MAINE TURNPIKE AUTHORITY

MAINE TURNPIKE

CONTRACT DOCUMENTS

CONTRACT 2022.06

SUPERSTRUCTURE REPLACEMENT
RICHMOND ROAD (ROUTE 197) UNDERPASS
MILE 93.3

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.

TABLE OF CONTENTS

MAINE TURNPIKE AUTHORITY

NOTICE TO CONTRACTORS

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

CONTRACT 2202.06

SUPERSTRUCTURE REPLACEMENT
RICHMOND ROAD (ROUTE 197) UNDERPASS
MILE 93.3

at the office of the Maine Turnpike Authority, 2360 Congress Street, Portland, ME, until 2:00 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 Bridge Construction Projects. All other bids may be rejected. This Project includes a wage determination developed by the State of Maine Department of Labor.

The work consists of replacing the Richmond Road (Route 197) bridge superstructure over the Maine Turnpike in the Town of Litchfield, Maine. The work includes concrete deck, steel girder and bearing replacement, concrete substructure modifications and repairs, approach work and paving, guardrail, bridge rails, maintenance of traffic and all other work incidental thereto in accordance with the Plans and Specifications. The Authority has pre-purchased the new structural steel, bearings, and expansion joints. The Contractor is responsible for the installation of these items.

Plans and Contract Documents may be examined by prospective Bidders weekdays between 8:00 a.m. and 4:30 p.m. at the office of the Maine Turnpike Authority, 2360 Congress Street, Portland, Maine. **The half size Plans** and Contract Documents may be obtained from the Authority upon payment of one-hundred ($100.00) 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/Projects/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/Projects/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 11, 2022 at 10:00 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 2022.06

SUPERSTRUCTURE REPLACEMENT
RICHMOND ROAD (ROUTE 197) UNDERPASS
MILE 93.3

MAINE TURNPIKE AUTHORITY

PROPOSAL

CONTRACT 2022.06

SUPERSTRUCTURE REPLACEMENT
RICHMOND ROAD (ROUTE 197) UNDERPASS
MILE 93.3

TO MAINE TURNPIKE AUTHORITY:

The work consists of replacing the Richmond Road (Route 197) bridge superstructure over the Maine Turnpike in the Town of Litchfield, Maine. The work includes concrete deck, steel girder and bearing replacement, concrete substructure modifications and repairs, approach work and paving, guardrail, bridge rails, maintenance of traffic and all other work incidental thereto in accordance with the Plans and Specifications. The Authority has pre-purchased the new structural steel, bearings, and expansion joints. The Contractor is responsible for the installation of these items.

This Work will be done under a Contract known as Contract 2202.06 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. 2022.06
SUPERSTRUCTURE REPLACEMENT
RICHMOND ROAD (ROUTE 197) UNDERPASS
MILE 93.3

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
201.11	Clearing	Acre	1				
202.10	Removing Existing Superstructure - Property of Contractor (Steel 157,000 lbs; Concrete 280 CY)	Lump Sum	1				
202.12	Removing Existing Structural Concrete	Cubic Yard	92				
203.20	Common Excavation	Cubic Yard	1,900				
203.24	Common Borrow	Cubic Yard	2,750				
203.34	Lightweight Fill	Cubic Yard	80				
206.082	Structural Earth Excavation - Major Structures, Plan Quantity	Cubic Yard	125				
304.10	Aggregate Subbase Course - Gravel	Cubic Yard	3,150				
403.207	Hot Mix Asphalt, 19 mm Nominal Maximum Size	Ton	580				
403.208	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size	Ton	415				
403.209	Hot Mix Asphalt, 9.5 mm Nominal Maximum Size (sidewalks, drives, islands & incidentals)	Ton	2				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
			BROUGHT FORWARD:				
403.213	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size (Base and Intermediate Base Course)	Ton	415				
409.15	Bituminous Tack Coat, Applied	Gallon	280				
419.30	Sawing Bituminous Pavement	Linear Foot	46				
502.219	Structural Concrete, Abutments and Retaining Walls (115 CY)	Lump Sum	1				
502.239	Structural Concrete, Piers (47 CY)	Lump Sum	1				
502.26	Structural Concrete Roadway and Sidewalk Slab on Steel Bridges (226 CY)	Lump Sum	1				
502.31	Structural Concrete Approach Slab (11 CY)	Lump Sum	1				
502.49	Structural Concrete Curbs and Sidewalks (40 CY)	Lump Sum	1				
503.14	Epoxy-Coated Reinforcing Steel, Fabricated and Delivered	Pound	107,200				
503.15	Epoxy-Coated Reinforcing Steel, Placing	Pound	107,200				
504.711	Structural Steel Erection, Supplied by Authority (217,000 lbs)	Lump Sum	1				
505.08	Shear Connectors (3,264 EA)	Lump Sum	1				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
			BROUGHT FORWARD:				
507.0821	Steel Bridge Railing, 3 Bar (592 LF)	Lump Sum	1				
508.13	Sheet Waterproofing Membrane (75 SY)	Lump Sum	1				
508.14	High Performance Waterproofing Membrane (795 SY)	Lump Sum	1				
509.202	Culvert Sliplining	Lump Sum	1				
511.07	Cofferdam	Lump Sum	1				
514.06	Curing Box for Concrete Cylinders	Each	1				
515.201	Pigmented Protective Coating for Concrete Surfaces	Square Yard	380				
515.202	Clear Protective Coating for Concrete Surfaces	Square Yard	710				
518.20	Pier Repairs	Square Foot	220				
518.40	Epoxy Injection Crack Repair	Linear Foot	40				
520.2211	Expansion Device Installation - Gland Seal, Supplied by the Authority	Each	2				
523.521	Installation of Bearing Devices - Supplied by Authority	Each	20				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
			BROUGHT FORWARD:				
524.40	Protective Shielding - Steel Girders	Square Yard	1,200				
526.306	Temporary Concrete Barrier, Type I - Supplied by Authority (320 LF)	Lump Sum	1				
526.34	Permanent Concrete Transition Barrier	Each	4				
527.341	Work Zone Crash Cushions - TL-3	Unit	2				
606.1301	31" W-Beam Guardrail - Mid-Way Splice (7' Steel Posts, 8" Offset Blocks, Single Faced)	Linear Foot	1,350				
606.1307	31" W-Beam Guardrail - Mid-Way Splice Flared Terminal	Each	4				
606.1723	Bridge Transition - Type III	Each	4				
606.353	Reflectorized Flexible Guardrail Marker	Each	8				
606.3605	Guardrail - Remove, Modify, and Reset Single Rail	Linear Foot	540				
607.17	Chain Link Fence - 6 Foot	Linear Foot	370				
607.183	Chain Link Snow Fence	Linear Foot	304				
607.23	Chain Link Fence Gate	Each	2				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
			BROUGHT FORWARD:				
607.32	Bracing Assembly Type I - Metal Posts	Each	8				
607.33	Bracing Assembly Type II - Metal Posts	Each	8				
610.08	Plan Riprap	Cubic Yard	61				
610.181	Temporary Stone Check Dam	Cubic Yard	2				
613.319	Erosion Control Blanket	Square Yard	3,850				
615.07	Loam	Cubic Yard	360				
618.14	Seeding Method Number 2	Unit	57				
619.1201	Mulch, Plan Quantity	Unit	57				
619.1202	Temporary Mulch	Lump Sum	1				
619.14	Erosion Control Mix	Cubic Yard	490				
620.58	Erosion Control Geotextile	Square Yard	200				
627.733	4" White or Yellow Painted Pavement Marking Line	Linear Foot	4,500				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
			BROUGHT FORWARD:				
629.05	Hand Labor, Straight Time	Hour	30				
631.10	Air Compressor (including operator)	Hour	30				
631.11	Air Tool (including operator)	Hour	30				
631.12	All Purpose Excavator (including operator)	Hour	30				
631.172	Truck - large (including operator)	Hour	30				
631.32	Culvert Cleaner (including operators)	Hour	10				
631.36	Foreman	Hour	10				
639.18	Field Office, Type A	Each	1				
652.30	Flashing Arrow	Each	2				
652.312	Type III Barricades	Each	4				
652.33	Drum	Each	70				
652.34	Cone	Each	70				

CARRIED FORWARD:

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
			BROUGHT FORWARD:				
652.35	Construction Signs	Square Foot	960				
652.361	Maintenance of Traffic Control Devices (244 CD)	Lump Sum	1				
652.41	Portable-Changeable Message Sign	Each	2				
652.45	Truck Mounted Attenuator	Calendar Day	200				
652.452	Automated Trailer Mounted Speed Limit Sign	Each	2				
656.50	Baled Hay, in place	Each	10				
656.60	Temporary Berms	Linear Foot	100				
656.62	Temporary Slope Drains	Linear Foot	100				
656.632	30 inch Temporary Silt Fence	Linear Foot	2,020				
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)*

_____ _____ *(SEAL)*

_____ _____ *(SEAL)*

SURETY

_____ _____ *(SEAL)*

_____ _____ *(SEAL)*

_____ _____ *(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)

MAINE TURNPIKE AUTHORITY

SPECIFICATIONS

PART II – SPECIAL PROVISIONS

PART IV – APPENDICES

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 work consists of replacing the Richmond Road (Route 197) bridge superstructure over the Maine Turnpike in the Town of Litchfield, Maine. The work includes concrete deck, steel girder and bearing replacement, concrete substructure modifications and repairs, approach work and paving, guardrail, bridge rails, maintenance of traffic and all other work incidental thereto in accordance with the Plans and Specifications. The Authority has pre-purchased the new structural steel, bearings, and expansion joints. The Contractor is responsible for the installation of these items.

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 2022.06 – Superstructure Replacement – Richmond Road (Route 197) Underpass Mile 93.3". The right is reserved by the Resident to make such minor corrections or alterations in the Plans as he/she 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:

Juneteenth 2022 (June 20th)	12:01 a.m. Monday to 6:00 a.m. the following Tuesday
Independence Day 2022 (Fourth of July)	6:00 a.m. preceding Friday to 6:00 a.m. the following Tuesday.
Christmas Day 2022	6:00 am preceding Friday to 6:00 am 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:

INSERT WAGE RATES HERE:

104.4.6 Utility Coordination

This Subsection is amended by the addition of the following:

These Special Provisions outline the arrangements which have been established by the Authority for coordination of the work to be accomplished by the utilities. The scope and schedule of utility relocation work is noted herein. The Contractor shall plan and conduct his work accordingly.

General

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

The Contractor shall plan and conduct his operations in accordance with the following utility schedule. The Contractor must comply with all OSHA regulations pertaining to work adjacent to utility wires. The Contractor shall plan and conduct his work accordingly.

The following utilities are located within the Project limits. The Contractor shall ascertain the location of the existing utilities and any other necessary information by direct inquiry at the office of the following utility owners:

AERIAL UTILITIES

COMMUNICATION:

Consolidated Communications
Enterprise St, Lewiston, ME 04240
Marty Pease (207) 535-4208

CONSOLIDATED COMMUNICATIONS

Consolidated Communications will relocate three utility poles within the project limits on the north side of the bridge as shown in the plans.

The Contractor is responsible for removing the guardrail and constructing a temporary earth embankment at each utility pole relocation location to provide access for Consolidated Communications. The embankment shall be sufficiently compacted and have a minimum of 10’ x 10’ top surface that is adjacent to the existing roadway as approved by the Resident.

The Contractor shall protect all new and existing utilities from damage or support disturbance during construction in a manner that is as approved by Consolidated Communications and the Resident.

Contractor is responsible for scheduling a date for Consolidated Communications to relocate the utility poles. The Contractor shall notify Consolidated Communications at least one

month in advance of requested relocation date to allow Consolidated Communications two days to relocate the utility poles and transfer communication lines to the new poles.

Utility pole relocation shall be completed by or before April 29, 2022.

104.4.7 Cooperation With Other Contractors

This Subsection is amended by the addition of the following:

The Maine Turnpike Authority is pre-purchasing structural steel, elastomeric bearings, and expansion joints to facilitate the substantial completion and reopening of the bridge as outlined in Section 107.4.6. See Appendixes A, B, and C for additional information.

105.2.4.2 Lead Paint

The Contractor shall note that the existing bridge structure may contain remnants of lead based paint. The Contractor shall institute every precaution when working with materials coated with lead based paints.

Lead Paint Removal

The Contractor is required to remove and dispose of lead based paint and paint residue before cutting, grinding, drilling and sandblasting existing materials in preparation of completing the work except as provided under the Drilling of Lead Based Paint subsection in this Special Provision. All lead based paint and paint residue shall be removed, handled, stored and disposed of in conformance with all local, State and Federal laws and regulations governing lead based paint. The Contractor may use his own properly trained employees to abate the lead based paint in accordance with applicable regulations and requirements; or he may hire a licensed lead abatement subcontractor to abate the lead based paint in accordance with applicable regulations and requirements.

The Contractor, or licensed lead abatement subcontractor, shall submit a Project specific Health and Safety (OSHA) Plan and a Hazardous Waste Management Plan (EPA/DEP) a minimum of two (2) weeks prior to undertaking the removal of lead based paint.

Drilling of Lead Based Paint

The Contractor may drill lead based painted steel, without lead based paint removal, provided the Contractor collects and recycles the drill cuttings at a licensed metal recycling facility. If the Contractor chooses not to collect and recycle the drill cuttings at a licensed metal recycling facility he will be required to abate the area where drilling is to occur in full accordance with the lead based paint removal, storage and disposal requirement of this Special Provision.

The Authority will require a signed statement from the Contractor stating the drill cuttings were collected and recycled at a licensed metal recycling facility and the name the recycling facility.

Health and Safety Plan

The Health and Safety Plan submittal shall describe how the Contractor/licensed lead abatement subcontractor intends to remove the lead based paints; and shall outline how the Contractor/licensed lead abatement subcontractor will adhere to all Federal, State and local ordinances which govern worker (including authorized representatives of the Authority) exposure to lead based paints, and ensure the safety of the workers performing lead removal. Copies of current worker training certificates (OSHA), medical screenings, and respirator fit up shall be included in the submittal.

Hazardous Waste Management Plan

The Hazardous Waste Management Plan submittal shall describe how the Contractor/licensed lead abatement subcontractor intends to manage the hazardous waste that will be generated, temporarily accumulated, stored, transported off-site and disposed; adhere to ordinances associated with the management of hazardous wastes; and ensure protection of the environment.

The Hazardous Waste Management Plan shall:

- Be signed by the Contractor;
- State whether Contractor or licensed lead abatement subcontractor will be undertaking the work; and,
- State whether abated lead materials will be accumulated and stored on-site (required if Contractor is not licensed by DEP/EPA to transport and temporarily store lead based hazardous waste), or be removed in HEPA vacuums daily to the removal Contractor's licensed waste storage facility (permitted only if Contractor is licensed by DEP/EPA to transport and temporarily store lead based hazardous waste).

If abated lead materials are to be accumulated and stored on-site, the Hazardous Waste Management Plan shall include (at a minimum) the following:

- Container size and labeling standards:
  - Containers must be 55 gallons or less
  - Containers must have the labeled "HAZARDOUS WASTE"

- Accumulation requirements:
  - Labels will include accumulation start date and container full date
  - On-site storage will not exceed 180 days from full date
  - Total on-site storage shall not exceed 55 gallons or 220 pounds

- Inspections (including frequency and checklist):
  - Inspections shall be performed each day the Contractor works
  - Inspection checklist shall be similar to MaineDEP format (Refer to Appendix A1 of MaineDEP Handbook for Hazardous Waste Generators – January 2008)
- Transport and DOT "pre-transport requirements":
  - Specify the licensed hazardous waste transporter to be used
  - Obtain Generator's EPA ID No. (typically a provisional ID # is obtained through the licensed hazardous waste transporter)

- USDOT – approved containers must be used for shipment
- Schedule MTA for signing Hazard Waste Manifest

- Recordkeeping requirements:
  - Describe where at the jobsite the required records (e.g., inspection logs, training records, Lead Determination report/hazardous waste characterization, etc.) will be maintained
  - Describe how and when copies of the required documents specified above will be transferred to the MTA Environmental Services Coordinator's office

The Contractor/licensed lead abatement subcontractor, shall provide documentation to the MTA that the employees who will be removing, handling, managing and/or directly supervising the hazardous waste operations have received required Resource Conservation and Recovery Act (RCRA) hazardous waste management training, and all training is current.

The lead based hazardous waste must remain on-site, unless the removal is being performed by a licensed lead abatement subcontractor that collects the paint residue in HEPA vacuums and is licensed by DEP/EPA to transport and temporarily store lead based hazardous waste at the removal Contractor's licensed waste storage facility. Both on-site and licensed off-site lead based hazardous waste storage facilities require secure storage and daily inspection of the stored waste.

If the removal Contractor is not licensed by DEP/EPA to transport and temporarily store lead based hazardous waste off-site, then an EPA licensed Hazardous Waste transporter(s) shall be used to remove hazardous waste from the site. All removal and disposal documentation will be required when the hazardous waste leaves the site. As the Generator, only the Authority's Environmental Services Coordinator or his trained designee shall sign waste manifests when material is removed from the Project site.

The removal, storage, handling, transporting, and disposal of lead based paint and lead based paint residue will not be measured separately for payment, but shall be incidental to the various Contract work items.

The following Subsection is added:

105.8.2 Permit Requirements

The Project is being constructed under the following Maine Department of Environmental Protection (DEP) Permit:

- Natural Resources Protection Act Permit by Rule regulations, Section 11 – State Transportation Facilities;

A copy of Maine DEP permit issued for this contract and associated conditions and compliance standards are attached in Appendix D. The Contractor is responsible for executing all work under this contract in accordance with the Maine DEP permit.

The Project has been authorized under Section 404 of the Clean Water Act, through the US Army Corps of Engineers Maine Programmatic General Permit, Pre-Construction Notification. The Project is subject to the General Conditions of the Department of the Army

Maine General Permit 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. A copy of the project-specific authorization, conditions, and Maine General Permit is provided in Appendix D. A signed copy of the Start Work Notification Form must be sent to the Army Corps Maine Project Office at least two weeks before work commences. The Contractor is responsible for executing all work under this contract in accordance with the U.S. Army Corps of Engineers permit.

The Project is subject to the requirements of the Maine Pollutant Discharge Elimination System (MPDES) General Permit for Stormwater Discharge from Construction Activity (Maine Construction General Permit), as promulgated by the US Environmental Protection Agency (US EPA) and Administrated by the Maine Department of Environmental Protection (DEP).

A project-specific Notice of Intent (NOI), accompanied by a preliminary Limit of Disturbance (LOD) plan, or an annual consolidated NOI for all MTA project construction activities, was submitted by the Authority to the DEP for coverage under the Maine Construction General Permit (MCGP). Compliance with the erosion and sedimentation control requirements outlined in this Contract is required by the Contractor.

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.

The LOD for this Contract has been estimated to be **3.15** acres.

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:

- The Resident shall have a minimum of five (5) working days to approve the revised LOD plan.
- For contracts with a project-specific NOI, if the cumulative area of disturbance exceeds the estimated LOD noted above, the Resident shall first approve of the plan and then possibly resubmit the NOI to Maine DEP for approval. The approval may take a minimum of 14 working days from the date of submittal to Maine DEP.

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

The Contractor shall comply with the conditions and compliance standards outlined in the Army Corps of Engineers, Maine General Permit, Army Corps project-specific authorization, Maine DEP NRPA Permit or Permit by Rule, Section 11, and the Maine Construction General Permit. 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.

107.1 Contract Time and Contract Completion Date

This Subsection is amended by the addition of the following:

All work shall be completed on or before June 15, 2023. Construction on Richmond Road (Route 197) shall be substantially complete by October 28, 2022 and construction on the Maine Turnpike shall be substantially complete by December 31, 2022.

107.1.1 Substantial Completion

This Subsection is amended by the addition of the following:

Substantially completion on Richmond Road shall be defined by the Authority as the following:

- All bridge deck work, including curbing, steel bridge rail, snow fence, surface pavement and guardrail installation including attachments complete and available for traffic.
- Richmond Road is fully opened to two lanes of traffic including shoulders, guardrail, surface pavement and signage.
- All disturbed slopes loamed, seeded and mulched, temporary erosion control mix and/or blanket installed where necessary.

Substantial completion on the Maine Turnpike shall be defined by the Authority as the following:

- All shielding from the bridge is removed
- All repairs to the bridge piers complete and protective coating applied.
- Removal of temporary concrete barrier and other traffic control devices on the Turnpike.

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 following is a summary of specified delivery dates:

- May 13, 2022 Delivery date of the anchor rods (See Section 523).
- June 13, 2022 Delivery date of the bearing assemblies (See Section 523)
- July 11, 2022 Delivery date for structural steel (See Section 504).
- July 11, 2022 Delivery date for bridge expansion joints (See Section 520).

The Contractor shall submit to the Authority a construction schedule which shall document that the Contractor has the necessary labor and equipment to work immediately and continuously at the project site once the bridge is closed. The intent of this specification is to minimize the amount of time for bridge closure, while providing the Contractor sufficient time to complete the work in a diligent manner and reopen the bridge as prescribed by the project's Substantial Completion date.

The bridge shall be closed no earlier than April 4, 2022 and opened no later than October 28, 2022.

SPECIAL PROVISION

SECTION 202

REMOVING STRUCTURES AND OBSTRUCTIONS

(Removing Existing Superstructure)
(Removing Existing Structural Concrete)

202.01 Description

This section is amended by the addition of the following:

Prior to starting any demolition work, the Contractor shall submit a demolition plan to the Resident for approval. The demolition plan shall be stamped by a Professional Engineer licensed in the State of Maine. The demolition plan shall consider the effect of construction equipment, methods of operation, and sequence of work on the capacity and stability of the bridge. The capacity of the structure shall be calculated to demonstrate the proposed work activities will not result in unacceptable overstress in the structure. The existing girders were struck by an over height vehicle driving Southbound on August 10, 2021. The damage is outlined in the Initial Damage Assessment Memo provided in Appendix E. The Contractor shall consider the damage in the structure capacity calculations as part of the demolition plan.

No demolition will be permitted until the approved method of shielding is completely installed. Traffic will not be permitted to use the travelway directly under the demolition work; a lane closure will be required.

All materials, except for the existing timber shielding, removed as part of this work shall become the property of the Contractor unless otherwise noted. The Contractor shall provide the Resident with an affidavit stating the final location of all disposed material and that the material was disposed of in accordance with the Maine Department of Environmental Protection Solid Waste Regulations.

If Contractor chooses not to use the existing timber shielding above the Northbound and Southbound Turnpike travelway (See Special Provision 524 Protective Shielding) they are responsible for removing and transporting the timber shielding to the Maine Turnpike Authority Litchfield Maintenance Garage on 362 Academy Road in Litchfield. This work shall be incidental to Item 202.10, Removing Existing Superstructure.

202.03 Removing Existing Superstructure, Structural Concrete, Railings, Curbs, Sidewalks and Bridges

The first sentence of the fifth paragraph is deleted and replaced with the following:

When the material from an existing structure is specified on the plans to be retained by the Authority the Contractor shall carefully dismantle it, and all materials, except those that may be specified to be reused in the new structure, shall be loaded on trucks, transported and neatly stacked by the Contractor at the location specified on the plans.

The seventh paragraph is deleted and replaced with the following:

All materials not specified to be retained by the Authority shall become the property of the Contractor and shall be removed from the site at the completion of the Project. The Contractor shall provide the Resident with an affidavit stating the final location of all disposed material and that the material was disposed of in accordance with the Maine Department of Environmental Protection Solid Waste Regulations.

SPECIAL PROVISION

SECTION 203

EXCAVATION AND EMBANKMENT

203.01 Description

The following paragraph is added:

This work shall consist of cutting, removing, and disposing of the full depth of existing bituminous concrete pavement within the limits of work as shown on the Plans or as approved by the Resident. The pavement shall be sawcut to the full depth of pavement at the limits of the excavation to provide a clean, vertical cut surface.

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.

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 sentence is added:

There will be no additional payment if an excavation plan is required, the costs of preparing and submitting the excavation plan shall be incidental to the Excavation items.

SPECIAL PROVISION

SECTION 203

EXCAVATION AND EMBANKMENT

(Lightweight Fill)

203.10 Description

The following paragraph is added:

The work shall also consist of installing Ultra Lightweight Foamed Glass Aggregate (ULFGA) as shown on the Plans or as approved by the Resident. All work performed under this Special Provision shall be coordinated with the project's Geotechnical Engineer. The work also includes separating subgrade and granular fills from ULFGA by means of geotextile to prevent soil migration as described in this Special Provision.

203.20 Materials

The following paragraph is added:

The Contractor shall supply and install Lightweight backfills that consist of UL-FGA15 manufactured by AeroAggregates or an approved equivalent material. The material shall have an uncompacted moist density ranging from 15 to 19 pcf, and a maximum moist density of 21 pcf when compacted to 90% by volume of its loose density.

The following Subsection is added

203.021 Submittals

The Contractor shall submit a plan to the Resident for approval for transporting, delivering, stockpiling (if proposed), placing and compacting ULFGA. The plan will include at a minimum:

- Name and address of the supplier,
- Laboratory testing data to show the uncompacted unit weight and internal friction angle,
- Proposed means of delivery and stockpiling (if proposed),
- Cut sheets for equipment the Contractor will be using for ULFGA placement and compaction, and
- Procedures for placing separation geotextile and placing and compacting ULFGA.

The plan shall also indicate a proposed schedule for the placement of the ULGFA. The Contractor shall provide a minimum of 3 working days' notice to the Resident prior to the placement of any ULGFA.

203.04 General

The following paragraphs are added:

Product Handling. The contractor shall protect the ULFGA before, during, and after construction as recommended by the material manufacturer.

Installation. The contractor shall place the ULFGA as indicated on the plans. Preparation of the subgrade shall include excavation with a smooth-edged bucket in order to minimize disturbance of the subgrade materials.

The areas to be filled shall not have standing water, ice, organic or otherwise unsuitable materials present prior to placement. If encountered, these materials should be excavated and replaced with compacted fill consisting of MaineDOT 703.06 Type D Gravel compacted to 95 percent of maximum density determined by ASTM D1557 (Modified Proctor Test).

A nonwoven geotextile fabric shall be placed directly on the prepared subgrade as a separator between the ULFGA and all other materials. The geotextile shall be installed between the ULFGA and any differing adjacent material exposed by excavation or differing adjacent material being placed beside or on top of the ULFGA.

The geotextile shall consist of punched nonwoven geotextile with a minimum grab tensile strength of 160 lbs per ASTM D4632 and shall meet the requirements of Subsection 722.04 for Separation Geotextile. To limit possible degradation, the geotextile shall not be exposed to the elements for more than 14 days after placement.

ULFGA may be dumped in place and spread in place. Construction equipment, other than for placement and compaction, shall not operate on the exposed ULFGA. If necessary, only track equipment shall operate on exposed ULFGA to prevent damage from concentrated loads and wheeled vehicles. Damaged ULFGA from Contractor operations shall be removed and replaced at no cost to the Authority.

The ULFGA shall be placed in lifts not exceeding 12 inches in loose thickness. Each lift shall be compacted by two to four passes of a 110-220 lb vibrating plate compactor or by similar compactive effort. Sufficient compaction has been achieved when in the judgement of the Resident the material ceases to densify further with additional passes of the plate compactor. Excessive compaction shall be avoided to minimize crushing of the aggregate.

The Contractor and Resident shall visually observe compaction of each lift of ULFGA for sufficient compaction.

Compaction shall be performed in the presence of the Resident who will observe performance of the selected equipment and the compactive effort, and establish requirements for the number of passes, and lift thickness for specific compaction equipment.

Testing. The Contractor shall measure the as-delivered loose bulk density and submit documentation of the results. At least one test shall be performed. Bulk density testing shall be performed in the presence of the Resident.

203.18 Method of Measurement

The following paragraph is added:

Lightweight Fill will be measured by the cubic yard in place by cross sectional elevations.

203.19 Basis of Payment

The following paragraph is added:

Lightweight Fill will be paid for at the contract unit price per cubic yard, which shall be full compensation for all labor, materials, equipment, and incidentals required to supply, deliver, and install the ULFGA and separation geotextile as described in this Special Provision and shown on the Plans including the creation of an approved plan. Removal and replacement of Lightweight Fill damaged by the Contractor shall be incidental to the work, as directed by the Resident. No additional compensation shall be provided for separation geotextile.

Payment will be made under:

Pay Item		Pay Unit
203.34	Lightweight Fill	Cubic Yard

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.

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 [140ºF]	3.0mm [1/8 in] max
Bond, non-immersed	Three 12.7mm [½ in] specimens pass 3 cycles @ 200% extension @ -29°C [-20ºF]
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 [140ºF].

