grindings to eliminate the berm dropoff along the inside and outside shoulder edges at all locations, including guardrail sections at locations shown on the plans or as directed by the Resident.

The work shall also consist of removing materials at the inside shoulder edges at all locations, including guardrail sections at locations shown on the plans or as directed by the Resident.

470.02 Bituminous Materials

The recycled bituminous pavement shall be reprocessed (crushed) to meet the following gradations:

Sieve Designation	Percentage by Weight Passing Square Mesh Sieve
¾"	100
½"	95-100
No. 4	50-80
No. 50	18-28
No. 200	3-10

470.03 Method of Construction

Work under this item shall be in accordance with the details as shown on the Plans or as directed by the Resident.

At a minimum, a walk behind plate compactor shall be used for compaction. Other methods may be used upon approval by the Resident.

470.04 Method of Measurement

Berm Dropoff Correction – Grindings will be measured by the ton of Pavement grindings delivered and installed.

Material included in the delivery slips and not used or rejected shall be deducted from the amount being measured for payment.

Berm Correction will be measured by the linear foot for material removed.

470.05 Basis of Payment

The accepted quantity of “Berm Dropoff Correction – Grindings” will be paid for at the contract unit price per ton, which price shall include all materials, crushing to gradation range, weighing, transportation, placement, labor, equipment, and all incidentals necessary to accomplish the work.

The accepted quantity of “Berm Correction” will be paid for at the contract unit price per linear foot, which price shall include removing all materials, grading, transportation, labor, equipment, and all incidentals necessary to accomplish the work.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
470.08	Berm Dropoff Correction – Grindings	Ton
470.081	Berm Correction	LF

SPECIAL PROVISION

SECTION 520

EXPANSION DEVICES – NON-MODULAR

(Asphaltic Plug Joint)

Section 520, Expansion Devices, Non-Modular, is deleted in its entirety and replaced with the following:

520.01 Description

This work consists of furnishing and installing asphaltic plug joint systems at the location(s) shown on the Plans, in accordance with these Specifications or as directed by the Resident. This work shall include furnishing, installation and removal of any bond breaking materials used to prevent asphalt pavement layers from adhering to waterproofing membrane, all temporary header(s) installed with the intent to form the asphaltic plug joint channel, and all preparation required for the installation of the asphaltic plug joint.

This work shall also include having the approved manufacturer provide a qualified technical representative to supervise the installation of the joint systems. The representative shall instruct, train and supervise the Contractor's personnel in the proper methods of installation. All costs associated with this service shall be included in the unit price of the work.

Bridging plates for asphaltic plug joint systems shall only be used when shown on the Contract Plans.

520.02 Submittals

Prior to construction, the Contractor shall submit the following to the Resident to for review and approval:

- (a) Complete and detailed Shop Drawings of asphaltic plug joint system. Shop Drawing shall include information covering materials, their properties, installation procedures, storage and handling requirements, and Safety Data Sheets.
- (b) The resume of the manufacturer's technical representative, which shall include the representative's experience installing the asphaltic plug joint system along with the names and telephone numbers of contact persons for recent projects where technical assistance was provided.
- (c) Certified test reports of the asphaltic binder, closed cell foam backer rod, and the plastic compound.
- (d) Certificates of Compliance for bridging plates, centering nails, and aggregate.

520.03 Materials

The asphaltic plug joints shall consist of a system including bridge joint binder material, aggregate, backer rod, elastomeric concrete header material, and polysulfide joint sealant conforming to the details and dimensions shown on the Plans, in accordance with these Specifications and as directed by the Resident.

Materials which are incorporated in or used in conjunction with approved asphaltic plug joint systems are as follows:

- (a) Asphaltic Binder:

Binder shall meet or exceed requirements of manufacturer's specifications.

- (b) Backer Rod:

Backer rod shall be a cylindrical closed cell expanded polyethylene foam rod, with a diameter of 150 percent of joint opening width, capable of withstanding the temperature of the hot binder materials **and shall meet or exceed the manufacturer's specifications.**

- (c) Bridging Plate:

Bridging Plate shall be either Plate Steel or Aluminum Flashing as specified on the plans.

Steel Bridging Plates shall be fabricated from ASTM A36 steel, shall be a minimum of 1/4 inch thick and shall be galvanized. Holes for centering nails shall be located approximately one foot on center along the centerline of the plates.

Aluminum Flashing Bridging Plates shall be rust-free roll aluminum. The aluminum flashing shall be a minimum of 6" wide and have a minimum thickness of 0.02 inches.

- (d) Centering Nail:

Centering nails shall be 16d or larger and hot dip galvanized in accordance with ASTM A153.

- (e) Aggregates:

Aggregate shall be crushed, double washed and dried granite or basalt and meet the ASTM C33 Size No. 6 gradation. This aggregate shall also be used for top dressing on the finished joints.

520.04 Installations

The asphaltic plug joint system shall be installed in accordance with this Specification and the manufacturer's latest installation procedures. An installer certified by the membrane

manufacturer shall be present during the entire installation to ensure satisfactory results are obtained. Where conflicts between this Specification and the manufacturer's recommendations occur the more stringent requirement, as determined by the Resident, shall govern.

The installation shall be centered over the expansion joint gap as indicated on the **Contract Plans**. It shall not be installed when rain is imminent, or in other environmental conditions disapproved by the Resident. The area shall be free of any dirt, dust, moisture, petroleum or solvents that might contaminate the joint materials or reduce the bond of the joint system to the substrate or vertical faces. The use of compressed air and heat may be required to dry the area before installing the joint system.

The asphalt pavement layers shall be removed to the required dimensions shown on the **Contract Plans**. **For bridges with torch applied waterproofing membrane beneath the asphalt pavement, the waterproofing membrane shall remain in place regardless of the joint manufacturer's recommendations.** The asphalt pavement shall be sawcut to a depth that will not damage the waterproofing membrane but permit the removal of the asphalt pavement layer. The pavement layer shall be removed in a manner that will not damage the waterproofing membrane. **All other types of membrane shall be removed prior to joint installation in accordance with the manufacturer's recommendations. When membrane is required to be removed, the membrane removal limits shall end 1" to 2" from the pavement removal limits to allow the asphaltic joint to overlap with the membrane.**

Bond breakers such as interlayers and fabrics, or temporary header(s), may be used with new hot mix asphalt placements to avoid unnecessary saw cuts and protect the waterproofing membrane from damage. The method of attaching any temporary header(s) to the concrete deck shall be approved by the Resident. The use of a temporary header shall not be allowed if it will need to be anchored into a precast prestressed concrete member. Should a concrete leveling course be required before installing the bridging plates, and the membrane layer is removed in the process, it shall be replaced before the asphaltic plug joint system is installed. Vertical surfaces of the asphalt pavement layers shall be cleaned to remove all water, dust, or other contaminants.

Backer rods shall be installed in expansion joint openings at a minimum of one inch depth as indicated on the **Contract Plans**.

Unless otherwise specified by the asphaltic plug joint system manufacturer, liquid asphalt binder meeting the requirements of a 64-28 or 58-28 PGAB shall be used to coat the membrane and bridging plate surfaces.

The binder shall be heated to 350°F to 410°F, or a safe temperature as recommended by manufacturer. Heating kettles shall be equipped with continuous agitation system, temperature controller, calibrated thermometer, and double steel jacket with an oil layer in between, to prevent scorching of the binder. During application, the temperature of binder shall be maintained at a minimum of 350°F, but no greater than 410°F. It shall be poured and leveled into expansion joint openings until overfilled, and the excess binder spreads over the area covered by the bridging plates.

If called for on the **Contract Plans** the bridging plates, whether fabricated from steel plate or aluminum flashing, shall be placed from curb to curb on the roadway portion of expansion joints.

The plates shall be centered over joint openings. Centering nails shall be placed in pre-drilled holes and hammered into secure plates.

Once the bridging plates are installed, liquid asphalt binder shall be poured and leveled over the bridging plates and adjacent membrane surfaces in a manner that ensures full coverage. Areas with excessive application, such as pooling of liquid, should be removed or dispersed along the joint area.

Asphaltic plug joint system aggregate shall be heated in a rotating drum mixer to a minimum of 350°F but no greater than 410°F, or as recommended by the manufacturer. The thermoplastic polymeric modified asphalt binder shall be added to the mixer **and thoroughly combined into a coated aggregate mixture.**

Coated aggregate shall be placed into blockouts in layers as recommended by the manufacturer. Blockouts shall be overfilled with coated aggregate as required to compensate for compaction. Equipment for compaction shall be as recommended by the manufacturer. Additional thermoplastic polymeric modified asphalt binder shall be screeded over the compacted joint to fill any surface voids.

Top dressing aggregate shall be applied per the manufacturer's recommendation.

Plastic compound shall be used for repairing overcuts in bituminous concrete. Cleaning, mixing and application shall be in conformance to the manufacturer's instructions.

Vehicular traffic may pass over finished joints two-hours after compaction or as recommended by the manufacturer.

520.05 Method of Measurement

The Expansion Device - Asphaltic Plug Joint system will be measured by the linear foot along the top surface of installed joints to the limits as shown on the **Contract** Plans. Preparation of surfaces for the proposed joint system including cutting, grinding, and cleaning will not be measured separately for payment, but shall be incidental to the Expansion Device - Asphaltic Plug Joint pay item.

520.06 Basis of Payment

The asphaltic plug joint system will be paid for at the Contract unit price per linear foot, which price shall be full compensation for all labor, materials, equipment, and incidentals required for furnishing and installing the Expansion Device - Asphaltic Plug Joint as shown on the **Contract** Plans, in accordance with these Specifications, and as directed by the Resident.

The backer rod, closed cell foam, all patching needed for the waterproofing membrane, and elastomeric sealant installed up the vertical face, and across the horizontal surfaces, of bridge curbs and sidewalks will not be measured separately for payment, but shall be incidental to the Expansion Device - Asphaltic Plug Joint pay item.

Payment will be made under:

Pay Item

Pay Unit

520.23 Asphaltic Plug Joint

Linear Foot

SPECIAL PROVISION 603

PIPE CULVERTS AND STORM DRAINS

(Reinforced Concrete Pipe)
(Concrete Collar)
(Corrugated Polyethylene Pipe)

603.01 Description

The following paragraphs are added:

This work also consists of furnishing and installing a concrete collar to join existing concrete pipe to proposed Corrugated High Density Polyethylene (HDPE) pipe in accordance with the details as shown on the Plans.

This work shall also consist of furnishing and installing corrugated HDPE pipe, including a dual wall adaptor fitting by Hancor or an approved equal as shown on the plans. No other pipe types within the Option III alternatives will be accepted.

603.02 Materials

All Corrugated High Density Polyethylene (HDPE) pipe for storm water and drainage systems shall meet the requirements of Subsection 706.06.

603.11 Method of Measurement

The following paragraph is added:

The Concrete Collar shall be measured by each unit installed, complete in place and accepted. This shall be full compensation for furnishing labor and materials to construct a Concrete Collar to connect the existing and proposed pipe ends in a working like manner.

Dual Wall Adapter Fitting shall be included for payment as three additional linear feet of the largest pipe involved.

603.12 Basis of Payment

Concrete Collars will be paid for at the Contract unit price each regardless of the size of the existing and proposed pipes.

Corrugated HDPE pipe will be paid for under the appropriate sized Culvert Pipe Option III pay items.

Payment will be made under:

Pay Item

Pay Unit

603.195 24 inch Reinforced Concrete Pipe - Class III
603.28 Concrete Collar

Linear Foot
Each

SPECIAL PROVISION

SECTION 604

MANHOLES, INLETS AND CATCH BASINS

604.01 Description SPECIAL PROVISION

This Subsection is amended by the addition of the following:

The Type IV work shall consist of rebuilding catch basins as specified in the Specifications to grade, removing the existing unsound concrete, frame and grate, applying a bead of Elastomeric sealer to the frame seat and reinstalling the existing grate in accordance with these Specifications and in reasonable close conformity with the lines and grades as shown on the Plans.

The work locations are listed on the Drainage Summary sheets of the Plans.

604.02 Materials

The following sentences are added:

Elastomeric sealer shall be Sikaflex 1a as manufactured by Sika or an approved equal.

Class AAA concrete shall conform to Subsection 502.05; except that the minimum cement factor shall be 750 pounds per cubic yard and the coarse aggregate size shall conform to ASTM C33 Grading 7.

The third paragraph should be deleted and replaced with:

Catch Basin Frames and Grates shall be as outlined below and be manufactured by EJ Company of Brockton, Massachusetts or an approved equal and shall meet or exceed the AASHTO M306 Loading Requirements.

Catch Basin Frames shall be manufactured by EJ Company of Brockton, Massachusetts (or an approved equal) with the following product numbers:

5521Z - 8 Inch Frame Product Number 00552111

5546Z – 6 Inch Frame Product Number 00554611

5544Z - 4 Inch Frame Product Number 00554411

Catch Basin Frames shall be 8” frames unless otherwise specified by the plans or approved by the resident.

Catch Basin Grates shall be a square holed grate as manufactured by EJ Company of Brockton, Massachusetts (or an approved equal) with the following product number:

5520M5 Grate Product Number 00552060 (170 pounds)

If a cascade catch basin grate is specified on the plans then it shall be manufactured by EJ Company of Brockton, Massachusetts (or an approved equal) with the following product numbers depending on the direction of flow:

5520M8 Product Number 00552084 or 5520M8 Product Number 00552085

604.04 Altering, Adjusting, and Rebuilding Catch Basins and Manholes

This Subsection is deleted and replaced with the following:

When adjusting the existing catch basins they shall be dismantled sufficiently to allow reconstruction in accordance with the following requirements and as shown on the Plans:

Any frame or grate damaged by the Contractor's operations shall be replaced by the Contractor at no additional cost to the Authority. Replacement frame and grate shall meet the requirements of Subsection 604.02. Damaged frames and grates shall become the property of the Contractor and shall be removed from Turnpike property.

Rebuild Catch Basin to Grade – Type IV

The existing frame and grate shall be removed, stacked and reset. Remove all unsound concrete and anchor rods shall be removed to sound concrete as determined by the Resident. Install four Number 4 dowels, twelve inches in length, in each sidewall, reform catch basin to necessary grade using Class AAA concrete. The existing frame shall be reinstalled to the pavement grade as determined by the Resident.

Prior to installation of the grate, the frame shall be cleaned to accept a bead of elastomeric sealer. Sealer shall be placed in a continuous bead over the horizontal surface in accordance with the manufacturer's recommendation. The existing grate shall be reinstalled and allowed to set for a minimum of 1 ½-hour before receiving traffic loads.

604.05 Method of Measurement

The following are added after Subsection e. Grate:

Rebuild Catch Basin to Grade – Type IV will be measured for payment by each unit rebuilt, secured and accepted.

Each unit includes removing and replacing a depth up to 12 inches from the bottom of the frame to the top of sound concrete in the wall. Each six inches of concrete removed and replaced over 12 inches will be measured for payment as one eighth (1/8) of a unit. Depth measurements in excess of the dimensions authorized will not be included.

604.06 Basis of Payment

The following paragraphs are added after the first paragraph:

The accepted quantity of Rebuild Catch Basin to Grade – Type IV will be paid for at the Contract unit price each. This price shall be full compensation for removing existing frame and grate, rebuilding the catch basin top to grade, reinstalling the existing frame, cleaning the horizontal surface, applying the elastomeric sealer, reinstalling the existing grate, and all other labor, equipment and materials required to complete the work.

The second paragraph is deleted and replaced with the following:

Excavation and backfill will not be measured separately for payment, but shall be incidental to the following pay items.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
604.184	Rebuild Catch Basin to Grade – Type IV	Each

SPECIAL PROVISION

SECTION 613

EROSION CONTROL BLANKET

613.01 Description

This work shall also include seeding, mulching and watering the median swale and/or longitudinal flow line to the limits and width as shown on the Plans or as directed by the Resident.

613.02 Materials

The following sentences are added:

Seeding shall meet the requirements of Section 618, Seeding, Method Number 2.

Mulch shall meet the requirements of Section 619.

The following Subsection is added:

613.041 Maintenance and Acceptance

See Section 618.10 for maintenance and acceptance of seeding.

613.042 Mulch

All mulch shall be placed after the area has been seeded and prior to the installation of the Erosion Control Blanket.

613.09 Basis of Payment

The following "and mulch" is added after the words "initial seeding" in the second sentence.

SPECIAL PROVISION

SECTION 619

MULCH

(Mulch – Plan Quantity)
(Temporary Mulch)

619.01 Description

The first paragraph is modified by the addition of the following:

“as a temporary or permanent erosion control measure” after the word “mulch”.

Add the following sentence at the end of the first paragraph:

Refer to Section 656 Temporary Soil and Water Pollution Control, for more information on Temporary Mulch.

619.03 General

The first paragraph is deleted and replaced with the following:

Cellulose fiber mulch shall not be used within 200 feet of a wetland or stream. The limits shall be 200 feet up station and down station of the wetland or streams as well as the slopes adjacent to the stream. The application of hay or straw mulch with an approved binder shall be used at these locations to prevent erosion.

The use of cellulose fiber mulch will only be allowed at other areas with the approval of the Resident. The Contractor may be required to demonstrate that the material may be applied in a manner that will prevent erosion and will aid in the establishment of permanent vegetation. The Resident reserves the right to require the use of hay or straw mulch at all locations if he determines that the cellulose mulch is ineffective. Cellulose fiber mulch is not acceptable for winter stabilization.

610.06 Method of Measurement

The following sentence is added:

Temporary Mulch will be paid for by the lump sum.

656.10 Basis of Payment

Temporary Mulch will be paid for at the Contract price per lump sum which shall be full compensation for furnishing and spreading the Temporary Mulch as many times as necessary as determined by the Contractor’s operations and staging. The price shall also include the additional mulch netting and snow removal necessary during the winter months.

Payment will be made under:

Pay Item

Pay Unit

619.1201 Mulch – Plan Quantity
619.1202 Temporary Mulch

Unit
Lump Sum

SPECIAL PROVISION

SECTION 627

PAVEMENT MARKINGS

(Temporary 6 Inch Pavement Marking Tape)

627.01 Description

The following sentence is added:

This work shall also consist of furnishing, placing, maintaining and removing temporary pavement marking tape at locations shown on the Plans or as directed by the Resident.

627.02 Materials

The following paragraph is added:

Temporary pavement marking tape shall be Stamark Wet Reflective Removable Pavement Marking Tape Series 710 as manufactured by 3M of St. Paul, Minnesota or an approved equal.

627.04 General

The following paragraphs are added:

Work under this item shall be in accordance with the manufacturer's recommendations. A factory representative from 3M shall be present for the first application of all temporary pavement marking tape to insure proper application and product performance.

The pavement markings shall be applied mechanically to clean dry pavement as recommended by the manufacturer and approved by the Resident.

Temporary pavement markings shall consist of applying six inch solid white, six inch broken white, and six inch yellow reflectorized pavement marking tape for traffic maintenance during construction as shown on the Plans or as directed by the Resident.

Temporary pavement marking tape that loses reflectivity, becomes broken, dislodged or missing during the life of the Contract shall be replaced by the Contractor at no additional cost to the Authority.

627.06 Application

The following paragraphs are added:

For application of the tape, when the pavement temperature is below 50F, heat shall be applied to the pavement surface, if deemed necessary by the factory representative or as directed by the Resident, at no additional cost to the Authority. Proper primer for the temperatures shall be used as directed by the manufacture.

The pavement mark tape shall be rolled over with a vehicle once application is complete and then scored every 20 feet when placed in long runs to prevent full length unraveling.

627.08 Removing Lines and Markings

The following sentence is added:

Removal of temporary pavement marking tape shall be accomplished without the use of heat, solvents, grinding or sandblasting and in such a manner that no damage to the pavement results.

627.09 Method of Measurement

The following paragraph is added:

Temporary Pavement Markings - Tape will be measured for payment by the linear foot. The measurement of broken lines will not include the gaps.

627.10 Basis of Payment

The following paragraphs are added:

Payment for the Temporary Pavement Markings - Tape will be made at the Contract bid price per linear foot, which price shall include furnishing, installing, maintaining and removing the temporary tape and all materials, labor, equipment and incidentals necessary to accomplish the work. Replacement of Temporary Pavement Markings - Tape, as described above, will be incidental and no separate payment will be made.

Payment will be made under:

Pay Item

Pay Unit

627.73 Temporary 6 Inch Pavement Marking Tape

Linear Foot

SPECIAL PROVISION

SECTION 627

PAVEMENT MARKINGS

(Temporary Raised Pavement Markers)

627.01 Description

The following sentence is added:

This work shall consist of furnishing, placing and removing temporary raised pavement markers at locations as shown on the Plans or as directed by the Resident.

627.02 Materials

The second paragraph is deleted and replaced with the following:

The temporary raised pavement markers shall be white or yellow one way markers (Type Tom W-1, Y-1, Grade WZ) as distributed by Davidson Plastics Co. (DAPCO), Kent, WA, or an approved equal. Colors shall conform to 2009 MUTCD requirements.

627.04 General

The following sentences are added:

Temporary raised pavement markers shall only be used be used to delineate edge lines (SWEL and SYEL) only after placement of the surface course (HMA 12.5 mm).

Temporary raised pavement marker that lose reflectivity, becomes broken, dislodged or missing during the life of the Contract shall be replaced by the Contractor at no additional cost to the Authority.

The spacing and number of temporary pavement markers installed as edge lines shall be the same as shown for the BWLL on the Plans for Temporary Pavement Marking.

627.09 Method of Measurement

The following sentence is added:

Temporary Raised Pavement Markers will be measured by each unit, complete in place, maintained and accepted.

627.10 Basis of Payment

The following paragraphs are added:

The accepted quantity of Temporary Raised Pavement Markers white and/or yellow will be paid for at the Contract price each. This price shall include all labor and materials to furnish, install, maintain, and remove the markers.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
627.812 Temporary Raised Pavement Markers	Each

SPECIAL PROVISION

SECTION 627

PAVEMENT MARKINGS

(Pavement Marking Tape)

(Pavement Marking Tape – Dotted White Lane Line, 6-inch Width)

(Pavement Marking Tape – Dotted White Lane Line, 12-inch Width)

627.01 Description

The following sentence is added:

This work shall consist of furnishing and placing reflective pavement marking tape in conformity with the Plans, as specified herein and as directed by the Resident.

The pavement marking tape shall be installed at all locations.

The MTA will perform the maintenance of traffic at the Southbound Exit 103 ORT location and will require a 72 hour advance notice.

627.02 Materials

The following sentence is added:

For the Broken White Lane Line (BWLL), Pavement Marking Tape shall be 3M Stamark™ High Performance Tape Series 380AW – High Performance pavement marking tape, color- white, six (6) inch width, as manufactured by 3M of St. Paul, Minnesota.

For the Dotted White Lane Line (DWLL), Pavement Marking Tape shall be 3M Stamark™ High Performance Tape Series 380I ES – High Performance pavement marking tape, color- white, six (6) inch wide and twelve (12) inch wide, as manufactured by 3M of St. Paul, Minnesota.

3M Traffic Safety Systems Division

Mr. Michael D. Allen

Tel: (401) 368-0438

Email: mdallen@mmm.com

627.04 General

The following paragraphs are added:

The tape shall be used as a supplemental broken white lane line. The tape shall be installed between the painted Broken White Lane Line (BWLL) spaced eighty (80) foot center to center as shown on the Plans. The length of the tape shall be three (3) feet.

The tape shall also be used to mark a Dotted White Lane Line (DWLL) and shall be installed on parallel deceleration and acceleration lanes at locations as noted in the Plans. On deceleration lanes, the tape shall be installed from the beginning of the full width deceleration lane and shall extend to the theoretical gore markings. On acceleration lanes, the DWLL shall extend from the theoretical gore markings to a point one-half of the total length of the acceleration lane (including the lane taper length). Layout data is noted on the Plans. Dotted White Lane Line tape shall be three (3) foot in length and shall be spaced nine (9) feet apart. Spacing from the Solid White Lane Line (SWLL) or the Theoretical Gore Markings shall be nine (9) feet.

627.05 Preparation of Surface

The following paragraph is added:

The Contractor shall mill a groove in the pavement for each tape length to be placed (“in-and-out” pattern). Continuous grooving for installation of the tape shall not be allowed. The groove length shall be the required tape length plus 12 inches on both ends. Tape length spacing shall be as shown on the plans. The groove width for inlaid tape pavement marking shall be the pavement marking width plus 1 inch, with a tolerance of $\pm \frac{1}{4}$ inch. The groove shall have a uniform depth of 150 Mils (± 20 Mils). Groove position shall be a minimum of 2 inches from the edge of the pavement marking to the longitudinal pavement joint. The bottom of the groove shall have a smooth, flat finished surface. The use of gang stacked Diamond cutting blades is required for asphalt pavement surfaces. The spacers between blade cuts shall be such that there will be less than a 10 mil rise in the finished groove between the blades.

Grooves shall be clean, dry and free of laitance, oil, dirt, grease, paint or other foreign contaminants. The Contractor shall prevent traffic from traversing the grooves, and re-clean grooves, as necessary, prior to application of the primer and pavement marking tape. Depth plates shall be provided by the contractor to assure that desired groove depth is achieved.

Reference is made to 3M Information Folder 5.18 Grooving Applications, May 2011, “Application Guidelines for Pavement Marking in Grooved Pavement Surfaces.”

627.09 Method of Measurements

The following paragraph is added:

The quantity of Pavement Marking Tape measured for payment will be the linear feet of tape in place and accepted. The measurement will not include the gaps.

627.10 Basis of Payment

The following paragraphs are added:

The accepted quantity of pavement marking tape will be paid for at the Contract unit price per linear foot which price shall include all material, pavement grooving, equipment, labor and incidentals necessary to complete the work.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
627.94	Pavement Marking Tape	Linear Foot
627.941	Pavement Marking Tape – Dotted White Lane Line, 6-inch Width	Linear Foot
627.942	Pavement Marking Tape – Dotted White Lane Line, 12-inch Width	Linear Foot

SPECIAL PROVISION

SECTION 652

MAINTENANCE OF TRAFFIC

(Specific Project Maintenance of Traffic Requirements)

This Specification describes the specific project maintenance of traffic requirements for this Project.

The following minimum traffic requirements shall be maintained. These requirements may be adjusted based on the traffic volume when authorized by the Authority.

Temporary lane closures that would restrict travel to one lane in each direction shall be conducted between the times presented in the table below. Equipment moves involving stoppages and shoulder closures shall be performed between the times listed in the table below as well. Liquidated damages shall be assessed at \$1,000/five(5) minutes for every five minutes that a temporary lane closure is in place outside the times presented in the table below.

The following shall dictate at what rate speed shall be reduced when work is being performed.

50 MPH Speed Limit – for all Paving and Milling Operations

60 MPH Speed Limit – for all other Operations

Temporary Concrete Barrier will only be allowed when there is an active work area behind it. Set up of the temporary concrete barrier shall occur just prior to the start of work and shall be removed as soon as the work is completed or as otherwise approved by the Resident.

A Spotter shall be required at the front and rear of the paving operation on the mainline or as approved by the Resident and shall not be measured for payment. All spotters shall be equipped with handheld radios and spare batteries. The spotters will be required to move and maintain drums during the mobile paving operation.

652.62 Patrol Vehicle

The Contractor shall provide one traffic control vehicle(s) dedicated for traffic control only, with traffic coordinator(s) to be used for erecting, maintaining and dismantling lane closures as directed by the Resident. The traffic control vehicle(s) shall provide continuous patrolling (24-hours/seven days a week) when lane closures are installed (during non-work and work hours) to replace any and all damaged traffic control devices (arrow boards, variable message signs, barrels, signs, etc.). The traffic coordinator(s) shall report any and all disabled motorists, accidents or other unusual occurrences to the Resident, his representative or the Turnpike Authority's communication dispatcher throughout the duration of any and all lane closures.

The traffic control vehicle shall meet the following requirements:

- a. In good mechanical condition, clean and presentable at all times.

- b. Be equipped with a cellular phone capable of communicating with the Resident, his representative or the Turnpike Authority's communication dispatcher.
- c. Be equipped with a mounted revolving amber light or amber strobe light capable of 360-degree visibility to meet all lighting requirements.
- d. Be equipped with a light bar (arrow board).

Spotters will not be measured separately for payment except as noted, but shall be incidental to Item 652.361, Maintenance of Traffic Control Devices.

The patrol vehicle(s), driver(s), assistant(s) and cellular phone(s) will not be measured separately for payment, but shall be incidental to Item 652.361.

Work Hours with a Lane Closure
MM103 to 109

April				SB			
NB							
Mon-Thurs	9:00 am to 3:00 pm			Sun-Thurs	6:00 pm to 1:00 pm following day		
Fri	9:00 am to 1:00 pm						
Sun-Thurs	6:00 pm to 6:30 am following day						

*May				SB			
NB							
Mon-Thurs	9:00 am to 2:00 pm			Sun-Thurs	6:00 pm to 12:00 pm following day		
Sun-Thurs	6:00 pm to 6:30 am following day						
*Additional restrictions apply on Memorial Day weekend							

June				SB			
NB							
Mon-Thurs	9:00 am to 2:00 pm	*Ends on 6/16/22		Sun-Mon	7:00 pm Sunday to 10:00 am Monday		
Sun-Thurs	6:00 pm to 6:30 am following day			Mon-Thurs	6:00 pm to 10:00 am following day		

*July				SB			
NB							
Sun-Thurs	6:00 pm to 6:30 am following day			Sun-Mon	7:00 pm Sunday to 8:00 am Monday		
				Mon-Thurs	6:00 pm to 8:00 am following day		
*Additional restrictions apply during 4th of July week							

August				SB			
NB							
Sun-Thurs	6:00 pm to 6:30 am following day			Sun-Mon	8:00 pm Sunday to 8:00 am Monday		
				Mon-Thurs	6:00 pm to 8:00 am following day		

*September				SB			
NB							
Mon-Thurs	9:00 am to 1:00 pm	*Begins 9/19/22		Sun-Mon	7:00 pm Sunday to 9:00 am Monday		
Sun-Thurs	6:00 pm to 6:30 am following day			Mon-Thurs	6:00 pm to 9:00 am following day		
*Additional restrictions apply on Labor Day weekend							

*October				SB			
NB							
Mon-Thurs	9:00 am to 1:00 pm			Sun-Mon	7:00 pm Sunday to 10:00 am Monday		
Sun-Thurs	6:00 pm to 6:30 am following day			Mon-Thurs	6:00 pm to 10:00 am following day		
*Additional restrictions apply on Columbus Day weekend							

SPECIAL PROVISION

SECTION 652

MAINTENANCE OF TRAFFIC

(October 8, 2020)

MaineDOT Standard Specification 2014 Edition Section 652 – Maintenance of Traffic and the Maine Turnpike Authority 2016 Supplemental Specification Section 652 – Maintenance of Traffic are deleted in their entirety and replaced with the following:

652.1 Description

This work shall consist of furnishing, installing, maintaining and removing traffic control devices necessary to provide reasonable protection for motorists, pedestrians and construction workers in accordance with these Specifications, the applicable provisions of Section 105.4.5 - Special Detours, and the plans.

Traffic control devices include signs, signals, lighting devices, markings, barricades, channelizing, and hand signaling devices, portable light towers, truck mounted impact attenuators, traffic officers, and flaggers.

652.2 Materials

All traffic control devices shall conform to the requirements of the latest edition of the MUTCD, NCHRP 350 guidelines **and all Traffic control devices shall meet Manual for Assessing Safety Hardware (MASH) 16 guidelines if date of manufacture was after December 31, 2019.**

All signs shall be fabricated with high intensity fluorescent retroreflective sheeting conforming to ASTM D 4956 - Type VII, Type VIII, or Type IX (prismatic). All barricades, drums, and vertical panel markers shall be fabricated with high intensity orange and white fluorescent retroreflective sheeting conforming ASTM D 4956 - Type VII, Type VIII, or Type IX (prismatic).

Construction signs shall be fabricated from materials that are flat, free from defects, retroreflectorized, and of sufficient strength to withstand deflections using a wind speed of 80 miles/hr.

652.2.2 Signs

Only signs with symbol messages conforming to the design of the Manual of Uniform Traffic Control Devices(MUTCD) shall be used unless the Resident approves the substitution of word messages.

Any proposed use of temporary plaques to cover text or to change text shall be approved by the resident. All signs or proposed plaques shall have a uniform face and be constructed from similar sheeting.

All signs shall be new, or in like new condition and maintained in like new condition throughout the project duration. Signs shall be cleaned just prior to installation and throughout the project utilizing a method that will not damage the reflective sign sheeting.

652.2.3 Flashing Arrow Board

Flashing Arrow Boards must be of a type that has been submitted to AASHTO's National Transportation Product Evaluation Program (NTPEP) for evaluation and placed on the Maine Department of Transportations' Approved Products List of Portable Changeable Message Signs & Flashing Arrow Panels.

Flashing Arrow Boards units shall meet requirements of the current Manual on Uniform Traffic Control Devices (MUTCD) for Type "C" panels as described in Section 6F.56 - Temporary Traffic Control Devices. Flashing Arrow Boards shall have matrix of a minimum of 15 low-glare, sealed beam, Par 46 elements capable of either flashing or sequential displays as well as the various operating modes as described in the MUTCD, Chapter 6-F. If a Flashing Arrow Board consisting of a bulb matrix is used, each element should be recess-mounted or equipped with an upper hood of not less than 180 degrees. The color presented by the elements shall be yellow.

Flashing Arrow Board elements shall be capable of at least a 50 percent dimming from full brilliance. Full brilliance should be used for daytime operation and the dimmed mode shall be used for nighttime operation. Flashing Arrow Board shall be at least 96 inches x 48 inches and finished in non-reflective black. The Flashing Arrow Board shall be interpretable for a distance not less than 1 mile.

Operating modes shall include, flashing arrow, sequential arrow, sequential chevron, flashing double arrow, and flashing caution. In the three arrow signals, the second light from the arrow point shall not operate.

The minimum element on-time shall be 50 percent for the flashing mode, with equal intervals of 25 percent for each sequential phase. The flashing rate shall be not less than 25 nor more than 40 flashes per minute. All on-board circuitry shall be solid state.

Primary power source shall be 12 volt solar with a battery back-up to provide continuous operation when failure of the primary power source occurs, up to 30 days with fully charged batteries. Batteries must be capable of being charged from an onboard 110 volt AC power source and the unit shall be equipped with a cable for this purpose.

Controller and battery compartments shall be enclosed in lockable, weather-tight boxes.

The Flashing Arrow Board shall be mounted on a pneumatic-tired trailer or other suitable support for hauling to various locations, as directed. The minimum mounting height of an arrow panel should be 7 feet from the roadway to the bottom of the panel.

The face of the trailer shall be delineated on a permanent basis by affixing retro-reflective material, known as conspicuity material, in a continuous line as seen by oncoming drivers.

A portable changeable message sign may be used to simulate an arrow panel display.

652.2.4 Other Devices

Vertical panel markers shall be orange and white striped, 8 inches wide by 24 inches high. On the Interstate System, vertical panel markers shall be orange and white striped, 12 inches wide by 36 inches high.

Cones shall be orange in color, a minimum of 36 inches high, and retro-reflectorized. Retro-reflection shall be provided by a white bands of retro-reflective sheeting conforming to the MUTCD. **All cones utilized on the project shall be new or in like new condition and shall have a consistent design/appearance.**

Drums shall be of plastic or other yielding material, and shall be a minimum of 36 inches high and a minimum of 18 inches in diameter. There shall be at least two retro-reflectorized orange and at least two retro-reflectorized white stripes a minimum of 4 inches wide on each drum. **All drums utilized on the project shall be new or in like new condition and shall have a consistent design/appearance.**

Flaggers shall use a STOP / SLOW hand held paddle as the primary and preferred hand signaling device. Flags shall only be limited to emergencies. STOP / SLOW paddles shall have high intensity prismatic retro reflective sheeting, have an octagonal shape on a rigid handle and shall be at least 18 inches wide with letters at least 6 inches high and shall be constructed from light semi-rigid material. The STOP (R1-1) face shall have white letters and a white border on a red background. The SLOW (W20-8) face shall have black letters and a black border on an orange background.

STOP / SLOW paddles shall also incorporate either white or red flashing lights on the STOP face and white or yellow flashing lights on the SLOW face of the paddle and always be in use.

Paddles must conform to any of the following patterns:

- A. Two white or red lights (colors shall be all white or all red), one centered vertically above and one centered vertically below the STOP legend; and/or two white or yellow lights (colors shall be all white or all yellow), one centered vertically above and one centered vertically below the SLOW legend;
- B. Two white or red lights (colors shall be all white or all red), one centered horizontally on each side of the STOP legend; and/or two white or yellow lights (colors shall be all white or all yellow), one centered horizontally on each side of the SLOW legend;
- C. One white or red light centered below the STOP legend; and/or one white or yellow light centered below the SLOW legend;
- D. A series of eight or more small all white or all red lights no larger than 1/4 inch in diameter along the outer edge of the paddle, arranged in an octagonal pattern at the eight corners of the border of the STOP face; and/or a series of eight or more small all white or

all yellow lights no larger than 1/4 inch in diameter along the outer edge of the paddle, arranged in a diamond pattern along the border of the SLOW face; or

- E. A series of white lights forming the shapes of the letters in the legend. Flashing light patterns shall be compliant with Section 6E.03 Hand Signaling Devices in the most current version of the Manual on Uniform Traffic Control Devices.

All flashing light patterns on the STOP / SLOW paddle shall be visible from a minimum distance of 1000 feet.

Type I barricades shall be 2 feet minimum, 8 feet maximum in length with an 8 inch wide rail mounted 3 feet minimum above the ground. Type II barricades shall be 2 feet in length with two 8 inch wide rails, and the top rail shall be mounted 3 feet minimum above the roadway. Type III barricades shall be 8 feet in length with three 8 inch wide rails, and the top rail shall be mounted 5 feet minimum above the roadway. The cross members of all barricades shall be of 1/2 or 5/8 inch thick plywood or other lightweight rigid material such as plastic, fiberglass or fiber wood as approved by the Resident. The predominant color for supports and other barricade components shall be white, except that unpainted galvanized metal or aluminum components may be used.

652.2.5 Portable Changeable Message Sign

Portable-Changeable Message Signs (PCMS) will be furnished by the Contractor and shall be Ver-Mac PCMS-1210 or an approved equal. **The face of the PCMS trailer shall be delineated on a permanent basis by affixing retro-reflective material, known as conspicuity material, in a continuous line as seen by oncoming drivers.** PCMS's shall be located and relocated to locations approved by the Resident within the Project limits for the duration of the Project.

Features to the Ver-Mac PCMS shall include:

- An all LED display.
- Be legible from a distance of 1,000 feet.
- Have three (3) lines available for messages.
- Be NTCIP compliant (NTCIP 1203 & 1204).
- Be capable of being programmed by a remote computer via a data (IP over Cell) cellular modem connection.
- Have GPS location capability by adding on a GPS device capable of providing GPS location remotely to the MTA Communications' Center.
- Be programmable by Vanguard Software by Daktronics.

The Contractor shall complete and/or provide the following:

- Submit a catalog cut shop drawing to the Resident of all proposed equipment for review and approval.

- Establish and pay for a data cellular account so that PCMS may be remotely programmed and operated from the MTA Communications' Center.
- Provide to the Authority technical support from the PCMS manufacturer that may be necessary to integrate the PCMS into the MTA software platform (Vanguard Software by Daktronics).
- Provide the manufacturer's software necessary to change the PCMS messages remotely from the MTA Communications' Center and the Resident's computer if necessary or requested.
- Provide training on the operation of the PCMS to the Resident and the MTA Communications' Center representative.
- Make all PCMS on the Project work site available to the MTA for any/all emergency situations as defined by the MTA. This shall include the preemption of any messages running at the time of need as approved by the MTA and the Resident.

The Contractor shall also:

- Furnish, operate, relocate and maintain the PCMS as approved or requested by the Resident.
- Be responsible for the day to day programming and operation of the PCMS for Project purposes.

The PCMS(s) shall be on-site, with data cellular account established, GPS location capable, and all training required complete within one month after mobilization or seven days prior to implementing traffic shifts, detours or stoppages, whichever is sooner. Implementation of traffic shifts, detours, or stoppages of traffic will not be allowed without PCMS boards on-site with the specified MTA Communications' Center Software Platform integration and training.

652.2.5 Truck Mounted Attenuator

When a pay item for a Truck Mounted Attenuator (TMA) is included in the contract or otherwise required in contract at least one TMA will be required in use on the project. If at least one is not used as described above then it will be considered a Traffic Control Plan violation and result in a reduction of payment as outlined in Section 652.

The truck mounted attenuator system shall conform to the following requirements:

- Truck and attached attenuator shall conform to the NCHRP Report 350, Test Level 3 criteria **or MASH if manufactured after 2019**.
- Amber strobe lights with 360-degree visibility.
- An arrow light bar fixed to the vehicle.
- The attenuator shall be mounted to a vehicle with a minimum weight of 10,000 lbs.
- **The attenuator shall be mounted to a vehicle with a minimum weight of 24,000 lbs. for Items 652.4501 – Truck Mounted Attenuator – 24, 000 LB.**

The Contractor shall manage the operation of the truck mounted attenuator. The truck mounted attenuator will be utilized in lane closures and other construction operations where workers are exposed to traffic and not protected by positive means. The operation of the vehicle shall be in accordance with the Manual of Uniform Traffic Control Devices and the manufacturer’s recommendation.