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 401.03 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 Nmax.
- 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) Nominal Maximum Aggregate Size (mm)				Voids Filled with Binder (VFB) (Minimum %)	Fines/Eff. Binder Ratio
	$N_{initial}$	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 (ºC)	Maximum Rut Depth (mm)	Minimum Number of Passes	Minimum Allowable SIP*
64-28	45	12.5	20,000	15,000
64E-28	45	8.0	20,000	15,000
70E-34	45	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 5ºF 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 40°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 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 paragraph:

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.

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.

The following Subsection is added:

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. 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 sublot 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

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

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 sublot (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 sublot for core density only. The original core density and the recut core density shall be averaged together to determine payment for the sublot. 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 403

HOT MIX ASPHALT PAVEMENT

Course	HMA Grading	Item Number	Total Thickness	No. of Layers	Complimentary Notes
Route 197 Bridge					
Wearing	**12.5mm**	**403.208**	**1.5”**	**1**	**B,C,E,I,K,M**
Intermediate	**12.5 mm**	**403.213**	**1.5”**	**1**	**B,C,E,I,K,M**
Route 197 Approaches					
Wearing	**12.5mm**	**403.208**	**1.5”**	**1**	**B,C,E,I,K,M**
Intermediate	**12.5mm**	**403.213**	**1.5”**	**1**	**B,C,E,I,K,M**
Base	**19 mm**	**403.207**	**3”**	**1**	**B,C,E,I,K,M**
Driveways/Paved Aprons					
Wearing	**9.5mm**	**403.209**	**2”**	**1**	**B,C,E,M**

COMPLEMENTARY NOTES

A. The required PGAB for this mixture shall be **64E-28.**
B. The required PGAB for this mixture shall be **64-28.**
C. A maximum of 20 percent RAP may be used.
D. RAP may not be used.
E. The aggregate qualities shall meet the design traffic level of 3 to <10 million ESALS for mix placed under this contract. The design verification, Quality Control, and Acceptance tests for this mix will be performed at **75 gyrations**. (N design) Minimum and Maximum PGAB content shall not apply.
F. 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)
G. Joints shall be constructed as the “notched wedge” type in accordance with Subsection 401.17.
H. Joint density will be measured in accordance with Subsection 401.165.
I. Tack coat shall be applied between all layers of pavement at a rate of 0.04 G/SY.
J. PGAB shall conform to the provisions of 403.02 – Polymer Modified PGAB for HMA
K. The contractor shall furnish a quality control technician equipped with an approved densometer to ensure density requirements are met.
L. Hydrated Lime shall be incorporated into the mixture.
M. 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.

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 Emulsified Asphalt RS-1 or RS-1h conforming to the specifications of AASHTO M-140. The application rate shall be 0.04 gal/yd^2

409.05 Equipment

Add "or as determined by the Resident", after the words "gal/yd^2]" 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 409.15, Bituminous Tack Coat - Applied.

409.09 Basis of Payment

The following pay items are added:

Pay Item		Pay Unit
409.15	Bituminous Tack Coat RS-1 or RS1h – Applied	Gallon

SPECIAL PROVISION

SECTION 419

SAWING AND SEALING JOINTS IN BITUMINOUS PAVEMENT

(Sawing Bituminous Pavement)

419.01 Description

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

419.02 General

The bituminous concrete 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:

Pay Item		Pay Unit
419.30	Sawing Bituminous Pavement	Linear Foot

SPECIAL PROVISION

SECTION 502

ANNULAR SPACE GROUTING

502.01 Description

This work shall consist of providing and placing non-shrink grout as described below. The annular space (void between the host and liner pipes) shall be completely grouted to support the liner and provide long-term stability. The Contractor shall provide testing of the materials and methods for compliance with the following requirements. Prior to any work the Contractor shall furnish an acceptable plan for performing and testing the grouting.

502.02 Preparation

After slip liner installation but prior to grouting, bulk heading of the ends and venting shall be constructed.

502.03 Materials

The grout material shall consist of Portland cement (Portland cement and fly ash) and/or additives as described in the following Subsections of Division 700 – Materials:

Portland Cement	701.01
Water	701.02
Air-Entraining Admixtures	701.03
Fine Aggregate	703.01
Fly Ash	701.10 Type F or C
Chemical Admixtures	701.04
Accelerating Admixtures	AASHTO M-194 Type “C”

502.031 Compressive Strength

The grout shall have a minimum penetration resistance of 100 psi in 24 hours when tested in accordance with ASTM C403 and a minimum compressive strength of 300 psi in 28 days when tested in accordance with ASTM C495 or C109.

502.032 Performance Requirements

The Contractor shall submit the proposed grout mix, methods, plans and criteria of the grouting operations. The grouting system shall have sufficient gauges, monitoring devices and tests to determine the effectiveness of the grouting operation and to ensure compliance with the liner pipe specifications and design parameters.

502.033 Mix Designs

One or more mixes shall be developed to completely fill the annular space based on the following requirements:

A. Size of annular void
B. Void (size) of the surrounding soil
C. Absence or presence or groundwater
D. Sufficient strength and durability to prevent movement of the liner pipe, and
E. Provide adequate retardation.

502.04 Qualifications

The Contractor shall demonstrate to the Resident its worker's capabilities of filling the annular space and performing their work in conformance with the Plans and the Specifications.

502.05 Grouting Equipment

The materials shall be mixed in equipment of sufficient size and capacity to provide the desired amount of grout material for each stage in a single operation. The equipment shall be capable of mixing the grout at densities required for the approved procedure and shall also be capable of changing density as dictated by field conditions any time during the grouting operation.

502.06 Injection Procedure and Pressure

The gauged pumping pressure shall not exceed the liner pipe Manufacturer's approved recommendations. Pumping equipment shall be of a size sufficient to inject grout at a velocity and pressure relative to the size of the annular space. Gauges to monitor grout pressure shall be attached immediately adjacent to each injection port. The gauge shall conform to an accuracy of not more than one-half percent error over the full range of the gauge. The range of the gauge shall be not more than 100 percent greater than the design grout pressure. Pressure gauges shall be instrument oil filled and attached to a saddle type diaphragm seal (gauge saver) to prevent slogging with grout. All gauges shall be certified and calibrated in accordance with ANSI B40 Grade 2A. The Contractor will be required to perform a test on each type of grout and grout system proposed to be used.

502.07 Submittals and Required Calculations

The Contractor shall submit the following to the Resident for review at least 10 working days prior to the start of the grouting operation:

A. The proposed grouting mix
B. The proposed grouting plan
C. The proposed densities and viscosities
D. Initial set time of the grout
E. The proposed grouting method
F. The maximum injection pressures
G. The 24-hour and 28 day compressive strengths
H. Proposed grout stage volumes
I. Bulk head designs
J. Buoyant force calculations
K. Flow control
L. Provisions for service connections

M. Pressure gauge certification
N. Vent location plans
O. Certification that grouting plan conforms to all provisions, cautions and restrictions of the liner manufacturer.

These shall be submitted as a complete package for a single or sample section only. The Contractor shall notify the Resident of any changes to be made in grouting. Any damage caused by the grouting operation shall be repaired by the contractor at no expense to the Authority.

502.08 Method of Measurement

Grout satisfactorily placed and accepted will be measured by the cubic yard, in accordance with the pay limits established, if such limits have been established. In the absence of pay limits, the Resident may use discretion to accept the delivered quantity as the measurement for payment.

502.09 Basis of Payment

The accepted work done under Annular Space Grouting including all forms, berms, bulkheads, pumping, and incidentals necessary will be considered incidental to Item 509.202 Culvert Slip lining.

SPECIAL PROVISION

SECTION 504

STRUCTURAL STEEL

504.01 Description

The first paragraph is deleted and replaced with the following:

This work shall consist of erecting structural steel plate girders or rolled steel girders and ancillary structural steel components supplied by the Authority and fabricated by others.

The Authority will supply the Contractor with the components outlined in the Authority's "Request for Quotation – Fabrication of Structural Steel" included as Appendix A for reference. The Authority selected structural steel fabricator ARC Enterprises. Delivery costs associated with shipping the structural steel components to the project site will be paid by the Authority as part of the purchase of these materials.

Also included in this work will be coordination by the Contractor with the structural steel fabricator for delivery of the structural steel and ancillary components to the Project site. Any additional costs incurred by the Contractor for delivery of these components, that are the result of changes to the delivery sequence and/or timing outlined in the Authority's RFQ, will be the sole responsibility of the Contractor. Any such costs shall be considered incidental to the Structural Steel Erection item. Delivery of structural steel shall be coordinated with ARC Enterprises, Inc. Each load shall be unloaded within 2 hours of arrival to site. A penalty of $200/hour will be assessed to the Contractor for any delay after 2 hours.

The purchase of DTI's has not been included as part of the Authority's pre-purchase of the structural steel for this project. Should the Contractor decide to use DTI's on this project, the Contractor shall be responsible for ordering and purchasing them.

If the Contractor does not take delivery of the structural steel and ancillary steel components on or before July 11, 2022, the Contractor shall be responsible for all storage and delay costs charged by the fabricator for the undelivered materials.

504.41 Methods and Equipment

The following paragraph is added:

When structural steel erection is to take place over travel ways, the Contractor shall submit a structural steel erection plan stamped by a Professional Engineer. The erection plan shall include the number and location of crane(s), the weight of the pick, crane capacities, bracing locations and all other pertinent information.

504.44 Connections Using High Strength Bolts

The following is added to the end of the second paragraph:

Each wrench shall be accompanied with the necessary sockets, extension handles, and other related equipment and shall be acceptable to the Fabrication Engineer. No separate payments will be made for said testing. Any cost will be incidental to the bid items.

504.50 Calibration, Installation and Tensioning of High Strength Bolts

This Subsection is amended by the addition of the following:

Bolts that are too short for calibration in the tension measuring device may be tightened in a steel joint, using direct tension indicating washers (DTI's). The DTI's shall first be calibrated in a tension measuring device using longer bolts.

504.51 Installation

This Subsection is amended by the addition of the following:

Where an outer face of the bolted parts has a slope of more than one to 20 with respect to a plane normal to the bolt axis, a smooth beveled washer will be used to compensate for the lack of parallelism.

Connections using DTI's shall be brought to a "Snug Tight" condition as above, except that, following snugging, no gap on any DTI in a connection shall exceed 0.040 inch, and no DTI shall have a gap less than 0.015 inch. Any DTI having a gap less than 0.015 inch following snugging of a connection shall be removed and the fastener assembly shall be re-snugged using a new DTI.

504.52 Tightening

Item 1 of this Subsection is amended as follows:

1. Wrenches shall be re-calibrated at any time significant changes are noted in the condition of bolt threads, nuts, washers, lubrication, hose length, environmental conditions, etc. which may affect calibration.

504.54 Reuse of Bolts

This Subsection is amended by the addition of the following:

Reuse of bolts will be allowed only with the approval of the Fabrication Engineer. Galvanized bolts may not be reused.

504.641 Method of Measurement

The following sentences are added:

Erection of Structural Steel, Provided by the Authority, will be measured as one lump sum complete and accepted, consisting of all metal and related materials in the fabricated and erected structure as shown on the Plans, excluding railings and drains.

There will be no additional payment for the required erection plan, but the cost shall be incidental to the Structural Steel Erection item.

504.65 Basis of Payment

Payment will be made under:

Pay Item		Pay Unit
504.711	Structural Steel Erection, Supplied by the Authority	Lump Sum

SPECIAL PROVISION

SECTION 509

CULVERT SLIPLINING

509.01 Description

The following paragraph is added:

This work shall consist of inserting a 21" HDPE Option III liner pipe into an existing 24" culvert as shown on the contract plans, constructing seals at the ends of the existing culvert, filling the annular space between the new and existing pipe with grout. This Work shall consist of installing Contractor supplied Slip Line pipes in reasonably close conformity with the lines and grades shown on the plans and notes, or established by the Resident; installing cofferdams; providing temporary erosion and water pollution control; and locating and coordinating with all utilities

509.02 Materials

The following paragraph is added:

The pipe liners shall be HDPE and meet the requirements of Standard Specifications, Section 603, Pipe Culverts and Storm Drains, as applicable.

509.03 Construction Requirements

The following paragraphs are added:

The Contractor shall handle and assemble all elements of the structure in accordance with the manufacturer's instructions, except as modified herein, on the approved shop drawings or as ordered by the Resident in writing. The Contractor shall submit fabrication details including assembly drawings, pipe insertion methods, internal joint coupling, and bracing details, to the Resident for review.

The Contractor will dewater, inspect, and clean the existing culvert. The Resident and Contractor shall identify voids in the backfill around the existing culvert by visual inspection or by chain drag or other sounding method acceptable to the Resident. The Contractor shall fill all voids by cutting holes in the culvert and pumping grout into the areas of lost backfill. The Contractor shall provide strutting and bracing to insure the stability of the existing culvert during this operation.

The Contractor may push or pull or use a combination of both to get the new liner pipe sections into place. When pushing is used, the jacking force shall be uniformly distributed around the perimeter of the liner pipe to avoid damaging the pipe. The Contractor shall utilize skids in the existing culvert, to facilitate placement of the pipe sections. The displacement between adjacent pipe ends shall not exceed ½ inch.

The Contractor shall brace the pipe sections against the existing culvert such that the new pipe shall remain in place during grouting operations. The Contractor is responsible for assuring that the pipe does not "Float" during the grouting operation. The Contractor shall provide for a minimum 1 inch of grout between the new and existing culverts. Bracing material shall not significantly impede grout flow into the annular space between the culverts.

The Contractor shall strut all liner pipe joints/couplings prior to the grouting operation. The Contractor shall insert plugs into a grout fitting after the grouting operation is complete at that fitting. The internal couplings and struts shall remain in place for 7 days after the completion of grouting.

The Contractor shall construct seals using plywood or material of equivalent strength, in the annular space at each end of the culvert, to retain grout. Seals may be left in place providing they do not interfere with bank protection.

Grout the annular space between the liner pipe and the existing culvert in accordance with Special Provision 502, Annular Grouting.

Remove internal couplings, struts, and bracing bolts 7 days after the completion of grouting operations. Cut and grind smooth bracing bolts which cannot be turned out, then coat ground end with zinc primer.

Any required cofferdams shall meet the requirements of the Department of Transportation Standard Specification Section 511 as updated through advertisement, and any Special Provisions and all permit requirements.

Any excavated material shall be placed in approved waste area as directed by the Resident.

Seeding and Mulching of disturbed soil shall be done daily. The Contractor may seed and mulch by hand.

509.04 Method of Measurement

The following paragraph is added:

Culvert Slip Lining will be measured by lump sum for each culvert Slip Lining satisfactorily completed and accepted.

509.05 Basis of Payment

The following paragraphs are added:

The accepted quantity of Culvert Slip Lining will be paid for at the Contract unit price lump sum for each culvert.

The following shall be incidental to the SlipLining:

a. Furnishing all labor, materials, equipment necessary to manufacture and install the Option III HDPE pipes complete and in place, including: but not limited to dewatering, cleaning, inspecting, strutting, bracing, skids, concrete, joint bands, seals, installing grout nipples, grouting, plugs, fittings, hydrobell end piece, hardware, annular grout, installing grout, and damaged pipe repair.
b. Design, construction, maintenance, and removal of cofferdams and Sediment Basins, including dewatering.
c. Ditching at pipe ends, as designated in the Construction Notes, or as directed.
d.
f.

Payment will be made under:

Pay Item		Pay Unit
509.202	Culvert SlipLining	Lump Sum

SPECIAL PROVISION

SECTION 515

PROTECTIVE COATING FOR CONCRETE SURFACES

(Pigmented Concrete Protective Coating)

Section 515, Protective Coating for Concrete Surfaces, is deleted in its entirety and replaced with the following:

515.01 Description

The work shall include the surface preparation and application of a pigmented concrete protective coating system, consisting of a pigmented penetrating sealer, to protect new and existing concrete and masonry structures. The coating system shall be applied in accordance with the manufacturer's published recommendations.

Where pigmented protective coatings are already present on concrete surfaces specified to receive new protective coatings, the work shall also include removing areas of existing protective coating that are blistered, flaking, peeling, or otherwise loosely adhered to the concrete substrate prior to application of the new coating. The removal of loosely adhered pigmented protective coatings shall be completed by high-pressure washing with a rotating nozzle head.

515.02 Materials

The pigmented penetrating sealer system shall be a one-coat system consisting of ChemMasters TextureDOT Smooth, as manufactured by ChemMasters, Inc., or an approved equal, consisting of the following:

- The coating shall be an acrylic silane polymer blend or an approved equal. This primer shall provide the main protection against the ingress of water borne chlorides and sulfates.

The products shall comply with regulations limiting the Volatile Organic Compound (VOC) content of architectural and industrial maintenance coatings.

The Contractor shall submit the product data sheets, material safety data sheets and recommended instructions for application of the ChemMasters Texture DOT Smooth coating.

The pigmented penetrating sealer color shall be Federal Color Number 16492 Concrete Gray.

Materials shall be delivered to the site in original packages or containers bearing the manufacturer's labels and identification.

515.021 Substitute Materials

The Contractor shall submit a written request for approval of proposed substitute material naming the proposed manufacturer and product. This request shall be accompanied by:

1. Test data from an independent testing laboratory stating that the proposed substitute meets or exceeds the specified requirements as listed and has been tested in accordance with the specified test standards.

2. Documentation that the proposed material has a proven record of performance when used in the intended application as confirmed by actual field tests and successful installations in place on at least five similar projects.

3. Certification that if two or more types of products are intended to be used as part of a system, they will be supplied by the same manufacturer to ensure compatibility of materials, and to maintain single source manufacturer responsibility.

The Resident reserves the right to require additional testing to evaluate any proposed substitute product at no additional cost to the Authority. The Resident's decision as to the acceptability or non-acceptability of the proposed product shall be final.

515.03 Surface Preparation

The surface shall be prepared in accordance with the instructions of the approved manufacturer. Surface shall be fully cured, dry, and free from contamination such as coatings, oil, grease, loose particles, decaying matter, moss, algae growth, and curing compounds. The Contractor shall lightly sandblast the surface to achieve an adequate surface roughness for coating adhesion, in accordance with manufacturer’s recommendations. After sandblasting, all surfaces shall be rinsed by pressure washing, and allowed to air dry for a minimum of 48 hours. Once the surface preparation has been completed to the satisfaction of the Resident, the Contractor may apply the protective coating.

All caulking, patching, and joint sealant shall be installed and cured prior to application of the protective coating.

Existing form tie hole plugs which are loose or deteriorated shall be completely removed. The holes shall be reamed to sound concrete. All open form tie holes, new and existing shall be filled with an approved non-shrinking mortar, and after setting, rubbed level to the adjacent surface. Filled holes shall be cured for at least two (2) days prior to the application of the protective coating.

Grass and vegetation adjacent to surfaces to be coated shall be removed or trimmed closely to permit proper preparation and application of the protective coating.

Where protective coatings are specified to be applied to concrete surfaces that have been previously covered with pigmented coating, the Contractor shall remove any protective coating that, in the judgement of the Resident, is blistered, flaking, peeling, or otherwise loosely adhered to the concrete substrate. Loosely adhered coating shall be generally defined as any coating that can be removed by vigorously scraping the concrete surface using a 3” steel putty knife and firm

pressure. The goal of the removal work is to remove areas of flaking, missing or otherwise compromised coating systems; protective coatings that are tightly adhered to the concrete substrate need not be removed.

The removal of existing protective coatings shall be completed using high pressure washing with a rotating nozzle head. The specific pressure, flow rate, nozzle and standoff distance for the high-pressure washing operation shall be selected by the Contractor to remove loosely adhered coatings as specified. After high-pressure washing, the Resident shall verify all loosely adhered coatings have been removed from the specified areas by scraping the surfaces with a putty knife. The Contractor will be required to complete additional pressure washing to remove any remaining loosely adhered coatings identified by the Resident.

The Contractor may use, when required, appropriate cleaning materials recommended by the sealer manufacturer in conjunction with high pressure washing with a rotating nozzle head. Following removal of existing coating systems, all surfaces of the substructure unit to be coated shall be lightly sandblasted to achieve a surface roughness adequate for coating adhesion, then cleaned and rinsed by pressure washing.

The Contractor will be responsible for controlling and filtering runoff resulting from the pressure washing operations in accordance with Supplemental Specification 656, and all local, state, and federal requirements.

515.04 Application

The materials shall be mixed and applied in strict accordance with the instructions of the approved manufacturer. Apply the coating at the recommended application rate. If the surface is very absorbent, the coating should be applied until surface is saturated per the manufacturer's written instructions. All areas not to receive coating shall be marked with straight, even lines as the limit lines.

The Contractor shall, in the presence of the Resident, apply the materials on a sample area which is representative of a jobsite application. When color and application methods are approved, the sample area shall serve as a standard of acceptance for all further work.

The application shall not be conducted when surface and air temperatures are below 40°F or above 90°F. The work shall not be conducted when there is a chance of the surface temperature falling below 40°F in the 24-hours following application; nor should it be applied on hot, windy days.

The treatment shall not be applied during rain to wet surfaces or when there is a chance of rain within 24-hours after application. After treatment, surfaces should be protected from rain for not less than 48-hours. It shall not be applied when winds are sufficient to carry airborne chemicals to unprotected surfaces.

Coating material shall be applied per the manufacturer's recommended application rate and in strict accordance with the manufacturer's written instructions. The coating shall provide consistent color without light spots or shadows. The Resident reserves the right to have the Contractor recoat coating if the dried coat lacks consistent color or shows light spots or shadows.

For surfaces that have previously received pigmented coating, the coating shall be applied to the complete limits of pigmented coating application as described on the Contract Plans, not just the area of old coating removal.

Regardless of the application method used (sprayer, roller, or brush) the Contractor shall be responsible for achieving 100% coverage of the concrete including the interior surfaces of concrete voids, recesses, or other depressions on the concrete surface.

Protect plants, grass, sealant, asphalt, traffic, etc. during application from spray.

515.05 Method of Measurement

Pigmented Protective Coating will be measured for payment by the square yard satisfactorily applied and accepted.

No separate measurement will be made for providing, cleaning, and coating test area.

515.06 Basis of Payment

Pigmented Protective Coating will be paid at the Contract unit price per square yard which price shall be full compensation for all labor, materials, equipment and incidentals required for furnishing and applying the coating as shown on the Plans, in accordance with these Specifications or as approved by the Resident.

Surface preparation, including high-pressure washing to remove existing pigmented coatings, sandblasting, vegetation removal, and protection of surfaces not designated for treatment will not be measured separately for payment, but shall be incidental to the Pigmented Protective Coating pay item.

Providing, cleaning, and coating test area will not be measured separately for payment, but shall be incidental to the Pigmented Protective Coating pay item.

Payment will be made under:

Pay Item		Pay Unit
515.201	Pigmented Protective Coating for Concrete Surfaces	Square Yard

SPECIAL PROVISION

SECTION 515

PROTECTIVE COATING FOR CONCRETE SURFACES

(Clear Concrete Protective Coating)

Section 515, Protective Coating for Concrete Surfaces, is deleted in its entirety and replaced with the following:

515.01 Description

The work shall include the surface preparation and application of a clear protective coating on concrete surfaces to protect new cast-in-place concrete, precast concrete, and masonry structures. The coating system shall be applied to culvert headwalls and retaining walls, median barrier, pier protection barrier, earth retaining barrier, and associated transitions in accordance with the Plans, Specifications, and the manufacturer's published recommendations.

515.02 Materials

The penetrating sealer shall be StandOff® SLX100 Water & Oil Repellent, as manufactured by ProSoCo, Inc., or an approved equal. The sealer shall have the following properties:

Active Substance:	modified alkyl alkoxy silane
Active Content:	> 90%
Form:	clear liquid
VOC:	< 3.5 pounds per gallon

The product shall comply with regulations limiting the Volatile Organic Compound (VOC) content of architectural and industrial maintenance coatings.

The Contractor shall submit the ProSoCo's product data sheets, material safety data sheets and recommended instructions for application of the StandOff® SLX100.

Materials shall be delivered to the site in original packages or containers bearing the manufacturer's labels and identification.

515.021 Substitute Materials

The Contractor shall submit a written request for approval of proposed substitute material naming the proposed manufacturer and product. This request shall be accompanied by:

1. Test data from an independent testing laboratory stating that the proposed substitute meets or exceeds the specified requirements as listed and has been tested in accordance with the specified test standards.

2. Documentation that the proposed material has a proven record of performance when used in the intended application as confirmed by actual field tests and successful installations in place on at least five similar projects.

3. Certification that if two or more types of products are intended to be used as part of a system, they will be supplied by the same manufacturer to ensure compatibility of materials, and to maintain single source manufacturer responsibility.

The Resident reserves the right to require additional testing to evaluate any proposed substitute product at no additional cost to the Authority. The Resident's decision as to the acceptability or non-acceptability of the proposed product shall be final.

515.03 Surface Preparation

All caulking, patching, and joint sealant shall be installed prior to application of the sealer. On new surfaces to be treated, all voids shall be dressed by dry rubbing to remove form marks and blemishes to present a neat appearance. Concrete and masonry surfaces shall be cleaned free of dust, surface dirt, oil, efflorescence, and contaminants to ensure penetration of the sealer. The surface may be slightly damp at the time of treatment.

The Contractor may use, when required, appropriate cleaning materials recommended by the sealer manufacturer in conjunction with high pressure water for cleaning the concrete or masonry.

515.04 Application

The Contractor shall apply the clear concrete protective coating in strict accordance with the manufacturer’s published recommendations.

The application shall not be conducted when surface and air temperatures are below 40ºF or above 90ºF. The work shall not be conducted when there is a chance of the surface temperature falling below 40ºF in the 24-hours following application; nor should it be applied on hot, windy days.

The treatment shall not be applied during rain to wet surfaces or when there is a chance of rain within 24-hours after application. After treatment, surfaces should be protected from rain for not less than 48-hours. It shall not be applied when winds are sufficient to carry airborne chemicals to unprotected surfaces.

Prior to applying the sealer, the Contractor shall protect all surrounding non-masonry/non-concrete surfaces, landscape and lawn areas, and surfaces not designated for treatment, from contact with the penetrating sealer, and prevent overspray of the penetrating sealer caused by wind drift.

The Contractor shall ensure that all safety equipment, facilities, and precautions recommended by the product manufacturer are furnished and/or strictly adhered to.

The sealer material shall be applied in the manner and with the equipment recommended by the product manufacturer. Coverage will vary depending on condition, texture, and porosity of the surfaces. Pre-testing is required.

Sealer shall be applied as packaged without dilution or alteration. The sealer shall be applied with low pressure (20 psi) airless spray equipment or with a heavily saturated brush or roller unless otherwise permitted by the Resident. Sufficient material shall be applied to thoroughly saturate the surface making sure to brush out excess material that does not penetrate.

When the sealer is applied to horizontal surfaces, it shall be applied in a single saturating application with sufficient material and applied so the surface remains wet for one to two minutes before penetration into the concrete. Surface residues, pools and puddles shall be broomed-out thoroughly until they completely penetrate into the surface.

When the sealer is applied to vertical and sloped surfaces, it shall be applied in a "wet-on-wet" application for best results on most porous materials. In the case of extremely dense concrete, it may be necessary to restrict the amount of material applied to one saturating application in order to prevent surface darkening. Apply from the bottom up with sufficient material to thoroughly coat the surface and create a slight rundown below the spray pattern. Allow the first application to penetrate the concrete surface, and within a few minutes after the first coat appears dry, reapply in the same saturating manner.

When the sealer is applied to vertical and sloped surfaces, it shall be applied in two applications, 10 minutes apart, with a low pressure (20 psi) airless sprayer.

515.05 Method of Measurement

Clear Protective Coating for Concrete Surfaces will be measured for payment by the square yard, satisfactorily applied and accepted.

515.06 Basis of Payment

Clear Protective Coating for Concrete Surfaces will be paid at the Contract unit price per square yard which price shall be full compensation for all labor, materials, equipment, and incidentals required for furnishing and applying the clear concrete protective coating as shown on the Plans, in accordance with these Specifications or as approved by the Resident.

Surface preparation, vegetation removal, and protection of surfaces not designated for treatment will not be measured separately for payment but shall be incidental to the Clear Concrete Protective Coating item.

Payment will be made under:

Pay Item		Pay Unit
515.202	Clear Protective Coating for Concrete Surfaces	Square Yard

SPECIAL PROVISION

SECTION 520

EXPANSION DEVICES – NON MODULAR

(Gland Seal – Supplied by Authority)

520.01 Description

Paragraphs one and two are deleted and replaced with the following:

This work shall consist of installing expansion devices, including the seals, anchorage system and curb plates as shown on the Plans and in accordance with these Specifications.