Installation: The chart below identifies the distance from the work zone or hazard where the TMA shall be deployed. If the work zone is within a marked lane closure, the barrier truck distances shall apply and if the work is mobile, then shadow truck distances shall apply. The TMA shall not be located in the buffer zone. The shadow vehicle shall have its front wheels turned away the work area and from traffic, have parking brake set, and be put in park if an automatic transmission; or if a manual transmission it shall have its front wheels turned away the work area and from traffic, have parking brake set and should be placed in gear and shut off if possible while still maintaining warning lights. If length of time or weather are a concern for the battery since the warning lights must be maintained the engine should be started and run periodically for battery recharging. No other vehicles or equipment shall park in front of the shadow vehicle or within the buffer space behind the shadow vehicle. For placement details, reference the Manual of Uniform Traffic Control Devices (MUTCD).

Weight of Truck	Barrier Truck Distance from Work Zone of Hazard	Shadow Truck Distance from Work Vehicle or Work Zone
10,000 lbs	250 ft	300 ft
15,000 lbs	200 ft	250 ft
>24,000 lbs	150 ft	200 ft

652.2.6 Sequential Flashing Warning Lights

When included in contracts as a bid item Sequential Flashing Warning Lights on drums used for merging tapers and shifting tapers during night time operation for project use. The purpose of these lights is to assist the motorist in determining which direction to merge or shift and to reduce the number of late merges resulting in devices being struck and having to be reset to maintain positive guidance at the merge point. The successive flashing of the lights shall occur from the upstream end of the taper to the downstream end of the taper in order to identify the desired vehicle path.

The Sequential Flashing Warning Lights shall meet all of the requirements for warning lights within the current edition of the MUTCD. Each light unit shall be capable of operating fully and continuously for a minimum of 500 hours when equipped with a standard battery set. Each light in sequence shall be flashed at a rate of not less than 55 times per minutes and not more than 75 times per minute. The flash rate and flash duration shall be consistent throughout the sequence.

Sequential Flashing Warning Lights shall be “Pi-Lit” Sequential Barricade Warning Lamps or an approved equal.

Sequential Flashing Warning lights are to be used for merging and shifting tapers that are in place during the night time hours (12-hours when ambient light is dimmed). These lights shall flash sequentially beginning with the first light and continuing until the final light at the beginning of a tangent section.

The Sequential Flashing Warning Lights shall automatically flash in sequence when placed on the drums that form the merging or shifting tapers.

The number of lights used in the drum taper shall equal one half the number of drums used in the taper.

Drums are the only channelizing device permitted for mounting the Sequential Flashing Warning Lights.

The Sequential Flashing Warning Lights shall be weather independent and visual obstruction shall not interfere with the operation of the lights.

The Sequential Flashing Warning Lights shall automatically sequence when placed in line in an open area with a distance between lights of 25 to 150 feet. A 10 foot stagger in the line of lights shall have no adverse effect on the operation of the lights.

If one light fails, the flashing sequence shall continue. Non-sequential flashing is prohibited.

652.2.7 Automated Trailer Mounted Speed Sign

When included in the contract as a pay item Automated Trailer mounted speed signs requires furnishing, operating, and maintaining an Automated Trailer Mounted Radar Speed Limit Sign for project use. When a pay item for an Automated Trailer Mounted Radar Speed Limit Sign is included in the Contract at least one will be required on the project when there is a Work Zone Speed Limit in place. The Contractor shall furnish, operate, and maintain the Automated Trailer Mounted Radar Speed Limit Signs during the project operations

Trailer mounted speed limit signs shall be self-contained units including sign assembly, flashing lights, directional radar to measure speed limits, a regulatory speed limit sign, and power supply specifically constructed to operate as a trailer-mounted sign. The preferred color of the unit shall be “construction orange”.

Base material for the regulatory speed limit signs shall be weather proof, rigid substrate specifically manufactured for highway signing and meet the retro-reflective sheeting application requirements of the sheeting manufacturer.

Sign text shall consist of the letters, digits and symbols either applied by stick-on or silk screen, to conform to the dimensions and designs indicated in the Contract, MUTCD and/or FHWA Standard Highway Signs. The materials and methods shall be in accordance with standard commercial processes.

“Work Zone” construction signs shall be mounted on the trailer unit above the regulatory speed limit sign. (see attached graphic details).

Signs and secondary signs shall follow the MUTCD for minimum mounting heights.

The power supply shall be either full battery power with solar panel charging (capable of maintaining a charged battery level) and 135 ampere, 12 volt deep cycle batteries, or diesel powered generator with a fuel capacity sufficient for 10 hours of continuous operation.

Each unit shall be equipped with two mono-directional flashing lights, placed in accordance with the MUTCD, with amber lenses and reflectors, which are visible through a range of 120 degrees when viewed facing the sign. The lights shall be a minimum of **8 inch diameter**, either LED, halogen, or incandescent lamps, and shall be visible for a minimum distance of one mile under daylight conditions and shall have a minimum flash rate of 40 flashes per minute. An “On” indicator light shall be mounted on the back of the signs, which is visible for at least 500 feet to provide confirmation that the flashing lights are operating.

The directional radar shall monitor approaching traffic only. The radar shall be capable of measuring speeds from 5 to 70 MPH at a distance of up to 1500 feet and shall have a high speed cut off thresh hold. **Speed data shall be recorded and stored on the sign and must be made available to the Authority as requested.**

All existing speed limit signs, which conflict with the construction zone trailer mounted speed limit signs shall be covered completely when the work zone speed limit is in place.

Automated Trailer Mounted Speed Limit Signs shall only be used when a work zone speed limit is in place. The Contractor shall manage the utilization and operation of the Automated Trailer Mounted Speed Limit Signs and if at least one is not used when work zone speed limits are in place then it will be considered a Traffic Control Plan violation and result in a reduction of payment as outlined in Section 652.

The Resident will record the actual time and location for the signs on a daily basis when the Automated Trailer Mounted Speed Limit Signs are in use.

The Automated Trailer Mounted Radar Speed Limit Sign may be placed as shown on the plans, or may replace the posted regulatory speed limit signs or may be placed at a location within the closed lane that has a reduced speed limit.

Automated Trailer Mounted Speed Limit Signs shall be delineated with retro-reflective temporary traffic control devices while in use and shall also be delineated by affixing a retro-reflective material directly on the trailer.

Upon delivery of the Automated Trailer Mounted Speed Limit Sign and before acceptance by the Authority, the Contractor shall have a representative of the manufacturer review the condition and notify the Resident in writing, of all deficiencies noted.

The Contractor shall arrange to have all necessary repairs performed at no cost to the Authority.

To avoid impairing driver vision, the Contractor shall dim the lighted speed limit readings by 50 percent during nighttime use, and restore full power lighting during daytime operation.

652.2.8 Temporary Portable Rumble Strips

If a pay item is included in the contract or the Contract desires to utilize Temporary Portable Rumble Strips this work consists of furnishing and placing temporary portable rumble strips RoadQuake 2F TPRS or an approved equal. Furnishing a temporary portable rumble strip system includes a method to transport and move these to on-site locations where they will be used. The Contractor shall submit for approval, literature and all necessary certifications to the Maine Turnpike prior to procurement of the product.

If used, Temporary Portable Rumble Strips may not be practicable in areas where the roadway has more than two travel lanes, where volume windows do not allow for breaks in traffic to set up and monitor and adjust, or during night time lane closures.

Provide rumble strips where the plans show or as directed by the Resident as follows:

Prior to placing rumble strips, clean the roadway of sand and other materials, that may cause slippage.

Place one end of the rumble strips 6 inches from the roadway centerline. Extend the strips perpendicular to the direction of travel. Ensure strips lay flat on the roadway surface.

Only one series of rumble strips, placed before the first work zone, is required per direction of travel for multiple work zones spaced 1 mile or less apart. Work zones spaced greater than 1 mile apart require a separate series of rumble strips. Each lane shall use one group of temporary rumble strips.

Bracketed “Rumble Strip Ahead” and “Bump” signs shall be utilized and will be paid for under the respective construction sign pay items.

Maintain rumble strips as follows:

If rumble strips slide, become out of alignment, or are no longer in the wheel path of approaching vehicles during the work period, thoroughly clean both sides of the rumble strips and reset on a clean roadway.

Repair or replace damaged rumble strips immediately.

652.3.1 Responsibility of the Authority

The Authority will provide Project specific traffic control requirements and traffic control plans for use by the Contractor. The specific traffic control requirements for the Project are identified in Special Provision Section 652, Maintenance of Traffic (Specific Project Maintenance of Traffic Requirements). No revisions to these requirements or Plans will be permitted unless the Contractor can thoroughly demonstrate an overall benefit to the public and a Contract Modification is approved.

The Maine Turnpike Authority may erect lane closures on the mainline within the Project area to collect survey, provide layout, and for any other reasons deemed necessary by the Authority.

652.3.2 Responsibility of the Contractor

The Contractor shall provide continuous and effective traffic control and management for the Project that is appropriate to the construction means, methods, and sequencing allowed by the Contract and selected by the Contractor:

The Contractor shall ensure all jobsite personnel shall wear a safety vest labeled as ANSI 107-2004 standard performance for Class 3 risk exposures at all times. This requirement also applies to truck drivers and equipment operators when out of an enclosed cab.

652.3.3 Submittal of Traffic Control Plan

The Contractor shall provide continuous and effective traffic control and management for the Project that is appropriate to the means, methods and sequencing allowed by the Contract; and consistent with the Traffic Control Plans and Maintenance of Traffic Specifications. The Contractor is responsible for ensuring a safe environment for the Contract workforce, local road users, and turnpike users; and maintaining the safe efficient flow of traffic through the construction zone at all times during the Contract. The protocols and requirements outlined in the Contract shall be strictly enforced. The Contractor shall submit, at or before the Preconstruction Meeting, a Traffic Control Plan (TCP) that provides the following information to the Authority:

- a. The name, telephone number, and other contact numbers (cellular phone, pager, if any) of the Contractor's Traffic Control Supervisor (TCS). The TCS is the person with overall responsibility for insuring the contractor follows the TCP, and who has received Work Zone Traffic Control Training commensurate with the level of responsibility shown in the requirements of the Contract, and who is empowered to immediately resolve any work zone traffic control deficiencies or issues. Provide documentation that the Traffic Control Supervisor has completed a Work Zone Traffic Control Training Course (AGC, ATSSA, or other industry- recognized training), and a Supervisory refresher training every 5 years thereafter. Submit training certificates or attendance roster that includes the course name, training entity, and date of training. **State how the traffic control devices will be maintained including a frequency of inspection for both temporary and permanent traffic control devices.**

Traffic Control Training Course curriculum must be based on the standards and guidelines of the MUTCD and must include, at a minimum, the following:

1. Parts of Temporary Traffic Control Zone
2. Appropriate use and spacing of signs
3. Use and spacing of channelizing devices
4. Flagging basics
5. Typical examples and applications

The Traffic Control Supervisor, or designee directly overseeing physical installation, adjustment, and dismantling of work zone traffic control, will ensure all personnel performing those activities are trained to execute the work in a safe and proper manner, in accordance with their level of decision-making and responsibility. The emergency contact list shall contain a listing of individuals who may be contacted during non-work hours and shall adequately respond to the request.

- b. Proposed revisions to the construction phasing or sequencing that reasonably minimizes traffic impacts.
- c. A written narrative and/or plan explaining how traffic and pedestrians will be moved through the Project Limits, including transitions during the change from one phase of construction to the next, as applicable.
- d. Temporary traffic control treatments at all intersections with roads, rail crossings, businesses, parking lots, pedestrian ways, bike paths, trails, residences, garages, farms, and other access points, as applicable.
- e. A list of all Contractor or Subcontractor certified flaggers to be used on the Project, together with the number of flaggers which will be used for each type of operation that flagging is needed. If the Contractor is using a flagging Subcontractor, then the name and address of the Subcontractor may be provided instead of a list of flaggers.
- f. A procedure for notifying the Resident of the need to change the traffic control plan or the need to remove a lane restriction.
- g. A description of any special detours including provisions for constructing, maintaining, signing, and removing the detour or detours, including all temporary bridges and accessory features and complete restoration of the impacted land.
- h. The maximum length of requested contiguous lane closure. The Contractor shall not close excessive lengths of traffic lane to avoid moving traffic control devices.
- i. The proposed temporary roadway surface conditions and treatments. The Contractor shall provide an adequate roadway surface at all times; taking into account traffic speed, volume, and duration.
- j. The coordination of appropriate temporary items (drainage, concrete barriers, barrier end treatments, impact attenuators, and traffic signals) with the TCP.
- k. The plan for unexpected nighttime work, the contractor shall provide a list of emergency nighttime lighting equipment and safety personnel available on-site or have the ability to have them on site within an hour of the time of need.
- l. The plan for meeting any project specific requirements contained in special provision 105 and/or 107, and/or Section 656

m. The lighting plan if night work is anticipated.

The Authority will review the TCP for completeness and conformity with Contract provisions, the current edition of the MUTCD, and Authority policy and procedures. The Authority will review and provide comments to the Contractor within 14 days of receipt of the TCP. No review or comment by the Authority, 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 Authority. If the TCP is determined by the Authority to be operationally ineffective, the Contractor shall submit modifications of the TCP to the Authority 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 modification of the TCP will be considered incidental to the related 652 items.

652.3.4 General

Prior to starting any work on any part of the project adjacent to or being used by the traveling public, the Contractor shall install the appropriate traffic control devices in accordance with the plans, specifications and the latest edition of Manual of Uniform Traffic Control Devices, Part VI. The Contractor shall continuously maintain the traffic control devices in their proper position, and they shall be kept clean, legible and in good repair throughout the duration of the work. If notified that the traffic control devices are not in place or not properly maintained, the Contractor may be ordered to immediately suspend work until all deficiencies are corrected.

No equipment or vehicles of the Contractor, their subcontractors, or employees engaged in work on this contract shall be parked or stopped on lanes carrying traffic, or on lanes or shoulders adjacent to lanes carrying traffic, at any time, except as required by ongoing work operations. Contractor equipment or vehicles shall never be used to stop, block, or channelize traffic.

Vehicles parked on the shoulder shall be located so all portions of the vehicle(s) are a minimum of one foot from the traveled way. No operation shall be conducted on or near the traveled lanes or shoulders without first setting up the proper lane closure and traffic control devices. These precautions shall be maintained at all times while this Work is being performed. The Contractor shall keep all paved areas of the highway as clear as possible at all times. No materials shall be stored on any paved area of the highway or within 30 feet of the traveled way (unless protected by concrete barriers and specifically approved by the Resident). Private vehicles owned by Contractor's employees shall be parked close together in a group no closer than 30 feet from the traveled way in pre-approved areas.

Channelization devices shall include Vertical Panel Markers, Barricades, Cones, and Drums shall be in accordance with the MUTCD. These devices shall be installed and maintained at the spacing determined by the MUTCD through the work area.

The Contractor shall maintain existing guardrails and/or barriers until removal is necessary for construction. The Contractor shall use a temporary barrier or appropriate channelizing devices, as approved by the Resident, while the guardrails and/or barriers are absent. Permanent guardrails and barriers shall be installed as soon as possible to minimize risk to the public.

When Contractor operations or shoulder grading leave a continuous 3 inch or less exposed vertical face at the edge of the traveled way, **including the shoulder, or when traffic is shifted into the shoulder adjacent to the edge of pavement where an existing 3 inch or less exposed vertical face creates a safety hazard**, channelization devices should be placed 2 feet outside the edge of the pavement at intervals not exceeding 600 feet and, depending on type and location of the exposed vertical face, a 48 inch by 48 inch W8-9 Low Shoulder, or W8-11 Uneven Lane, and/or a W8-17P Shoulder Drop-Off sign should be placed at a maximum spacing of ½ mile. When Contractor operations or shoulder grading leave greater than a 3 inch exposed continuous vertical face at the edge of the traveled way, **including the shoulder, or when an existing condition of an exposed vertical face of 3 inches or more is adjacent to active traffic shifted into shoulder**, the Contractor shall place shoulder material at a slope not exceeding 3 horizontal to 1 vertical to meet the pavement grade, before the lane is opened to traffic.

Special Detours and temporary structures, if used, shall meet applicable AASHTO standards, including curve radii and grade.

Maine Turnpike Traffic Control Requirements

This Section outlines the minimum requirements that shall be maintained for working on, over, or adjacent to the Maine Turnpike roadway.

General

Two travel lanes in each direction (each direction being 24 feet wide including/excluding shoulder) in the two lane portion of the turnpike, and three travel lanes in each direction (each direction being 36 feet wide including/excluding shoulder) in the three lane portion of the turnpike (Mile 0.0 to mile 44.3) shall be maintained at all times except while performing work in a designated lane, directly over or adjacent to traffic, and during the placement and removal of traffic control devices.

Unless otherwise specified in the contract documents the minimum main line width for a single travel lane shall be 14 ft and minimum ramp widths of 16 ft which must be maintained at all times, from ½ hour before sunrise and ½ hour after sunset as indicated on the Sunrise/Sunset Table at: <http://www.sunrisesunset.com/usa/Maine.asp> . If the Project town is not listed, the closest town on the list will be used as agreed at the Preconstruction Meeting.

Shoulder closures, lane closures, and lane shifts meeting the MUTCD guidelines, other than those shown in the plans, must be submitted for approval from the MTA prior to use in the construction operations.

No lane closures will be allowed during non-working hours, weekends and/or holiday periods unless included in the Contract as long-term traffic control requirement as outlined in Section 652 – Specific Project Maintenance of Traffic Requirements **unless written permission is obtained from the Authority.**

Any special signs, barricades or other devices deemed necessary by the Resident shall be furnished and maintained by the Contractor. Extra care shall be taken so that the traffic flow will not

be disturbed. The use of construction signs and warning devices not shown on the Plans or in the MUTCD is prohibited unless approved by the Resident

The Contractor's personnel and equipment shall avoid crossing traffic whenever possible. No Contractor's vehicle may slow down or stop in a traffic lane unless said lane has previously been made safe with signs and barricades as required by the Resident.

No vehicle will move onto the traveled way at such a time or in such a manner so as to cause undue concern or danger to traffic approaching from either direction. The Contractor or his employees are not empowered to stop traffic.

The Contractor shall take necessary care at all times, in all operations and use of his equipment, to protect and facilitate traffic. During periods of idleness, the equipment shall not be left in a way to obstruct the traffic artery or to interfere with traffic.

The Contractor shall furnish approved signs reading "Construction Vehicle - Keep Back" to be used on trucks hauling to the Project. The signs shall be a minimum of 30 inch by 60 inch, Black and Orange, and meet construction sign retro reflectivity requirements

All vehicles used on the Project shall be equipped with amber flashing lights, by means of a single or multiple, flashing LED or strobe lights mounted so as to be visible 360 degrees. **In addition, vehicles operating under direction of the Maine Turnpike Authority may be equipped with auxiliary lights that are green, white or amber or any combination of green, white or amber.** Auxiliary lighting shall have sufficient intensity to be visible at 500 feet in normal daylight and a flash rate between 1Hz and 4Hz. The vehicle flashing system shall be in continuous operation while the vehicle is on any part of the project and positioned or mounted in such a way to not be obstructed by vehicle mounted or other equipment. Dump trucks, **concrete trucks** and utility trucks **at a minimum** shall have a strobe light mounted on each side of the vehicle. **The use of motorcycles is not permitted within a construction site or as a means to arrive at or leave a work zone.**

Where space is available pavement striping for all tapers shall create a minimum buffer of 250 feet to the point where the temporary concrete barrier taper ends and becomes parallel to the travelway. Temporary concrete barrier shall be tapered at a minimum 8:1 unless space is available and then it should be tapered at 15:1 or 100 feet whichever is longest.

Access to, and egress from, the construction area shall be with the direction of travel without crossing traffic. Construction vehicles are prohibited from merging with mainline traffic during the AM and PM peak traffic hours unless approved in writing from the MTA. The contractor shall develop work zone access/egress with acceleration and deceleration areas and should utilize interchange ramp areas whenever feasible.

Temporary Mainline Lane Closures

A lane closure may be required whenever personnel will be actively working within four feet of a travel lane.

Loading/unloading trucks shall not be closer than six feet from an open travel lane. Temporary lane closures will only be allowed at the times outlined in Special Provision, Section 652, Specific Project Maintenance of Traffic Requirements. These hours may be adjusted based on the traffic volume each day by the Resident.

A lane closure is required when a danger to the traveling public may exist. The following is a partial list of activities requiring lane closures. Lane closures may be required for other activities as well:

- Milling and Paving Operations
- Bridge work
- Drainage Installation and/or Adjustment
- Clear Zone Improvements
- Pavement Markings Layout and Placement
- **Work directly over traffic within six feet of a travel lane as measured from the painted pavement marking line or traffic control device will require a lane closure. This work includes but is not limited to the following:**
 1. **Unbolting structural steel**
 2. **Removing structural steel**
 3. **Erecting structural steel**
 4. **Erecting or moving sign panels on bridges or sign structures**
 5. **Bolting structural steel**
 6. **Loading and unloading trucks**
 7. **Light pole removal or installation**
 8. **Snow fence installation**

Lane closures shall be removed if work requiring the lane closure is not ongoing unless included in the Contract as a long-term traffic control requirement or approved by the Resident.