The Authority will supply the Contractor with the expansion joints and seals as outlined in the Authority's "Request for Quotation – Fabrication of Bridge Joints" included as Appendix B for reference. The Authority has selected ARC Enterprises, Inc. (ARC) to fabricate and furnish the expansion joint assemblies. Delivery costs associated with shipping the expansion joint components to MTA Maintenance Facility on Academy Road in Litchfield will be paid by the Authority as part of the purchase of these materials. The Contractor is responsible for coordinating directly with ARC to receive and unload the joints at the MTA Maintenance facility, transporting to the project site and installing.

The Contractor is responsible for supplying and installing the embedded adjustment bracket anchor plates in the backwall as shown in the Plans.

Also included in this work will be coordination by the Contractor with the expansion joint fabricator for delivery of the expansion joint components to the MTA Maintenance Facility in Litchfield. Any additional costs incurred by the Contractor for delivery of these components, that are the result of changes to the delivery sequence and/or timing outlined in the Authority's RFQ, will be the sole responsibility of the Contractor. Any such costs shall be considered incidental to the Expansion Joint Installation item.

520.08 Basis of Payment

Expansion Device Installation – Gland Seal, Supplied by the Authority shall be paid at the Contract unit price Each which price shall be full compensation for labor, materials, equipment, and incidentals required for coordination, unloading, transportation, and installation of the expansion device as shown on the plans, in accordance with these Specifications or as approved by the Resident.

Payment will be made under:

Pay Item		Pay Unit
520.2211	Expansion Device Installation - Gland Seal , Supplied by the Authority	Each

SPECIAL PROVISION

SECTION 523

BEARINGS

(Installation of Bearing Devices Supplied by Authority)

523.01 Description

The first paragraph is deleted and replaced with the following:

This work shall consist of installing elastomeric bearing devices, including installation of anchor rods, as shown on the Plans and in accordance with these Specifications.

The Authority will supply the Contractor with the elastomeric bearing devices, sole plates and anchor rods, as outlined in the Authority's "Request for Quotation – Fabrication of Bridge Bearings" included as Appendix C for reference. The Authority has selected D.S. Brown Company to fabricate and furnish the bearing devices. Delivery costs associated with shipping the bearing devices to the MTA Maintenance Facility on Academy Road in Litchfield will be paid by the Authority as part of the purchase of these materials. The Contractor is responsible for coordinating directly with D.S. Brown Company to receive and unload the bearings at the MTA Maintenance facility, transporting to the project site and installing.

Anchor rod delivery is prior to the bearing device delivery on or before May 13, 2022. The Contractor is responsible for coordinating directly with D.S. Brown Company to receive the anchor rods at the MTA Maintenance Facility and transporting to the project site and installing.

Also included in this work will be coordination by the Contractor with the bearing device fabricator for delivery of the bearing device components to the MTA Maintenance Facility in Litchfield. Any additional costs incurred by the Contractor for delivery of these components, that are the result of changes to the delivery sequence and/or timing outlined in the Authority's RFQ, will be the sole responsibility of the Contractor. Any such costs shall be considered incidental to the bearing device installation item.

523.51 Basis of Payment

Installation of Bearing Devices, Supplied by Authority shall be paid at the Contract unit price Each which price shall be full compensation for labor, materials, equipment, and incidentals required for coordination with bearing manufacturer, unloading, transportation of bearings and anchor rods from MTA Maintenance Facility to project site, and installation the bearing devices as shown on the plans, in accordance with these Specifications or as approved by the Resident.

Payment will be made under:

Pay Item		Pay Unit
523.521	Installation of Bearing Devices, Supplied by Authority	Each

SPECIAL PROVISION

SECTION 524

TEMPORARY STRUCTURAL SUPPORTS

(Protective Shielding - Steel Girders)

524.01 Description

The following paragraph is added:

This work shall also consist of furnishing all labor, equipment and materials required to provide protection for the public during demolition and construction. This protection shall include, but not necessarily be limited to, protective shielding of existing structures during demolition work, concrete removal, and installation of temporary deck support over roadway lanes and shoulders on all existing and new bridge structures.

There is existing timber shielding over both Northbound and Southbound Turnpike travelways. If the Contractor chooses to use the existing shielding for demolition or construction, calculations are required to justify such use and shall be submitted to the Authority, sealed by a Professional Engineer. If the Contractor decides not to use the protective shielding it shall be removed and transported to the Maine Turnpike Authority Litchfield Maintenance Facility on Academy Road. Removal, transport, and stacking of existing timber shielding shall be incidental to Item 202.10, Removing Existing Superstructure.

The following Subsections are added:

524.031 Protective Shielding Design

Prior to the start of work, the Contractor shall submit working drawings for review and comment indicating the sizes and dimensions of protective shielding. If the shielding is to be attached to prestressed concrete components the submittal shall be coordinated with the respective precast concrete shop drawings. The proposed methods of protective shielding, including connections and fasteners, shall be in accordance with the following criteria:

The protective shielding shall be designed for safely supporting all construction and dead loads, but not less than 100 pounds per square foot with a load duration of seven (7) days. Protective shielding shall be stiff enough to limit deflection to 1/2 inch under maximum loads and to be tightly sealed at all joints. The protective shielding shall be placed on the tops of the bottom flanges of the steel girders, or between the web or bottom flanges of the concrete I-girders, with edges and laps made tight to protect the turnpike motorists from dust, debris and falling objects.

524.041 Protective Shielding Erection and Removal

No portion of the protective shielding installed over a roadway shall project below a plane connecting the bottoms of the bottom flanges of the steel stringers or concrete I-girders. During demolition operations, the protective shielding shall be covered with sheet plastic made tight at

edges and laps to prevent water used in the saw cutting operation from falling onto the facilities under the bridge.

The protective shielding on existing and new structures shall extend horizontally three feet beyond the fascia lines and vertically to a point one foot minimum above the top of parapet or railing. The shielding shall also extend 10 feet beyond the edge of pavement of the roadway below, unless otherwise noted on the Plans or as approved by the Resident.

Shielding shall be approved and installed prior to the start of any demolition work and shall remain in position during all demolition work. Shielding shall also be approved and installed prior to the start of any deck forming and shall remain in position during all deck work. The shielding shall be relocated or removed only as approved by the Resident.

Construction sequences may require protective shielding material to be removed, stored, and then reinstalled by the Contractor. Any shielding which is damaged during this removal and reinstallation shall be replaced by the Contractor at no additional cost.

524.28 Method of Measurement

The following paragraph is added:

Protective Shielding will be measured by the square yard for shielding designed, installed, removed, and disposed or stacked. For purposes of computing the area, only the horizontal plan dimensions will be used.

524.29 Basis of Payment

The following paragraphs are added:

Protective Shielding will be paid for at the Contract bid price per square yard and shall include all design, materials, transportation and stacking, labor (to install, remove and stack as needed), tools and equipment necessary to perform the work as described above or as approved by the Resident for the existing superstructure and new superstructure.

Payment will be made under:

Pay Item		Pay Unit
524.40	Protective Shielding - Steel Girders	Square Yard

SPECIAL PROVISION

SECTION 526

CONCRETE BARRIER

(Temporary Barrier Markers)

526.1 Description

The following paragraphs are added:

This work shall consist of furnishing, installing, and maintaining temporary barrier markers on all temporary barrier supplied by the Contractor and the Authority.

526.2 Materials

The following paragraphs are added:

Temporary barrier markers shall be "Big Dog" barrier markers manufactured by Custom Products Corporation or approved equal. Markers shall be bi-directional with a minimum effective reflective area of 96 square inches (48 square inches each side) as approved by the Resident. The reflectors shall meet MUTCD reflectivity requirements and shall be orange in color.

526.3 Construction Requirements

The following paragraphs are added:

Temporary barrier markers shall be mounted as follows:

1. One on every fourth barrier in tangents and one on every two barriers in tapers, including all barrier furnished by the Contractor.

2. Delineators shall be physically adhered so as to withstand the force of throw from a snow plow.

3. If more than 25% of delineators in any 50 foot section of barrier fall off for any reason, the Contractor will be responsible for reinstalling all the delineators in that run at that their own cost.

4. Contractor is required to submit the installation method for review and approval to the Resident.

526.4 Method of Measurement

The following paragraphs are added:

Temporary barrier markers shall not be measured for payment separately but shall be incidental to the temporary barrier item.

526.5 Basis of Payment

The following paragraphs are added:

Temporary barrier markers shall not be paid for separately but shall be incidental to the temporary barrier item.

SPECIAL PROVISION

SECTION 526

CONCRETE BARRIER

(Temporary Concrete Barrier Type I - Supplied by Authority)

526.01 Description

The following paragraphs are added:

This work shall consist of loading, transporting, setting, resetting, removing, transporting, and stacking Temporary Concrete Barrier Type I – Supplied by Authority. Barrier shall be transported from the MTA Maintenance Facility in Litchfield to the Project Site by the Contractor. The barrier shall have attachments allowing individual sections to be connected into a continuous barrier. The barrier shall also allow for installation of ground pins.

The work also includes supplying connecting pins, ground pins, and furnishing and mounting retro-reflective delineators, per Subsection 526.02 and 526.03.

Concrete barriers supplied by Authority shall be available at the following location(s):

Maintenance Area	Linear Feet of Barrier
West Gardiner	320

Upon substantial completion of work, the Contractor shall remove and transport the barrier back to its maintenance area of origin. All barriers shall be returned, sorted, and stacked according to type in locations directed by the project Resident or maintenance area foreman.

526.02 Materials

The following paragraph is added:

e. Delineators shall be bi-directional with a minimum effective reflective area of eight square inches as approved by the Resident. The reflectors shall be methyl methacrylate and the housing of acrylonitrile butadiene styrene. Color shall be in accordance with the MUTCD.

The following Subsection is added:

526.021 Acceptance

The Resident shall have the authority to accept or reject all Temporary Concrete Barrier Type I – Supplied by Authority used on the Project that does not meet the requirements of this specification

526.03 Construction Requirements

The following paragraphs are added:

The Contractor shall notify the Resident prior to the scheduled pick-up and delivery of concrete barrier. No barrier shall be removed from or stacked at the Turnpike Maintenance Area without approval of the Resident.

The Contractor shall move and place barrier-utilizing methods that will not damage the barrier. Barrier that is damaged by the Contractor by failing to use proper methods shall be replaced by the Contractor at no additional cost to the Maine Turnpike Authority.

Concrete barrier supplied by the Authority consists of several different styles. Not all barriers may be compatible. The Contractor shall utilize caution when setting barrier to use identical barrier types as adjacent barrier. Non-compatible barrier that cannot be attached together shall be overlapped by a minimum of 10 feet with the blunt end on the non-traffic side of the barrier. This work will not be measured separately for payment but shall be incidental to the concrete barrier.

Concrete barrier placed at roadway low points shall be shimmed on 1" by 2" by 2' long wood planks to allow drainage to pass under the barrier. In addition, the Resident may direct the Contractor to shim the concrete barrier at other locations to provide for proper roadway drainage. All labor, material, and equipment necessary to shim the barrier will not be measured separately for payment but shall be incidental to the Concrete Barrier.

The removal of concrete barrier from adjacent to the travel lane may be conducted without a lane closure if it is accomplished in accordance with the following requirements:

1. Barrier is removed from the trailing end and the workmen and equipment involved in the operation are always behind the barrier. No workmen or equipment shall enter the travel lane.
2. Barrier shall be dragged away from the travel lane to at least a 30-degree angle by the use of a cable.
3. Barrier shall be lifted no more than six inches while within 10 feet of the travel lane.

Retro-Reflective Delineators shall be mounted as follows:

4. One on top of each barrier.
5. One on the traffic side of every barrier used in a taper.
6. One on the traffic side of every other barrier at regularly spaced intervals and locations.
7. Delineators shall be installed on both sides of the barrier if barrier is used to separate opposing traffic.
8. Delineators shall be physically adhered so as to withstand the force of throw from a snow plow.
9. If more than 25% of delineators in any 50 foot section of barrier fall off for any reason, the Contractor will be responsible for reinstalling all the delineators in that run at their own cost.
10. Contractor is required to submit the installation method for review and approval to the Resident.

526.04 Method of Measurement

The following paragraphs are added:

Temporary Concrete Barrier Type I – Supplied by Authority shall be measured for payment by the lump sum.

The loading, transporting, setting, resetting, removing, transporting, sorting, and stacking of the barrier, the furnishing, installation, and maintenance of the barrier delineators, and furnishing and installing connector pins and ground pins will not be measured separately for payment, but shall be incidental to the cost of the Barrier. Temporary storage of Concrete Barrier between construction phases, if required, will not be measured separately for payment, but shall be incidental to the cost of the Barrier. All equipment required to load, unload, transport and stack Concrete Barrier shall be supplied by the Contractor.

Any Barrier lost or damaged by the Contractor shall be replaced by the Contractor at no additional cost to the Authority.

526.05 Basis of Payment

The fifth paragraph is deleted and not replaced.

The following paragraphs are added:

Temporary Concrete Barrier Type I – Supplied by Authority will be paid for at the Contract lump sum price, complete in place. Such payment shall be full compensation for loading, transporting, setting, resetting, temporary storage, removing, transporting, and stacking at the area designated, furnishing all materials, and all other incidentals necessary to complete the work. Temporary Concrete Barrier Type I – Supplied by Authority and all connecting pins and ground pins shall remain the property of the Authority and shall be returned to the Turnpike Maintenance Area as designated in Subsection 526.01.

Payment of Concrete Barrier shall be based on a percentage of the work accomplished during that pay period.

Payment will be made under:

Pay Item		Pay Unit
526.306	Temporary Concrete Barrier, Type I – Supplied by Authority	Lump Sum

SPECIAL PROVISION

SECTION 527

ENERGY ABSORBING UNIT

(Work Zone Crash Cushion)

527.01 Description

The first paragraph is deleted in its entirety and replaced with the following:

The Contractor shall furnish and install work zone crash cushions where shown on the Plans, as specified herein, in Special Provision 652, or as approved by the Resident. Work zone crash cushions are required at each exposed end of temporary concrete barrier or guardrail.

The exposed end of the concrete barrier within 30 feet of the mainline travel lane shall be protected at all times. Barrier shall not be reset until after the work zone crash cushion(s) has been set to protect the exposed end of the barrier.

527.02 Materials

The following paragraph is added:

Work zone crash cushions fabricated prior to December 31, 2019 in serviceable condition shall meet the requirements of NCHRP 350 TL-3 crash test requirements and work zone crash cushions fabricated after December 31, 2019 shall meet the MASH TL-3 crash test requirements for use on the turnpike and local roadways with posted speeds of 45 MPH or greater. Work zone crash cushions fabricated prior to December 31, 2019 shall meet in serviceable condition shall meet the requirements of NCHRP 350 TL-2 crash test requirements and work zone crash cushions fabricated after December 31, 2019 shall meet the MASH TL-2 crash test requirements for use on local roadways with posted speeds of 40 MPH or less. The Contractor shall provide the Resident with documentation of the proposed work zone crash cushion's MASH Crash Test Results prior to installation at the jobsite.

527.03 Construction Requirements

The following is added to the end of the first paragraph:

The design speeds for work zone crash cushions shall be 45 mph for local road and 70 mph for turnpike roadways unless otherwise noted on the Plans.

527.04 Method of Measurement

The following paragraph is added:

Replacement barrels, after collisions, will be paid for as a percentage of the individual barrels damaged to the total barrels in the complete system. The removal of impacted barrels and

debris will be considered incidental to the replacement barrels. Barrels on hand, but unused will not be paid for directly.

527.05 Basis of Payment

Payment will be made under:

Pay Item		Pay Unit
527.341	Work Zone Crash Cushions – TL-3	Unit

SPECIAL PROVISION

SECTION 606

GUARDRAIL

(31" W-Beam Guardrail – Mid-way Splice (7' Steel Posts, 8" Offset Blocks, Single Faced))

606.01 Description

The section is amended by the addition of the following:

This work shall consist of furnishing and installing guardrail components the required locations in accordance with the Specifications and in reasonably close conformity with the lines and grades shown on the Plans. The types of guardrail are designated as follows:

31" W-Beam Guardrail – Mid-way Splice (7' Steel Posts, 8" Offset Blocks)

606.02 Materials

The section is amended by the addition of the following:

Steel posts shall be 7 feet, or 8 feet long as specified in the plans.

The guardrail elements shall be per the Components' List found on Sheet No. 2 of 2 of draft Drawing SGR47 – 31" W-Beam Guardrail with Standard 8" Offset Block in the Task Force 13 Report noted above and/or as noted in the Contract Documents unless noted otherwise.

606.04 Rails

The section is amended by the addition of the following:

Height of top of rail shall be 31" measured from final grade. Height transition from 31" W-Beam, mid-spliced guardrail to existing guardrail shall occur over a 25' length.

606.08 Method of Measurement

The section is amended by the addition of the following:

31" W-Beam Guardrail – Mid-way Splice (7' Steel Posts, 8" Offset Blocks) and 31" W-Beam Guardrail – Mid-way Splice (8' Steel Posts, 8" Offset Blocks) will be paid for at the contract unit price per linear foot of rail satisfactorily installed and accepted.

606.09 Basis of Payment

The section is amended by the addition of the following:

The accepted quantity of 31" W-Beam Guardrail – Mid-way Splice (7' Steel Posts, 8" Offset Blocks) and 31" W-Beam Guardrail – Mid-way Splice (8' Steel Posts, 8" Offset Blocks)

will be paid for at the contract unit price per linear foot of rail and shall be full compensation for furnishing all labor, equipment, and materials necessary to complete the work.

Payment will be made under:

Pay Item		Pay Unit
606.1301	31” W-Beam Guardrail – Mid-way Splice (7’ Steel Posts, 8” Offset Blocks, Single Faced)	Linear Foot

SPECIAL PROVISION

SECTION 606

GUARDRAIL

(31" W-Beam Guardrail – Mid-way Splice Flared Terminal)

606.01 Description

The following paragraph is added:

This work shall consist of furnishing and installing a MFLEAT (MASH-compliant Flared Energy Absorbing Terminal) for use with the 31" W-Beam Guardrail – Mid-way Splice (7' Steel Posts, 8" Offset Blocks, Single Faced) as manufactured by Road Systems, Inc., 3616 Old Howard County Airport Road, Big Spring, Texas 79720, (432) 263-2435, and retroreflective adhesive sheeting in accordance with these Specifications and the manufacturer's installation instructions, and in reasonably close conformity with the lines and grades as shown on the Plans or as approved by the Resident.

606.02 Materials

The following sentences are added:

31" W-Beam Guardrail – Mid-way Splice Flared Terminal components shall be comprised of those shown in the manufacturers installation instructions. 8" blocks shall be used.

Reflective sheeting shall meet the requirements of Subsection 719.01, Reflective Sheeting – minimum ASTM Type XI; 3M™ Diamond Grade™ DG³ Reflective Sheeting Series 4000 or approved equal, color white.

The following Subsections are added:

606.045 Offset Blocks

8" Non-wood offset blocks shall be used.

606.035 Construction Requirements

The Contractor shall submit a set of installation drawings to the Resident for approval. The system shall be installed in accordance with the manufacturer's recommendation and the installation drawings.

A reflective adhesive sheeting shall be applied to the nose of the MFLEAT System after installation.

606.041 Reflective Sheeting

The color for the reflective sheeting shall be silver (white) when installed on the right shoulder and shall be black chevron on yellow background only when installed on the left shoulder.

606.08 Method of Measurement

The following sentence is added:

The second paragraph is amended by the addition of: "31" W-Beam Guardrail – Mid-way Splice Flared Terminal, " after the words "Terminal section, ".

606.09 Basis of Payment

The following sentences are added:

The first paragraph is amended by the addition of: "31" W-Beam Guardrail – Mid-way Splice Flared Terminal," after the words "Terminal section,".

The second paragraph is amended by the addition of: ", 31" W-Beam Guardrail – Mid-way Splice Flared Terminal," after the words "NCHRP 350 end treatments".

The retroreflective sheeting will not be measured separately for payment but shall be incidental to the 31" W-Beam Guardrail – Mid-way Splice Tangent Terminal item.

Payment will be made under:

Pay Item		Pay Unit
606.1307	31" W-Beam Guardrail – Mid-way Splice Flared Terminal	Each

SPECIAL PROVISION

SECTION 606

GUARDRAIL

(Bridge Transition - Type III)

606.01 Description

The following sentences are added:

This work shall consist of furnishing and installing Type III Bridge Transitions and Type III, Modified Bridge Transitions at bridge endposts on bridges over the turnpike as shown in the Contract Documents.

The following Subsection is added:

606.071 Guardrail Attachments at Bridges

Bridge transition - Type III shall be used at bridge endpost locations as shown on the plans.

606.08 Method of Measurement

The following sentence is added:

Bridge transition - Type III will be measured by each unit of the type specified, installed, and accepted.

606.09 Basis of Payment

The following paragraphs are added:

Bridge Transition - Type III, will be paid for at the Contract unit price each complete in place and shall be full compensation for furnishing all labor, equipment and materials necessary to complete the work consisting of, but not necessarily limited to, the following: furnishing and installing guardrail, modifications to concrete end wall to accept terminal anchor, one terminal connector, precast concrete transition curb, including terminal connector anchorage and all other detailed accessories; furnishing and installing all required posts, rails, offset brackets, back-up plates, nuts, bolts, washers, and all other items necessary to make for a complete installation as shown on the Plans or as approved by the Resident.

Payment will be made under:

Pay Item		Pay Unit
606.1723	Bridge Transition - Type III	Each

SPECIAL PROVISION

SECTION 606

GUARDRAIL

(Guardrail – Remove, Modify and Reset, Single Rail)

606.01 Description

The following paragraphs are added:

This work shall consist of removing, modifying, and resetting existing single and double guardrail elements, terminal ends, delineators, component parts and hardware suitable for reuse as approved by the Resident. At the completion of the Contract, any unused guardrail elements, posts, component parts and hardware shall become property of the Contractor.

Stockpiled materials, suitable for reuse, shall be utilized on Remove, Modify and Reset items prior to new materials being paid for.

606.02 Materials

The following paragraph is added at the end of the subsection:

New non-wood offset blocks conforming to NCHRP 350 Test Level 3 shall be installed on all guardrail being reset. The existing steel offset brackets and backup plates shall become the property of the contractor.

606.08 Method of Measurement

The following paragraphs are added:

Raking and compacting the earth around each reset post with a minimum 8 pound hand tamper or an approved device and infilling and compacting holes created due to resetting posts with a similar surrounding material will not be paid for separately, but shall be incidental to the Guardrail - Remove, Modify and Reset pay items.

Guardrail removed and not reset or stacked shall be incidental to Contract Items and include all removal, disposal, equipment, and labor necessary to satisfactorily complete the work.

Remove, modify, and reset single rail shall include single W-beam modified and reset, resetting of terminal ends as well as resetting all existing delineators.

Steel posts to replace damaged posts shall come from the stockpile of guardrail components to be disposed of, from this Contract and will not be measured separately for payment. If, in the opinion of the Resident, there are no suitable steel posts in the stockpile then steel posts will be measured for payment.

W-beam rail elements to replace damaged rail elements shall come from the stockpile of guardrail from the Remove and Stack or the guardrail to be disposed of from this Contract and will not be measured separately for payment. If, in the opinion of the Resident, there are no suitable W-beam rail elements in the stockpile then the W-beam rail elements will be measured for payment.

606.09 Basis of Payment

The following paragraphs are added:

The accepted quantity of Guardrail – Remove, Modify and Reset Single Rail will be paid for at the Contract unit price bid which shall be full compensation for removing, modifying, and resetting w-beam guardrail, terminal ends and delineators and all equipment, labor, and incidentals necessary to complete the work.

Payment will be made under:

Pay Item		Pay Unit
606.3605	Guardrail – Remove, Modify and Reset Single Rail	Linear Foot

SPECIAL PROVISION

SECTION 607

FENCES

(Chain Link Snow Fence)

607.01 Description

The following paragraph is added:

This work shall consist of furnishing all materials for, and the construction of, chain link snow fence extensions at the locations specified on the plans. The chain link snow fence shall be constructed in accordance with the details shown on the Plans, and as directed by the Resident.

607.02 Materials

The following paragraphs are added:

Posts, rail, and brace piping shall be manufactured by one of the following methods with steel conforming to ASTM A1011 or ASTM A1008 and shall have a minimum yield strength of 50 ksi:

- Furnace butt welded, continuous welded
- Cold rolled and electric resistance welded
- Seamless

All piping shall conform to the following dimensions:

Nominal Diameter In.	**Outside Diameter In.**	**Minimum Wall Thickness In.**	**Mass Lb/Ft.**
1 ½	1.900	.145	2.72
2 ½	2.875	.203	5.79

Hardware shall be hot dipped galvanized in accordance with AASHTO M 232 (ASTM A 153) or AASHTO M 298 Class 50 (ASTM B 695 Class 50).

The chain link fabric shall be 9-gauge steel, zinc coated conforming to AASHTO M 181 Type 1 Class D (ASTM A 392), aluminum-coated conforming to AASHTO M181 Type II (ASTM A 491), or 6-gauge aluminum alloy conforming to AASHTO M 181 Type III (ASTM F 1183). Chain-link fabric shall be knuckled on top and bottom. The size of the wire mesh shall be 1 inch. Wire ties shall be standard round 9-gauge zinc or aluminum coated steel or 6-gauge aluminum alloy conforming to ASTM F 626. All ties shall be wrapped around chain-link fabric twice (double pigtailed) at both ends. Space ties @ 6“o.c. to bottom rail and @ 12” o.c. at all posts and other rails.

607.06 Method of Measurement

The following paragraph is added:

Chain link snow fence will be measured by the lump sum unit accepted in place and in conformity with the details shown on the Plans or as directed by the Resident.

607.07 Basis of Payment

The following paragraph is added:

This work will be paid for at the contract unit price per lump sum, complete and accepted in place. Such price will be compensation for furnishing all materials, labor, equipment, coatings, and incidentals to complete the work.

Payment will be made under:

Pay Item		Pay Unit
607.183	Chain Link Snow Fence	Linear Foot

SPECIAL PROVISION

SECTION 610

STONE FILL, RIPRAP, STONE BLANKET AND STONE DITCH PROTECTION

(Temporary Stone Check Dams)

610.01 Description

Paragraph (g) is added as follows:

(g) Stone Check Dams – Machine placed stone, including the placement, removal and storage of the stone used for temporary stone check dams.

610.032.e. Stone Check Dams

The following paragraph is added:

Stone check dams shall be constructed in accordance with the details as shown on the Plans, detailed in the MaineDOT's latest Best Management Practices, or as approved by the Resident. The stone shall be placed in one operation without special handling or handwork except to create a low point along the top gradient above the ditch flow lines.

The following Subsections are added:

610.033 Removing Stone

The stone for temporary stone check dams shall be removed after vegetation has been established in the ditches as approved by the Resident.

Any damage to the slopes and ditches caused by the removal of the stone check dams shall be repaired by the Contractor at their own expense.

The area directly under the temporary stone check dams shall be loamed, seeded, and mulched immediately after the removal of the stone check dams. The loam, seed and mulch will be measured for payment under the appropriate pay items.

Stone used for temporary stone check dams shall be removed and stored and shall become the property of the Contractor at the completion of the Project.

610.034 Maintenance

Stone check dams shall be maintained by the Contractor. Sediment deposits behind check dams shall be removed when the depth of sediment reaches 50 percent of the check dam height.

610.05 Method of Measurement

The following paragraphs are added:

Stone for Temporary Stone Check Dams will be measured by the cubic yard complete in place. The removal and storage of the stone will not be measured separately for payment but shall be incidental to the Temporary Stone Check Dam item. This shall include the transporting and unloading of the stone. If this stone is reused on the Project, it will be measured separately for payment under the appropriate pay item.

The removal and disposal of sediment from behind the Temporary Stone Check Dams will not be measured separately for payment but shall be incidental to the Temporary Stone Check Dam pay item.

610.06 Basis of Payment

The following sentences are added:

The accepted quantities of stone for Temporary Stone Check Dams will be paid for at the Contract unit price per cubic yard.

Payment will be made under:

Pay Item		Pay Unit
610.181	Temporary Stone Check Dam	Cubic Yard

SPECIAL PROVISION

SECTION 613

EROSION CONTROL BLANKET

613.01 Description

The following sentence is added:

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 determined that the cellulose mulch is ineffective. Cellulose fiber mulch is not acceptable for winter stabilization.

619.06 Method of Measurement

The following sentence is added:

Temporary Mulch will be paid for by the lump sum.

619.07 Basis of Payment

The following paragraph is added:

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	Unit
619.1202	Temporary Mulch	Lump Sum

SPECIAL PROVISION

SECTION 652

MAINTENANCE OF TRAFFIC

(Construction Signs – Supplied by Authority)

652.01 Description

The Maine Turnpike Authority has manufactured the construction signs for the detour route and has installed the posts at the locations shown in the contract plans for the detour. The Contractor shall be responsible for picking up the detour signs located at the Litchfield Maintenance Garage on 362 Academy Road in Litchfield and installing them on the pre-installed posts as shown in the plans, and returning them to Litchfield Maintenance upon completion.

Upon pick up of signs from the Litchfield Maintenance Facility, the Contractor is responsible for maintaining the signs and posts throughout the life of the detour.

652.04 General

The contractor will be responsible for picking up the construction signs at the Litchfield Maintenance Garage and transporting them to the project site.

The construction signs will be installed on the pre-installed posts at the locations shown on the detour plan. If any of the posts have been damaged prior to the Contractor installing the signs, new posts shall be installed by the Contractor as directed by the Resident.

The Contractor will be responsible for removal of the signs and posts following the opening of the bridge and removal of the detour. Signs and posts shall then be delivered back to Litchfield Maintenance.

652.09 Method of Measurement

The Construction Signs – Supplied by Authority will not be measured for payment but will be considered incidental to the contract. This includes: Retrieval of the signs from the maintenance yard, transportation of the signs to the job site, installing signs including hardware, replacement of sign posts if necessary, removal of signs and posts, delivering signs and posts to Litchfield Maintenance, and all labor necessary to complete the installation and removal of the signs.

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.

Route 197 Traffic Control Requirements

Richmond Road is currently reduced to one lane of alternating traffic, controlled by temporary traffic signals due to the bridge getting hit. The alternating one-way traffic and temporary signals shall remain in place until Richmond Road is closed and the detour is active. The Contractor shall coordinate directly with the Authority for acceptable road closure dates as outlined in Section 107.4.6. The contractor shall notify the Resident/Authority two weeks prior to the closure. The Resident/Inspector shall notify the Town of Litchfield.

Maine Turnpike Traffic Control Requirements

Bridge work directly over traffic or 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. Installing and removing shielding
2. Superstructure demolition
3. Unbolting structural steel
4. Removing structural steel
5. Erecting structural steel or concrete beams
6. Installing and removing deck and diaphragm forms
7. Erecting or moving sign panels on bridges
8. Bolting structural steel
9. Painting structural steel

When approved by the Resident, Items 3 and 8 may be performed over traffic if a temporary floor is provided between the bottom flanges of the beams.

This Section outlines the minimum requirements that shall be maintained for work on, over, or adjacent to the Maine Turnpike roadway. Operations are allowed as outlined below:

Temporary Lane Closures	24 hours per day starting at 7:00 p.m. Sunday thru 6:00 p.m. Friday
Temporary Mainline Shoulder Closures	24 hours per day starting at 7:00 p.m. Sunday thru 6:00 p.m. Friday
Long Term Lane Closure	24 hours per day, seven days per week beginning and ending on the dates specified in Subsection 107.4.6
Long Term Shoulder Closure	24 hours per day, seven days per week beginning and ending on the dates specified in Subsection 107.4.6
Equipment Moves	During low traffic periods as approved by the Authority
Erection or Removal of Structural Steel	Nightly Sunday night thru Friday morning between the hours of 10:00 p.m to 5:00 a.m, with traffic stoppages

SPECIAL PROVISION

SECTION 652

MAINTENANCE OF TRAFFIC

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 28 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 handheld 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 ½ or ⅝ 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

A minimum of one (1) Truck Mounted Attenuator (TMA) will be furnished and maintained by the Contractor for 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 attenuators. A truck mounted attenuator shall be utilized for all lane closures on the Turnpike mainline, shall be utilized for all temporary shoulder closures (i.e. closures that do not include temporary concrete barrier) on the Turnpike mainline, 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 nighttime 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 nighttime 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. Similar to the truck mounted attenuator, an Automated Trailed Mounted Radar Speed Limit Sign shall be placed in advance of a lane closure where workers are exposed to traffic and not protected by positive means. 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 weatherproof, 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 amperes, 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.

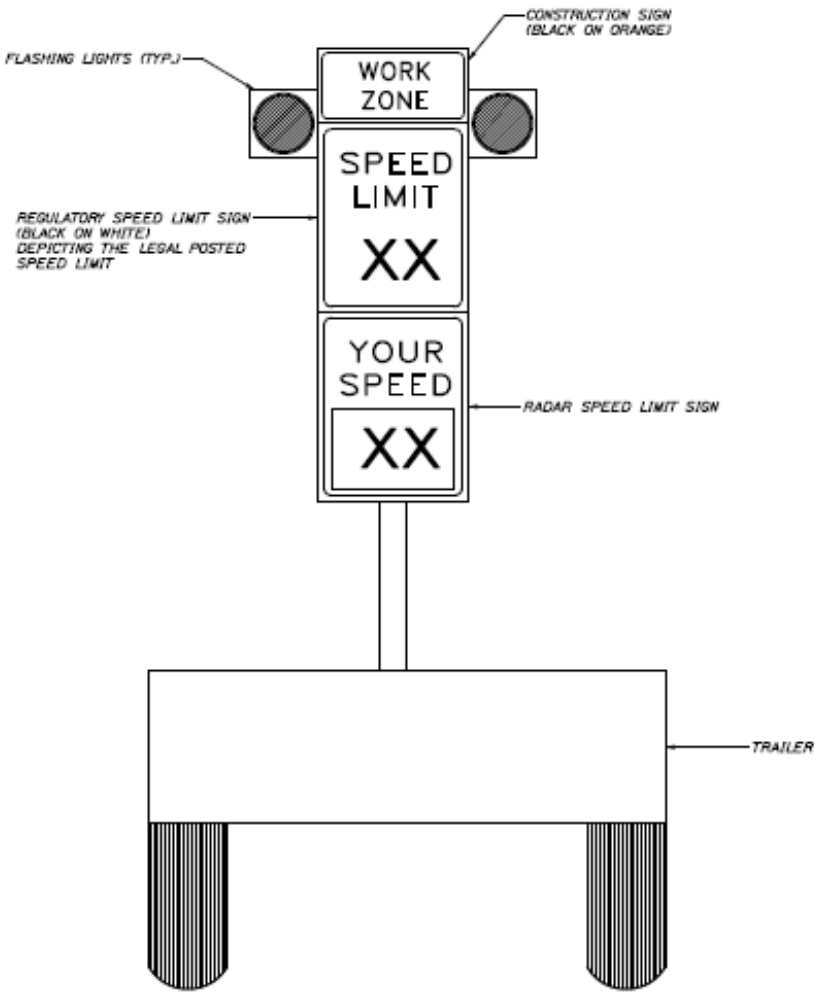
The Automated Trailer Mounted Radar Speed Limit Sign may be placed as shown on the plans, or may replace the posted regulatory speed limit signs, or may be placed at a location within the closed lane that has a reduced speed limit.

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.



Date: 2/13/2018

Filename: Trailer Mounted Speed Limit.dgn

MAINE TURNPIKE

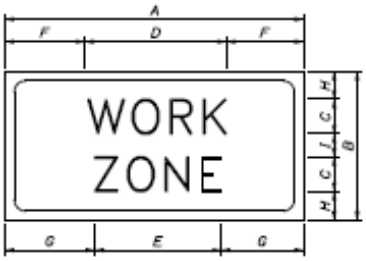
HNTB

FEBRUARY 2018

AUTOMATED TRAILER MOUNTED
SPEED LIMIT SIGN

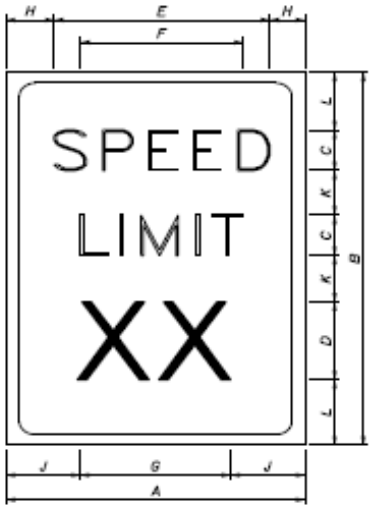
1 OF 2

Date: 2/13/2018



SIGN #1

1.25" BORDER, 0.75" INDENT,
BLACK ON ORANGE, 8B GRADE PLYWOOD SIGN



SIGN #2

1.25" BORDER, 0.75" INDENT,
BLACK ON WHITE, 8B GRADE PLYWOOD SIGN

	DIMENSIONS (INCHES) / LETTER FONTS											
	A	B	C	D	E	F	G	H	I	J	K	L
#1	48	20	5D	18 1/8	16 5/8	14 1/8	15 5/8	4	2	N/A	N/A	N/A
#2	48	60	8E	16E	38 1/4	29 1/4	29 1/2	4 1/8	9 3/8	9 1/4	8	6

Filename: Trailer Mounted Speed Limit.dgn

MAINE TURNPIKE

HNTB

FEBRUARY 2018

TRAILER MOUNTED CONSTRUCTION ZONE
SPEED LIMIT SIGN

2 OF 2

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 nighttime 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 ensuring 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.

Milling and paving of interchange ramps shall be done between 9:00 p.m. and 5:00 AM, unless otherwise shown on the Maintenance of Traffic Phasing Plans or as directed by the MTA. Only a single ramp at an interchange may be closed at once. Ramp closures will not be permitted the day before or after holidays, on holidays, or on Saturdays or Sundays. The Contractor shall request approval from the Resident/Authority two weeks prior for all ramp closures. Portable changeable message signs shall be used to provide advance notice and warning of the ramp closure. PCMS’s shall be operational a minimum of 1 week prior to ramp closure to notify Patrons. The contractor shall coordinate PCMS locations with the Resident and the MTA.

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 deacceleration 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. Trucking of materials will also not be allowed. 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 three (3) 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 snowbanks.

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 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 workstation. 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 workstations, 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, In-slope 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. Ensure that all traffic control implements (signs, arrow boards, barrels, etc.) are on-site so the traffic program can be implemented effectively.

c. Ensure 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.

652.7 Method of Measurement

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.

Amount of Penalty Damages per Violation		
1st	2nd	3rd & Subsequent
$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:

Pay Item		Pay Unit
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 Letters, Numerals, Symbols, and Borders

All signs shall be manufactured utilizing Direct Applied letters, numerals, symbols and borders or be Digitally Printed meeting all sign sheeting manufacturer's (3M) requirements to ensure that the manufacturer's warranty will be in full effect.

All Type 1 overhead signs, Type 1 interchange signs and any other Type 1 signs over 100 square feet shall utilize Direct Applied letters, numerals, symbols and borders.

Direct Applied

Direct reflectorized 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.

Digitally Printed

Digital printing methods may be used to produce the sign copy and borders on retroreflective sheeting. Retroreflective sheeting complying with ASTM D 4956 Type XI and designated by the manufacturer as suitable for digital printing traffic signs along with associated ink and premium overlay film. Digitally Printed signs shall meet all sign sheeting manufacturer's (3M) requirements to ensure that the manufacturer's warranty will be in full effect

Transparent and opaque durable inks used in digital printed sign copy and borders shall be as recommended by the sheeting manufacturer (3M). Digital printed traffic colors shall be properly applied and shall have a warranty life of the base retroreflective sign sheeting. Digitally printed signs shall present a flat surface, free from foreign material, and all copy and borders shall be clear and sharp. Digital printed signs shall conform to 70% of the retroreflective minimum values established for its type and color (applicable to traffic colors only), as required by ASTM D 4956. Digital printed signs shall meet the daytime color and luminance, and nighttime color requirements of ASTM D 4956. Printed traffic colors shall meet the accelerated weathering and colorfastness requirements of ASTM D 4956. Digitally printed black shall remain sufficiently opaque for its intended use for the warranty period of the base sheeting. No variations in color or overlapping of colors will be permitted.

Digitally printed traffic signs shall have an integrated engineered match component clear UV- premium protective overlay recommended by the sheeting manufacturer applied to the entire face of the sign.

All digitally printed traffic signs shall utilize an integrated engineered match component system for materials and printing process and equipment. The integrated engineered match component system shall consist of retroreflective sheeting, durable ink(s), and clear protective overlay film, as specified by the sheeting manufacturer, applied to aluminum substrate.

The sign fabricator shall use an integrated engineered match component system digital printer approved by the sheeting manufacturer. Each approved digital printer shall only use the compatible retroreflective sign sheeting manufacturer's engineered match component system products. The sign fabricator shall maintain their digital printer's color calibration according to the sheeting manufacturer's requirements to help ensure digitally printed signs meet the manufacturer's specifications. The fabricator shall be trained by the sheeting manufacturer to produce digitally printed traffic signs that qualify for the sheeting manufacturer's warranty.

General

Type 1 Guide Signs shall have two-inch-tall, series C text that indicates the sign size, and the sign install date (MM/YY) located two inches above the bottom border of the sign.

MAINE TURNPIKE AUTHORITY

SPECIFICATIONS

PART III – APPENDICES

APPENDIX A

STEEL GIRDER PREPURCHASE

November 8, 2021

Dear Prospective Bidders:

Re: Maine Turnpike Authority
Route 197 Bridge Rehabilitation Project
Fabrication of Structural Steel – Solicitation #2022.51
Request for Quotation

The Maine Turnpike Authority (MTA) invites quotations for the fabrication of structural steel in accordance with the attached Plans and Specifications for incorporation into the Route 197 Bridge Rehabilitation Project. The Route 197 Bridge is limited to one lane of alternating traffic after being damaged by a high load hit in 2021. The structural steel is being purchased by the MTA to ensure fabricated steel is available to the (to be selected) bridge contractor so the bridge rehabilitation project may be completed, and the bridge completely reopened, in Fall 2022.

The work includes shop drawings; material purchases; material certifications; fabrication of structural steel beams, diaphragms, splices plates, etc.; preparation and shop coating (metallized or galvanized) of structural steel; shipping of structural steel to the Route 197 Bridge – Mile 93.3 on the Maine Turnpike for unloading and erecting by others; field touch up of structural steel coating system damaged by the fabrication shop or shipper; and furnishing and delivery of all nuts, bolts, and washers necessary to complete the field erection of the structural steel.

Material List Includes:

- Shop drawings and material certifications
- Rolled beam or plate girder segments
- Diaphragms, connection plates, stiffeners, and field splice plates
- Bridge mounted sign support channels, bridge drains, and related girder attachments
- A325 bolts, nuts and washers needed for structural steel erection plus an additional 5% of each size and type for testing

Steel fabrication shall be per this solicitation letter, the *MaineDOT Standard Specifications, Revision of November 2014* with *MTA 2016 Supplemental Specifications*, the *MaineDOT Standard Details, Revision of November 2014* with updates; and modified by the attached MTA Special Provisions (7 pages), Solicitation 2022.51 - Structural Steel Plans for the Richmond Road (Route 197) Underpass (8 sheets). (The *MTA Supplemental Specifications* completely replaces Division 100 of the *MaineDOT Standard Specifications*).

Included in the bid price will be all costs associated with delivering the materials F.O.B. to:

Route 197 Bridge
Mile 93.3 Northbound and Southbound
Maine Turnpike
Litchfield, Maine

The successful Bidder shall have all materials ready for shipment on or before July 11, 2022.

The bid price shall include coordinating the structural steel shipments with the bridge contractor. The bridge contractor will be responsible for providing a lane closure at the bridge site for the fabricator's delivery vehicles. The fabricator should anticipate that each delivery truck could be onsite for unloading from 3:00 p.m. until 5:00 a.m. the next morning.

Partial payments for material purchases and steel fabrication may be invoiced (based on percent of work completed) up to 92.5 % of the costs incurred on a monthly basis. Unpaid material purchases, steel fabrication costs, and all delivery costs may be invoiced once the structural steel is delivered. Payments will be made by the Authority no more than 30 days after the invoice is received.

Should materials not be ready for shipment on or before July 11th, or a later date approved by the Authority, a penalty of $1,000.00 will be assessed for each calendar day the required materials are not ready for shipment to the project site. The penalty will be waived by the Authority if the bridge contractor is not ready for structural steel on the approved date.

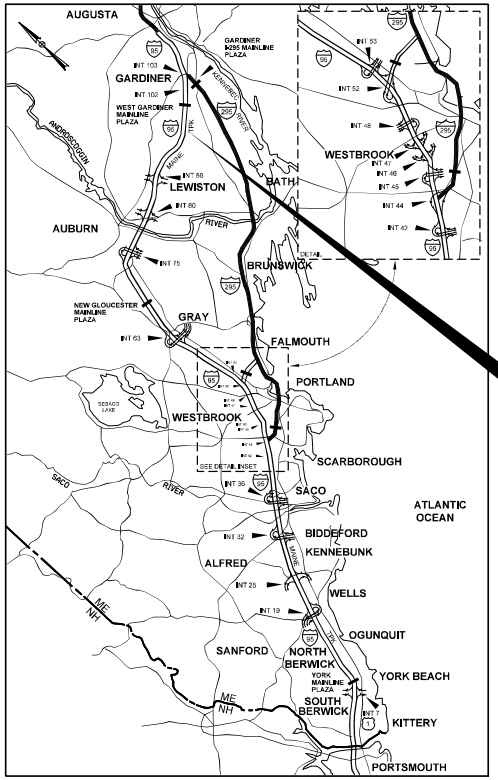
Quotations must be received at or before 11:00 a.m. on Tuesday, November 30, 2021 at the Maine Turnpike Authority, 2360 Congress Street, Portland, Maine 04103 or by fax to 207-871-7739. The structural steel fabrication award will be made on or before December 7, 2021.

If you have any questions regarding this Request for Quotation, please fax all questions to Nate Carll, Purchasing Manager, at (207) 871-7739 or email ncarll@maineturnpike.com. All questions must be received by November 16, 2021 at or before 2:00 p.m. Responses will not be prepared for questions received by telephone. Bidders shall not contact any other Authority staff or Consultants for clarifications of work, and the Authority will not be responsible for any interpretations so obtained.

The Authority reserves the unqualified right to reject all quotations or to accept the quotation 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



LOCATION MAP

SOLICITATION 2022.51
STRUCTURAL STEEL
RICHMOND ROAD (ROUTE 197)

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MAINE TURNPIKE AUTHORITY

DANIEL E. WATHEN, CHAIR
ROBERT D. STONE, VICE CHAIR
MICHAEL J. CIANCHETTE, MEMBER
ANN R. ROBINSON, MEMBER
THOMAS J. ZUKE, MEMBER
JANE L. LINCOLN, MEMBER
BRUCE VAN NOTE, MEMBER EX-OFFICIO

S. PETER MILLS, EXECUTIVE DIRECTOR

INDEX OF SHEETS

★ SHEETS INCLUDED FOR REFERENCE PURPOSES ONLY

SOLICITATION 2022.51
STRUCTURAL STEEL
RICHMOND ROAD (ROUTE 197) UNDERPASS
MILE 93.3

APPROVED:
MAINE TURNPIKE AUTHORITY

PETER G. MORTELL, P.E. - CHIEF OPERATIONS OFFICER — DATE 11/8/21

STEPHEN R. TARTRE, P.E. - DIRECTOR OF ENGINEERING & BUILDING MAINTENANCE — DATE 11/8/21

HNTB

STATE OF MAINE — TIMOTHY R. COTE No. 10671 — LICENSED PROFESSIONAL ENGINEER

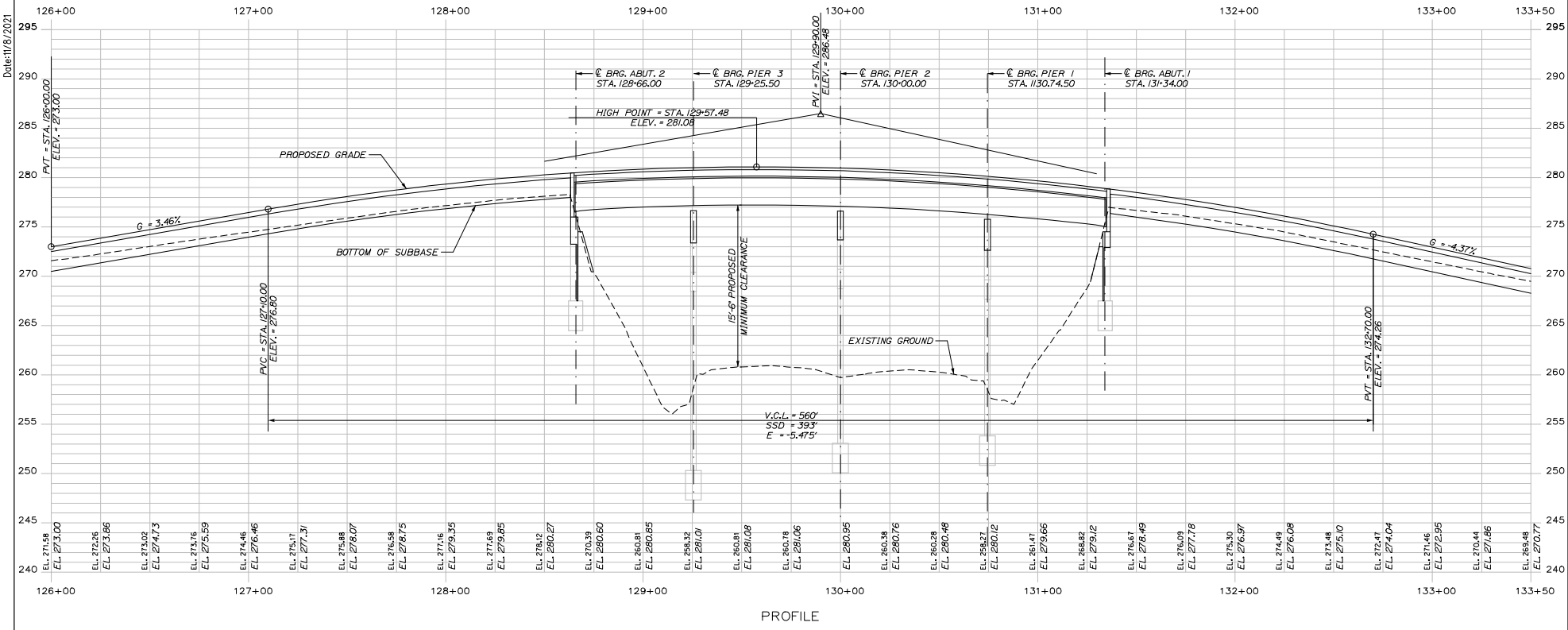
TIMOTHY R. COTE P.E.
VICE PRESIDENT — DATE 11/5/2021

SOLICITATION 2022.51

Date:11/8/2021

Filename: 001_Title Sheet - Structural Steel.dgn

Date:11/8/2021



PROFILE

FOR REFERENCE ONLY

Filename: 002_SteelProfile.dgn

Scale: Horiz. 25 0 25 50
Vert. 5 0 5 10

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Steve Hodgdon, P.E.

	By	Date		By	Date
Designed	CDH	11\21	Checked	DAM	11\21
Drawn	CDH	11\21	In Charge of	TRC	11\21

HNTB CORPORATION
82 Running Hill Road, Suite 201
South Portland, ME 04106
TEL (207) 774-5155
FAX (207) 228-0909

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

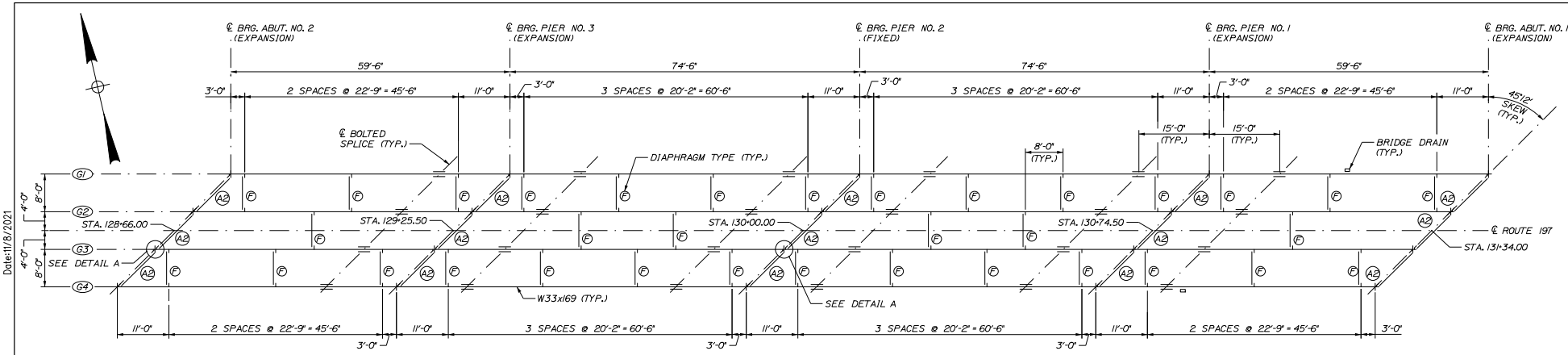
MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

SUPERSTRUCTURE REPLACEMENT ROUTE 197 UNDERPASS

PROFILE

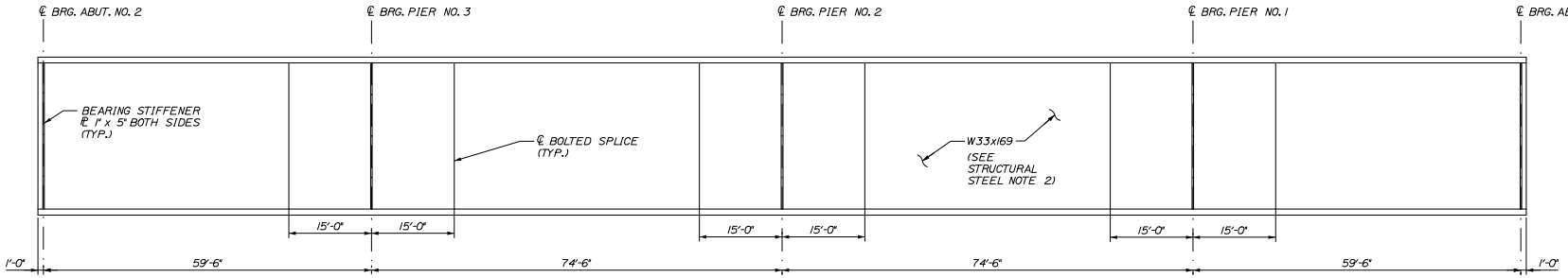
SHEET NUMBER: PRO-01

CONTRACT:2022.51



FRAMING PLAN

1/32" = 1'-0"



SPECIFICATIONS

DESIGN

LOAD AND RESISTANCE FACTOR DESIGN PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, NINTH EDITION 2020

STATE OF MAINE DEPARTMENT OF TRANSPORTATION "BRIDGE DESIGN GUIDE" AUGUST 2003 REVISION WITH UPDATES

CONSTRUCTION

STATE OF MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, HIGHWAYS, AND BRIDGES, REVISION OF NOVEMBER 2014

STATE OF MAINE DEPARTMENT OF TRANSPORTATION STANDARD DETAILS FOR HIGHWAYS AND BRIDGES, NOVEMBER 2014 WITH LATEST REVISIONS.

AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS, 4TH EDITION.

DESIGN LOADING

LIVE LOAD - HL-93

GIRDER ELEVATION

(CONNECTION PLATES NOT SHOWN FOR CLARITY)
N.T.S.

MATERIALS

GIRDERS, FLANGES, WEBS, SPLICE PLATES, DIAPHRAGMS, CONNECTION PLATES, AND BEARING STIFFENERS SHALL BE AASHTO M270, GRADE 50.

ALL OTHER STRUCTURAL STEEL SHALL BE AASHTO M270, GRADE 36, OR APPROVED EQUAL.

HIGH STRENGTH BOLTS SHALL BE AASHTO M164 (ASTM F3125, GRADE A325, TYPE 1), BOLTS SHALL BE HOT DIPPED GALVANIZED.

BASIC DESIGN STRESSES

AASHTO M270 (ASTM A709) GRADE 36, Fy = 36,000 P.S.I.
AASHTO M270 (ASTM A709) GRADE 50, Fy = 50,000 P.S.I.

PROTECTIVE COATING

GIRDER PLATES, INCLUDING FLANGES, WEBS, CONNECTION PLATES, BEARING STIFFENERS, SPLICE PLATES, AND INTERMEDIATE STIFFENERS, SHALL BE METALLIZED AFTER FABRICATION IN ACCORDANCE WITH SPECIAL PROVISION SECTION 506. SEE STRUCTURAL STEEL NOTE 11 FOR ADDITIONAL INFORMATION.