During adverse weather condition when the speed limit on the Maine Turnpike has been reduced to 45 MPH, or during fog or when there is less than ½ mile of visibility, shoulder/lane closures cannot be set up and any currently in place shall be removed. Only work on the turnpike mainline that is behind temporary concrete barrier will be allowed when speed is reduced to 45 MPH or fog/visibility conditions exist.

Daytime lane closures shall be a maximum of two (2)-miles. Only one daytime lane closure will be permitted per direction. Nighttime lane closures may extend through the entire length of the Project.

Temporary single lane closures are allowed upon approval of the Resident. **Lane and/or ramp** closure setup may not begin until the beginning time specified. Closures that are setup early or that remain in place outside of the approved time period shall be subject to a lane rental fee of **\$1,000** per five minutes for every five minutes outside of the approved time. The installation of the construction signs will be considered setting up the lane closure. Removal of the last construction sign will be considered removal of the closure. Construction signs shall be installed immediately prior to the start of the closure and shall be promptly removed when no longer required. The installation and removal of a closure, including signs, channelizing devices, and arrow boards shall be a continuous operation. The Authority reserves the right to order the removal of an approved closure.

The Authority desires to minimize the number of daytime lane closures and the number of times that a complete stoppage of traffic is required. The Contractor is encouraged to schedule work so that the interference with the flow of traffic will be minimized. Lane closures will not be allowed until traffic associated with complete stoppages of traffic has cleared. Complete stoppages of traffic or lane closures may not be allowed on a particular day if another complete stoppage of traffic has been previously approved for another project.

The Resident is required to receive approval from the Maine Turnpike Authority for all lane closures. **The Resident is required to submit a request for lane closures by noon on Thursday for any lane closures needed for the following week.** The Contractor shall plan the work accordingly.

Mainline Shoulder Closures

Shoulder closures are anticipated at locations where Contractor access to the mainline is required.

Shoulder closures with plastic drums shall be removed at the end of the workday. Temporary shoulder closures with plastic drums will not be allowed during periods of inclement weather as determined by the Authority.

The location (limits) of shoulder closures with concrete barrier are shown on the Plans. The barrier must be placed prior to the start of the work requiring concrete barrier and shall remain in place until the work activity is complete.

Equipment Moves

The complete stoppage of traffic for an equipment move (including delivery of materials to the median) will be considered for approval if the action cannot reasonably be completed with the erection of a lane closure. Contractor shall be responsible for the installation of Signs CS-3, "Expect Stopped Traffic" and Signs W3-4 "Be Prepared to Stop", in accordance with the Single Lane Closure Detail immediately prior to the equipment move. **Signs will be required on any adjacent ramps within proximity to the stoppage.** These signs shall be covered when not applicable.

State Police will be used to stop traffic. Cost for State Police will be the responsibility of the Authority. The times requested for trooper assisted equipment moves by on-duty troopers cannot be guaranteed. The MTA will not be held responsible for any delays or costs associated with the delay, postponement or cancellation of an on-duty trooper assisted equipment move.

The maximum time for which traffic may be stopped and held for an equipment move at any single time shall be five (5) minutes. The duration shall be measured as the time between the time the last car passes the Resident until the time the Resident determines that all travel lanes are clear. The traffic shall only be stopped for the minimum period of time required to complete the approved activity. The Contractor shall reimburse the Authority at a rate of \$500 per minute for each minute in excess of the five-minute allowance.

Unapproved movement of equipment or materials across the travel lanes shall be considered a violation of the Maintenance of Traffic Requirements and is subject to a minimum fine of \$500 per occurrence with an additional \$500 per minute thereafter.

Request for Complete Stoppage of Traffic

A request for a complete stoppage of traffic must be submitted to the Resident for approval. The Resident is required to receive approval from the Maine Turnpike Authority for all stoppages. The request shall be submitted to the Authority by the Resident at least five (5) working days prior to the day of the requested stoppage of traffic and two (2) days for a stoppage less than five minutes. All requests must be received by 12:00 p.m. noon to be considered as received on that day. Requests received after 12:00 p.m. shall be considered as received the following day. The Contractor shall plan the work accordingly.

During the erection or removal of overhead structures or signs traffic shall be stopped and may be held for periods of up to 25 minutes during these operations. Before the roadway is reopened, all materials shall be secured so they will not endanger traffic passing underneath. The Contractor will reimburse the Authority at the rate of \$2,500.00 per five-minute period for each roadway not reopened (northbound and southbound), in excess of the 25 minute limit. Total penalty shall be deducted from the next pay estimate.

Blasting of Ledge The maximum time for which traffic may be stopped at any single time shall be six (6) minutes. This duration shall be measured as the time between the time that the last car passes the Resident, until the time the Resident determines that all travel lanes are cleared of blast debris. The Contractor shall reduce the size of the blast, change the design and method of the blast, use more mats, or otherwise alter the blasting so that the traffic is not stopped for more than six minutes. If, due to the throw of rock onto the highway or other blasting related activities, traffic is stopped for more than six minutes, the Contractor shall pay a penalty of \$1,000.00 per minute for every minute traffic is stopped in excess of the six-minute limit. The penalty shall be measured separately on the northbound and southbound roadway (or eastbound and westbound roadway). Total penalties will be deducted from the next pay estimate. Whenever the volume of traffic is excessive such that a six-minute interruption would cause objectionable congestion, in the opinion of the Authority, the hours during which blasting may occur may be further restricted. A detailed blasting

plan shall be submitted as required in Supplemental Specific or Special Provision Sections 105 or 107.

652.3.5 Installation of Traffic Control Devices

All traffic control devices shall be in conformance with NCHRP 350 requirements **and MASH 16 requirements if manufactured after December 31, 2019** and installed as per manufactures recommendations.

Portable signs shall be erected on temporary sign supports approved crashworthy devices so that the bottom of the sign is either 1) 12 inches or 2) greater than 5 feet above the traveled way. **The bottom of all regulatory signs and ramp exit signs shall be a minimum of 5 feet above the traveled way.** Post-mounted signs shall be erected so the bottom of the sign is no less than 5 feet above the traveled way, and 7 feet above the traveled way in business, commercial, and residential areas. Post-mounted signs must be erected so that the sign face is in a true vertical position. All signs shall be placed so that they are not obstructed in any manner and immediately modified to ensure proper visibility if obstructed.

The bottom of mainline and ramp traffic control signs intending to remain longer than 3 days, except as provided in 2009 MUTCD Section 6F.03 paragraph 12, shall be mounted 5 feet or greater above the edge of pavement on posts or portable sign supports.

The Resident will verify the exact locations of the construction signs in the field.

Construction signs behind guardrail shall be mounted high enough to be visible to traffic.

Vertical panel markers shall be mounted with the top at least 4 feet above the traveled way.

Drums shall not be weighted on the top. Drain holes shall be provided to prevent water from accumulating in the drums During winter periods, drums shall be placed on the grass shoulder or removed from the roadway so winter maintenance operations will not be impacted. This requires the placement of drums behind the median guardrail. Drums shall not be placed on snow banks.

The Contractor shall operate and maintain the flashing arrow board unit and for dependable service during the life of the contract. The units shall remain in continuous night and day service at locations designated until the Resident designates a new location or discontinuance of service.

The Contractor shall maintain the devices in proper position and clean them as necessary. Maintenance shall include the covering and uncovering of all signs when no longer applicable (even if for a very short duration). The sign shall be considered adequately covered when no part of the sign face is visible either around or through the covering.

The Contractor shall replace damaged traffic control devices with devices of acceptable quality, as directed by the Resident.

The Contractor is required to cover all existing signs, including regulatory and warning signs, within the Work zone which may conflict with the proposed construction signs. The Contractor is also required to cover all permanent construction signs when they conflict with a daily traffic control

setup. The method of covering existing signs must be approved by the Resident. The use of adhesives on the sign face is prohibited.

Work Zone Speed Limits

Work Zone Speed (Fines Doubled) is a regulatory speed limit that indicates the maximum legal speed through a work zone which is lower than the normal posted speed. The speed limit shall be displayed by black on white speed limit signs in conjunction with a black on orange “Work Zone” plate. Speed limit signs shall be installed at each mile within the work zone. Any existing regulatory speed limit signs within the reduced speed zone shall be covered once the reduced speed signs have been erected.

Two orange fluorescent flags shall be attached to all speed limit signs that are uncovered for a period of time exceeding one week. This work shall be incidental. Signs that are covered and uncovered on a regular basis are not required to have the supplemental flags.

The reduced speed limit signs shall be used when workers are adjacent to traffic, when travel lane(s) are closed, when indicated on Maintenance of Traffic Control Plans provided or other times as approved by the Resident:

The signs shall be covered or removed when not applicable. The covering and uncovering of signs shall be included for payment under Maintenance of Traffic. Signs relating to reduced speed shall be installed in accordance with the details. **The Contractor shall note that all signs including those behind concrete barrier or guardrail are required to be clearly visible to all drivers at all times.**

Lane Closure Installation and Removal Procedure

The Contractor will follow the following procedures when closing any travel lanes on the turnpike roadways:

1. The sign package shall be erected starting with the first sign and proceeding to the start of the taper. The sign crew shall erect signs with the vehicle within the outside shoulder;
2. Position the arrow board with the proper arrow at the beginning of the taper; and,
3. When arrow board is in place, continue with the drums/cones to secure the work area.

To dismantle the lane closure, start with last drums/cone placed and work in reverse order until all the drums are removed. The arrow board which was installed first shall be the final traffic control device removed, excluding the sign package. The remaining sign package shall be picked-up starting with the first sign placed and continuing in the direction of traffic and with the vehicle in the outside shoulder.

Trucking Plan

The Contractor shall submit a trucking plan to the Resident within 10 working days of the award of the Contract. The trucking plan shall consist of at least the following:

- Date of anticipated start of work per each location.
- Haul routes from plant/pit to work area and return.
- Haul routes from work area to disposal area and return.
- Entering / exiting the work area.
- Vehicle safety equipment and Vehicle inspection.
- Personal safety equipment.
- Communications equipment and plan.

The trucking plan will not be paid for separately, but shall be incidental to the Contract.

652.3.6 Traffic Control

The following paragraph is added:

A Spotter shall be required at the front and rear of the paving operation on the mainline or as approved by the Resident and shall not be measured for payment. All spotters shall be equipped with handheld radios and spare batteries. The spotters will be required to move and maintain drums during the mobile paving operation.

The existing travel way width shall be maintained to the maximum extent practical.

Vertical panel markers, drums, cones, or striping shall be used to clearly delineate the roadway through the construction area. Two-way traffic operation shall be provided at all times that the Contractor is not working on the project. One- way traffic shall be controlled through work areas by flaggers, utilizing radios, field telephones, or other means of direct communication.

The traffic control devices shall be moved or removed as the work progresses to assure compatibility between the uses of the traffic control devices and the traffic flow.

Pavement markings shall be altered as required to conform to the existing traffic flow pattern. Repainting of pavement marking lines, if required to maintain the effectiveness of the line, shall be considered **incidental to the** maintenance of traffic control devices, no separate payment will be made. Inappropriate pavement markings shall be removed whenever traffic is rerouted, and temporary construction pavement markings shall be placed. Removal of non-applicable markings and **initial** placement of temporary construction pavement markings will be paid for under the appropriate Contract items. Traffic changes shall not be made unless there is sufficient time, equipment, materials, and personnel available to complete the change properly before the end of the workday. This provision will not be required when traffic is rerouted for brief periods and the route can be clearly defined by channelizing devices, or flaggers, or both.

All vehicles used during the installation and removal of traffic control devices, including lane closures, shall be equipped with a vehicle-mounted lighted arrow board **or high intensity LED full**

width light bar acceptable to the Resident. The arrow board **or full width light bar** shall be capable of displaying a left arrow, right arrow, double arrow, and light bar **patterns**.

652.4 Flaggers

The Contractor shall furnish flaggers as required by contract documents or as otherwise specified by the Resident. **Flaggers shall not stop traffic on Turnpike mainline or interchange ramps. Only State Police are allowed to stop traffic on mainline or interchange ramps.**

All flaggers must have successfully completed a flagger test approved by the Maine Department of Transportation and administered by a Maine Department of Transportation approved Flagger-Certifier. All flaggers must carry an official certification card with them at all times while flagging.

For daytime conditions, flaggers shall wear a top (vest, shirt or jacket) that is orange, yellow, yellow-green, or fluorescent versions of these colors meeting ANSI 107-2004, Class 3, along with a hat with 360 ° retro-reflectivity.

For nighttime conditions, flaggers shall wear all Class 3 apparel, meeting ANSI 107-2004, including a Class 3 top (vest, shirt or jacket) and a Class E bottom (pants or coveralls), shall be worn along with a hardhat with 360 ° retro-reflectivity and shall be visible at a minimum distance of 1000 ft. Flagger stations must be illuminated in nighttime conditions to assure visibility and will be specifically addressed in detail in the Contractor's TCP.

Flagger stations shall be located far enough in advance of the workspace so that approaching road users will have sufficient distance to stop at the intended stopping point. While flagging, the flagger should stand either on the shoulder adjacent to the traffic being controlled, or in the closed lane. At a spot obstruction with adequate sight distance, the flagger may stand on the shoulder opposite the closed sections to operate effectively. Under no circumstances shall the flagger stand in the lane being used by moving traffic or have their back to oncoming traffic. The flagger should be clearly visible to approaching traffic at all times and should have a clear escape route.

When conditions do not allow for proper approach sight distance of a flagger or storage space for waiting vehicles, additional flaggers shall be used at the rear of the backlogged traffic or at a point where approaching vehicles have adequate stopping sight distance to the rear of the backlogged traffic. All flagger stations shall be signed, even when in close proximity. The signs shall be removed or covered when flagger operations are not in place, even if it is for a very short duration.

Flaggers shall be provided as a minimum, a 10 minute break, every 2 hours and a 30 minute or longer lunch period away from the work station. Flaggers may only receive 1 unpaid break per day; all other breaks must be paid. Sufficient certified flaggers shall be available onsite to provide for continuous flagging operations during break periods. If the flaggers are receiving the appropriate breaks, breaker flagger(s) shall be paid starting 2 hours after the work begins and ending 2 hours before the work ends. A maximum of 1 breaker per 6 flaggers will be paid. (1 breaker flagger for 2 to 6 flaggers, 2 breaker flaggers for 7 to 12 flaggers, etc). If a flagger station

is manned for 10 hours or more, then ½ hour for lunch will be deducted from billable breaker flagger hours.

652.41 Traffic Officers

Local road traffic officers, if required, shall be uniformed police officers. State Police officers and vehicles shall be used to warn and stop traffic on the Maine Turnpike. All State Police shall be scheduled through the Maine Turnpike Authority. The Authority will make payment for the State Police officers and vehicles directly to the State Police.

The Contractor will not be entitled to additional compensation if scheduled Work is not completed due to the unavailability of State Police.

652.5.1 Rumble Strip Crossing

When lane shifts or lane closures require traffic to cross a permanent longitudinal rumble strip for 7 calendar days or less, the Contractor shall install warning signs that read “RUMBLE STRIP CROSSING” with a supplemental Motorcycle Plaque, (W8-15P).

When lane shifts or lane closures require traffic to cross a permanent longitudinal rumble strip for more than 7 calendar days, the Contractor shall pave in the rumble strips in the area that traffic will cross, unless otherwise directed by the Resident. Rumble strips shall be replaced prior to the end of the project, when it is no longer necessary to cross them.

652.6.1 Daylight Work Times

Unless otherwise described in the Contract, the Contractor is allowed to commence work and end work daily according to the Sunrise/Sunset Table at: <http://www.sunrisesunset.com/usa/Maine.asp>. If the Project town is not listed, the closest town on the list will be used as agreed at the Preconstruction Meeting. Any work conducted before sunrise or after sunset will be considered Night Work.

652.6.2 Night work

When Night Work occurs (either scheduled or unscheduled), the Contractor shall provide and maintain lighting on all equipment, at all work stations, and all flagger stations.

The lighting facilities shall be capable of providing light of sufficient intensity to permit good workmanship, safety and proper inspection at all times. The lighting shall be cut off and arranged on stanchions at a height that will provide perimeter lighting for each piece of equipment and will not interfere with traffic, including commercial vehicles, approaching the work site from either direction.

The Contractor shall have available portable floodlights for special areas.

The Contractor shall utilize padding, shielding or other insulation of mechanical and electrical equipment, if necessary, to minimize noise, and shall provide sufficient fuel, spare lamps, generators, etc. to maintain lighting of the work site.

The Contractor shall submit a lighting plan prior to any night work for review showing the type and location of lights to be used for night work. The Resident may require modifications be made to the lighting set up in actual field conditions.

Prior to beginning any Night Work, the Contractor shall furnish a light meter for the Residents use that is capable of measuring the range of light levels from 5 to 20 foot-candles.

Horizontal illumination, for activities on the ground, shall be measured with the photometer parallel to the road surface. For purposes of roadway lighting, the photometer is placed on the pavement. Vertical illumination, for overhead activities, shall be measured with the photometer perpendicular to the road surface. Measurements shall be taken at the height and location of the overhead activity.

Night Work lighting requirements:

Mobile Operations: For mobile-type operations, each piece of equipment (paver, roller, milling machine, etc) will carry indirect (i.e. balloon type) lights capable of producing at least 10 foot- candles of lighting around the work area of the equipment.

Fixed Operations: For fixed-type operations (flaggers, curb, bridge, pipes, etc.), direct (i.e. tower) lighting will be utilized capable of illuminating the work area with at least 10 foot- candles of light.

Hybrid Operations: For hybrid-type operations (guardrail, sweeping, Inslope excavation, etc.), either direct or indirect lighting may be utilized. The chosen lights must be capable of producing at least 10 foot-candles of light around the work area of the equipment

Inspection Operations: Areas required to be inspected by the Authority will require a minimum of 5 foot-candles of lighting. This may be accomplished through direct or indirect means.

The Contractor shall apply 2- inch wide retro-reflective tape, with alternating red and white segments, to outline the front back and sides of construction vehicles and equipment, to define their shape and size to the extent practicable. Pickup trucks and personal vehicles are exempt from this requirement.

The Resident or any other representative of the Authority reserves the right to suspend the work at any time and request a meeting to discuss violations and remedies. The Authority shall not be held responsible for any delay in the work due to any suspension under this item.

Failure to follow the approved Lighting Plan will result in a Traffic Control violation.

Payment for lighting, vehicle mounted signs and other costs accrued because of night work will not be made directly but will be considered incidental to the related contract items.

652.6.3 Traffic Coordinator and Personnel

The Contractor shall submit to the Resident for approval a list of traffic control personnel assigned to the Project including qualifications, certifications and experience.

The Traffic Coordinator duties shall include, but are not necessarily limited to:

- a. Developing, in conjunction with the Resident and Project superintendent, a traffic control program for the days' work activities which will facilitate traffic in a safe and efficient manner;
- b. Insure that all traffic control implements (signs, arrow boards, barrels, etc.) are on-site so the traffic program can be implemented effectively;
- c. Insure a safe and effective setup or take-down of all signing implements to least impact the traveling motorist; and,
- d. Working knowledge of construction signing/traffic control requirements in conformance with the latest issued Manual on Uniform Traffic Control Devices.
- e. The Contractor shall supplement the traffic control plan with a daily plan, which includes schedules for utilizing traffic coordinators and flaggers. This plan shall be submitted daily and agreed upon cooperatively with the Resident.

652.62 Patrol Vehicle

The Contractor shall provide one traffic control vehicle(s) dedicated for traffic control only, with traffic coordinator(s) to be used for erecting, maintaining and dismantling lane closures as directed by the Resident. The traffic control vehicle(s) shall provide continuous patrolling (24-hours/seven days a week) when lane closures are installed (during non-work and work hours) to replace any and all damaged traffic control devices (arrow boards, variable message signs, barrels, signs, etc.). The traffic coordinator(s) shall report any and all disabled motorists, accidents or other unusual occurrences to the Resident, his representative or the Turnpike Authority's communication dispatcher throughout the duration of any and all lane closures.

The traffic control vehicle shall meet the following requirements:

- a. In good mechanical condition, clean and presentable at all times.
- b. Be equipped with a cellular phone capable of communicating with the Resident, his representative or the Turnpike Authority's communication dispatcher.
- c. Be equipped with a mounted revolving amber light or amber strobe light capable of 360-degree visibility to meet all lighting requirements.
- d. Be equipped with a light bar (arrow board).

652.7 Method of Measurement

The second paragraph is deleted and replaced with the following:

Spotters will not be measured separately for payment except as noted, but shall be incidental to Item 652.361, Maintenance of Traffic Control Devices.

The following sentences are added:

The patrol vehicle(s), driver(s), assistant(s) and cellular phone(s) will not be measured separately for payment, but shall be incidental to Item 652.361.