Date:11/8/2021

Filename: 003_Framing Plan.dgn

Scale:

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Steve Hodgdon, P.E.

	By	Date		By	Date
Designed	IJM	11\21	Checked	BRG	11\21
Drawn	PEB	11\21	In Charge of	TRC	11\21

HNTB CORPORATION
82 Running Hill Road, Suite 201
South Portland, ME 04106
TEL (207) 774-5155
FAX (207) 228-0909

MAINE TURNPIKE

MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

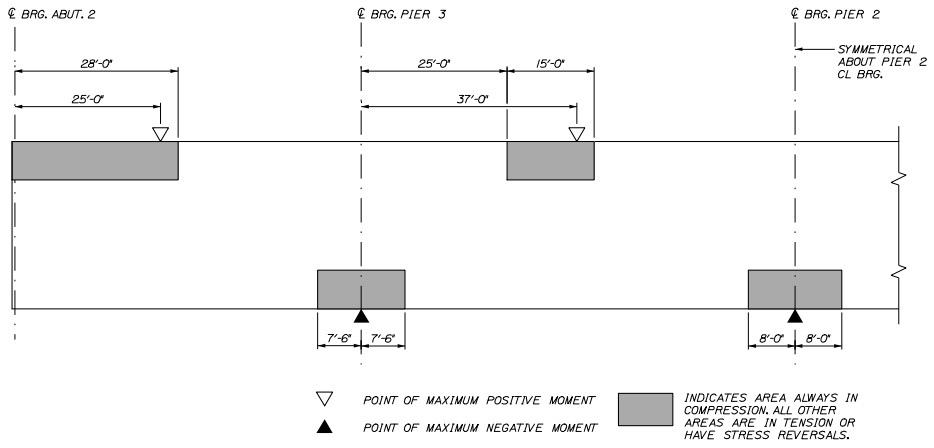
THE GOLD STAR MEMORIAL HIGHWAY

SUPERSTRUCTURE REPLACEMENT ROUTE 197 UNDERPASS

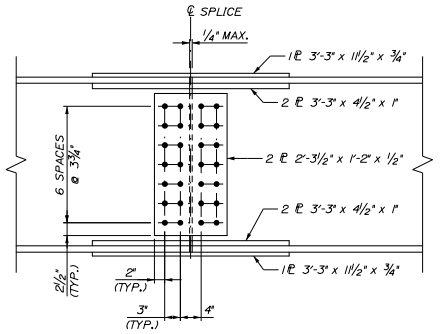
FRAMING PLAN

SHEET NUMBER: S-01

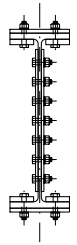
CONTRACT:2022.51



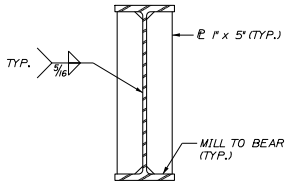
GIRDER STRESS DIAGRAM
(SYMMETRICAL ABOUT ℄ PIER 2)
N.T.S.



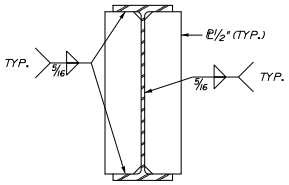
ELEVATION



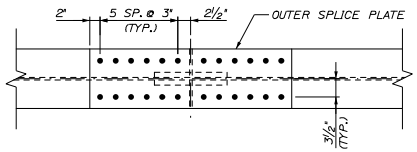
SECTION



BEARING STIFFENER
N.T.S.

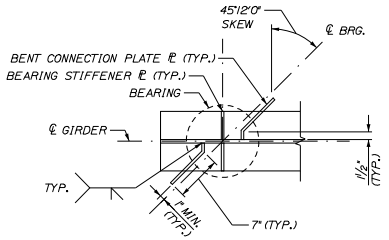


CONNECTION PLATE
(BENT CONNECTION PLATE REQUIRED AT CENTERLINE OF BEARINGS)
N.T.S.



PLAN
(TOP & BOTTOM FLANGE)

FIELD SPLICE
(INNER SPLICE PLATES NOT SHOWN FOR CLARITY)
1" = 1'-0"



DETAIL A
(ABUTMENT 2 SHOWN. ABUTMENT 1 AND PIER LOCATIONS SIMILAR)
(OMIT BENT PLATE ON FASCIA SIDE OF GIRDERS 1 AND 4)
1" = 1'-0"

STRUCTURAL STEEL NOTES

1. CAMBER ORDINATES, AS SHOWN, ARE COMPUTED TO COMPENSATE FOR ALL DEAD LOAD DEFLECTIONS AND FOR THE CURVATURE OF THE FINISHED GRADE PROFILE.

2. AT THE FABRICATOR'S OPTION, THE W33X169 ROLLED BEAM MAY BE REPLACED WITH A WELDED PLATE GIRDER THAT HAS A DEPTH OF 33.75" COMPRISED OF 11.5" X 1.25" FLANGE PLATES AND A 0.625" X 31.25" WEB PLATE. FLANGES SHALL BE WELDED ON EACH SIDE OF THE WEB PLATE WITH 5/16" FILLET WELDS THE ENTIRE LENGTH OF THE GIRDER SEGMENT.

3. NO TRANSVERSE BUTT WELD SPLICES WILL BE ALLOWED IN THE FLANGE PLATES OR WEB PLATES WITHIN 10 FEET OR 10 PERCENT OF THE SPAN LENGTH (WHICHEVER IS GREATER) FROM THE POINTS OF MAXIMUM NEGATIVE MOMENT OR MAXIMUM POSITIVE MOMENT. BUTT WELD SPLICES IN FLANGES SHALL BE NOT LESS THAN ONE FOOT FROM TRANSVERSE BUTT WELDS IN THE WEB PLATES AND NO TRANSVERSE WEB OR FLANGE BUTT WELDS SHALL BE LOCATED WITHIN ONE FOOT OF OTHER TRANSVERSE WELDS (E.G. CONNECTION PLATES TO WEB WELDS) ON EITHER FLANGE OR WEB. NO TRANSVERSE BUTT WELD SPLICES WILL BE ALLOWED IN AREAS OF STRESS REVERSAL.

4. SECTIONS OF FLANGE PLATES OR WEB PLATES BETWEEN TRANSVERSE SHOP SPLICES OR BETWEEN A TRANSVERSE SHOP SPLICE AND A FIELD SPLICE SHALL BE AT LEAST 10 FEET IN LENGTH UNLESS OTHERWISE SHOWN ON THE PLANS.

5. BEARING STIFFENERS SHALL BE PLUMB AFTER ERECTION AND DEAD LOADING OF THE STRUCTURE.

6. INTERMEDIATE DIAPHRAGM CONNECTION PLATES MAY BE EITHER PLUMB OR NORMAL TO THE TOP FLANGE.

7. ALL BOLTS, NUTS, AND WASHERS SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM A153.

8. BOLTED FIELD SPLICE CONNECTIONS SHALL BE MADE USING 7/8" ASTM A325 HIGH STRENGTH BOLTS. BOLT HOLE SIZE SHALL BE 15/16" DIAMETER. FIELD SPLICE BOLT THREADS SHALL BE EXCLUDED FROM THE SHEAR PLANE.

9. ENDS OF GIRDER WEBS SHALL BE VERTICAL UNDER FULL DEAD LOAD.

10. THE TOP OF THE TOP FLANGE (EXCEPT UNDER BOLTED SPLICE PLATES) SHALL BE MASKED FROM METALLIZING OR GALVANIZING PROTECTIVE COATING, 8" WIDE CENTERED ON THE FLANGE, TO ALLOW FOR FIELD WELDED SHEAR CONNECTORS. A SEAL COAT OR PRIMER SHALL BE APPLIED TO THE TOP FLANGE IN ALL MASKED AREAS IN ACCORDANCE WITH SPECIAL PROVISION SUBSECTION 506.35.

11. AT THE FABRICATOR'S OPTION, ALL STRUCTURAL STEEL MAY BE HOT DIP GALVANIZED IN ACCORDANCE WITH STANDARD SPECIFICATIONS SECTION 506. GALVANIZING TUBS SHALL BE OF SUFFICIENT SIZE TO ALLOW COMPLETE IMMERSION OF THE STEEL SEGMENT. DOUBLE DIPPING IS NOT ALLOWED.

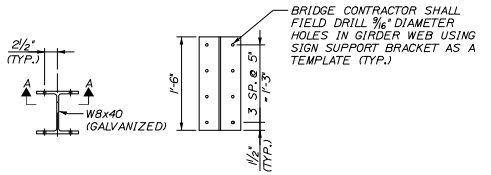
12. BUTT WELDS AT WEB SPLICES AND FLANGE SPLICES SHALL BE GROUND FLUSH IN LONGITUDINAL DIRECTION OF GIRDER.

13. BEARING STIFFENERS SHALL BE MILL-TO-BEAR ON THE BOTTOM FLANGE AND TIGHT-TO-FIT TO THE TOP FLANGE.

14. FOR DETAILS OF DIAPHRAGMS, SEE MAINEDOT STANDARD DETAILS.

15. ATTENTION FABRICATOR: PROJECT ROADWAY STATIONING IS FROM WEST TO EAST. ORIGINAL PLANS FOR THE EXISTING BRIDGE INCLUDE ROADWAY STATIONING THAT IS REVERSE FROM THIS. THE EXISTING SUBSTRUCTURES ARE TO BE RETAINED AND MODIFIED TO ACCOMMODATE THE NEW STRUCTURAL STEEL AND SUPERSTRUCTURE.

16. THE ESTIMATED QUANTITY OF STRUCTURAL STEEL (EXCLUDING ANCILLARY COMPONENTS) IS APPROXIMATELY 218,000 LBS.



SIGN SUPPORT
(4 REQUIRED)

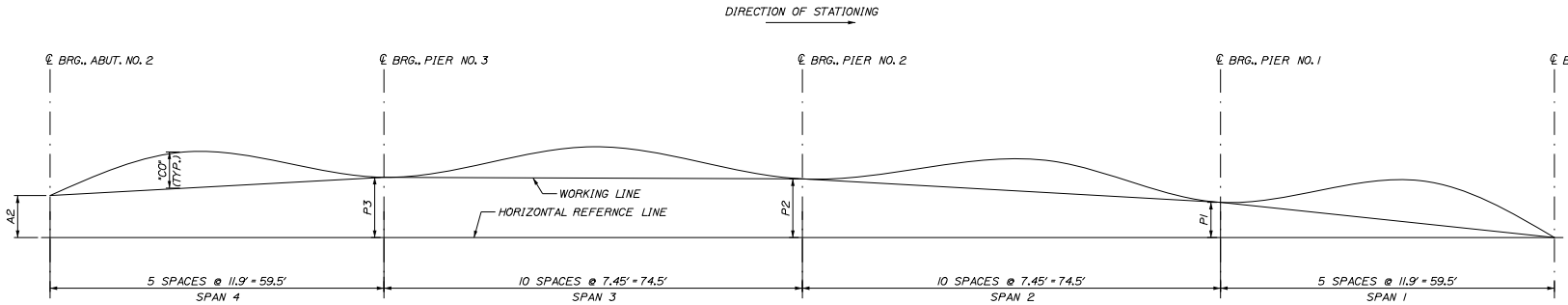
SECTION A-A

SIGN SUPPORT DETAIL
1" = 1'-0"

Date:11/8/2021

Filename: 004_SteelDetails 1.dgn

Scale:				Designed by: HNTB	HNTB CORPORATION 82 Running Hill Road, Suite 201 South Portland, ME 04106 TEL (207) 774-5155 FAX (207) 228-0909	MAINE TURNPIKE	THE GOLD STAR MEMORIAL HIGHWAY	SUPERSTRUCTURE REPLACEMENT ROUTE 197 UNDERPASS
No.	Revision	By	Date	CONSULTANT PROJECT MANAGER: Steve Hodgdon, P.E.				STEEL DETAILS 1
				By Date By Date				SHEET NUMBER: S-02
				Designed IJM 11\21 Checked BRG 11\21			MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.	CONTRACT:2022.51 4 OF 8
				Drawn PEB 11\21 In Charge of TRC 11\21				



NOTE: THE ROLLED SHAPE OPTION SHALL MEET THE TABULATED CAMBER ORDINATES AT QUARTER POINTS.

CAMBER DIAGRAM
NOT TO SCALE

TABLE OF CAMBER DIMENSIONS (INCHES)				
GIRDER	"A2"	"P3"	"P2"	"P1"
G1	24.53	29.48	27.32	15.85
G2	20.93	26.69	25.54	15.06
G3	17.33	23.89	23.72	14.26
G4	13.74	21.10	21.94	13.46

GIRDER	TABLE OF CAMBER ORDINATES "CO" (INCHES)																													
	℄ BRG. ABUT. 2	0.2xL	0.4xL	0.6xL	0.8xL	℄ BRG. PIER 3	0.1xL	0.2xL	0.3xL	0.4xL	0.5xL	0.6xL	0.7xL	0.8xL	0.9xL	℄ BRG. PIER 2	0.1xL	0.2xL	0.3xL	0.4xL	0.5xL	0.6xL	0.7xL	0.8xL	0.9xL	℄ BRG. PIER 1	0.2xL	0.4xL	0.6xL	0.8xL	℄ BRG. ABUT. 1
G1	0.00	0.81	1.21	1.12	0.62	0.00	0.54	1.07	1.49	1.78	1.86	1.75	1.46	1.01	0.50	0.00	0.51	1.05	1.47	1.77	1.86	1.75	1.47	1.02	0.51	0.00	0.65	1.18	1.29	0.85	0.00
G2	0.00	0.86	1.28	1.19	0.65	0.00	0.54	1.06	1.52	1.80	1.90	1.78	1.50	1.03	0.51	0.00	0.51	1.04	1.50	1.79	1.89	1.79	1.50	1.05	0.51	0.00	0.65	1.19	1.28	0.86	0.00
G3	0.00	0.86	1.27	1.19	0.65	0.00	0.51	1.05	1.50	1.78	1.90	1.79	1.51	1.05	0.51	0.00	0.51	1.03	1.50	1.80	1.89	1.79	1.52	1.06	0.53	0.00	0.64	1.18	1.27	0.86	0.00
G4	0.00	0.84	1.28	1.18	0.66	0.00	0.52	1.03	1.46	1.75	1.85	1.76	1.46	1.06	0.52	0.00	0.50	1.01	1.45	1.74	1.86	1.77	1.48	1.05	0.53	0.00	0.62	1.11	1.21	0.81	0.00

	TABLE OF DEFLECTIONS ~ ALL GIRDERS (INCHES)																													
	℄ BRG. ABUT. 2	0.2xL	0.4xL	0.6xL	0.8xL	℄ BRG. PIER 3	0.1xL	0.2xL	0.3xL	0.4xL	0.5xL	0.6xL	0.7xL	0.8xL	0.9xL	℄ BRG. PIER 2	0.1xL	0.2xL	0.3xL	0.4xL	0.5xL	0.6xL	0.7xL	0.8xL	0.9xL	℄ BRG. PIER 1	0.2xL	0.4xL	0.6xL	0.8xL	℄ BRG. ABUT. 1
STEEL DL	0.00	-0.07	-0.10	-0.08	-0.02	0.00	-0.01	-0.05	-0.08	-0.11	-0.12	-0.11	-0.08	-0.05	-0.01	0.00	-0.01	-0.05	-0.08	-0.11	-0.12	-0.11	-0.08	-0.05	-0.01	0.00	-0.02	-0.08	-0.10	-0.07	0.00
CONC. DL	0.00	-0.25	-0.37	-0.30	-0.11	0.00	-0.07	-0.19	-0.34	-0.43	-0.46	-0.42	-0.32	-0.18	-0.06	0.00	-0.06	-0.19	-0.32	-0.42	-0.46	-0.42	-0.32	-0.19	-0.06	0.00	-0.12	-0.31	-0.38	-0.25	0.00
SUPERIMP. DL	0.00	-0.06	-0.10	-0.08	-0.04	0.00	-0.02	-0.07	-0.12	-0.14	-0.16	-0.14	-0.12	-0.06	-0.02	0.00	-0.02	-0.06	-0.12	-0.14	-0.16	-0.14	-0.12	-0.07	-0.02	0.00	-0.04	-0.08	-0.10	-0.06	0.00
TOTAL DL	0.00	-0.38	-0.56	-0.47	-0.17	0.00	-0.11	-0.31	-0.54	-0.68	-0.73	-0.67	-0.53	-0.29	-0.10	0.00	-0.10	-0.30	-0.53	-0.67	-0.73	-0.67	-0.53	-0.31	-0.10	0.00	-0.18	-0.48	-0.58	-0.38	0.00

Date:11/8/2021

Filename: 005_SteelDetails 2.dgn

Scale:

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Steve Hodgdon, P.E.

	By	Date		By	Date
Designed	IJM	11\21	Checked	BRG	11\21
Drawn	PEB	11\21	In Charge of	TRC	11\21

HNTB CORPORATION
82 Running Hill Road, Suite 201
South Portland, ME 04106
TEL (207) 774-5155
FAX (207) 228-0909

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

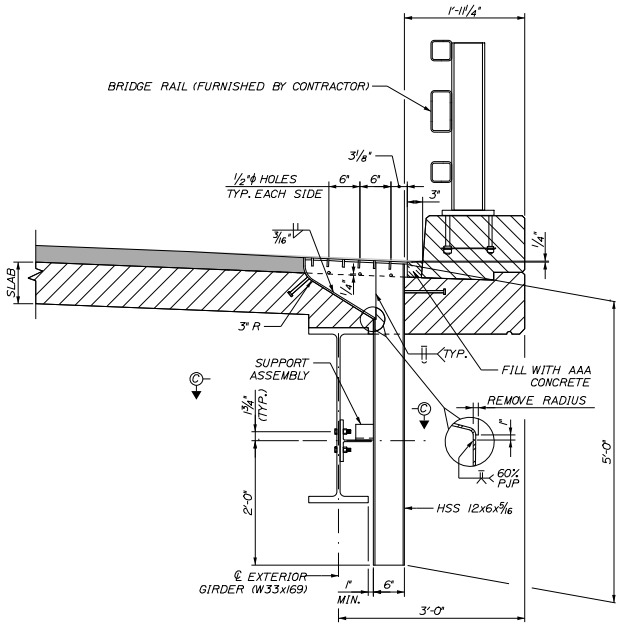
MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

SUPERSTRUCTURE REPLACEMENT
ROUTE 197 UNDERPASS

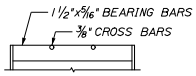
STEEL DETAILS II

SHEET NUMBER: S-03

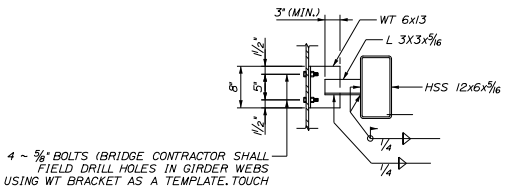
CONTRACT:2022.51



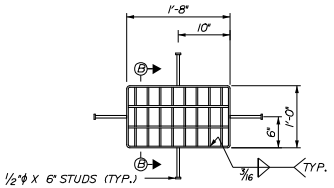
BRIDGE DRAIN DETAIL
(SNOW FENCE NOT SHOWN)
1" = 1'-0"



SECTION B-B
NTS



SECTION C-C
2" = 1'-0"



PLAN
2" = 1'-0"

BRIDGE DRAIN NOTES:

1. ALL PLATES, IF ANY, SHALL BE ¼" THICK AND SHALL CONFORM TO AASHTO M270, GRADE 50.

2. HSS DOWNSPOUTS SHALL CONFORM TO ASTM A500, GRADE B.

3. GRATING SHALL BE A COMMERCIAL HEAVY-DUTY GRATING WITH 1½" X 5/16" BEARING BARS SPACED AT 2⅜" AND ⅜" ϕ CROSS BARS SPACED AT 4". GRATING SHALL BE CENTERED IN THE DRAIN TOP.

4. ALL DRAIN COMPONENTS SHALL BE BLAST CLEANED TO THE REQUIREMENTS OF SSPC-SP6/NACE 3 AND HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A123. ALL ASSOCIATED FASTENERS SHALL BE HOT DIP GALVANIZED.

Date:11/8/2021

Filename: 006_SteelDetails 3.dgn

No.	Revision	By	Date

Scale:

Designed by:

HNTB

CONSULTANT PROJECT MANAGER: Steve Hodgdon, P.E.

	By	Date		By	Date
Designed	IJM	11\21	Checked	BRG	11\21
Drawn	PEB	11\21	In Charge of	TRC	11\21

HNTB CORPORATION
82 Running Hill Road, Suite 201
South Portland, ME 04106
TEL (207) 774-5155
FAX (207) 228-0909

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

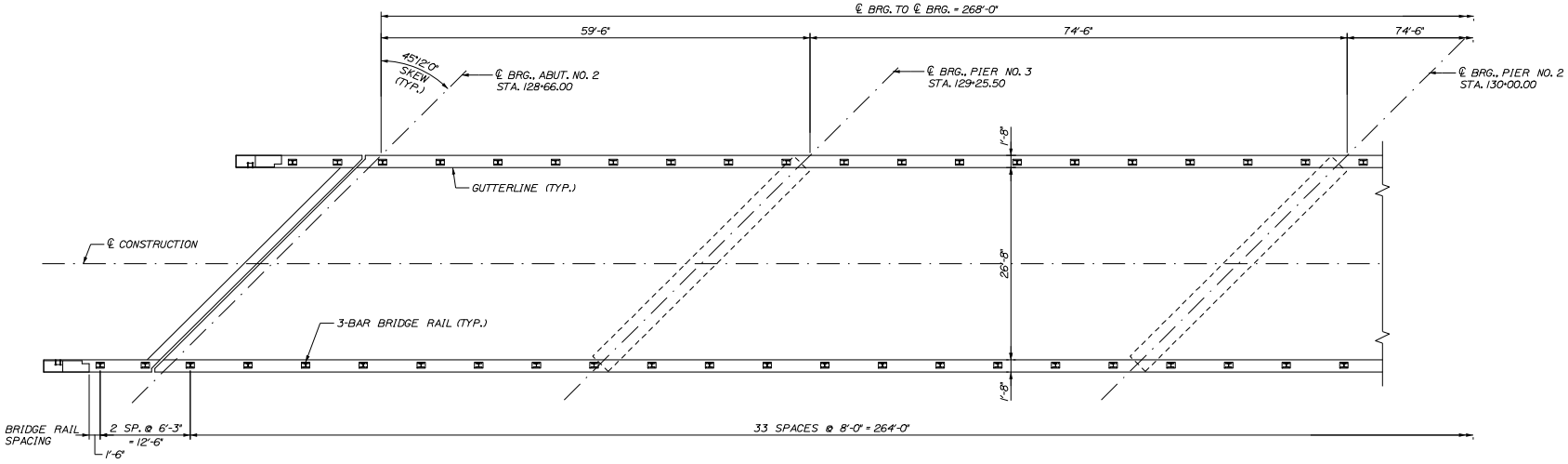
MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

SUPERSTRUCTURE REPLACEMENT ROUTE 197 UNDERPASS

STEEL DETAILS III

SHEET NUMBER: S-04

CONTRACT:2022.51



PLAN

1/8" = 1'-0"

SUPERSTRUCTURE NOTES

1. THE THEORETICAL BLOCKING USED FOR DESIGN OF THE STRUCTURE IS 2 INCHES AT THE CENTERLINE OF BEARING OF THE ABUTMENTS AND PIERS. REFER TO STANDARD DETAIL 502(03) FOR BLOCKING DETAILS.

2. REINFORCING STEEL SHALL HAVE A MINIMUM CONCRETE COVER OF 2 INCHES UNLESS OTHERWISE NOTED.

3. ADJUST REINFORCING STEEL TO FIT AROUND THE BRIDGE DRAINS IN A MANNER APPROVED BY THE RESIDENT. DO NOT CUT TRANSVERSE REINFORCING BARS.

4. FORM A ONE INCH V-GROOVE ON THE FASCIAS AT THE HORIZONTAL JOINT BETWEEN THE CURB AND SLAB.

5. THE SUPERSTRUCTURE SLAB CONCRETE SHALL BE PLACED IN ONE CONTINUOUS OPERATION AND THE CONCRETE SHALL BE KEPT PLASTIC ONE COMPLETE SPAN BEHIND THE SPAN BEING PLACED.

6. PAYMENT FOR REINFORCING STEEL FABRICATED, DELIVERED, AND PLACED IN THE CAST-IN-PLACE PORITON OF THE STRUCTURAL CONCRETE SLAB WILL BE CONSIDERED INCIDENTAL TO THE APPROPRIATE STANDARD SPECIFICATIONS SECTION 502 PAY ITEM.

7. THE GLAND SEALS TO BE FURNISHED SHALL HAVE MINIMUM MOVEMENT RATINGS AS FOLLOWS:

   ABUTMENT NO. 1 = 3 INCH
   ABUTMENT NO. 2 = 3 INCH

8. THE CONTRACTOR SHALL INSTALL TRANSITION BARRIER VERTICAL CLOSED STIRRUPS, AS SHOWN IN THE STANDARD DETAILS SECTION 526, PRIOR TO PLACEMENT OF THE CURB CONCRETE.

SIGN SUPPORT NOTES

1. LOCATION OF SIGN SUPPORT SHALL BE FIELD LOCATED BY RESIDENT.

2. BOLTS SHALL BE ½" DIAMETER A325 TYPE 1 GALVANIZED.

3. BRACKET SPACING SHALL BE 5' ON CENTER MAXIMUM.

4. PRIOR TO INSTALLATION, THE SIGN PANEL SHALL BE MOUNTED TO A FRAME OF SUFFICIENT RIGIDITY TO PREVENT EXCESSIVE SIGN DEFORMATIONS DUE TO WIND, ICE, AND OTHER LOADINGS THAT OCCUR.

5. STREET SIGNS SHALL BE PROVIDED BY THE AUTHORITY.

FOR REFERENCE ONLY

Date:11/8/2021

Filename: 007_Bridge Plan 1.dgn

Scale:

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Steve Hodgdon, P.E.

	By	Date		By	Date
Designed	IJM	11\21	Checked	BRG	11\21
Drawn	PEB	11\21	In Charge of	TRC	11\21

HNTB CORPORATION
82 Running Hill Road, Suite 201
South Portland, ME 04106
TEL (207) 774-5155
FAX (207) 228-0909

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

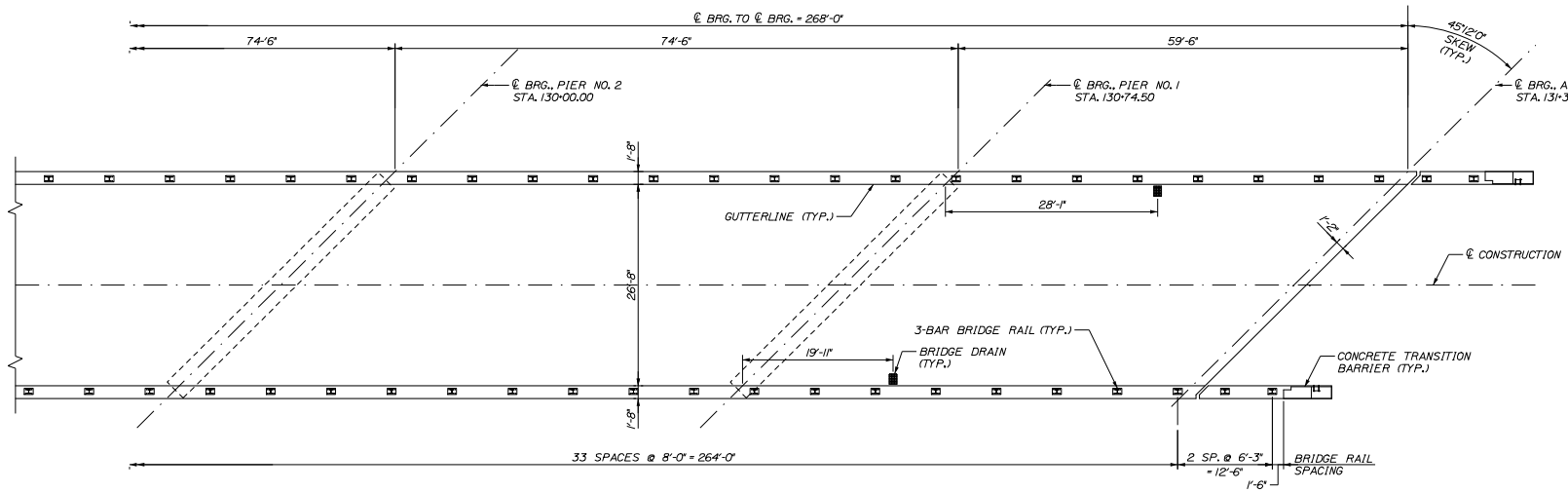
MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

SUPERSTRUCTURE REPLACEMENT
ROUTE 197 UNDERPASS

BRIDGE PLAN 1

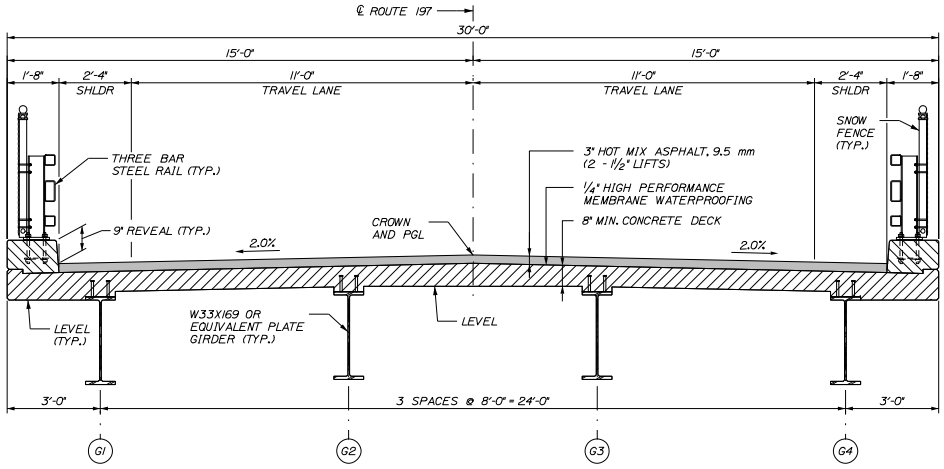
SHEET NUMBER: BP-01

CONTRACT:2022.51



PLAN

1/8" = 1'-0"



TRANSVERSE SECTION

(LOOKING UPSTATION)

1/2" = 1'-0"

FOR REFERENCE ONLY

Date:11/8/2021

Filename: 008_Bridge Plan 2.dgn

Scale:

Designed by:

HNTB

No.	Revision	By	Date

CONSULTANT PROJECT MANAGER: Steve Hodgdon, P.E.