Signs, signs supplied by the Authority, and panel markers will be measured by the square foot for all signs authorized and installed. Flashing arrow boards, portable-changeable message signs, and flashing and steady burn lights, will be measured by each unit authorized and installed on the project. Barricades and cones will be measured by each unit authorized. Drums will be measured by each or as a lump sum authorized and installed, as indicated on the plans and specifications. No additional payment will be made for devices that require replacement due to poor condition or inadequate retroreflectivity.

Flaggers or traffic officers used during the Contract, for the convenience of the Contractor, will not be measured separately for payment, but shall be incidental to the various pay items. **This includes use of Flaggers for the delivery of materials and equipment to the project or other Flagger use that is for the Contractor's convenience, as determined by the Resident Engineer. If flaggers are required to maintain traffic and there is not a pay item in the contractor for flaggers then flaggers shall be incidental to the other Section 652 contract items and no separate payment shall be made.**

The accepted quantity of traffic officer and flagger time will be the number of hours the designated station is occupied. The number of hours authorized for payment, **if any**, will be measured to the nearest ¼ hour.

The Authority will make payment for the State Police officers and vehicles directly to the State Police when utilized for mainline traffic control activities. State Police escorts, if required to move oversize material or equipment loads to the jobsite, will not be paid separately, but shall be incidental to the various pay items.

Maintenance of traffic control devices will be measured by the calendar day or as one lump sum, as indicated in the plans and specifications, for all authorized and installed traffic control devices. Traffic control devices will only be measured for payment the first time used. Subsequent uses shall be incidental to Item 652.36 or 652.361.

The vehicle mounted arrow board, mounted on trucks used for installation and removal of lane closures, will not be measured separately for payment, but shall be incidental to Item 652.36 or 652.361.

The traffic coordinator(s) will not be measured separately for payment, but shall be incidental to Item 652.36 or 652.361.

Portable light towers, lighting on equipment and lighting plan will not be measured separately for payment, but shall be incidental to the related Contract items.

Truck mounted attenuator shall be measured for payment by the calendar day for each calendar day that the unit is used on a travel lane or shoulder on the project, as approved by the Resident.

Sequential Flashing Warning Lights shall be measured for payment by the maximum number of sequential flashing warning lights satisfactorily installed and properly functioning at any one time during the life of the project. Payment shall include all materials and labor to install, maintain and remove all Sequential Flashing Warning Lights.

Automated Trailer Mounted Speed Limit Sign shall be measured for payment by the calendar day for each calendar day that the unit is used on a travel lane or shoulder on the project or per each for the continued use for the duration of the project. Payment shall include the Trailer, Radar Speed Limit Sign, flashing beacon amber lights, regulatory speed limit sign, fuel, necessary maintenance, and all checking of Radar Speed Limit Signs by manufacturer and all project moves including the transporting and delivery of the unit.

The accepted quantity of temporary portable rumble strips shall be measured by the unit complete in place, per lane closure application. A unit shall consist of 1 group of 3 full-lane width of rumble strips. As shown in the plans, a maximum of 3 units may be used at each lane closure. A unit shall be measured for each group of rumble strips, each time they are used for a lane closure.

652.8 Basis of Payment

The accepted quantity of signs, signs supplied by the Authority, and panel markers will be paid for at the contract unit price per square foot. Such payment will be full compensation for furnishing (or retrieving from the Authority) and installing all signs, sign supports, and all incidentals necessary to complete the installation of the signs.

The accepted quantity of flashing arrow boards, barricades, battery operated flashing and steady burn lights, and cones will be paid for at the contract unit price each for the actual number of devices authorized, furnished, and installed. Such payment shall be full compensation for all incidentals necessary to install and maintain the respective devices.

The Sequential Flashing Warning Lights will be paid for at the Contract unit price per each. This price shall include all costs associated with furnishing, installing, operating, maintaining, relocating, and removing the Sequential Flashing Warning Lights.

The Truck Mounted Attenuator(s) will be paid for at the Contract unit price per calendar day for each TMA used. This price shall include all costs associated with the use of the vehicle. Payment shall include operator, fuel, truck, maintenance, flashing lights, arrow board and all other incidentals necessary to operate the vehicle.

Failure by the contractor to reinstall cones, barrels, signs, covered/uncovered signs and similar traffic control devices within an hour of them being displaced, moved, knocked over, un-covered and etc. will result in a \$150 fine per traffic control device if the issues is not resolved within 1 hour of notification by the resident. An additional \$150 will be assessed for each additional hour that the device has not been corrected. If the traffic control device is

critical to the maintenance of traffic creating an actual or potential safety issue with traffic and is not corrected immediately then it will result in a violation letter as described below.

Failure by the contractor to follow the Contracts 652 Supplemental Specifications, Special Provisions and Standard Specification and/or the Manual on Uniform Traffic Control Devices (MUTCD) and/or the Contractors own Traffic Control Plan, or failure to correct a violation, will result in a violation letter and result in a reduction in payment as shown in the schedule below. The Resident or any other representative of the Authority reserves the right to suspend the work at any time and request a meeting to discuss violations and remedies. The Authority shall not be held responsible for any delay in the work due to any suspension under this item. Any reduction in payment under this Special Provision will be in addition to forfeiting payment of maintenance of traffic control devices for that day.

<u>Amount of Penalty Damages per Violation</u>		
<u>1st</u>	<u>2nd</u>	<u>3rd & Subsequent</u>
\$500	\$1,000	\$2,500

652.8.1 Maintenance of Traffic Control Devices

Maintenance of Traffic Control Devices will be paid at the contract unit price per calendar day or lump sum price, as indicated in the plans and specifications. Such payment will be full compensation for all days that the Contractor maintains traffic as specified herein, and for moving devices as many times as necessary; for replacing devices damaged, lost, or stolen; and for cleaning, maintaining, and removing all devices used for traffic control, including replacing temporary pavement marking lines.

The contract price for Maintenance of Traffic Control Devices shall be full compensation for all days for such maintenance, encompassing all areas of the contract, regardless of whether or not the work areas or projects are geographically separated.

652.8.2 Other Items

The accepted quantities of flagger hours will be paid for at the contract unit price per hour for each flagging station occupied excluding lunch breaks, and for each approved breaker flagger. Overtime hours, as reported on the certified payrolls, will be paid an additional 30% of the bid price for 652.38. The computation and additional payment for overtime hours will occur during the project close-out process and will be paid as additional hours of 652.38 to the nearest ¼ hour. The contract unit price shall be full compensation for hiring, transporting, equipping, supervising, and the payment of flaggers and all overhead and incidentals necessary to complete the work.

There will be no payment made under any 652 pay items after the expiration of the adjusted total contract time.

The accepted quantities of traffic officer hours will be paid for at the contract unit price per ¼ hour for each station occupied, with no additional payment for overtime. This price shall be full

compensation for supplying uniformed officers with police cruisers, and all incidentals necessary to complete the work; including transportation, equipment, and supervision.

Payment for temporary pavement marking lines and pavement marking removal will be made under the respective pay item in Section 627 - Pavement Markings.

Payment for temporary traffic signals will be made under Section 643 - Traffic Signals.

The accepted quantity of Portable Changeable Message Signs will be paid for at the Contract unit price each. This price shall be full compensation for furnishing, relocating, maintaining and removing the PCMS. The price also includes all costs associated with setting-up and paying for a data cellular account, technical support, training and any costs associated with the GPS location device.

Progress payment of each PCMS shall be pro-rated over the duration of the Contract. Contract duration shall be from the specified Contract start date to substantial completion or Contract completion, whichever is sooner.

For a PCMS that fails to operate when required, the Contractor will be given 24-hours to repair or replace the PCMS. For periods longer than 24-hours, payment will be reduced based on the pro-rated time that the PCMS is out of service.

Drums will be paid for at the contract unit price each, or at the Contract lump sum price, as designated in the Plans and specifications. Such payment shall be full compensation for all drums as shown on the Plans or required to complete the work.

The Truck Mounted Attenuator(s) will be paid for at the Contract unit price per calendar day. This price shall include all costs associated with the use of the vehicle. Payment shall include operator, fuel, truck, maintenance, flashing lights, arrow board and all other incidentals necessary to operate the vehicle.

The Automated Trailer Mounted Speed Limit Sign(s) will be paid for at the Contract unit price per calendar day or per each. This price shall include all costs associated with the use of the Automated Trailer Mounted Speed Limit Sign.

The accepted quantity of temporary portable rumble strips will be paid for at the contract unit price per unit which shall include the transport device. Payment is full compensation for providing, relocating, maintaining or replacing, and removing temporary portable rumble strips. If the pay item is not included in the contract quantities, then the Authority does not anticipate the use of this item on the contract. If contractor wishes to utilize temporary portable rumble strips and the item is not in the contract, then the contractor may propose use of them to the Authority for consideration.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
652.30	Flashing Arrow	Each
652.31	Type I Barricade	Each
652.311	Type II Barricade	Each
652.312	Type III Barricades	Each
652.32	Battery Operated Light	Each
652.33	Drum	Each
652.331	Drum	Lump Sum
652.34	Cone	Each
652.35	Construction Signs	Square Foot
652.351	Construction Signs-Supplied by Authority	Square Foot
652.36	Maintenance of Traffic Control Devices	Calendar Day
652.361	Maintenance of Traffic Control Devices	Lump Sum
652.38	Flaggers	Hour
652.381	Traffic Officers	Hour
652.41	Portable-Changeable Message Sign	Each
652.45	Truck Mounted Attenuator	Calendar Day
652.4501	Truck Mounted Attenuator – 24,000 LB	Calendar Day
652.451	Automated Trailer Mounted Speed Limit Sign	Calendar Day
652.452	Automated Trailer Mounted Speed Limit Sign	Each
652.46	Temporary Portable Rumble Strips	Unit
652.47	Sequential Flashing Warning Lights	Each

SPECIAL PROVISION

SECTION 719

SIGNING MATERIAL

Section 719.01 Reflective Sheeting

This Subsection is deleted in its entirety and replaced with the following:

Retroreflective sheeting for signs shall meet at a minimum the requirements for ASTM 4956 – Type XI (Prismatic) manufactured by 3M Company, for all signs.

Reflective sheeting, used in sign construction, shall have been manufactured within the six months immediately prior to the fabrication of each sign. Upon delivery at the job site of each shipment of signs, a letter of certification shall be provided that the reflective sheeting conforms to the requirements.

For Type 1 Guide Signs, all reflective sheeting shall be color matched on each sign unit.

All warning signs shall be fluorescent yellow except for Ramp Advisory Speed signs which shall be yellow.

All Construction Series signs that use orange backgrounds shall be fluorescent orange.

All Pedestrian Signs shall be fluorescent yellow-green.

EZ-PASS Purple shall conform to the FHWA Purple color box.

719.02 Demountable High Intensity Reflectorized Letters, Numerals, Symbols, and Borders

This Subsection, including the title, is deleted in its entirety and replaced with the following:

719.02 Direct Applied Reflectorized Letters, Numerals, Symbols, and Borders

Direct applied letters, numerals, symbols and borders shall consist of cut out sheeting that shall meet at a minimum the requirements for ASTM 4956 – Type XI (Prismatic) sheeting. The sheeting material used for the direct applied legend shall be the same type as used for the background.

APPENDIX A

**DEPARTMENT OF THE ARMY
GENERAL PERMITS FOR
THE STATE OF MAINE**

The New England District of the U.S. Army Corps of Engineers (Corps) hereby issues 23 General Permits (GPs), listed below, for activities subject to Corps jurisdiction in waters of the United States within the boundaries of the State of Maine including tribal lands, and in adjacent ocean waters to the seaward limit of the outer continental shelf. These GPs are issued in accordance with Corps regulations at 33 CFR 320 – 332 and specifically 33 CFR 325.2(e)(2). These GPs will protect the aquatic environment and the public interest while effectively authorizing activities that have no more than minimal individual and cumulative adverse environmental effects.

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I. CORPS JURISDICTION

1. Permits are required from the Corps for the following work:
 - a. The construction of any structure in, over, or under any navigable water of the U.S. (see 33 CFR 328), 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. including wetlands. The Corps regulates these activities under Section 404 of the Clean Water Act (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 of 1972 (see 33 CFR 324).
2. Related laws: Section 408 of the Rivers and Harbors Act of 1899, Section 401 of the Clean Water Act, Section 402 of the Clean Water Act, Section 307(c) of the Coastal Zone Management Act of 1972, Section 106 of the National Historic Preservation Act of 1966, Section 7 of the Endangered Species Act, the Fish and Wildlife Coordination Act of 1956, the Magnuson-Stevens Fishery Conservation and Management Act, Section 302 of the Marine Protection, Research and Sanctuaries Act of 1972, and Section 7(a) of the Wild and Scenic Rivers Act.

IV. GENERAL CONDITIONS

An activity is authorized under the General Permits (GPs) only if that activity and the permittee satisfy all of the applicable GPs terms and following general conditions (GCs):

1. Federal Jurisdiction.
2. Minimal Direct, Secondary and Cumulative Effects.
3. Other Permits.
4. Water Quality and Coastal Zone Management.
5. Fills Within 100-Year Floodplains.
6. Discretionary Authority.
7. Single and Complete Project.
8. Use of Multiple General Permits.
9. Mitigation (Avoidance, Minimization, and Compensatory Mitigation).
10. Corps Projects and Property.
11. Navigation.
12. National Lands.
13. Wild and Scenic Rivers.
14. St. John/St. Croix Rivers.
15. Historic Properties.
16. Federal Threatened and Endangered Species.
17. Essential Fish Habitat.
18. Aquatic Life Movements and Management of Water Flows.
19. Spawning, Breeding, and Migratory Areas.
20. Vernal Pools.
21. Restoration of Special Aquatic Sites (Including Wetland Areas).
22. Invasive and Other Unacceptable Species.
23. Soil Erosion, Sediment, and Turbidity Controls.
24. Time-of-Year Work Windows/Restrictions.
25. Pile Driving and Pile Removal in Navigable Waters.
26. Temporary Fill.
27. Heavy Equipment in Wetlands or Mudflats.
28. Bank and Shoreline Stabilization Including Living Shorelines.
29. Stream Work and Crossings, and Wetland Crossings.
30. Utility Line Installation and Removal.
31. Storage of Seasonal Structures.
32. Aquaculture.
33. Permit(s)/Authorization Letter On-Site.
34. Inspections.
35. Maintenance.
36. Federal Liability.
37. Property Rights.
38. Previously Authorized Activities.
39. Transfer of GP Verifications.
40. Modification, Suspension, and Revocation.
41. Special Conditions.
42. False or Incomplete Information.
43. Abandonment.
44. Enforcement Cases.
45. Duration of Authorization.

1. Federal Jurisdiction.

a. Applicability of these GPs shall be evaluated with reference to federal jurisdictional boundaries (e.g. mean high water mark, high tide line, ordinary high water mark, and wetland boundary). Activities shall be evaluated with reference to “waters of the U.S.” under the Clean Water Act (33 CFR 328) and “navigable waters of the U.S.” under Section 10 of the Rivers and Harbors Act of 1899 (33 CFR 329). Prospective permittees are responsible for ensuring that the boundaries used satisfy the federal criteria defined at 33 CFR 328 – 229. These sections prescribe the policy, practice and procedures to be used in determining the extent of the Corps jurisdiction. Note: Waters of the U.S. includes all waters pursuant to 33 CFR 328.3(a), and in adjacent wetlands as that term is defined in 33 CFR 328.3(c).

b. Permittees shall identify on project plans wetlands, other special aquatic sites (SAS) including vegetated shallows (or submerged aquatic vegetation, SAV) and mudflats, and other waters, such as lakes and ponds, and perennial and intermittent streams on the project site. Wetlands shall be delineated in accordance with the Corps of Engineers Wetlands Delineation Manual and the most recent regional supplement pertaining to the State of Maine. GP-eligible activities may utilize wetland determinations conducted by State of Maine staff in-lieu of a wetland delineation. For activities located in Essential Fish Habitat (GC 17), permittees shall also identify on project plans natural rocky habitats and shellfish areas in order to satisfy the Magnuson-Stevens Fishery Conservation and Management Act.

2. Minimal Direct, Secondary and Cumulative Effects. To be eligible and subsequently authorized by these GPs, an activity shall 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 these GPs and GCs. This may require project modifications involving avoidance, minimization, or compensatory mitigation for unavoidable impacts to ensure that the net adverse effects of an activity are no more than minimal.

3. Other Permits. Permittees shall obtain other Federal, State, or local authorizations as required by law. Permittees are responsible for applying for and obtaining all required State of Maine or local approvals including a Flood Hazard Development Permit issued by the town/city. Work that is not regulated by the State of Maine, but is subject to Corps jurisdiction, may still be eligible for authorization under these GPs.

4. Water Quality and Coastal Zone Management.

a. Permittees shall satisfy any conditions imposed by the State of Maine and EPA, where applicable, in their Clean Water Act Section 401 Water Quality Certification (WQC) for these GPs, or in any Individual Section 401 WQC. See Section VIII for state-specific contact info 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 these GPs shall be designed, constructed and operated to minimize or eliminate the discharge of pollutants.

b. Permittees shall satisfy any additional conditions imposed by the State of Maine in their Coastal Zone Management (CZM) Act of 1972 consistency concurrences for these GPs, 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.

5. Fills Within 100-Year Floodplains. The activity shall comply with applicable Federal Emergency Management Agency (FEMA) approved State of Maine or municipal floodplain management requirements. Permittees should contact FEMA and/or the State of Maine Floodplain Management Program regarding floodplain management requirements (see Section VIII for Federal and state-specific contact info).

6. Discretionary Authority. Notwithstanding compliance with the terms and conditions of these GPs, the Corps retains discretionary authority to require a PCN or IP review based on concerns for the aquatic environment or for any other factor of the public interest (see 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.

7. Single and Complete Project. 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. These GPs shall not be used for piecemeal work and shall be applied to single and complete projects and as such, the same GP shall not be used more than once for the same single and complete project.

a. For non-linear projects, a single and complete project shall have independent utility. 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.

b. Unless the Corps determines the activity has independent utility, 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. If any component of a single and complete project requires a PCN, the entire single and complete project shall be reviewed under PCN.

c. For linear projects such as power lines or pipelines with multiple crossings, a “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.

8. Use of Multiple General Permits. The use of more than one GP for a single and complete project is prohibited, except when the acreage loss of waters of the U.S. authorized by the GPs does not exceed the acreage limit of the GPs with the highest specified acreage limit. For example, if a road crossing over waters is constructed under GP 10, with an associated utility line crossing authorized by GP 9, if the maximum acreage loss of waters of the U.S. for the total project is ≥ 3 acres it shall be evaluated as an IP.

9. Mitigation (Avoidance, Minimization, and Compensatory Mitigation).

a. Activities shall be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the U.S. to the maximum extent practicable to ensure that adverse effects to the aquatic environment are no more than minimal.

b. Compensatory mitigation for unavoidable impacts to waters of the U.S., including direct, secondary and temporal loss, will generally be required for permanent impacts that exceed the SV limits (SV limits are detailed in Section V), and may be required for temporary impacts that exceed the SV 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 secondary effects may generally be excluded from this requirement.

c. Mitigation proposals shall follow the guidelines found in the Compensatory Mitigation for Losses of Aquatic Resources; Final Rule April 10, 2008; 33 CFR 332 (which can be found at: www.nae.usace.army.mil/Missions/Regulatory/Mitigation under “Compensatory Mitigation for Losses of Aquatic Resources, 33 CFR 332 (Compensatory Mitigation Rule)”) and any other regulation. Permittees considering the use of a monetary payment *in-lieu* of permittee-responsible mitigation as compensation for unavoidable impacts to waters of the U.S. in the State of Maine may utilize the Maine Natural Resources Conservation Program (MNRCP). Information regarding this compensatory program can be found at: www.mnrpc.org For unavoidable jurisdictional impacts affecting federally-endangered Atlantic salmon and/or its critical habitat, permittees may be required to compensate for the impacts by utilizing the Maine Atlantic Salmon Restoration and Conservation Program. Information regarding this *in-lieu-fee* compensatory program can be found at: www.maine.gov/dmr/science-research/searun/programs/ilffacts.html

10. Corps Projects and Property.

a. Corps projects and property can be found at: www.nae.usace.army.mil/Missions/Civil-Works

b. In addition to any authorization under these GPs, prospective permittees shall 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.

c. Any proposed temporary or permanent modification or use 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 or maintained but not necessarily owned by the United States), which may obstruct or impair the usefulness of the Federal project in any manner, is not eligible for SV and requires review and approval by the Corps pursuant to 33 USC 408 (Section 408).

d. A PCN is required for all work in, over, under, or within a distance of three times the authorized depth of a Corps Federal Navigation Project (FNP) and may require permission under Section 408.

e. Any structure or work that extends closer to the horizontal limits of any FNP 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.

f. Where a Section 408 permission is applicable, written verification for the PCN will not be issued prior to the decision on the Section 408 permission request.

11. Navigation

a. There shall be no unreasonable interference with general 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.

b. Work in, over, under, or within a distance of three times the authorized depth of an FNP shall specifically comply with GC 10.

c. Any safety lights and/or signals prescribed by the U.S. Coast Guard, State of Maine or municipality, through regulations or otherwise, shall be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the U.S.

d. The permittee understands and agrees that, if future operations by the U.S. 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.

12. National Lands. Activities that impinge upon the value of any National Lands or Federal Properties including but not limited to a National Wildlife Refuge, National Forest, or any area administered by the National Park Service, U.S. Fish and Wildlife Service or U.S. Forest Service are not eligible for SV and require PCN.

13. Wild and Scenic Rivers.

a. The following activities in designated rivers of the National Wild and Scenic River (NWSR) System, or in a river designated by Congress as a "study river" for possible inclusion in the system, require a PCN unless the National Park Service has determined in writing to the prospective permittee that the proposed work will not adversely affect the NWSR designation or study status:

- i. Activities that occur in NWSR segments, in and 0.25 miles up or downstream of NWSR segments, or in tributaries within 0.25 miles of NWSR segments.
- ii. Activities that occur in wetlands within 0.25 miles of NWSR segments.
- iii. Activities that have the potential to alter free-flowing characteristics in NWSR segments.

b. As of October 14, 2020, National Wild and Scenic Rivers and congressional study rivers in Maine include: the 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 92.5 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 tributaries (the York River is currently under study).

14. St. John/St. Croix Rivers. A PCN is required for any work within the Saint John and Saint Croix River basins that requires approval of the International Joint Commission. In addition, a PCN 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.

15. Historic Properties.

a. No undertaking shall cause effects (as 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 Places, 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 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 archeological consultants in coordination with the Corps and the State Historic Preservation Officer (SHPO) (the SHPO in the State of Maine is the Maine Historic Preservation Commission, MHPC) and/or the five federally-recognized tribes in the State of Maine (Tribal Historic Preservation Officers, or THPOs). The MHPC, the THPOs, 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 archeological consultants in consultation with the Corps and MHPC and/or the THPO(s).

b. For activities eligible for these GPs, permittees shall ensure that the activity will not cause effects as stated above in 15(a). In order to comply with this condition, both SV and PCN prospective permittees shall notify MHPC and all five THPOs for their identification of historic properties. MHPC and the THPOs will generally respond within 30 days of receiving the notification if they believe that the activity may have an adverse effect to historic properties. A PCN is required if an activity may have an adverse effect to historic properties. The PCN shall be submitted as soon as possible if a proposed activity may cause effects as stated above in 15(a) a to ensure that the Corps is aware of any potential effects of the proposed activity on any historic property to ensure all Section 106 requirements are met.

c. All PCNs shall:

- i. Show notification to MHPC and all five THPOs 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 MHPC or the THPO(s) indicating that there are or are not historic properties affected.

d. The requirements to comply with Section 106 of the NHPA may be satisfied by a Programmatic Agreement (PA) or Programmatic Consultation (PC) with the Corps, New England District or another federal agency. New England District PAs and PCs are found at www.nae.usace.army.mil/Missions/Regulatory

e. If the permittee discovers any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by these permits, the permittee shall immediately notify the district engineer of what was found, and 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.

f. Federal agencies should follow their own procedures for complying with the requirements of Section 106 of the NHPA. Federal permittees shall provide the Corps with the appropriate documentation to demonstrate compliance with those requirements.

g. Federal and non-federal applicants should coordinate with the Corps before conducting any onsite archeological work (reconnaissance, surveys, recovery, etc.) requested by MHPC or the THPOs, as the Corps will determine the Permit Area for the consideration of historic properties based on 33 CFR 325 Appendix C. This is to ensure that work done is in accordance with Corps requirements.

16. Federal Threatened and Endangered Species.

- a. No activity is authorized by these GPs 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 or proposed 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;
 - iii. Is “likely to adversely affect” a listed species or critical habitat unless Section 7 consultation has been completed by the Corps or another lead action agency in coordination with the Corps under the provisions of a Programmatic Agreement (PA) or Programmatic Consultation (PC); or
 - iv. Violates the ESA.

b. All prospective permittees shall attach to their SVNF or PCN an Official Species List obtained from the U.S. Fish and Wildlife Service’s Information for Planning and Consultation (IPaC) found at: <https://ecos.fws.gov/ipac> and provide the email address of the person who generated the list.

c. For proposed activities in tidal waters, prospective permittees should also refer to the National Oceanic and Atmospheric Administration (NOAA) Fisheries’ Section 7 Mapper for federally-listed species found at: <https://noaa.maps.arcgis.com/apps/webappviewer/index.html>

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, may be affected by the proposed work. An activity may remain eligible for SV if the only listed species affected is the northern long-eared bat (*Myotis septentrionalis*), and only after Section 7 consultation has been completed by the Corps under the 4(d) Rule Streamlined Consultation.

e. Federal agencies shall follow their own procedures for complying with the requirements of the ESA while ensuring that the Corps and any other federal action agencies are included in the consultation process.

f. Non-federal representatives designated by the Corps to conduct informal consultation or prepare a biological assessment shall follow the requirements in the designation document(s) and the ESA. Non-federal representatives shall also provide the Corps with the appropriate documentation to demonstrate compliance with those requirements. The Corps will review the documentation and determine whether it is sufficient to address ESA compliance for the GP activity, or whether additional ESA consultation is necessary.

g. The requirements to comply with Section 7 of the ESA may be satisfied by a Programmatic Agreement (PA) or Programmatic Consultation (PC) with the Corps, New England District or another federal agency. New England District PAs and PCs are found at: www.nae.usace.army.mil/Missions/Regulatory

17. Essential Fish Habitat (EFH).

a. PCN activities in tidal waters and the following rivers and streams, including all tributaries to the extent that they are currently or were historically accessible for salmon migration, shall be reviewed for the potential to adversely affect EFH (activities meeting SV criteria have been determined to result in no more than minimal adverse effects to EFH and therefore need no additional review):

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			

b. Prospective permittees may be required to describe and identify potential adverse effects to EFH and should refer to the NOAA Fisheries’ EFH Mapper found at:

www.fisheries.noaa.gov/resource/map/essential-fish-habitat-mapper

c. The requirements to comply with the Magnuson-Stevens Fishery Conservation and Management Act may be satisfied by a Programmatic Agreement (PA) or Programmatic Consultation (PC) with the Corps, New England District or another federal agency. New England District PAs and PCs are found at:

www.nae.usace.army.mil/Missions/Regulatory

18. Aquatic Life Movements and 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 permanently 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 and wetlands shall be:

- i. Suitably spanned, bridged, culverted, 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 crossing.

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. For work in tidal waters, in-stream controls (e.g. cofferdams) should be installed in such a way as to not obstruct fish passage.

d. To the maximum extent practicable, the preconstruction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization, storm water management activities, and temporary and permanent road crossings, except as provided below. The activity must be constructed to withstand expected high flows. The activity shall 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 pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g. stream restoration or relocation activities).

e. Activities that temporarily or permanently adversely impact upstream or downstream flood conditions require a PCN.

19. Spawning, Breeding, and Migratory Areas.

a. Jurisdictional activities in waters of the U.S. such as certain excavations, discharges of dredged or fill material, and/or suspended sediment producing activities 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 U.S. that provide value as breeding areas for migratory birds must be avoided to the maximum extent practicable. The permittee is responsible for ensuring their action complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting the U.S. Fish and Wildlife's Maine Field Office (see Section VIII for contact info) to determine applicable measures to reduce impacts to migratory birds or eagles, including whether "incidental take" permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

20. Vernal Pools.

a. A PCN is required if a discharge of dredged or fill material is proposed within a vernal pool depression located within waters of the U.S.

b. GC 20(a) above does not apply to projects that are within a municipality that meets the provisions of a Corps-approved vernal pool Special Area Management Plan (SAMP) and are otherwise eligible for SV, and the applicant meets the requirements to utilize the vernal pool SAMP.

21. Restoration of Special Aquatic Sites (Including Wetland Areas).

a. In areas of authorized temporary disturbance, if trees are cut they 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.

b. The introduction or spread of invasive plant species in disturbed areas shall be controlled. If construction mats are to be used in areas of invasive plant species, they shall be thoroughly cleaned before use.

c. Wetland areas where permanent disturbance is not authorized shall be restored to their original condition and elevation. Original condition means 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. Restoration shall typically commence no later than the completion of construction.

d. Upon completion of construction, all areas of authorized disturbed wetland area shall be stabilized with a wetland seed mix containing only plant species native to New England and shall not contain any species listed in the “Invasive and Other Unacceptable Plant Species” Appendix K in the “New England District Compensatory Mitigation Guidance” found at: www.nae.usace.army.mil/Missions/Regulatory/Mitigation

22. Invasive and Other Unacceptable Species.

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 these GPs. 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 shall justify the use of non-native species or cultivars.

c. For the purposes of these GPs, plant species that are considered invasive and unacceptable are provided in Appendix K “Invasive and Other Unacceptable Plant Species” of the most recent “New England District Compensatory Mitigation Guidance” and is found at: www.nae.usace.army.mil/Missions/Regulatory/Mitigation The June 2009 “U.S. Army Corps of Engineers Invasive Species Policy” provides policy, goals and objectives and is located at www.nae.usace.army.mil/Missions/Regulatory/Invasive-Species If an Invasive Species Control/Management Plan has been prepared it should be included with any SV or PCN.

23. 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, geotextilesilt 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.

24. Time-of-Year Work (TOY) Windows/Restrictions. In-water work shall be conducted during the following TOY work windows (work allowed) under SV and any in-water work proposed during the following TOY restrictions (no work) shall be reviewed under PCN (and shall contain written justification for deviation from the work allowed windows). The term “in-water work” does not include conditions where the work site is “in-the-dry” (e.g. intertidal areas exposed at low tide). The term also does not include work contained in a cofferdam so long as the cofferdam was installed and subsequently removed within the work allowed window.

	<u>TOY Restriction (no work)</u>	<u>TOY Work Window (work allowed)</u>
Non-tidal waters	Oct. 1 st to Jul. 14 th	Jul. 15 th to Sep. 30 th
Tidal waters	Apr. 10 th to Nov. 7 th	Nov. 8 th to Apr. 9 th

Alternate work windows proposed under PCN will generally be coordinated with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, Maine Department of Inland Fisheries and Wildlife, and/or Maine Department of Marine Resources and resulting written verifications may include species-specific work allowed windows.

25. Pile Driving and Pile Removal in Navigable Waters.

- a. Derelict, degraded, or abandoned piles and sheet piles in the project area shall be removed in their entirety as practicable and properly disposed of in an upland location and not in wetlands. In areas of fine-grained substrates, piles/sheets shall be removed by direct, vibratory, or clamshell pull method in order to minimize potential turbidity and sedimentation impacts. If removal is not practicable, said piles/sheets shall be cut off or driven to a depth of at least one foot below substrate.
- b. Work involving pile installation and/or removal should adhere to one of the five methods below:
 - i. "In-the-dry", or
 - ii. In-water between Nov. 8th to Apr. 9th, or
 - iii. Drilled and pinned to ledge, or
 - iv. Vibratory hammers used to install any size and quantity of wood, concrete, or steel, or impact hammers limited to one hammer and <50 piles installed/day with the following: wood piles of any diameter, concrete piles ≤18-inches diameter, steel piles ≤12-inches diameter if: (1) the hammer is ≤3,000 pounds and a wood cushion or equivalent is used between the hammer and steel pile, or (2) a soft start is used. Soft starts require an initial set of three strikes from the impact hammer at 40% energy, followed by a 1-minute waiting period between subsequent three-strike sets. The soft-start procedure shall be conducted any time hammering ceases for more than 30 minutes.

26. Temporary Fill.

- a. Temporary fills, including but not limited to 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.
- b. 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. Temporary fill shall be placed in a manner that will prevent it from being eroded by expected high flows.
- c. Unconfined temporary fill authorized for discharge into waters of the U.S. shall consist of material that minimizes impacts to water quality (e.g. washed stone, stone, etc.).
- d. Appropriate measures shall 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. Materials shall be placed 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.
- e. Construction debris and/or deteriorated materials shall not be placed or otherwise located in waters of the U.S.

27. Heavy Equipment in Wetlands or Mudflats. Operating heavy equipment (drill rigs, fixed cranes, etc.) within wetlands shall be minimized, and to the maximum extent practicable such equipment shall not be stored, maintained or repaired in wetlands. Where construction requires heavy equipment operation in wetlands, the equipment shall: a) have low ground pressure (typically <3 psi); b) be placed on swamp/construction/timber mats (herein referred to as "mats") that are adequate to support the equipment in such a way as to minimize disturbance of wetland soil and vegetation; or c) be operated on adequately dry or frozen wetlands such that shear pressure does not cause subsidence of the wetlands immediately beneath equipment and upheaval of adjacent wetlands. Mats are to be placed in the wetland from the upland or from equipment positioned on mats if already working within a wetland. Other support structures that are capable of safely supporting equipment may be used with written Corps authorization. Similarly, the permittee may request written authorization from the Corps to waive use of mats during frozen or dry conditions. Construction mats should be managed in accordance with construction mat best management practices (BMPs) found at: www.nae.usace.army.mil/Missions/Regulatory/State-General-Permits/Maine-General-Permit

28. Bank and Shoreline Stabilization Including Living Shorelines.

a. Projects involving construction of or repair, replacement, and maintenance of bank or shoreline stabilization structures including living shorelines within Corps jurisdiction shall be designed to minimize environmental effects, effects to neighboring properties, scour, etc. to the maximum extent practicable.

b. Prospective permittees shall design and construct these stabilization projects using this sequential avoidance and minimization process: avoidance of aquatic resource impacts, diversion of overland flow, vegetative stabilization, living shorelines, stone-sloped surfaces, and walls/bulkheads. New vertical walls/bulkheads shall only be used in situations where reflected wave energy can be tolerated. Prospective permittees proposing new vertical walls/bulkheads shall provide written justification demonstrating why other methods of stabilization are not practicable and how the surrounding area would be affected by the resulting reflected wave energy.

Additional conditions to meet SV eligibility criteria for *non-tidal* bank and shoreline stabilization activities:

- a. Fill shall be ≤ 500 linear feet in total length as measured below the plane of the ordinary high watermark (OHWM), includes total if more than one stream bank.
- b. Fill placed below the plane of the OHWM shall be ≤ 1 cubic yard per linear foot.
- c. Fill shall not be angled steeper than 1H:1V.
- d. No discharge of fill in special aquatic sites other than wetlands.
- e. Stone revetment shall be comprised of angular material.
- f. No material shall be of the type, or placed in any location, or in any manner, to impair surface water flow into or out of any water of the U.S.
- g. No material shall be 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).
- h. The activity shall not be a stream channelization activity.

Additional conditions to meet SV eligibility criteria for *tidal* bank and shoreline stabilization activities:

- a. All in-water work shall be conducted "in-the-dry".
- b. Fill shall be ≤ 500 linear feet in total length as measured below the plane of the high tide line (HTL) and shall be ≤ 200 linear feet in total length as measured below the plane of the mean high water mark (MHW), includes total for more than one bank. Vertical structures shall be ≤ 200 linear feet in total length as measured below the plane of the MHW and shall be ≤ 18 inches waterward of the existing vertical face.
- c. Fill placed below the plane of the HTL shall be ≤ 1 cubic yard per linear foot.
- d. Stone revetment shall be comprised of angular material.
- e. Shall not impact special aquatic sites (SAS, incl. submerged aquatic vegetation, SAV), impacts to natural rocky habitats are ≤ 100 square feet, and impacts to intertidal and shellfish areas are $\leq 1,000$ square feet).
- f. No structures/fill shall be steeper than 1H:1V.
- g. No new groins, breakwaters, or jetties.

29. Stream Work and Crossings, and Wetland Crossings.

a. A PCN is required for all new and replacement crossings in navigable waters.

b. In order to effectively size and configure crossings in navigable waters, new and replacement crossings shall consider factors including but not limited to: local tidal elevations over the range of tidal heights, basin topography and bathymetry, existing and proposed road elevations. Flood risk tolerance, conditions of habitat and natural community types present, and sea level rise during the useful life of the crossing.

c. A PCN is required for activities that result in unavoidable impacts to wetlands in excess of SV thresholds.

d. In-stream work and crossings and wetland crossings shall adhere to all applicable GCs including but not limited to:

- i. GC 16 (Federally Threatened and Endangered Species)
- ii. GC 17 (Essential Fish Habitat)
- iii. GC 18 (Aquatic Life Movements and Management of Water Flows)

- iv. GC 23 (Soil Erosion, Sediment and Turbidity Controls)
- v. GC 24 (Time-of-Year Work Windows/Restrictions)
- vi. GC 26 (Temporary Fill)
- vii. GC 28 (Bank Stabilization)
- e. Slip Lining. Work resulting in a decreased width, height, or diameter of an existing crossing (e.g. slip lining and invert lining) is discouraged and requires PCN. Written justification shall be provided for this activity.
- f. Culvert Extensions. A PCN is required for any extension to an existing culvert.
- g. Scour protection or armoring of the inlet and/or outlet of a crossing shall not disrupt normal flow patterns or 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 (see GC 18).
- h. 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 18. 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 temporary stream crossings).

Additional conditions to meet SV eligibility criteria for Stream Work and Crossings:

- a. Crossings shall be designed and constructed using the techniques and principles outlined in Stream Simulation, Stream Smart, Habitat Connectivity Design.
- b. Crossings shall be designed to be at least 1.2 times bankfull width. Any footings, abutments, and/or abutment armoring shall also be at least 1.2 times bankfull width.
- c. Crossings shall have a natural bottom substrate under or within the structure matching the characteristics of the substrate in the natural stream channel. Crossings shall be designed and constructed with appropriate streambed forms and streambed characteristics so that water depths and velocities are comparable to those found in the adjacent natural channel at a variety of flows.
- d. Crossings shall include a bank on both sides of the stream matching the horizontal profile of the existing stream and banks in order to allow terrestrial passage for wildlife and to prevent undermining of the footings as applicable.
- e. Closed bottom culverts shall be embedded at least 25 percent of the maximum height of the culvert.
- f. No unconfined fill or excavation in flowing waters is allowed. In-stream construction work shall be conducted “in-the-dry” under no-flow conditions or by using cofferdams, temporary flume pipes, culverts, etc. Downstream flows shall be maintained during in-stream construction. It is recommended that project plans include pertinent details for working in-the-dry and maintaining downstream flows.
- g. Conditions (a) thru (e) immediately above do not apply to temporary stream crossings; however, in addition to conditions (f) immediately above, temporary stream crossings shall adhere to the following:
 - i. Be 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 shall be large enough to allow for easy removal without disrupting the streambed.
 - ii. Be designed and maintained to withstand and pass high flows. Water height shall be no higher than the top of the culvert’s inlet. A minimum culvert diameter of two feet is required to pass debris. Culverts shall be aligned to prevent bank erosion or streambed scour.
 - iii. Be equipped with energy dissipating devices installed downstream if necessary to prevent scour.
 - iv. Be designed and maintained to prevent soil from entering the waterbody.
 - v. Be removed upon the completion of work. Impacts to the streambed or banks requires restoration to their original condition using the methods in (a) above.

PCN Conditions for Stream Work and Crossings:

- a. Crossings are recommended to meet the conditions for SV; written justification shall be provided for any deviation from SV conditions.
- b. Crossings shall 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, Stream Smart, or Habitat Connectivity.

Additional Conditions for Wetland Crossings:

a. New and replacement wetland crossings that are permanent shall be constructed in such a manner as to preserve hydraulic and ecological connectivity, at its present level, between the wetlands on either side of the road. Crossing structures commonly include but are not limited to spans and culverts. To meet this condition, spans or culverts should be placed at least every 50 feet with an opening at least 2 feet high and 3 feet wide at ground level. Closed bottom culverts should be embedded at least 6 inches and should have a natural bottom substrate within the structure. Alternative crossing designs that preserve wetland hydraulic and ecological connectivity (e.g. “rock sandwiches”) may also be considered.

b. Any work that results in flooding, or impacts to wetland drainage from the upgradient side of the wetland crossing does not qualify for SV.

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.

30. Utility Line Installation and Removal.

a. Utility lines in jurisdictional waters should be installed subsurface and shall be maintained in such a way so that they remain subsurface. If it is necessary to discharge dredged or filled material 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 casting into wetlands from utility trenches).

b. For subsurface utility lines the bottom and side slope cover associated with the initial installation under Federal Navigation Projects (FNPs) is a technical determination. The depth requirement varies based on geotechnical (composition of bottom materials and layering), hydraulic (current, or wave induced scour depth), navigation (propeller induced scour depth and ships’ anchor penetration), maintenance dredging (penetration of barge spuds), construction factors (energy from blasting potentially transmitted to utility crossings), physical conditions (exposed open water conditions or sheltered/harbor conditions), and the proposed location of the utility crossing within any FNP or within navigable waters, including areas dredged by others. On a case-by-case basis, the Corps will determine the depth and cover requirements for each proposed utility crossing. Additional conditions to the GP will be attached to address pre and post installation requirements. 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 crossing navigable waters require PCN and shall meet minimum clearances per 33 CFR 322.5(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 these GPs. 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. For new installations within waters of the U.S., any abandoned or inactive utility lines should be removed and faulty lines (e.g., leaking hazardous substances, petroleum products, etc.) shall be removed or repaired to the extent practicable. A PCN 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.

g. Trenches should be backfilled with native sediment immediately after completion of work.

h. Pre-construction elevations should be re-established. Any additional material needed to accomplish this should be of consistent type and grain-size as the existing substrate sediment.

i. Utility line activities in non-tidal waters adjacent to special aquatic sites, and all work in tidal waters should utilize horizontal directional drilling as practicable.