	By	Date		By	Date
Designed	IJM	11\21	Checked	BRG	11\21
Drawn	PEB	11\21	In Charge of	TRC	11\21

HNTB CORPORATION
82 Running Hill Road, Suite 201
South Portland, ME 04106
TEL (207) 774-5155
FAX (207) 228-0909

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

SUPERSTRUCTURE REPLACEMENT
ROUTE 197 UNDERPASS

BRIDGE PLAN II

SHEET NUMBER: BP-02

CONTRACT:2022.51

SPECIAL PROVISION

SECTION 105

GENERAL SCOPE OF WORK

105.7 Working Drawings

This section is revised by replacing the word "Contractor" with "Fabricator" for all occurrences.

Remove the first paragraph and replace with the following paragraph:

105.7.1General - The Fabricator shall provide all necessary Working Drawings to the Authority for review. The Contract price shall include the cost of furnishing and revising all Working Drawings.

105.7.2 Review Times

This section is revised by replacing the word "Contractor's" with "Fabricator's" .

Replace the three submission paragraphs with the following:

First submission:	10 Days
Second submission:	7 Days
Each subsequent submission:	7 Days

Replace the word "Contractor" with "Fabricator" in the second to last paragraph.

105.7.3 Cost of Review

This section is revised by replacing the word "Contractor" with "Fabricator" for all occurrences.

105.7.4 Submittal Requirements

This section is revised by replacing the word "Contractor" with "Fabricator" for all occurrences.

105.7.5 Review Standards and Procedures

This section is revised by replacing the word "Contractor" with "Fabricator" for all occurrences.

SPECIAL PROVISION

SECTION 106

QUALITY

106.8.1 Substantially Conforming Work and 106.8.2 Unacceptable Work

These sections are revised by replacing the word “Contractor” with “Fabricator” for all occurrences.

106.9. Warranty Provision

This section is revised by replacing the section 106.9.1 in its entirety with the following:

106.9.1 Warranty By Fabricator The Fabricator unconditionally warrants and guarantees that the structural steel will be free from warranty defects for one year from the date of delivery to the job site. If the Authority discovers any warranty defects during the warranty period that are attributed to the fabrication of the structural steel, the Fabricator agrees to promptly perform all remedial work at no additional cost or liability to the Authority.

106.9.2 Warranty Definitions

This section is revised by replacing the word “Contractor’s” with “Fabricator’s” for all occurrences.

Remove the second paragraph and replace with the following paragraph:

Warranty Defects: Warranty Defects are conditions that result from material, manufacture, or workmanship and that are not in conformity with the Contract or with industry standards applicable to the work prevailing at the time of submission of the quotation. Warranty defects do not include normal wear and tear or conditions caused by occurrences clearly beyond the Fabricator's control and not attributable to material, manufacture, or workmanship.

SPECIAL PROVISION

SECTION 107

TIME

107.1 Contract Time and Contract Completion Date

This Subsection is amended by the addition of the following:

All work shall be completed and ready for delivery on or before July 11, 2022. The Fabricator shall store materials until August 15th if Contractor is not ready for material delivery on July 11, 2022, at no additional cost to the Authority.

107.8.1 Fabrication Time

The Authority has budgeted for the following amounts of continuous full-time fabrication/shop inspection for certain Work components:

Element	Time	Supplemental LD
Bridge Structural Steel	56 calendar days	$500 per calendar day
Thermal Spray Coating	21 calendar days	$500 per calendar day

The Fabricator is responsible for production of the Work continuously until finished, including any needed actions to correct unacceptable workmanship or materials. If the Authority determines that shop inspection beyond these times is required, then the corresponding Supplemental Liquidated Damages will be deducted as they occur from the amounts otherwise due the Fabricator. The Fabricator will be notified by the Authority when these times begin and when the allotted time will expire.

If the Fabricator works more than one shift per day and the Authority determines that inspection is required for each shift, each shift will count as a calendar day and the LD rate will be the noted amount per shift per calendar day in lieu of per calendar day.

Inspection is required for the following activities: metal fabrication work – welding, including tack welding, heat correcting, nondestructive examination, and assembly verification (including piece mark designations).

SPECIAL PROVISION

SECTION 109

CHANGES

109.8 Contract Modification

Replace the word “Contractor” in the second paragraph with “Fabricator”.

SPECIAL PROVISION

SECTION 504

STRUCTURAL STEEL

504.01 Description

Revise this section by removing the last paragraph which reads "ALL REQUIREMENTS IN THIS SPECIFICATION…." And replace with the following:

The following subsections are applicable to the **Fabricator** for this project: 504.02 through 504.28; 504.30 through 504.36; 504.38; 504.39; 504.57; 504.59; 504.61; 504.65; and 504.66.

The general bridge contractor (to be selected) is responsible for bridge steel erection.

504.02 Materials and 504.03 Drawings

Revise these sections by replacing all occurrences of "Department" with "MaineDOT".

504.04 Facility Requirements and 504.05 Notice of Beginning Work

Revise these sections by replacing all occurrences of "Fabrication Engineer" with "Authority".

504.06 Inspection

Revise this section by replacing all occurrences of "Contractor" with "Fabricator". Replace all occurrences of "Fabrication Engineer" with "Authority".

Replace the word "Department" in the first sentence of the second paragraph with "Authority".

504.08 Rejections

Revise this section by replacing the word "Department" in the second paragraph with "Authority".

504.09 Facilities and Fabrication Inspection

Revise this section by replacing all occurrences of "Contractor" with "Fabricator". Replace the word "Department" in the last paragraph with "Authority".

504.10 Mill Test Reports

Revise this section by replacing the word "Contractor" in the second sentence with "Fabricator".

504.11 Material Identification and Control

Revise this section by replacing all occurrences of "Fabrication Engineer" with "Authority".

504.14 Materials for Bridges

Revise this section by replacing the words “Fabrication Engineer” with “Authority”.

504.17 Correcting Materials

Revise this section by replacing all occurrences of “Fabrication Engineer” with “Authority”.

504.25 Heat Cambering and Curving

Revise this section by replacing the words “Fabrication Engineer” in the third paragraph with “Authority”.

Replace the word “Contractor” in the first sentence of the second to last paragraph with “Fabricator”.

504.26 Welding

Revise this section by replacing the words “Fabrication Engineer” in the first paragraph with “Authority”.

Delete the second paragraph in its entirety that reads “The range of heat input…”.

504.26 Welding Requirements

Revise this section by replacing the word “Contractor” in the first paragraph with “Fabricator”.

Replace the words “Fabrication Engineer” in the fourth paragraph with “Authority”.

504.34 Holes for High Strength Bolts

Revise this section by replacing all occurrences of “Contractor” with “Fabricator”.

504.38 Marking and Delivery

Revise this section by replacing the works “Fabrication Engineer” in the second paragraph with “Resident”.

504.64 Non Destructive Testing-Ancillary Bridge Products and Support Structures

Revise this section by replacing the words “Fabrication Engineer” with “Authority” at the end of the paragraph enumerated as 2.

504.65 Method of Measurement

This section is revised by replacing in its entirety with the following:

Unless otherwise specified, structural steel will be measured as one lump sum complete and accepted, consisting of all metal and related materials in the fabricated structure as shown on the Plans, including bridge drains, sign support brackets, and related ancillary components.

SPECIAL PROVISION

SECTION 506

SHOP APPLIED PROTECTIVE COATING - STEEL

(Thermal Spray Coating– Shop Applied)

506.05 Inspection

This section is amended by the addition of the following:

The QAI shall be given ample notice to inspect the product prior to coating, recoating or removal of paint from the area. “Ample notice” shall be defined at the Pre-Job meeting depending on shop or site conditions.

Substrates that are coated without notification of the QAI may be rejected and no further coating shall be done on the piece until further notice from the Authority. Coating applied without notification of the QAI may be investigated by destructive and non-destructive testing as approved by the Authority and by a review of the JCR. The Resident may reject, conditionally accept, or accept the coating based on documentation and test results. Rejected coating shall be removed and re-applied. Conditionally accepted coatings shall be made acceptable as approved by the Authority. The cost of additional testing and repairs shall be borne by the Fabricator.

506.11 Materials

This section is amended by the addition of the following:

Thermal Spray Coating shall utilize metallized 85-15 zinc-aluminum wire.

506.16 Touch-up and Repairs

This section is amended by the addition of the following:

The Fabricator shall repair any damage that is done to the coating after the members have left the shop at no expense to the Authority. The Fabricator shall document any damage and propose a repair that is in accordance with the manufacturer’s recommendations to the Authority for approval. No repairs shall be done prior to receiving approval of the proposed method of repair.

506.30 Description

This section is replaced in its entirety with the following:

This work shall consist of surface preparation and application of Thermal Spray Coatings (TSC) in accordance with the Plans and this Specification. Application of TSC to steel substrate shall be done in accordance with requirements, recommendations and appendices stated herein, and within referenced Specifications.

The applicator shall provide copies of application procedures, operator qualifications, QC Manuals and repair procedures.

506.32 Surface Preparation

Paragraph 2 in this section is replaced in its entirety with the following:

The anchor profile shall be 2.5-4.0 mils. Measure and record the anchor profile in accordance with ASTM D4417 Method B (depth micrometer) or C (Replica Tape) or both on each plane to be sprayed or at 120° intervals on pipe or tube. The applicator shall take measurements of blast profile every 200 sq. ft. for manual blast operations and every 2000 sq. ft. for automated blast operations. Readings shall be recorded, or replica tape shall be affixed to inspection records. If the anchor profile fails to meet the minimum required profile, re-blast the substrate until the required anchor profile is achieved.

506.35 Seal Coat and Top Coat Application (Paint)

This section is amended by the addition of the following:

The metallized girders shall be sealed with clear seal coat only of 2 to 3 mils thickness; additional coatings and pigmentation are not required. The clear seal coat shall be compatible with an epoxy intermediate coat and a polyurethane top coat from the MaineDOT NEPCOAT QPL. Provide certification of compatibility between the seal coat and epoxy intermediate coat and polyurethane top coat from the intermediate coat/top coat manufacturer.

The clear seal coat shall be applied within 8 hours after thermal spraying. If a sealer cannot be applied within 8 hours, it shall be verified that the TSC (a) has not been contaminated by visual inspection, and (b) is dust-free using the clear cellophane tape test per ISO 8502-3 before applying the sealer.

Top flanges of beams requiring shear connectors shall receive a 1.5 to 3 mil primer coat from the MaineDOT NEPCOAT QPL primer or be thermal sprayed. All faying surfaces shall be masked off during seal coat application.

All metallizing shall be done before assembly. The seal coat shall be adequately cured before handling, but under no circumstances shall the product be handled before the coating has achieved the manufacturer’s published minimum cure time.

Material shall not be loaded for shipment until the seal coat has adequately cured and been inspected and accepted. The components will be stamped "APPROVED" only after the loading has been completed and approved, and no material shall be shipped without the prior approval of the Authority.

506.61 Basis of Payment

This section is amended by the addition of the following:

All costs for clear seal coat shall be considered incidental to Thermal Spray Coating (Shop Applied).

APPENDIX B

EXPANSION JOINT PREPURCHASE

December 28, 2021

Dear Prospective Bidders:

Re: Maine Turnpike Authority
Route 197 Bridge Rehabilitation Project
Fabrication of Bridge Joints – Solicitation #2022.53
Request for Quotation

The Maine Turnpike Authority (MTA) invites quotations for gland seal expansion joint assemblies in accordance with the attached Plans and Specifications for incorporation into the Route 197 Bridge Rehabilitation Project. The expansion joint assemblies are being purchased by the MTA to ensure the expansion joints are available to the (to be selected) bridge contractor so the bridge rehabilitation project may be completed, and the bridge completely reopened, in Fall 2022.

The work includes shop drawings; material purchases; fabrication of expansion joint assemblies (including gland seals, anchorages, curb plates, and adjustment devices); preparation and galvanizing of steel; and shipping of expansion joint assemblies to the MTA Maintenance Facility in Litchfield, Maine for unloading by others.

Furnishing expansion joint assemblies shall be per this solicitation letter, the *MaineDOT Standard Specifications, Revision of November 2014* with *MTA 2016 Supplemental Specifications*, the *MaineDOT Standard Details, Revision of November 2014* with updates; and modified by the attached MTA Special Provision Section 520, Solicitation 2022.53 – Expansion Joint Plans for the Richmond Road (Route 197) Underpass (5 sheets). (The *MTA Supplemental Specifications* completely replaces Division 100 of the *MaineDOT Standard Specifications*).

Included in the bid price will be all costs associated with delivering the assemblies F.O.B. to:

MTA Litchfield Maintenance Facility
362 Academy Road
Litchfield, Maine 04350

The successful Bidder shall have all materials ready for delivery on or before July 11, 2022.

Partial payments for material purchases and expansion joint assembly fabrication may be invoiced (based on percent of work completed) up to 92.5 % of the costs incurred on a monthly basis. Unpaid material purchases, fabrication costs, and all delivery costs may be invoiced once the expansion joint assemblies are delivered. Payments will be made by the Authority no more than 30 days after the invoice is received.

Should materials not be ready for delivery on or before July 11th, or a later date approved by the Authority, a penalty of $500.00 will be assessed for each calendar day the required materials are not delivered. The penalty will be waived by the Authority if the bridge contractor is not ready for the expansion joint assemblies on the approved date.

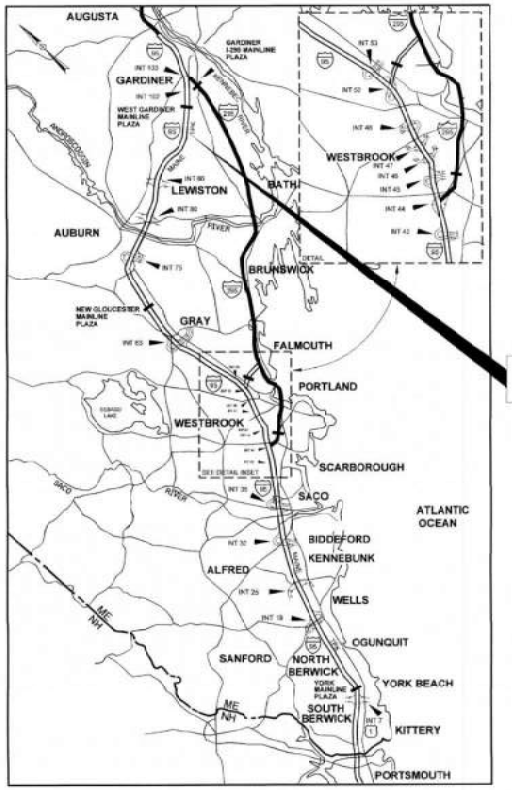
Quotations must be received at or before 11:00 a.m. on Friday, January 14, 2022 at the Maine Turnpike Authority, 2360 Congress Street, Portland, Maine 04103 or by fax to 207-871-7739. The award will be made on or before January 21, 2022.

If you have any questions regarding this Request for Quotation, please fax all questions to Nate Carll, Purchasing Manager, at (207) 871-7739 or email ncarll@maineturnpike.com. All questions must be received by January 7, 2022 at or before 2:00 p.m. Responses will not be prepared for questions received by telephone. Bidders shall not contact any other Authority staff or Consultants for clarifications of work, and the Authority will not be responsible for any interpretations so obtained.

The Authority reserves the unqualified right to reject all quotations or to accept the quotation 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



LOCATION MAP

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MAINE TURNPIKE AUTHORITY

DANIEL E. WATHEN, CHAIR
ROBERT D. STONE, VICE CHAIR
MICHAEL J. CIANCHETTE, MEMBER
ANN R. ROBINSON, MEMBER
THOMAS J. ZUKE, MEMBER
JANE L. LINCOLN, MEMBER
BRUCE VAN NOTE, MEMBER EX-OFFICIO

S. PETER MILLS, EXECUTIVE DIRECTOR

SOLICITATION 2022.54
EXPANSION JOINTS
RICHMOND ROAD (ROUTE 197) UNDERPASS
MILE 93.3

HNTB

STATE OF MAINE
TIMOTHY R. COTE
No. 10871
LICENSED
PROFESSIONAL ENGINEER

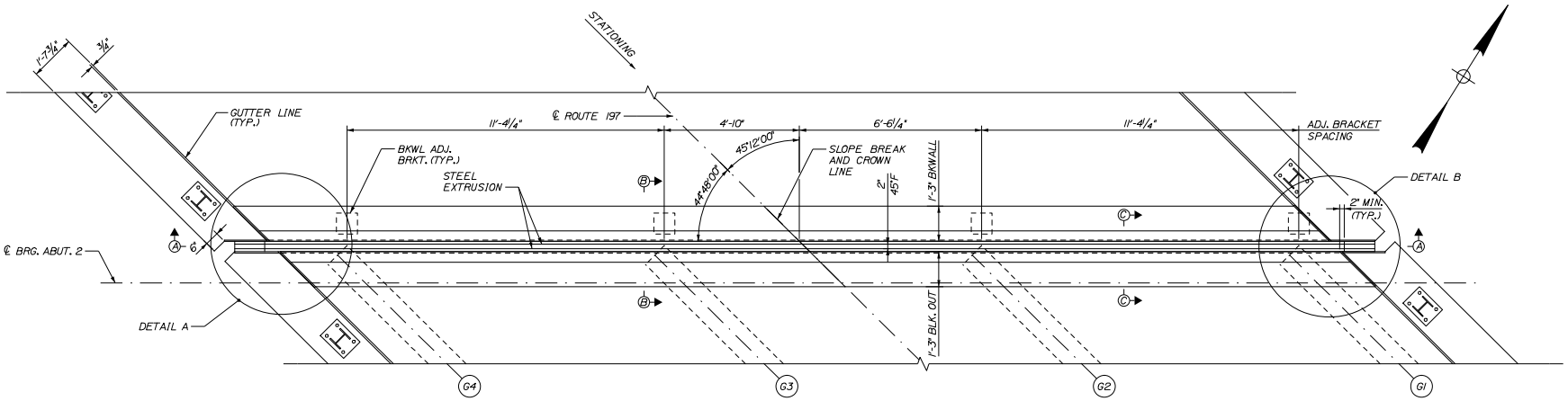
TIMOTHY R. COTE P.E.
VICE PRESIDENT

DATE 1/18/2022

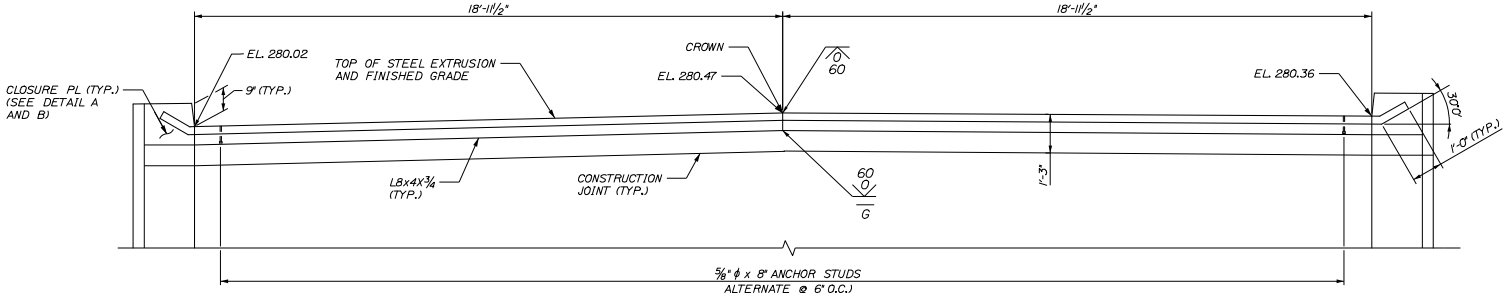
SOLICITATION 2022.54

Date:1/18/2022

Filename: 001_Title Sheet - Expansion Joint.dgn



PLAN - ABUTMENT 2



SECTION A-A
(BRIDGE RAILING NOT SHOWN)

EXPANSION JOINT NOTES:

1. THE EXPANSION DEVICE SHALL BE SET TO AN OPENING OF 2 INCHES IN THE FABRICATION SHOP AND SHALL BE SECURED TO THE GIRDER AND/OR ANCHOR BOLTS WHEN THE AMBIENT TEMPERATURE IS BETWEEN 40° AND 80°F. THE OPENING SHALL BE ADJUSTED TO REFLECT THE TEMPERATURE OF THE STRUCTURE AT THE TIME OF INSTALLATION. SEE TABLE FOR THE OPENING DIMENSIONS. JOINT OPENING SHALL BE MEASURED NORMAL TO THE CENTERLINE OF BEARING.
2. THE CONTRACTOR SHALL APPLY AN EPOXY BONDING AGENT SELECTED FROM MAINEDOT'S QUALIFIED PRODUCTS LIST TO ALL STEEL SURFACES OF THE EXPANSION JOINT THAT WILL BE EMBEDDED IN THE CONCRETE BEFORE PLACING CONCRETE.
3. ALL STEEL COMPONENTS SHALL BE AASHTO M270 GRADE 36, UNLESS OTHERWISE NOTED. THE EXPANSION JOINT ASSEMBLY AND ASSOCIATED HARDWARE SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.
4. FOR SECTIONS B-B AND C-C SEE SHEET 4.
5. THE CONTRACTOR SHALL APPLY AN EPOXY BONDING AGENT SELECTED FROM MAINEDOT'S QUALIFIED PRODUCTS LIST TO ALL STEEL SURFACES OF THE EXPANSION JOINT THAT WILL BE EMBEDDED IN CONCRETE BEFORE PLACING THE DECK AND BACKWALL CONCRETE
6. SEAL SHALL BE INSTALLED IN ONE CONTINUOUS PIECE.
7. THE GLAND SEALS TO BE FURNISHED SHALL HAVE MINIMUM MOVEMENT RATINGS AS FOLLOWS:
   ABUTMENT NO. 1 = 3 INCH
   ABUTMENT NO. 2 = 3 INCH

Scale: 1/2" = 1'-0"

Designed by: HNTB

No.	Revision	By	Date

CONSULTANT PROJECT MANAGER: Steve Hodgdon, P.E.

	By	Date		By	Date
Designed	IJM	01\22	Checked	BRG	01\22
Drawn	PEB	01\22	In Charge of	TRC	01\22

HNTB CORPORATION
82 Running Hill Road, Suite 201
South Portland, ME 04106
TEL (207) 774-5155
FAX (207) 228-0909

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

SUPERSTRUCTURE REPLACEMENT
ROUTE 197 UNDERPASS

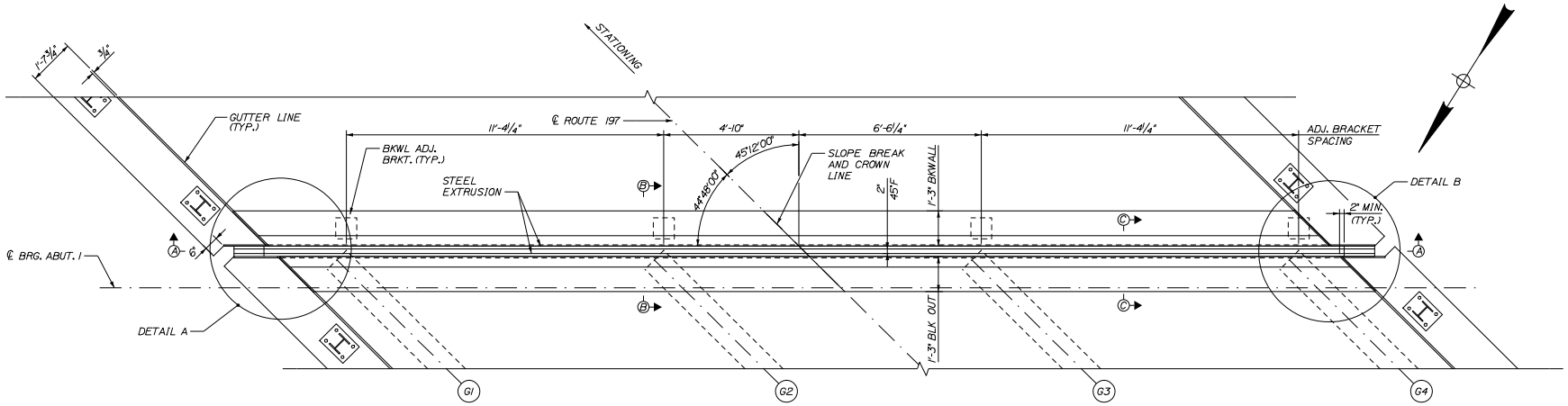
EXPANSION JOINT DETAILS I

SHEET NUMBER: 2 OF 5

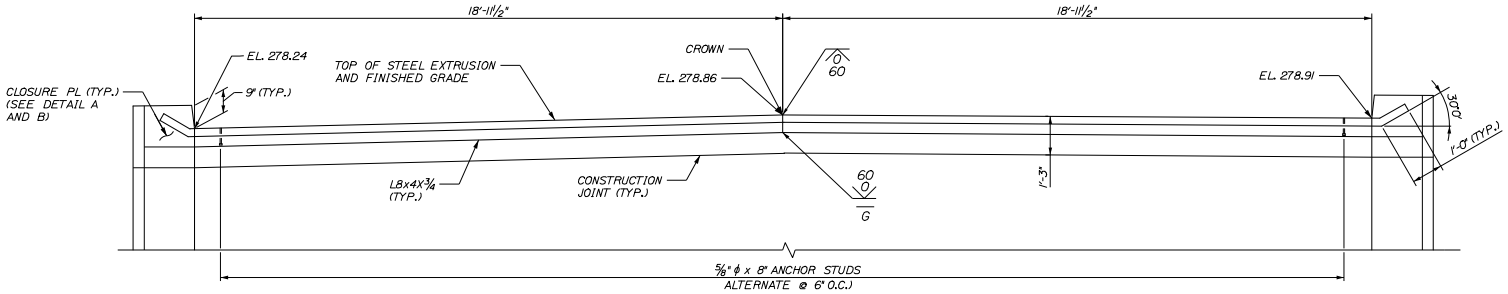
CONTRACT: 2022.54

Date: 1/19/2022

Filename: 064_Expansion Joint Details 1.dgn



PLAN - ABUTMENT 1



SECTION A-A
(BRIDGE RAILING NOT SHOWN)

Date:1/19/2022

Filename: 065_Expansion Joint Details 2.dgn

Scale:	Designed by:	HNTB CORPORATION	MAINE TURNPIKE	SUPERSTRUCTURE REPLACEMENT ROUTE 197 UNDERPASS
1/2" = 1'-0"	HNTB	82 Running Hill Road, Suite 201 South Portland, ME 04106 TEL (207) 774-5155 FAX (207) 228-0909	THE GOLD STAR MEMORIAL HIGHWAY	EXPANSION JOINT DETAILS II

No.	Revision	By	Date

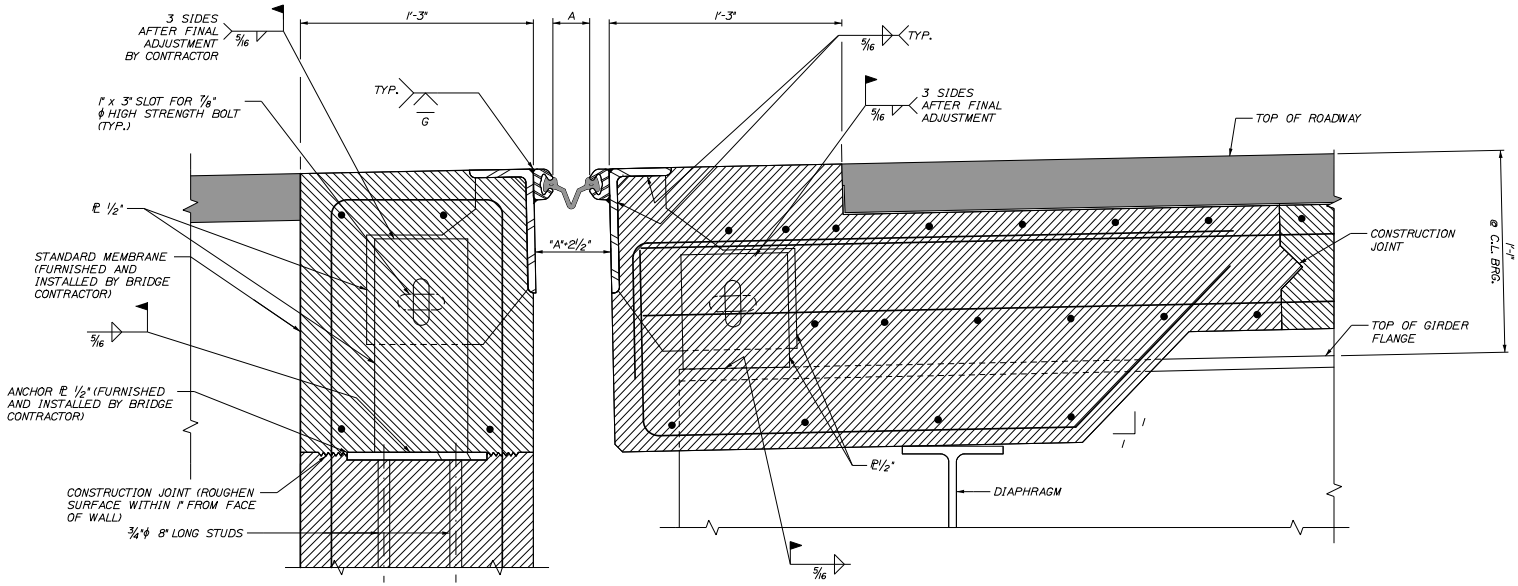
CONSULTANT PROJECT MANAGER: Steve Hodgdon, P.E.

	By	Date		By	Date
Designed	IJM	01\22	Checked	BRG	01\22
Drawn	PEB	01\22	In Charge of	TRC	01\22

MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

SHEET NUMBER:

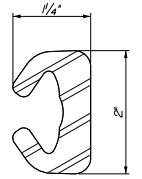
CONTRACT:2022.54



SECTION B-B (AT JOINT SUPPORT)

(PROFILE GRADE NOT SHOWN, SEE LABELS)

3" = 1'-0"

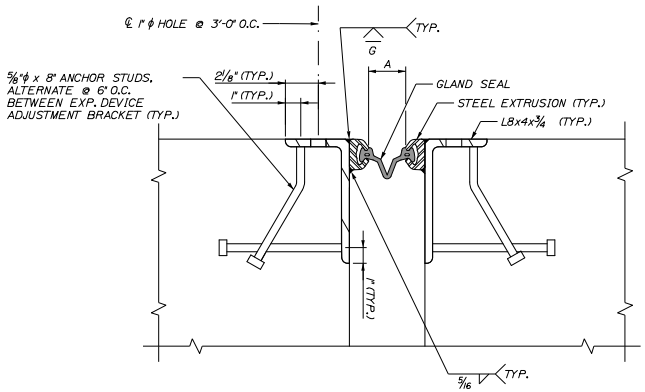


STEEL EXTRUSION

N.T.S.

EXPANSION JOINT SETTING TABLE	
TEMPERATURE	DIMENSION "A"
25°F	2⅛"
35°F	2 1/16"
45°F	2"
55°F	1 15/16"
65°F	1⅞"
75°F	1 13/16"
85°F	1¾"

DIMENSION "A" IS NORMAL TO CENTERLINE OF BEARING



SECTION C-C (BETWEEN JOINT SUPPORT)

NTS

Date:1/19/2022

Filename: 066_Expansion Joint Details 3.dgn

Scale: AS-NOTED

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Steve Hodgdon, P.E.

	By	Date		By	Date
Designed	IJM	01\22	Checked	BRG	01\22
Drawn	PEB	01\22	In Charge of	TRC	01\22

HNTB CORPORATION
82 Running Hill Road, Suite 201
South Portland, ME 04106
TEL (207) 774-5155
FAX (207) 228-0909

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

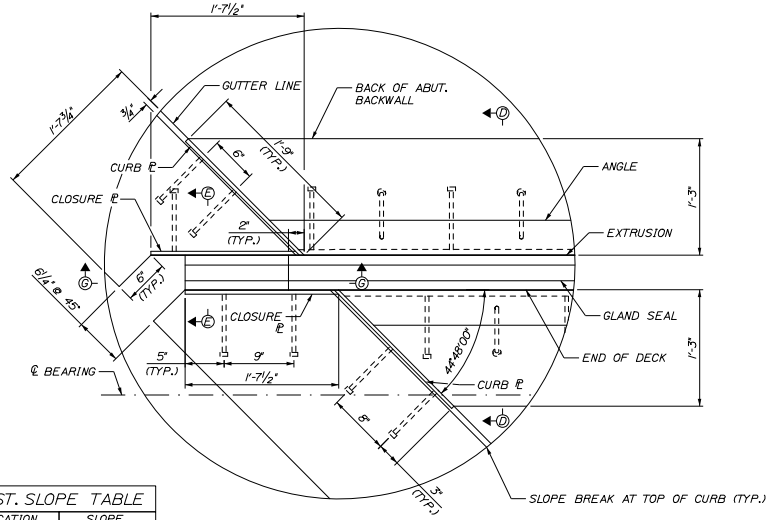
MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

SUPERSTRUCTURE REPLACEMENT
ROUTE 197 UNDERPASS

EXPANSION JOINT DETAILS III

SHEET NUMBER:

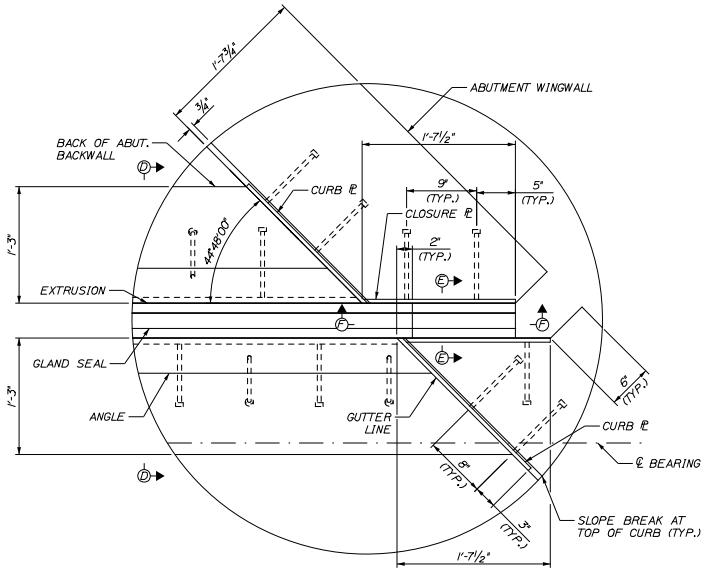
CONTRACT:2022.54



DETAIL A

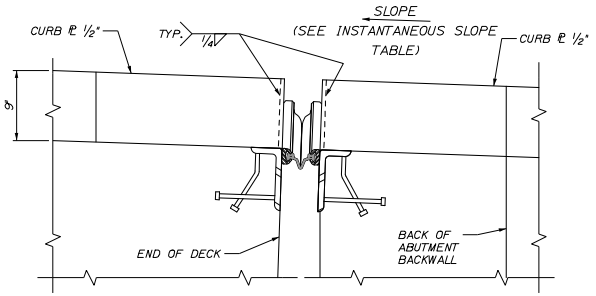
(ADJUSTMENTS BRACKETS NOT SHOWN)

INST. SLOPE TABLE	
LOCATION	SLOPE
ABUT. 2 LEFT	-1.1%
ABUT. 2 RIGHT	-1.5%
ABUT. 1 LEFT	-2.7%
ABUT. 1 RIGHT	-2.3%



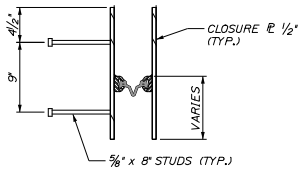
DETAIL B

(ADJUSTMENTS BRACKETS NOT SHOWN)

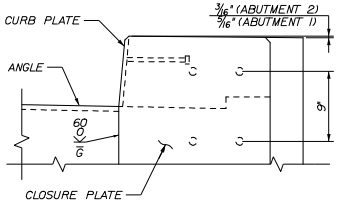


SECTION D-D

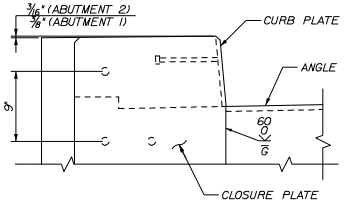
(SEE SECTION B-B FOR ROADWAY GRADES AT FACE OF CURB)



SECTION E-E



SECTION F-F



SECTION G-G

Date:1/19/2022

Filename: 067_Expansion Joint Details 4.dgn

Scale:	Designed by: HNTB	HNTB CORPORATION 82 Running Hill Road, Suite 201 South Portland, ME 04106 TEL (207) 774-5155 FAX (207) 228-0909	MAINE TURNPIKE	THE GOLD STAR MEMORIAL HIGHWAY	SUPERSTRUCTURE REPLACEMENT ROUTE 197 UNDERPASS
	CONSULTANT PROJECT MANAGER: Steve Hodgdon, P.E.				EXPANSION JOINT DETAILS IV
	Designed IJM 01\22 Checked BRG 01\22			MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.	SHEET NUMBER:
	Drawn PEB 01\22 In Charge of TRC 01\22				CONTRACT:2022.54 5 OF 5

No.	Revision	By	Date

SPECIAL PROVISION

SECTION 520

EXPANSION DEVICES – NON MODULAR
(Gland Seals)

This entire section is removed and replaced with the following:

520.01 Description This work shall consist of furnishing expansion devices including the gland seals, anchorage system, curb dams/plates, and adjustment devices as shown on the Plans, in accordance with these specifications and per the seal manufacturer's published recommendations.

520.02 Materials Materials shall meet the requirements specified in the following Sections of Division 700 – Materials:

Stud Shear Connectors, Anchors and Fasteners	711.06
Structural Steel	713.01
High Strength Bolts	713.02
Steel Extrusions	713.08
Elastomer for Seal Elements	714.01
Gland Type Seals	714.06

Gland seals shall be of the general configuration as shown in the Plans and shall be one of the seals listed on the Maine Department of Transportation's Qualified Products List.

523.03 Fabrication All work shall conform to the applicable provisions of Section 504 – Structural Steel. The Fabricator shall submit Working Drawings in accordance with Section 105.7, Working Drawings. Where Section 105.7 refers to "Contractor" or "Contractor's"; replace with "Fabricator" or "Fabricator's" as applicable.

Seals shall be furnished in one continuous length and splices will not be allowed.

520.04 Protective Coating The expansion device, including curb dams/plates, shall be galvanized in accordance with the requirements for Protective Coatings in Section 504, Structural Steel. The galvanizing on the metal surfaces in direct contact with neoprene seals shall be lightly sandblasted to a dull gray appearance to promote a high strength bond between the seal and mating surface, and for smoothness for installation purposes. Alternatively, this galvanized surface may be prepared to the manufacturer's published recommendations for installation and bonding of seal.

520.05 Delivery Expansion devices shall be shipped fully assembled. The unit shall be equipped with shipping and temperature adjustment devices approved by the Authority, and shall be preadjusted, in the fabrication facility, to the opening required at 45 degrees Fahrenheit.

520.07 Method of Measurement Expansion devices will be measured for payment as one lump sum, complete, accepted, and delivered consisting of all materials as shown on the Plans.

523.51 Basis of Payment Expansion devices will be paid at the contract lump sum price, which shall be full compensation for the fabrication, coatings, equipment, labor, and incidentals necessary for furnishing and delivering the expansion devices.

MAINE TURNPIKE AUTHORITY

ADDENDUM NO. 1

CONTRACT 2022.53

EXPANSION JOINT SOLICITATION

The following question was submitted to the Maine Turnpike Authority. The answer to the question is as noted. Bidders shall utilize this information in preparing their bid.

Question: On section A-A, sheets 2 of 5 and 3 of 5, are the 18'-11 ½" dimensions shown measured along the joint opening and adjusted for skew angle?

Answer: Yes, the 18'-11 ½" dimensions shown on Section A-A of sheets 2 and 3 are measured along the skew.

All bidders are requested to acknowledge the receipt of the Addendum No. 1 by signing below and faxing this sheet to Nathaniel Carll, Purchasing Department, Maine Turnpike Authority at 207-871-7739.

_____
Business Name

_____
Print Name and Title

_____
Signature

_____
Date

Very truly
yours,

MAINE TURNPIKE AUTHORITY

_____
Nathaniel Carll
Purchasing Department
Maine Turnpike
Authority

APPENDIX C

ELASTOMERIC BEARING PREPURCHASE

November 30, 2021

Dear Prospective Bidders:

Re: Maine Turnpike Authority
Route 197 Bridge Rehabilitation Project
Fabrication of Bridge Bearings – Solicitation #2022.52
Request for Quotation

The Maine Turnpike Authority (MTA) invites quotations for the fabrication of elastomeric bearing assemblies in accordance with the attached Plans and Specifications for incorporation into the Route 197 Bridge Rehabilitation Project. The bridge bearing assemblies are being purchased by the MTA to ensure the bearings are available to the (to be selected) bridge contractor so the bridge rehabilitation project may be completed, and the bridge completely reopened, in Fall 2022.

The work includes shop drawings; material purchases; material certifications; fabrication of bearing assemblies (including reinforced elastomeric bearings, load plates, sole plates, shear blocks, anchor rods, heavy hex nuts, plate washers, etc.); preparation and shop coating (galvanized) of steel; and shipping of bearing assemblies to the MTA Maintenance Facility in Litchfield, Maine for unloading by others.

Furnishing bearing assemblies shall be per this solicitation letter, the *MaineDOT Standard Specifications, Revision of November 2014* with *MTA 2016 Supplemental Specifications*, the *MaineDOT Standard Details, Revision of November 2014* with updates; and modified by the attached MTA Special Provision Section 523 (3 pages), Solicitation 2022.52 – Elastomeric Bearing Plans for the Richmond Road (Route 197) Underpass (3 sheets). (The *MTA Supplemental Specifications* completely replaces Division 100 of the *MaineDOT Standard Specifications*).

Included in the bid price will be all costs associated with delivering the materials F.O.B. to:

MTA Litchfield Maintenance Facility
362 Academy Road
Litchfield, Maine 04350

The successful Bidder shall have all anchor rods (including nuts and plate washers) delivered on or before May 13, 2022. All bearing assemblies shall be delivered on or before June 13, 2022.

Partial payments for material purchases and bearing assembly fabrication may be invoiced (based on percent of work completed) up to 92.5 % of the costs incurred on a monthly basis. Unpaid material purchases, fabrication costs, and all delivery costs may be invoiced once the

bearing assemblies are delivered. Payments will be made by the Authority no more than 30 days after the invoice is received.

Should materials not be delivered by the dates specified, or a later date approved by the Authority, a penalty of $500.00 will be assessed for each calendar day the required materials are not delivered. The penalty may be waived by the Authority if the bridge contractor is not ready for the anchor rods or bearing assemblies on the approved dates.

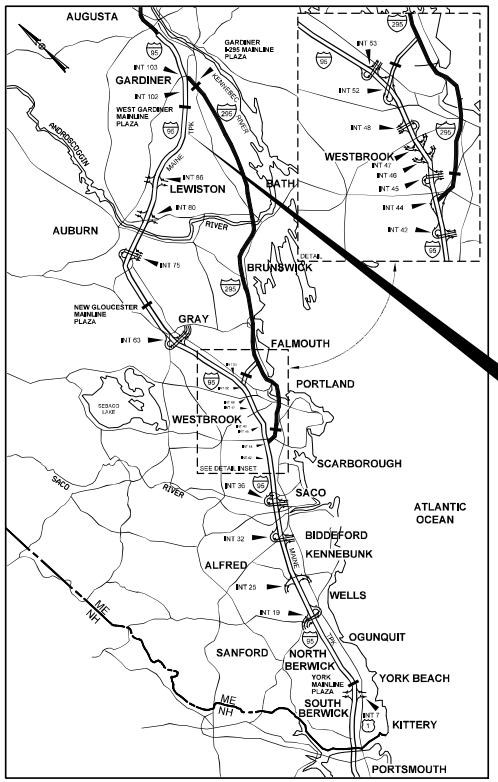
Quotations must be received at or before 11:00 a.m. on Tuesday, December 15, 2021 at the Maine Turnpike Authority, 2360 Congress Street, Portland, Maine 04103 or by fax to 207-871-7739. The award will be made on or before December 20, 2021.

If you have any questions regarding this Request for Quotation, please fax all questions to Nate Carll, Purchasing Manager, at (207) 871-7739 or email ncarll@maineturnpike.com. All questions must be received by December 10, 2021 at or before 2:00 p.m. Responses will not be prepared for questions received by telephone. Bidders shall not contact any other Authority staff or Consultants for clarifications of work, and the Authority will not be responsible for any interpretations so obtained.

The Authority reserves the unqualified right to reject all quotations or to accept the quotation 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



LOCATION MAP

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MAINE TURNPIKE AUTHORITY

DANIEL E. WATHEN, CHAIR
ROBERT D. STONE, VICE CHAIR
MICHAEL J. CIANCHETTE, MEMBER
ANN R. ROBINSON, MEMBER
THOMAS J. ZUKE, MEMBER
JANE L. LINCOLN, MEMBER
BRUCE VAN NOTE, MEMBER EX-OFFICIO

S. PETER MILLS, EXECUTIVE DIRECTOR

SOLICITATION 2022.52
ELASTOMERIC BEARINGS
RICHMOND ROAD (ROUTE 197) UNDERPASS
MILE 93.3

HNTB

STATE OF MAINE
TIMOTHY R. COTE
No. 10871
LICENSED
PROFESSIONAL ENGINEER

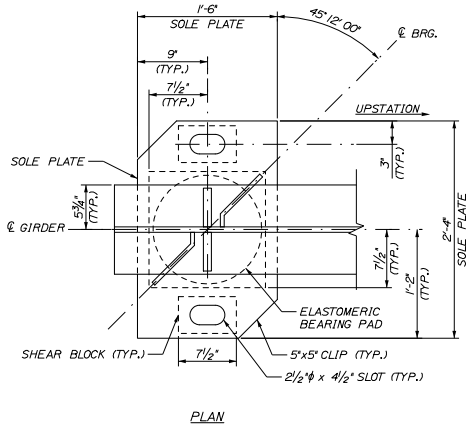
TIMOTHY R. COTE P.E.
VICE PRESIDENT

DATE

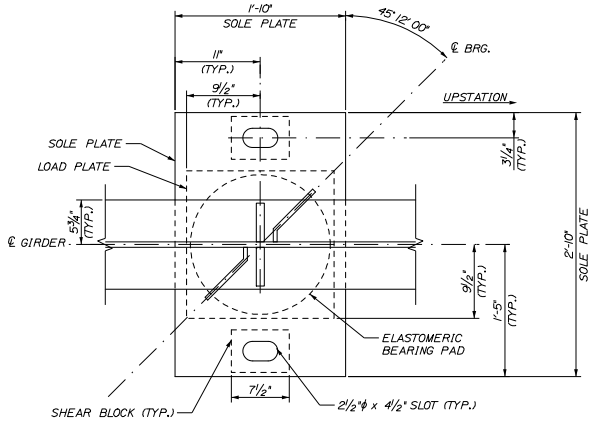
SOLICITATION 2022.52

Date:11/30/2021

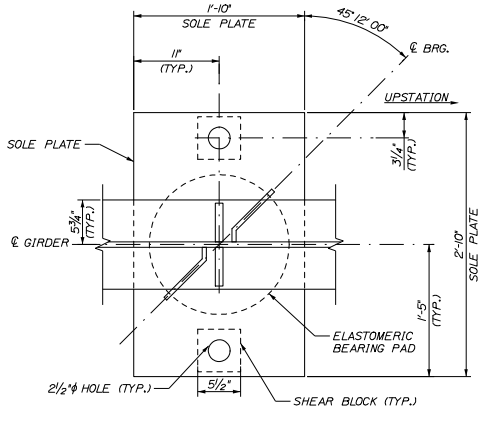
Filename: 001_Title Sheet - Bearings.dgn



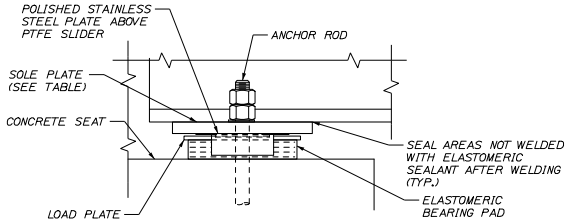
PLAN



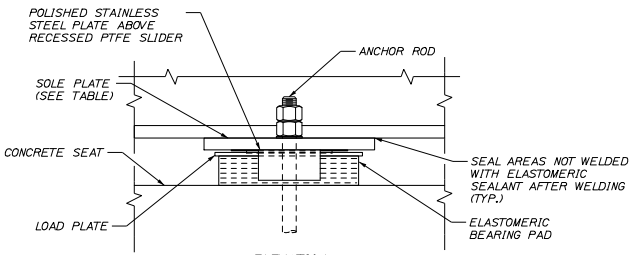
PLAN



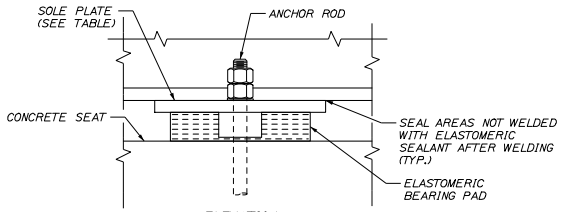
PLAN



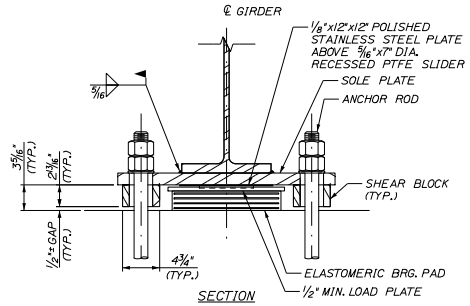
ELEVATION



ELEVATION

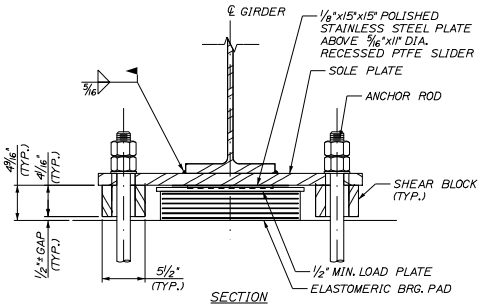


ELEVATION



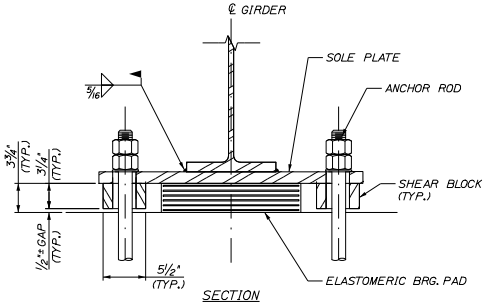
SECTION

EXPANSION BEARING DETAILS
AT ABUTMENTS
(8 REQUIRED)



SECTION

EXPANSION BEARING DETAILS
AT PIER 1 & 3
(8 REQUIRED)



SECTION

FIXED BEARING DETAILS
AT PIER 2
(4 REQUIRED)

Date:12/17/2021

Filename: 052_Bearing Details 1.dgn

Scale: 1½" = 1'-0"

Designed by: HNTB

No.	Revision	By	Date
1	REVISED SHEET	BRG	12/21

CONSULTANT PROJECT MANAGER: Steve Hodgdon, P.E.

	By	Date		By	Date
Designed	BRG	12\21	Checked	IJM	12\21
Drawn	PEB	12\21	In Charge of	TRC	12\21

HNTB CORPORATION
82 Running Hill Road, Suite 201
South Portland, ME 04106
TEL (207) 774-5155
FAX (207) 228-0909

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

SUPERSTRUCTURE REPLACEMENT
ROUTE 197 UNDERPASS

BEARING DETAILS I

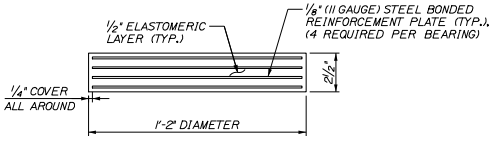
SHEET NUMBER:

CONTRACT:2022.52

Date:12/17/2021

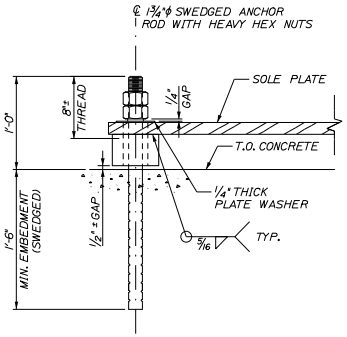
BEARING NOTES:

1. ELASTOMER SHALL BE 100% POLYCHLOROPRENE (NEOPRENE) WITH DUROMETER HARDNESS OF 50. THE SHEAR MODULUS OF THE ELASTOMER SHALL BE BETWEEN 100 AND 130 PSI.
2. SOLE PLATE, LOAD PLATE, AND ANCHOR BLOCK SHALL BE AASHTO M270 GRADE 50.
3. CONTRACTOR SHALL RE-FINISH GALVANIZING, IN ACCORDANCE WITH ASTM A780, AFTER WELDING.
4. BEARING PADS WERE DESIGNED USING "METHOD A" FROM THE AASHTO LRFD SPECIFICATIONS AND SHALL BE SUBSEQUENTLY TESTED IN ACCORDANCE WITH THE SPECIFICATIONS.
5. ANCHOR RODS SHALL MEET THE REQUIREMENTS OF ASTM F1554, GRADE 105, AND SHALL BE SWEDGED OR THREADED ON THE EMBEDDED PORTION OF THE ROD.
6. ALL STEEL REINFORCING PLATES SHALL MEET THE REQUIREMENTS OF ASTM A36, UNLESS OTHERWISE NOTED, AND SHALL BE DEBURRED PRIOR TO MOLDING THE BEARING.
7. VULCANIZING ELASTOMER TO STEEL PLATES SHALL BE DONE DURING THE PRIMARY MOLD PROCESS.
8. ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE, AND A DIRECTION ARROW THAT POINTS UP-STATION. ALL MARKS SHALL BE PERMANENT AND SHALL BE VISIBLE AFTER THE BEARING IS INSTALLED.
9. BEARINGS SHALL BE COVERED DURING TRANSIT.
10. THE BEARINGS ARE DESIGNED SO THAT THE SUPERSTRUCTURE MAY BE ERECTED WHEN THE AMBIENT AIR TEMPERATURE IS WITHIN THE RANGE OF 35°F and 80°F.
11. ALL PRECAUTIONS NECESSARY SHALL BE TAKEN TO PROTECT BEARING COMPONENTS FROM FIELD WELD FLASH AND SPATTER. WELDING PROCEDURES SHALL BE ESTABLISHED BY THE CONTRACTOR TO RESTRICT THE MAXIMUM TEMPERATURE OF STEEL ADJACENT TO THE ELASTOMER TO 200°F THROUGH USE OF TEMPERATURE INDICATING CRAYONS OR OTHER SUITABLE MEANS.
12. ALL EXPOSED STEEL COMPONENTS SHALL BE HOT DIP GALVANIZED AFTER STEEL FABRICATION IN ACCORDANCE WITH ASTM A123 AND ASTM A153 AS APPLICABLE.
13. ANCHOR RODS SHALL BE SET BEFORE INSTALLING STRUCTURAL STEEL.
14. PTFE SLIDER SHALL BE DIMPLED AND LUBRICATED. LUBRICATION SHALL BE SUPPLIED AND INSTALLED PER THE MANUFACTURER'S RECOMMENDATION TO ENSURE A COEFFICIENT OF FRICTION LESS THAN OR EQUAL TO 0.03 AT 68 DEGREES FAHRENHEIT.
15. RECESS AND BOND THE PTFE TO LOAD PLATE WITH AN APPROVED ADHESIVE. THE SURFACE PREPARATION OF THE PTFE AND THE MATING STAINLESS STEEL SHALL BE ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.