31. 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 shall be stored in an upland location and not in wetlands, tidal wetlands, their substrate, or on mudflats. These seasonal structures may be stored on the fixed, pile-supported portion of a structure that is waterward of the mean high water mark or the ordinary high water mark, e.g. the storage of a ramp or gangway on the pile-supported pier. Seasonal storage of structures in navigable waters, e.g., in a protected cove, requires prior Corps approval and local harbormaster approval.

32. Aquaculture. Activities involving the cultivation of Atlantic salmon and other salmonids, or other federally-listed threatened or endangered species are not eligible for authorization under these GPs. All other aquaculture activities shall adhere to all applicable GCs including but not limited to:

- a. GC 3 (Other Permits) In particular, permittees shall maintain a current State of Maine Department of Marine Resources lease or license.
- b. GC 10 (Corps Projects and Property)
- c. GC 11 (Navigation)
- d. GC 16 (Federal Threatened and Endangered Species)
- e. GC 17 (Essential Fish Habitat)
- f. GC 18 (Aquatic Life Movements and Management of Water Flows)
- g. GC 31 (Storage of Seasonal Structures)

Additional conditions to meet SV eligibility criteria for Tidal Aquaculture:

- a. Shall not exceed 400 square feet in area.
- b. Shall receive signed approval from Harbormaster or appropriate Town Official.
- c. Shall not include enclosures or impoundments.
- d. Shall not be located in or within a distance of three times the authorized depth of a FNP.
- e. Shall not be located in or impinge upon the value of National Lands and Federal Properties including but not limited to National Parks and National Wildlife Refuges.
- f. Shall not impact special aquatic sites (SAS, incl. submerged aquatic vegetation, SAV), impacts to natural rocky habitats are ≤ 100 square feet, and impacts to intertidal and shellfish areas are $\leq 1,000$ square feet.
- g. No structures, cages, gear, or shell hash shall be located in/within 25 feet of SAV.
- h. All gear, except for mooring tackle, when not in use on the site shall be stored in an upland location above the mean high water mark and not on wetland (incl. salt marsh).

33. Permit(s)/Authorization Letter On-Site. The permittee shall ensure that a copy of the terms and conditions of these GPs and any accompanying authorization letter with attached plans are at the site of the work authorized by these GPs whenever work is being performed and that all construction personnel performing work which may affect waters of the U.S. are fully aware of the accompanying 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 these GPs. This shall be achieved by including the entire permit authorization in the specifications for work. The term "entire permit authorization" means all terms and conditions of the GPs, the GPs, and the authorization letter (including its drawings, plans, appendices and other attachments) and subsequent permit modifications as applicable. 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.

34. Inspections. The permittee shall allow the Corps to make periodic inspections at any time deemed necessary in order to ensure that the work is eligible for authorization under these GPs, is being, or has been performed in accordance with the terms and conditions of these GPs. To facilitate these inspections, the permittee shall

complete and return to the Corps the Work-Start Notification Form and the Compliance Certification Form when either is provided with an authorization letter. The Corps may also require post-construction engineering drawings and/or photographs for completed work or post-dredging survey drawings for any dredging work to verify compliance.

35. Maintenance. The permittee shall maintain the activity authorized by these GPs in good condition and in conformance with the terms and condition of these permits. This does not include maintenance dredging, related disposal, or beach nourishment projects, which are subject to review thresholds for GP 5 on page 30, unless specified in written authorization from the Corps.

36. Federal Liability. In issuing these permits, 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; or
- e. Damage claims associated with any future modification, suspension, or revocation of this permit.

37. Property Rights. Per 33 CFR 320.4(g)(6), these GPs do 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.

38. Previously Authorized Activities.

- a. Projects that received prior authorization from the Corps (via Category 1 or 2) and that completed authorized work under the previous nationwide permits, programmatic permits, regional general permits or letters of permission, shall remain authorized in accordance with the original terms and conditions of those authorizations, including their terms, general conditions, expiration date, and any special conditions provided in a written verification.
- b. Activities authorized pursuant to 33 CFR Part 330.3 (“Activities occurring before certain dates”) are not affected by these GPs.
- c. Any work not commenced, not under contract to commence, nor completed that was originally authorized by the Corps under the GP in effect between October 13, 2015 and October 13, 2020 remains authorized subject to the terms and general conditions of this GP along with any special conditions included in written authorizations. Exception: if previously authorized work has not commenced or not under contract to commence and a new federally-listed threatened or endangered species may be affected, the Corps shall consult with the U.S. Fish and Wildlife Service or NOAA Fisheries prior to re-authorizing the work under these GPs. Requests for re-authorization shall include an Official Species List per GC 16.

39. Transfer of GP Verifications. 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 to validate the transfer. A copy of the GP verification shall be attached to the letter, the letter shall contain the name, address, phone number and email of the transferee (new owner), shall include the following statement and signature, and be mailed to: U.S. Army Corps of Engineers, Maine Project Office, 442 Civic Center Drive, Suite 350, Augusta, Maine 04330:

“When the structures or work authorized by these GPs are still in existence at the time the property is transferred, the terms and conditions of these GPs, including any special conditions, will continue to be binding on the new owner(s) of the property.”

Transferee Printed Name

Transferee Signature Date

40. Modification, Suspension, and Revocation. These GPs and any individual authorization issued thereof may be either modified, suspended, or revoked, in whole or in part, pursuant to the policies and procedures of 33 CFR 325.7, and any such action shall not be the basis for any claim for damages against the U.S.

41. Special Conditions. The Corps may independently or in coordination with federal resource agencies impose special conditions on a project authorized pursuant to these GPs 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.

42. False or Incomplete Information. If the Corps makes a determination regarding the eligibility of a project under these GPs 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.

43. Abandonment. If the permittee decides to abandon the activity authorized under these GPs, 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.

44. Enforcement cases. These GPs do 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.

45. Duration of Authorization.

a. These GPs expire on October 14, 2025 unless otherwise specifically indicated in an individual authorization letter. Activities authorized under these GPs that have either commenced or are under contract to commence in reliance upon this authorization will have an additional year from the expiration date to complete the work. The permittee must be able to document to the Corps' satisfaction that the activity commenced or was under contract to commence by the expiration date of these GPs. If work is not completed within the one year extended timeframe, the permittee must contact the Corps. The Corps may issue a new authorization, provided the activity meets the applicable terms and conditions of the Maine GPs that are in effect at the time.

b. Activities authorized under these GPs will remain authorized until these GPs expire, unless discretionary authority has been exercised on a case-by-case basis to modify, suspend, or revoke the authorization in accordance with 33 CFR 325.2(e)(2). Activities completed under the SV or PCN authorizations of these GPs will continue to be authorized after its expiration date.

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Tammy R. Turley
Chief, Regulatory Division

Section IX: Definitions

Action Area: 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].”

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)). Prospective permittees are strongly advised to contact the Corps for a determination of whether their activity is exempt or requires a permit.

Attendant Features: Occurring with or as a result of; accompanying.

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 January 6, 2017 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 shall be planted at the site.

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, dockominiums, 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.

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 mark 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.

Brushing: 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.”

Currently Serviceable: Useable as-is or with some maintenance, but not so degraded as to essential require reconstruction.

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.

Fill area: Fill area includes all temporary and permanent fill (including mats), and regulated discharges associated with excavation.

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.

Habitat Connectivity Design: projects designed and constructed for consistency with natural stream dimensions, profiles, and dynamics, in accordance with the following technical references: U.S. Forest Service guide (Forest Service Stream-Simulation Working Group 2008), augmented by documents published by the states of Washington (Barnard et al. 2013), Vermont (Bates and Kirn 2009) and California (Love and Bates 2009).

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.

Living Shoreline: Living shorelines stabilize banks and shores in coastal waters along shores with small fetch and gentle slopes that are subject to low-to mid-energy waves. A living shoreline has a footprint that is made up mostly of native material. It incorporates vegetation or other living, natural “soft” elements alone or in combination with some type of harder shoreline structure (e.g., oyster or mussel reefs or rock sills) for added protection and stability. Living shorelines shall maintain the natural continuity of the land-water interface, and retain or enhance shoreline ecological processes. Living shorelines must have a substantial biological component, either tidal or lacustrine fringe wetlands or oyster or mussel reef structures.

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 SV 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 SV or PCN thresholds in Section V.

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 PCN.

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.”

The following definition is also 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.

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.

Natural Rocky Habitats: Natural rocky habitats are intertidal and subtidal substrates composed of pebble-gravel, cobble, boulder, or rock ledge and outcrops. Manufactured stone (e.g. cut or engineered rip-rap) is not considered a natural rocky habitat. Natural rocky habitats are either found as pavement (consolidated pebble-gravel, cobble, or boulder areas) or as a mixture with fines (i.e. clay and sand) and other substrates.

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.

Pre-construction notification (PCN): A request submitted by a prospective permittee 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.

Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/ historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in again in aquatic resource area and functions.

Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area. Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.

Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.

Riffle and pool complexes: Riffle and pool complexes are special aquatic sites under the 404(b)(1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a coarse substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. A slower stream velocity, a streaming flow, a smooth surface, and a finer substrate characterize pools.

Secondary effects: See “Direct, secondary, and cumulative effects.”

Shellfish Areas: Areas that currently support molluscan shellfish. Information regarding these locations can be obtained from the State of Maine GeoLibrary Data Catalog at: www.maine.gov/geolib/catalog.html

Shellfish seeding: The placement of shellfish seed and/or suitable substrate to increase shellfish production. Shellfish seed consists of immature individual shellfish or individual shellfish attached to shells or shell fragments (i.e., spat on shell). Suitable substrate may consist of shellfish shells, shell fragments, or other appropriate materials placed into waters for shellfish habitat.

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 shall have independent utility (see definition).

Special aquatic sites (SAS): These are defined at 40 CFR 230 Subpart E. They include sanctuaries and refuges, wetlands, mud flats, vegetated shallows (submerged aquatic vegetation, SAV), coral reefs, and riffle and pool complexes.

Stream: The term “stream” in the document means rivers, streams, brooks, etc.

Stream bed: The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the stream bed, but outside of the ordinary high water marks, are not considered part of the stream bed.

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.

Stream Simulation: A method for designing and building road-stream crossings intended to permit free and unrestricted movements of any aquatic species. Reference:
<https://www.nae.usace.army.mil/Missions/Regulatory/Stream-and-River-Continuity/>

Stream Smart Design: projects designed to allow the stream to act like a stream by passing fish and wildlife as well as the higher flows that come with large infrequent storms while protecting the stability of the road and public safety. Stream Smart Design follows the “Four S’s”: The culvert must SPAN the stream, allowing for passage of aquatic and terrestrial wildlife. The culvert has to be SET at the right elevation. The SLOPE of the culvert must match the stream. There must be SUBSTRATE (natural sediment) in the crossing. Reference:
www1.maine.gov/mdot/publications/docs/brochures/pocket_guide_stream_smart_web.pdf

Temporary impacts: Temporary impacts include waters of the U.S. that are temporarily filled, flooded, excavated, drained or mechanically cleared because of the regulated activity.

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).

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/Submerged Aquatic Vegetation (SAV): Permanently inundated areas that under normal circumstances support communities of rooted aquatic vegetation, such as eelgrass in marine systems as well as a number of freshwater species in rivers and lakes. Note: Eelgrass surveys should be conducted between May and October unless otherwise directed.

Vernal pools (VPs): The State of Maine, Department of Environmental Protection has specific protections for VPs. For the purposes of these GPs, 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). In most years, VPs support one or more of the following obligate indicator species: wood frogs (*Rana sylvatica*), spotted salamanders (*Ambystoma maculatum*), blue-spotted salamanders (*Ambystoma laterale*), and fairy shrimp (*Eubranchipus* sp.). However, they should preclude sustainable populations of predatory fish.

Water dependency: activity requiring access or proximity to or siting within a special aquatic site (SAS) to fulfill its basic project purpose.

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 United States (U.S.)

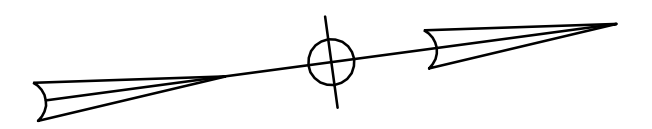
Waters of the U.S.: The term waters of the U.S. and all other terms relating to the geographic scope of jurisdiction are defined at 33 CFR 328. Also see Section 502(7) of the Federal CWA [33 USC 1352(7)]. Waters of the U.S. include jurisdictional wetlands. Not all waters and wetlands are jurisdictional. 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 shall not be taken as an indication that the waterbody is not navigable: In Maine, navigable waters are those waters that are subject to the ebb and flow of the tide in addition to the non-tidal portions of the following federally-designated waters in Maine (the Kennebec River to Moosehead Lake, the Penobscot River to the confluence of the East and West Branch at Medway and, Lake Umbagog within the State of Maine).

Non-tidal wetland: A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters. Non-tidal wetlands contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).

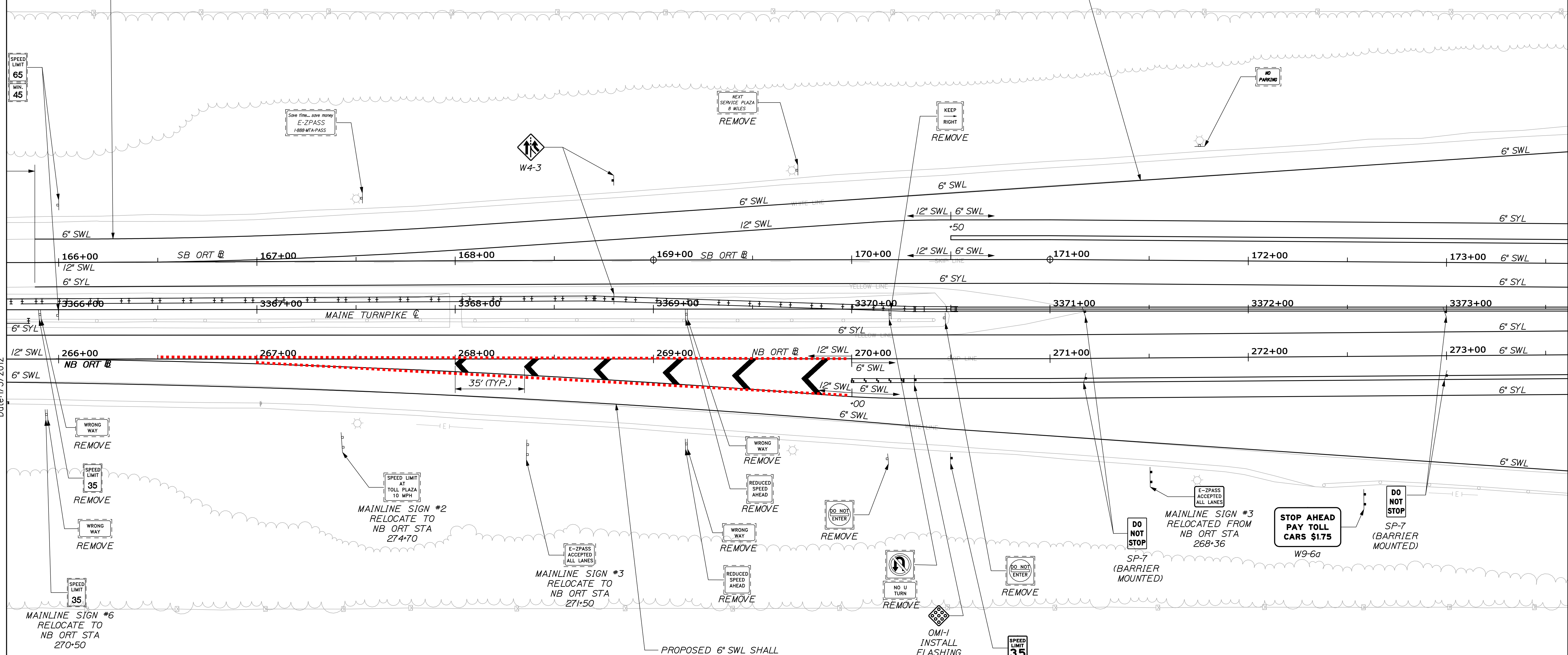
Tidal wetland: A tidal wetland is a jurisdictional wetland that is inundated by tidal waters. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channelward of the high tideline.

APPENDIX B



PROPOSED 6" SWL SHALL BE APPLIED OVER EXISTING 6" SWL

PROPOSED 6" SWL SHALL BE APPLIED OVER EXISTING 6" SWL



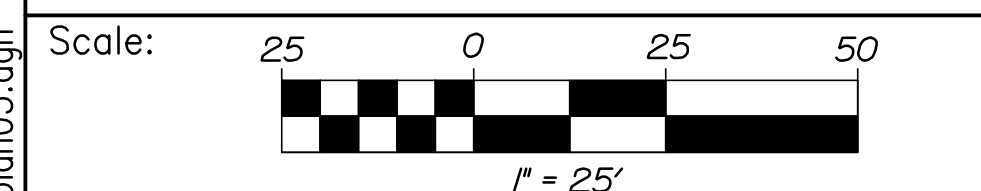
Date: 1/5/2012

LEGEND

SWL	SOLID WHITE LINE		EXISTING SIGN
SYL	SOLID YELLOW LINE		EXISTING SIGN
+	PROPOSED SIGN		PROPOSED SIGN
+	EXISTING SIGN		EXISTING SIGN

NOTES:
 1. THE MAINE TURNPIKE AUTHORITY WILL PROVIDE FINAL STRIPING. CONTRACTOR SHALL LAYOUT STRIPING. THIS WORK SHALL BE COORDINATED WITH THE AUTHORITY AND BE INCIDENTAL TO ITEM 652.36 MAINTENANCE OF TRAFFIC CONTROL DEVICES.

..... Rumble Strips



Designed by:

HNTB

No.	Revision	By	Date

By	Date	By	Date
Designed	CDH 08\11	Checked	EAR 08\11
Drawn	CDH 08\11	In Charge of	RAL 08\11

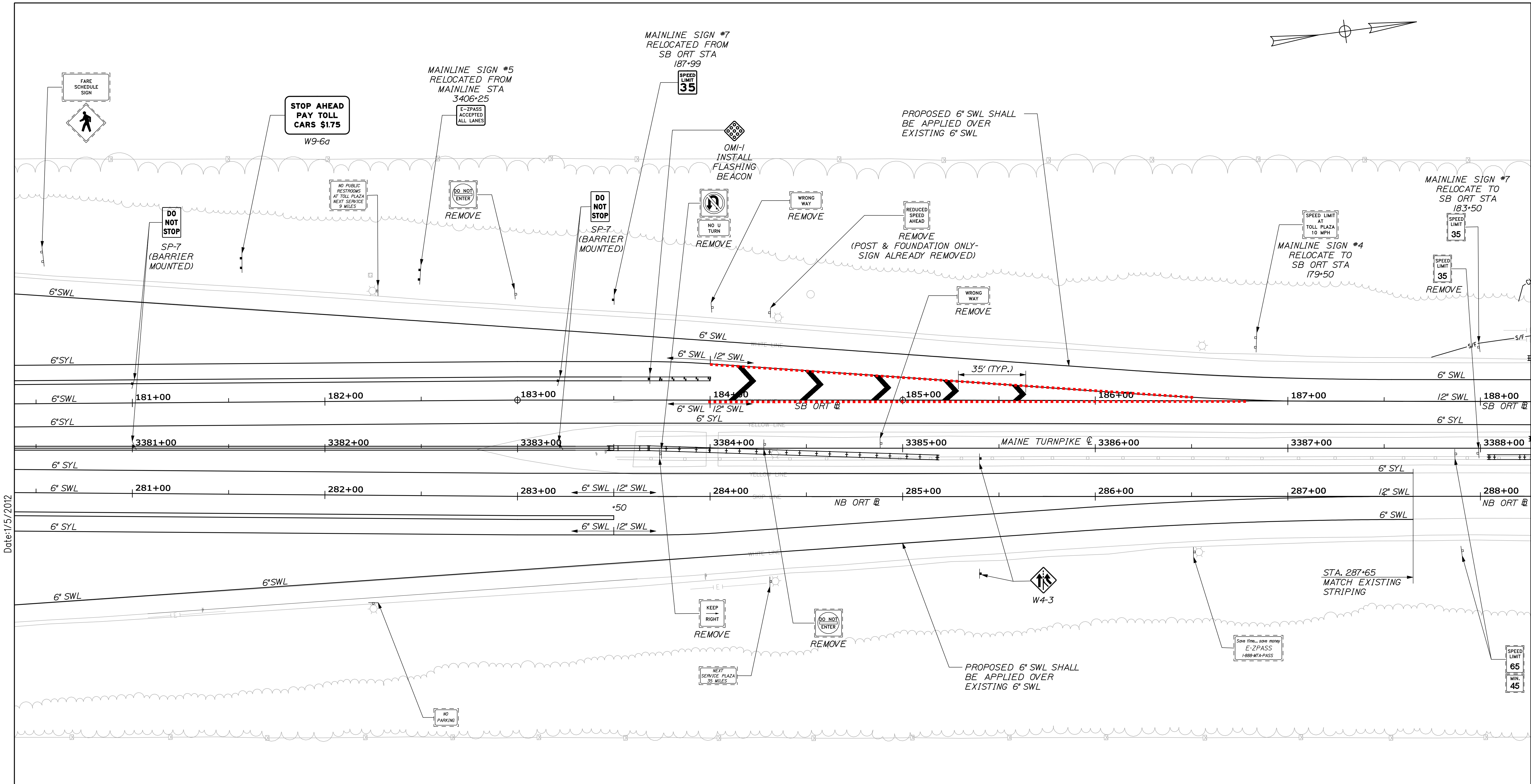
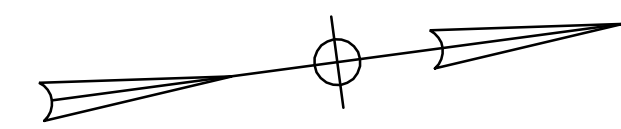
HNTB CORPORATION
 340 County Road, Suite 6-C
 Westbrook, ME 04092
 TEL (207) 774-5155
 FAX (207) 228-0909

THE GOLD STAR MEMORIAL HIGHWAY

NEW GLOUCESTER BARRIER TOLL PLAZA
 ORT CONVERSION

SIGNING AND STRIPING PLAN

Filename: 034_ssp1an05.dgn



Date: 1/5/2012

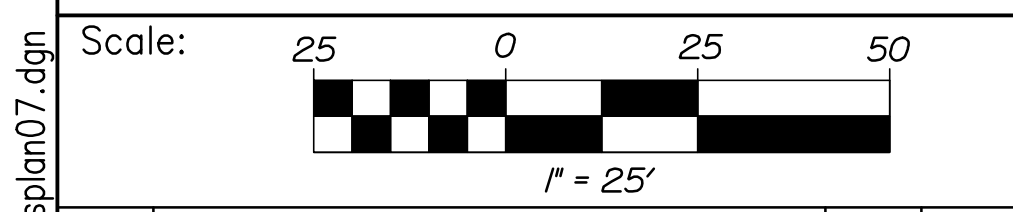
LEGEND

SWL	SOLID WHITE LINE		EXISTING SIGN
SYL	SOLID YELLOW LINE		EXISTING SIGN
+	PROPOSED SIGN		PROPOSED SIGN
+	EXISTING SIGN		EXISTING SIGN

NOTES:

1. THE MAINE TURNPIKE AUTHORITY WILL PROVIDE FINAL STRIPING. CONTRACTOR SHALL LAYOUT STRIPING. THIS WORK SHALL BE COORDINATED WITH THE AUTHORITY AND BE INCIDENTAL TO ITEM 652.36 MAINTENANCE OF TRAFFIC CONTROL DEVICES.
2. A HIGH VOLTAGE DIRECT BURIAL CABLE, DIRECT BURIAL COMMUNICATION LINES, AND A DUCT BANK CONTAINING POWER AND COMMUNICATIONS ARE ALL LOCATED ON THE WEST SIDE OF THE TURNPIKE BETWEEN THE EDGE OF PAVEMENT AND TOP OF BACK SLOPE. EXACT LOCATION SHALL BE DETERMINED BY CONTRACTOR PRIOR TO ANY EXCAVATION OR INSTALLATION OF SIGNS.

..... Rumble Strips



Designed by:

HNTB

No.	Revision	By	Date

By	Date	By	Date
Designed	CDH 08\11	Checked	EAR 08\11
Drawn	CDH 08\11	In Charge of	RAL 08\11

HNTB CORPORATION
 340 County Road, Suite 6-C
 Westbrook, ME 04092
 TEL (207) 774-5155
 FAX (207) 228-0909

THE GOLD STAR
MEMORIAL HIGHWAY

NEW GLOUCESTER BARRIER TOLL PLAZA
ORT CONVERSION

SIGNING AND STRIPING PLAN

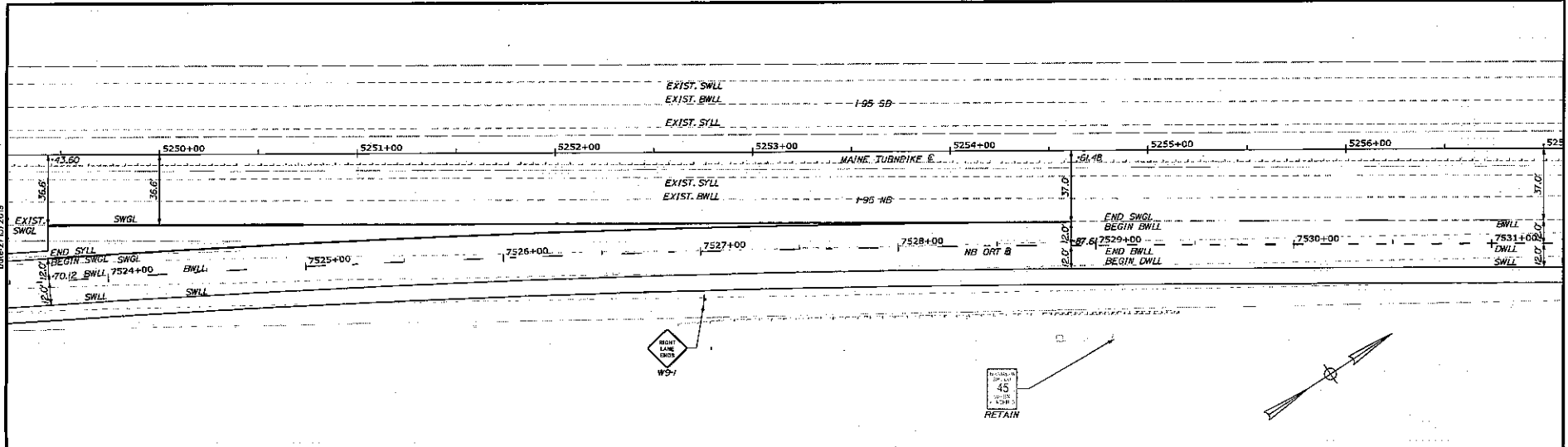
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CONTRACT: 2012.13
36 OF 100

Filename: 036_ssplan07.dgn

APPENDIX C

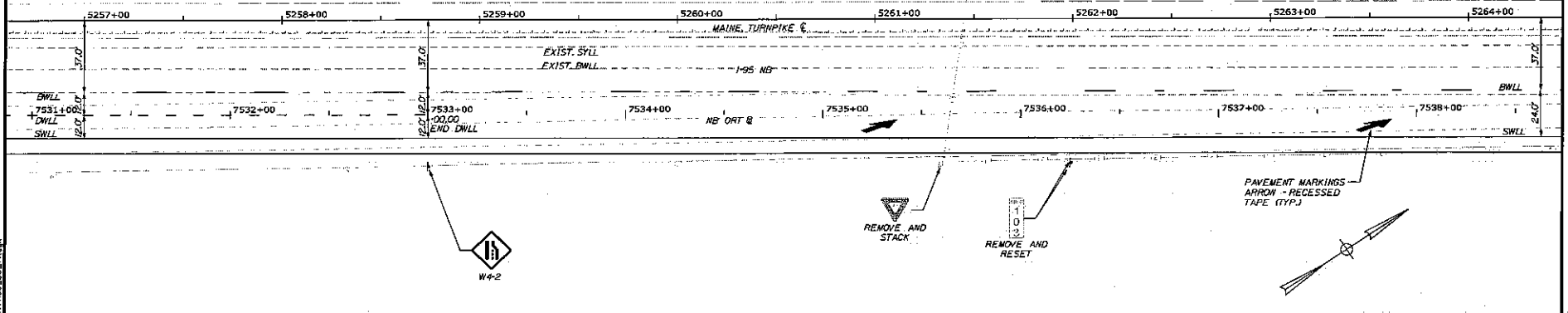
Date: 2/15/2019

Filename: \\GDP\HIGHWAY\USTA\103_SS_14.dgn



LEGEND

DWLL	6" BROKEN WHITE LANE LINE (10' LINE & 30' GAP WITH 3" TAPE)
DWLL	6" DOTTED WHITE LANE LINE (3' LINE & 9' GAP - 6" GROOVED IN TAPE)
SWGL	6" SOLID WHITE LANE LINE
SWGL	12" SOLID WHITE GORE LINE
SYLL	6" SOLID-YELLOW LANE LINE
CW	CROSSWALK (1/2" STRIPES 9" O.C.)
	EXISTING SIGN
	PROPOSED SIGN



Scale: 25 0 25 50
Scale of Feet

No.	Revision	By	Date

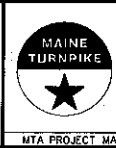
Designed by:

GORRILL PALMER

CONSULTANT PROJECT MANAGER: BRANDON M. HAVU, PE

By	Date	By	Date
Designed	BMH 2\08\19	Checked	DGE 2\08\19
Drawn	MPCL 2\08\19	In Charge of	GAF 2\08\19

GORRILL PALMER
707 SABLE OAKS DRIVE, SUITE 30
SOUTH PORTLAND, MAINE 04106
www.gorrillpalmer.com
207.772.2515

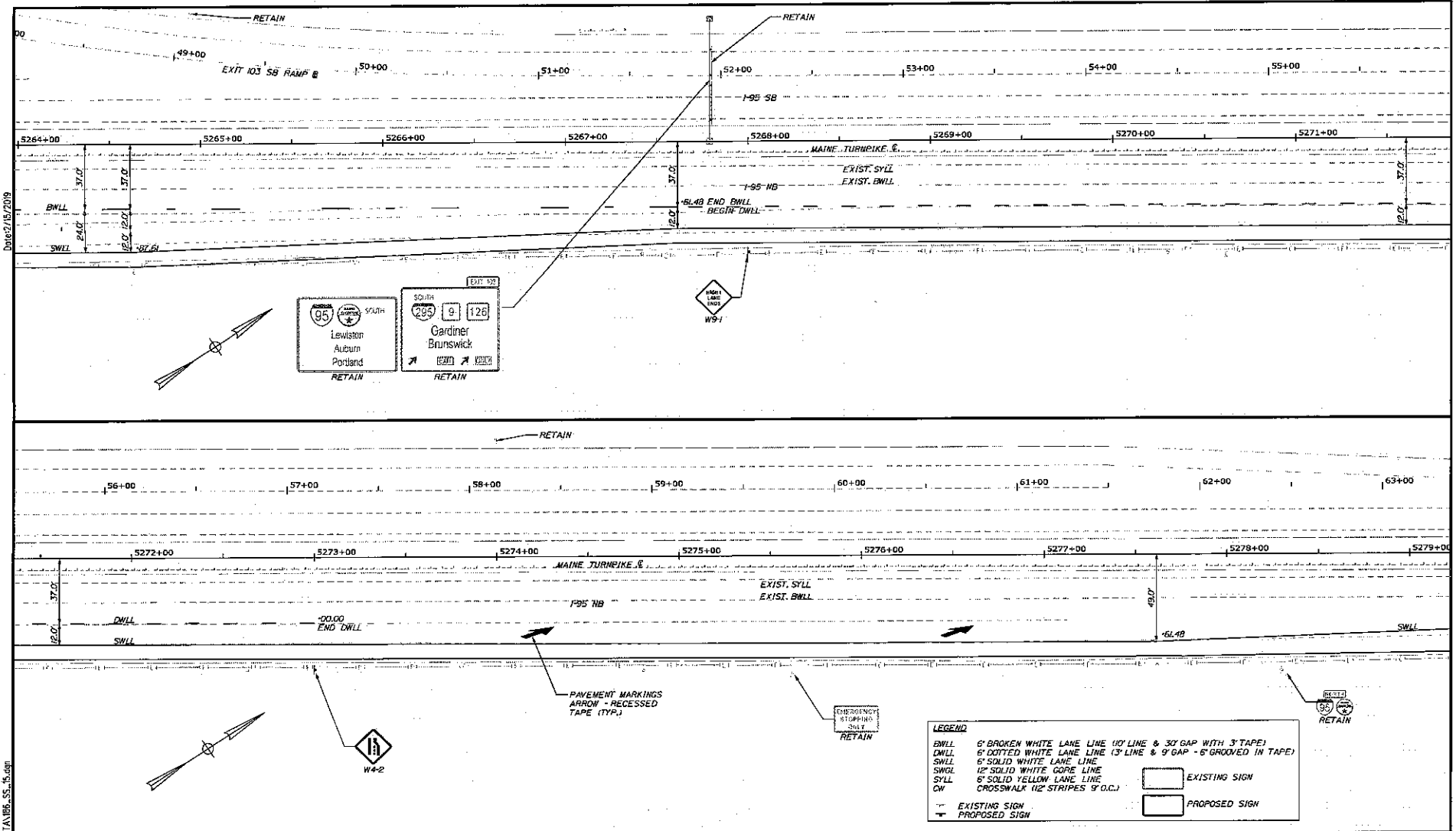


**THE GOLD STAR
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: RALPH NORWOOD, IV, PE, PTOE

INTERCHANGE 103
ORT CONVERSION
SIGNING AND STRIPING PLAN 14

CONTRACT: 2019_04
SHEET NUMBER: SS-14
185 OF 503



Date: 2/15/2019

Filename: \\V:\HIGHWAY\157\A\B\SS-15.dwg

Scale: 1" = 25'

No.	Revision	By	Date

Designed by:

GORRI PALMER

CONSULTANT PROJECT MANAGER: BRANDON M. HAVU, PE

By	Date	By	Date
Designed	BMH 2\08\19	Checked	DGE 2\08\19
Drawn	MPC 2\08\19	In. Charge of	GAE 2\08\19

GORRI PALMER
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THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: RALPH NORWOOD, IV, PE, PTOE

INTERCHANGE 103
 ORT CONVERSION

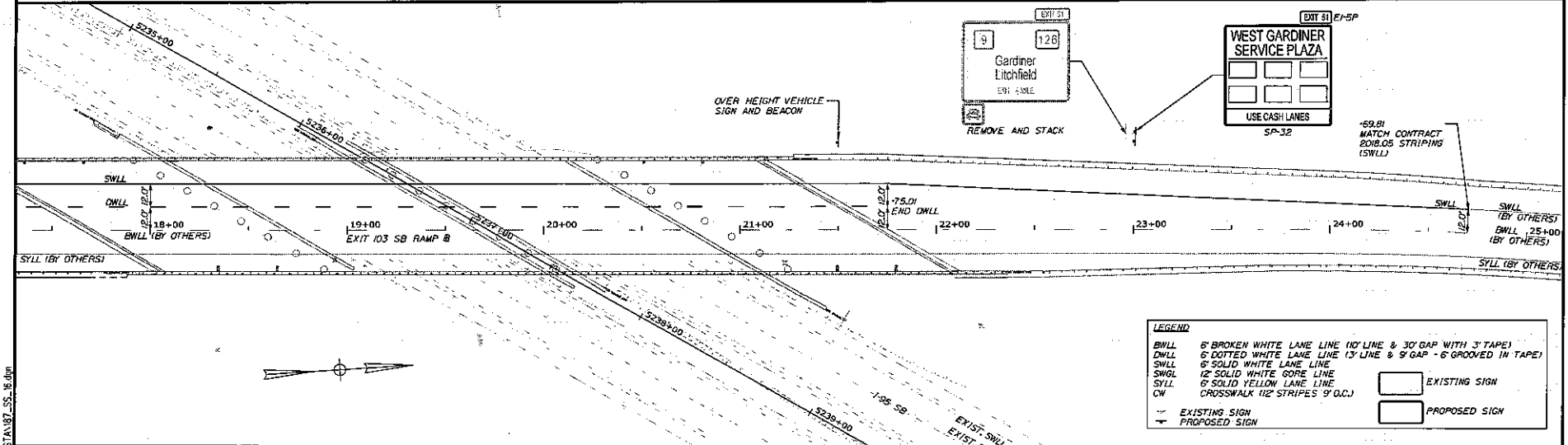
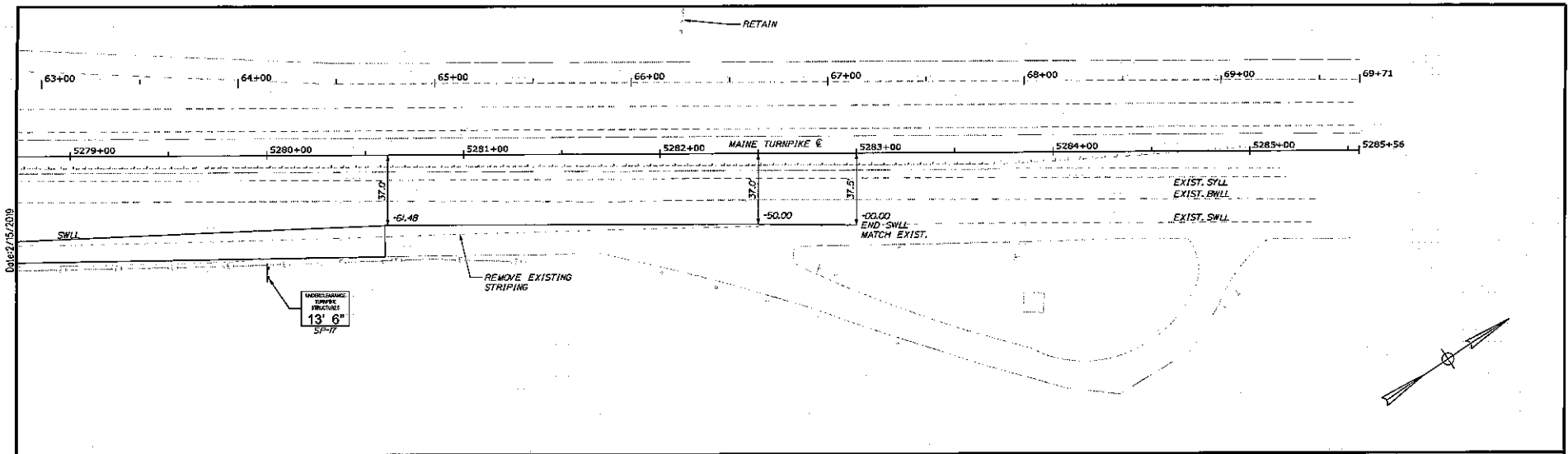
SIGNING AND STRIPING PLAN 15

SHEET NUMBER: SS-15
 186 OF 503

CONTRACT: 2019.04

LEGEND

BWWL	6" BROKEN WHITE LANE LINE (10' LINE & 30' GAP WITH 3" TAPE)		EXISTING SIGN
DWLL	6" DOTTED WHITE LANE LINE (3" LINE & 9" GAP - 6" GROOVED IN TAPE)		PROPOSED SIGN
SWLL	6" SOLID WHITE LANE LINE		
SWGL	1/2" SOLID WHITE GORE LINE		
SYLL	6" SOLID YELLOW LANE LINE		
CW	CROSSWALK 1/2" STRIPES 9" O.C.		



LEGEND

BWLL	6" BROKEN WHITE LANE LINE (10' LINE & 30' GAP WITH 3" TAPE)		EXISTING SIGN
DWLL	6" DOTTED WHITE LANE LINE (3' LINE & 9' GAP - 6" GROOVED IN TAPE)		PROPOSED SIGN
SWLL	6" SOLID WHITE LANE LINE		
SWGL	12" SOLID WHITE GORE LINE		
SYLL	6" SOLID YELLOW LANE LINE		
CW	CROSSWALK (12" STRIPES 9" O.C.)		
	EXISTING SIGN		
	PROPOSED SIGN		

Scale: 1" = 25'

No.	Revision	By	Date

Designed by: **GORRILL PALMER**

CONSULTANT PROJECT MANAGER: BRANDON M. HAVU, PE

By	Date	Checked	By	Date
EMH	2\08\19	DGE	DGE	2\08\19
Drawn	MPC	In Charge of	GAE	2\08\19

GORRILL PALMER
 707 SABLE OAKS DRIVE, SUITE 30
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 www.gorrillpalmer.com
 207.772.2515

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: RALPH NORWOOD, IV, PE, PTOE

**INTERCHANGE 103
 ORT CONVERSION**

SIGNING AND STRIPING PLAN 16

CONTRACT: 2019.04

SHEET NUMBER: 55-16

187 OF 503

Date: 2/15/2019
 Filename: \\D:\HIGHWAY\STA103_SS_16.dwg