ABUTMENT ELASTOMERIC BEARING PAD

(8 REQUIRED)
3" = 1'-0"



ANCHOR ROD DETAIL

(LOAD PLATE, PTFE, AND BEARING PAD NOT SHOWN FOR CLARITY)
N.T.S.
(40 REQUIRED)

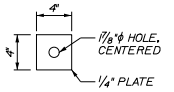
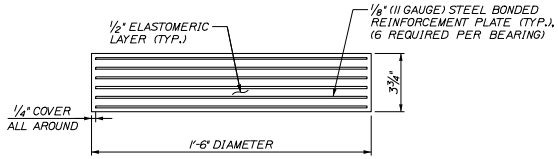


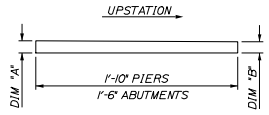
PLATE WASHER DETAIL

N.T.S.
(40 REQUIRED)



PIER ELASTOMERIC BEARING PAD

(12 REQUIRED)
3" = 1'-0"



ELEVATION - SOLE PLATE

N.T.S.
(20 REQUIRED)

BEARING ASSEMBLY SUMMARY	
COMPONENT	QUANTITY
ABUTMENT EXPANSION BEARINGS (8)	
ELASTOMERIC BEARING PAD (14" DIAMETER)	8
LOAD PLATE (15" x 15")	8
PTFE SLIDER (7" DIA.)	8
STAINLESS STEEL PLATE (12" x 12")	8
SHEAR BLOCK (7 1/2" x 4 3/4")	16
SOLE PLATE (18" x 28")	8
ANCHOR RODS (1 3/4" DIA. x 30" LONG)	16
PLATE WASHER (4" x 4")	16
HEAVY HEX NUTS (1 3/4" DIA.)	32
PIER EXPANSION BEARINGS (8)	
ELASTOMERIC BEARING PAD (18" DIAMETER)	8
LOAD PLATE (19" x 19")	8
PTFE SLIDER (11" DIA.)	8
STAINLESS STEEL PLATE (15" x 15")	8
SHEAR BLOCK (7 1/2" x 5 1/2")	16
SOLE PLATE (22" x 34")	8
ANCHOR RODS (1 3/4" DIA. x 30" LONG)	16
PLATE WASHER (4" x 4")	16
HEAVY HEX NUTS (1 3/4" DIA.)	32
PIER FIXED BEARINGS (4)	
ELASTOMERIC BEARING PAD (18" DIAMETER)	4
SHEAR BLOCK (5 1/2" x 5 1/2")	8
SOLE PLATE (22" x 34")	4
ANCHOR RODS (1 3/4" DIA. x 30" LONG)	8
PLATE WASHER (4" x 4")	8
HEAVY HEX NUTS (1 3/4" DIA.)	16

BEARING DESIGN CRITERIA		
CRITERIA	ABUTMENTS	PIERS
UNFACTORED DEAD LOAD	34 KIP	113 KIP
UNFACTORED LIVE LOAD	60 KIP	100 KIP
MAX. LONGITUDINAL DISPL.	1.52 INCHES	0.75 INCHES
ROTATIONAL TOLERANCE	0.005 RAD	0.005 RAD

SOLE PLATE THICKNESS TABLE (INCHES)					
LOCATION	DIM	GIRDER			
		G1	G2	G3	G4
ABUT. 2	DIM "A"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
	DIM "B"	1 3/4"	1 3/4"	1 3/4"	1 3/4"
PIER 3	DIM "A"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
	DIM "B"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
PIER 2	DIM "A"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
	DIM "B"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
PIER 1	DIM "A"	1 13/16"	1 13/16"	1 13/16"	1 3/4"
	DIM "B"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
ABUT. 1	DIM "A"	1 1/8"	1 1/8"	1 1/8"	1 13/16"
	DIM "B"	1 1/2"	1 1/2"	1 1/2"	1 1/2"

Filename: 053_Bearing Details 2.dgn

Scale:

No.	Revision	By	Date
1	REVISED SHEET	BRG	12/21

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Steve Hodgdon, P.E.

	By	Date		By	Date
Designed	BRG	12\21	Checked	IJM	12\21
Drawn	PEB	12\21	In Charge of	TRC	12\21

HNTB CORPORATION
82 Running Hill Road, Suite 201
South Portland, ME 04106
TEL (207) 774-5155
FAX (207) 228-0909

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

SUPERSTRUCTURE REPLACEMENT
ROUTE 197 UNDERPASS

BEARING DETAILS II

SHEET NUMBER:

CONTRACT:2022.52

SPECIAL PROVISION

SECTION 523

BEARINGS
(Laminated Elastomeric Bearings)

This entire section is removed and replaced with the following:

523.01 Description

This work shall consist of fabricating, testing, and furnishing bearing assemblies in accordance with this specification and in conformance with the Plans.

523.02 Materials

Elastomer shall be as noted in the Plans and conform to AASHTO LRFD Bridge Construction Specifications Section 18.2.3 except that the elastomer compound shall be Grade 3 or 4 or 5. The Fabricator shall supply a consistent value of hardness.

- Structural steel shall be as noted in the Plans.
- Steel plate washers shall conform to ASTM A 36.
- Anchor rods shall be as noted in the Plans.
- Stainless Steel shall conform to the requirements of ASTM A 167 Type 308 or ASTM A 240, Type 304.
- Polytetrafluoroethylene (PTFE), filled or unfilled, shall conform to the requirements of Section 18.8 of AASHTO LRFD Bridge Construction Specifications. PTFE resin shall conform to the requirements of ASTM D 4894 or D 4895.

523.03 Submittals

The Fabricator shall prepare shop detail drawings in accordance with Section 105.7, Working Drawings. The drawings will be reviewed in accordance with the applicable requirements of Section 105.7. Changes and revisions to the reviewed Working Drawings shall require further review by the Authority.

Where Section 105.7 refers to “Contractor” or “Contractor’s”; replace with “Fabricator” or “Fabricator’s” as applicable.

523.05 Fabrication

Steel fabrication work shall comply with Section 504, Structural Steel.

Elastomeric Bearings shall be fabricated in accordance with AASHTO M251. All components of Laminated Elastomeric Bearings shall be molded as an integral unit. Cut edges shall have an ANSI 250 mils finish. Steel laminates shall be abrasive blast cleaned to an SSPC SP-6 and protected from contamination. The Fabricator must be on the latest Maine Department of Transportation Qualified Supplier List.

Fabrication tolerances shall comply with Section 18.1 of the AASHTO, LRFD Bridge Construction Specifications (Table 18.1.4.2-1) unless otherwise noted on the Plans or in this Special Provision.

523.051 Protective Coating

Steel parts of bearings shall have protective coatings per the Plans and in accordance with the Section 506, Shop Applied Protective Coating – Steel.

523.061 Material Friction Test

The coefficient of friction ('cof') between the stainless steel and PTFE (dimpled and lubricated) shall be measured. Tests shall be made either on samples taken from the same batch of materials as those used in the prototype bearings or the tests may, at the manufacturer's option, be conducted on the finished bearings. Only new materials shall be used; material that has been previously tested shall not be used.

The surfaces shall be thoroughly cleaned with a degreasing solvent and lubricated as recommended by the manufacturer. The mating surfaces for the test pieces shall have a common area no less than the smaller of the bearing area or 7.0 square inches.

The test piece shall be loaded in compression to a stress corresponding to their maximum service dead load plus live load, which shall be held for one hour prior to, and throughout the duration of, the sliding test. At least 100 cycles of sliding, each consisting of at least 1.0 inch of movement, shall then be applied at a temperature between 66- and 70-degrees Fahrenheit. The uniform sliding speed shall be 2.5 inches per minute.

The breakaway 'cof' shall be computed for each direction of each cycle and its mean and standard deviation shall be computed for the sixth and twelfth cycles. The initial static breakaway 'cof' for the first cycle shall not exceed twice the design 'cof'. The maximum 'cof' for all subsequent cycles shall not exceed the design 'cof'. Failure of a single sample shall result in rejection of the entire lot.

Following the 100 cycles of testing, the breakaway 'cof' shall be determined again and shall not exceed the initial value. The bearing of specimen shall show no appreciable sign of wear, bond failure, or other defects.

523.07 Inspection

The Fabricator shall notify the Resident at least 10 days in advance of the start of fabrication so that inspection work may be provided by the Authority. All work may be subject to inspection by the Authority.

The Fabricator is responsible for Quality Control (QC). All necessary measurements and test results shall be documented in a Job Control Record (JCR). Materials and workmanship that do not meet the contract requirements shall be rejected. The results of all measurements and testing shall be made available to the Authority and the Quality Assurance Inspector (QAI).

Quality Assurance (QA) is the prerogative of the Authority. The QAI may verify the Fabricator's QC is performing properly, review documentation, periodically inspect workmanship and witness testing. QA testing deemed necessary by the Authority in addition to the minimum testing requirements shall be scheduled to minimize interference with the production schedule.

523.08 Certification

The Fabricator shall furnish a materials certification letter in accordance with Division 700.

523.23 Testing

The following testing shall be performed prior to delivery of the bearings:

1. Ambient Temperature Tests on the Elastomer (This test is required for each elastomer formulation)

   The bond to the reinforcement shall develop a minimum peel strength of 40 pounds/inch. Peel strength tests shall be performed in accordance with ASTM D429, Method B.

2. Low-Temperature Test on the Elastomer (This test is required for each elastomer formulation)

   Low-temperature tests shall be performed to ensure the elastomer compound satisfies all criteria for its grade. Alternatively, the Fabricator may choose to provide certificates to the Resident from low-temperature crystallization tests performed on identical material, within the last year.

3. Visual Inspection of the Finished Bearing Each laminated bearing shall be inspected for compliance with dimensional tolerances and for overall quality of manufacture. In steel reinforced bearings, the edges of the steel shall be protected everywhere from corrosion.

4. Short-Duration Compression Tests on Bearings Each laminated bearing shall be loaded in compression to 150% of the Bearing Design Load. The load shall be maintained for 5 minutes and released. The same load shall be reapplied and maintained for a second period of 5 minutes. The bearing shall be examined visually during the second loading. If the load drops below the required value during either application, the test shall be performed again.

   The bearing shall be rejected if: the bulging pattern suggests laminate parallelism outside of the specified tolerance; a layer thickness is outside the specified tolerances; a poor laminate bond exists; or three or more separate surface cracks greater than 0.08 inch deep exists.

5. Long-Duration Compression Tests on Bearings (This test is required on 10% of each type and size of laminated bearing furnished)

   The long-term compression tests shall be performed as specified in item 4 above, “Short-Duration Compression Tests on Bearings”, except that the second load shall be maintained for 15 hours. The bearing shall be visually examined at the end of the tests while still under the load. If any patterns or cracks specified in item 4 occur, all bearings from that lot shall be rejected, unless the Fabricator elects to test each bearing of the lot. If the additional testing does not reveal any rejectable defects as noted in item 4, the bearings will be accepted.

6. Shear Modulus Tests on Material from Bearings (This test is required for each elastomer formulation)

   The shear modulus of the elastomer in the finished bearing shall be evaluated by testing a specimen cut from it using the apparatus and procedure described in Annex A of the ASTM D4014 specifications, amended where necessary in Tables A or B; or at the discretion of the Authority, a comparable nondestructive stiffness test may be conducted on a pair of finished bearings. The shear modulus shall fall within the specified range. If the test in conducted on the finished bearings, the material shear modulus shall be computed from the measured shear stiffness of the bearings, taking due account of the influence on shear stiffness of bearing geometry and compressive load.

   Shear modulus tests performed on a sample of the same material as was used to fabricate the bearings will be acceptable. Shear modulus testing shall be performed using the apparatus and procedure described in ASTM D4014, Annex A.

523.50 Method of Measurement

Bearings will be measured for payment as one lump sum complete and accepted, consisting of all materials for the fabricated bearing assemblies as shown on the Plans.

523.51 Basis of Payment

Bearings will be paid for at the contract lump sum price, which shall be full compensation for the fabrication, testing, and delivery.

MAINE TURNPIKE AUTHORITY

ADDENDUM NO. 1

CONTRACT 2022.52

BEARINGS SOLICITATION

The following question was submitted to the Maine Turnpike Authority. The answer to the question is as noted. Bidders shall utilize this information in preparing their bid.

Question: Based on the sizes currently, we don't seem to have enough space for tooling between the pad and weld / shear block. Typically, we need at least 1-1/2" clearance for round pads. Can anchor bolts be moved to accommodate the clearance required?

Answer: The width of load plate for the abutment bearing assemblies shall be increased from 2'-2" to 2'-4". Also, the width of the load plate for the pier bearing assemblies shall be increased from 2'-8" to 2'-10". These modifications increase the width of the load plate by 1" on each side of the bearing and provide the minimum clearance requested between the pad and the shear block. A revised plan sheet 2 of 3 will be furnished to the successful bidder following award.

All bidders are requested to acknowledge the receipt of the Addendum No. 1 by signing below and faxing this sheet to Nathaniel Carll, Purchasing Department, Maine Turnpike Authority at 207-871-7739.

_____
Business Name

_____
Print Name and Title

_____
Signature

_____
Date

Very truly
yours,

MAINE TURNPIKE AUTHORITY

_____
Nathaniel Carll
Purchasing Department
Maine Turnpike
Authority

MAINE TURNPIKE AUTHORITY

ADDENDUM NO. 2

CONTRACT 2022.52

BEARINGS SOLICITATION

The following changes are made to the Request for Quotation (RFQ) to allow additional time for the abutment bearing assembly plans to be modified for a sliding surface component:

1. Quotations must be received at or before 11:00 a.m. on Thursday, December 30, 2021.

2. Based on revised plans being issued on or before December 20, 2021, all questions must be received by December 23, 2021 at or before 2:00 pm.

All bidders are requested to acknowledge the receipt of the Addendum No. 2 by signing below and faxing this sheet to Nathaniel Carll, Purchasing Department, Maine Turnpike Authority at 207-871-7739.

_____
Business Name

_____
Print Name and Title

_____
Signature

_____
Date

Very truly
yours,

MAINE TURNPIKE AUTHORITY

_____
Nathaniel Carll
Purchasing Department
Maine Turnpike
Authority

MAINE TURNPIKE AUTHORITY

ADDENDUM NO. 3

CONTRACT 2022.52

BEARINGS SOLICITATION

The following changes are made to the Request for Quotation (RFQ):

1. Plan sheets 2 and 3 are removed and replaced with the attached sheets (revision 1). These sheets include changes made to sole plates, load plates, and the addition of sliding provisions for the abutment bearing assemblies.
2. Special provision Section 523 is removed with the attached special provision (revision 12/16/2021). This special provision includes new information added under the Materials subsection and includes a new subsection, 523.061 Material Friction Test.

All bidders are requested to acknowledge the receipt of the Addendum No. 2 by signing below and faxing this sheet to Nathaniel Carll, Purchasing Department, Maine Turnpike Authority at 207-871-7739.

_____
Business Name

_____
Print Name and Title

_____
Signature

_____
Date

Very truly
yours,

MAINE TURNPIKE AUTHORITY

_____
Nathaniel Carll
Purchasing Department
Maine Turnpike
Authority

APPENDIX D

ENVIRONMENTAL PERMIT

DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT, CORPS OF ENGINEERS
696 VIRGINIA ROAD
CONCORD, MASSACHUSETTS 01742-2751

REPLY TO
ATTENTION OF

Maine Turnpike Authority
2360 Congress Street
Portland, Maine 04102
sdonohue@maineturnpike.com

CORPS PERMIT # NAE-2021-03288
CORPS GPs 1 & 22
STATE ID# NRPA

DESCRIPTION OF WORK:
Place permanent and temporary fill within freshwater wetlands at Route 197 where it crosses over I-95 in Litchfield, Maine in order to rehabilitate an existing bridge by raising the bridge, repairing the existing abutments and piers, reconstruct approximately 1,400 linear feet of Route 197 to match into the raised bridge structure, and slipline rehabilitation of an existing deteriorated 24-inch diameter corrugated metal wetland cross culvert beneath the eastern bridge approach fill with a 21-inch diameter liner. This work will result in approximately 7,996 s.f. of permanent and 8,005 s.f. of temporary wetland impact and is shown on the attached plans entitled "Route 197 Bridge Rehabilitation-USGS Topographic Map" in 1 sheet and not dated, and "SUPERSTRUCTURE REPLACEMENT ROUTE 197 UNDERPASS" in 11 sheets and dated "12/21"..

LAT/LONG COORDINATES: 44.131363º **°N** -69.955551º **°W** **USGS QUAD:** Purgatory, ME

I. CORPS DETERMINATION:
Based on our review of the information you provided, we have determined that your project will have only minimal individual and cumulative impacts on waters and wetlands of the United States. **Your work is therefore authorized by the U.S. Army Corps of Engineers under the Federal Permit, the Maine General Permits (GPs) which can be found at:** https://www.nae.usace.army.mil/Missions/Regulatory/State-General-Permits/Maine-General-Permit/ Accordingly, we do not plan to take any further action on this project.

You must perform the activity authorized herein in compliance with all the terms and conditions of the GP [including any attached Additional Conditions and any conditions placed on the State 401 Water Quality Certification including any required mitigation]. Please review the enclosed GPs, including the GPs conditions beginning on page 5, to familiarize yourself with its contents. You are responsible for complying with all of the GPs requirements; therefore you should be certain that whoever does the work fully understands all of the conditions. You may wish to discuss the conditions of this authorization with your contractor to ensure the contractor can accomplish the work in a manner that conforms to all requirements.

If you change the plans or construction methods for work within our jurisdiction, please contact us immediately to discuss modification of this authorization. This office must approve any changes before you undertake them.

Condition 45 of the GPs (page 19) provides one year for completion of work that has commenced or is under contract to commence prior to the expiration of the GPs on October 14, 2025. You will need to apply for reauthorization for any work within Corps jurisdiction that is not completed by October 14, 2026.

This authorization presumes the work shown on your plans noted above is in waters of the U.S. Should you desire to appeal our jurisdiction, please submit a request for an approved jurisdictional determination in writing to the undersigned.

No work may be started unless and until all other required local, State and Federal licenses and permits have been obtained. **This includes but is not limited to a Flood Hazard Development Permit issued by the town if necessary.**

II. STATE ACTIONS: PENDING [X], ISSUED [ ], DENIED [ ] DATE_____

APPLICATION TYPE: PBR: X , TIER 1: , TIER 2 : , TIER 3: , LURC: DMR LEASE: NA:

III. FEDERAL ACTIONS:

JOINT PROCESSING MEETING: NA LEVEL OF REVIEW: SELF-VERIFICATION: X PRE-CONSTRUCTION NOTIFICATION:

AUTHORITY (Based on a review of plans and/or State/Federal applications): SEC 10_____, 404 X 10/404_____, 103_____

EXCLUSIONS: The exclusionary criteria identified in the general permit do not apply to this project.

FEDERAL RESOURCE AGENCY OBJECTIONS: EPA NO , USF&WS NO , NMFS NO

If you have any questions on this matter, please contact my staff at 978-318-8676 at our Augusta, Maine Project Office. In order for us to better serve you, we would appreciate your completing our Customer Service Survey located at: http://corpsmapu.usace.army.mil/cm_apex/f?p=136:4:0

Richard Kristoff Jr. Digitally signed by Richard Kristoff Jr. Date: 2022.02.04 07:22:40 -05'00'

RICHARD KRISTOFF
SENIOR PROJECT MANAGER
MAINE PROJECT OFFICE

Frank J Del Giudice Digitally signed by Frank J Del Giudice Date: 2022.02.04 08:31:41 -05'00'

FRANK J. DEL GIUDICE
CHIEF, PERMITS & ENFORCEMENT BRANCH
REGULATORY DIVISION

US Army Corps
of Engineers ®
New England District

PLEASE NOTE THE FOLLOWING GENERAL AND SPECIAL CONDITIONS FOR
DEPARTMENT OF THE ARMY
MAINE GENERAL PERMITS 1 & 22
PERMIT NO. NAE-2021-03288

GENERAL CONDITIONS

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.

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, geotextile silt fences, erosion control mixes, hay bales or other devices) downhill of all exposed areas, retention of existing vegetated buffers, application of temporary mulching during construction, and permanent seeding and stabilization shall be installed and properly maintained to reduce erosion and retain sediment on-site during and after construction. They shall be capable of preventing erosion; of collecting sediment, suspended and floating materials; and of filtering fine sediment.

b. Temporary sediment control barriers shall be removed upon completion of work, but not until all disturbed areas are permanently stabilized. The sediment collected by these sediment barriers shall be removed and placed at an upland location and stabilized to prevent its later erosion into a waterway or wetland.

c. All exposed soil and other fills shall be permanently stabilized at the earliest practicable date.

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.

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,

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. **These forms are attached after the plans.**

US Army Corps of Engineers ®
New England District

(Minimum Notice: Permittee must sign and return notification within one month of the completion of work.)

COMPLIANCE CERTIFICATION FORM

Corps of Engineers Permit No: NAE-2021-03288

Name of Permittee: Maine Turnpike Authority

Permit Issuance Date: Feb 4, 2022

Please sign this certification and return it to the following address upon completion of the activity and any mitigation required by the permit. You must submit this after the mitigation is complete, but not the mitigation monitoring, which requires separate submittals.

****
* MAIL TO: U.S. Army Corps of Engineers, New England District *
* Policy & Technical Support Branch *
* Regulatory Division *
* 696 Virginia Road *
* Concord, Massachusetts 01742-2751 *
****

Please note that your permitted activity is subject to a compliance inspection by an U.S. Army Corps of Engineers representative. If you fail to comply with this permit you are subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above referenced permit was completed in accordance with the terms and conditions of the above referenced permit, and any required mitigation was completed in accordance with the permit conditions.

Signature of Permittee	Date
Printed Name	Date of Work Completion
( ) Telephone Number	( ) Telephone Number

US Army Corps of Engineers ®
New England District

GENERAL PERMIT
WORK-START NOTIFICATION FORM
(Minimum Notice: Two weeks before work begins)

EMAIL TO: Richard.C.Kristoff@usace.army.mil

-or-

MAIL TO: Richard Kristoff
U.S. Army Corps of Engineers, Maine Project Office
442 Civic Center Drive, Suite 350
Augusta, Maine 04330

A Corps of Engineers Permit (No. NAE-2021-03288) was issued to the Maine Turnpike Authority. The permit authorized the permittee to place permanent and temporary fill within freshwater wetlands at Litchfield, Maine in order to construct a culvert crossing beneath River Road. This work will result in approximately 7,996 s.f. of permanent and 8,005 s.f. of temporary wetland impact.

The people (e.g., contractor) listed below will do the work, and they understand the permit's conditions and limitations.

PLEASE PRINT OR TYPE

Name of Person/Firm: _____

_____

_____

Business Address: _____

_____

_____

Telephone: (____) _____ (____) _____

Proposed Work Dates: Start: _____

Finish: _____

PERMITTEE'S SIGNATURE: _____ DATE: _____

PRINTED NAME: _____ TITLE: _____

FOR USE BY THE CORPS OF ENGINEERS

Project Manager: Kristoff Submittals Required: No

Inspection Recommendation: None

Prepared for:

MAINE TURNPIKE

Maine Turnpike Authority

Route 197 Bridge Rehabilitation - USGS Topographic Map

Project Area

0 500 1,000 2,000 US Feet

N

Prepared by:

HNTB

Sheet 1 of 1

Date Exported: 11/9/2021 10:39 AM

Date:12/22/2021

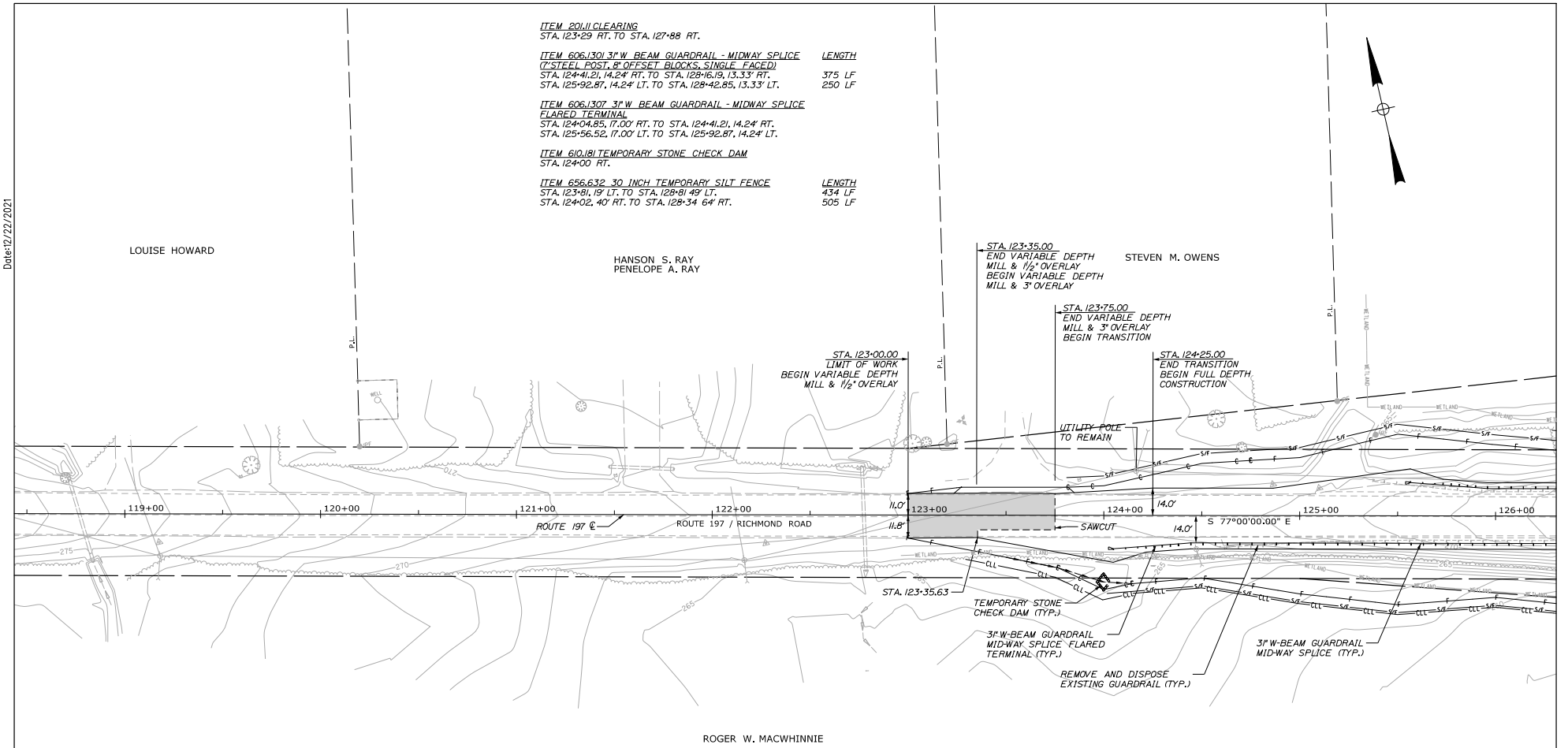
ITEM 201.11 CLEARING
STA. 123+29 RT. TO STA. 127+88 RT.

ITEM 606.1301 31" W BEAM GUARDRAIL - MIDWAY SPLICE (7' STEEL POST, 8" OFFSET BLOCKS, SINGLE FACED)	LENGTH
STA. 124+41.21, 14.24' RT. TO STA. 128+16.19, 13.33' RT.	375 LF
STA. 125+92.87, 14.24' LT. TO STA. 128+42.85, 13.33' LT.	250 LF

ITEM 606.1307 31" W BEAM GUARDRAIL - MIDWAY SPLICE FLARED TERMINAL
STA. 124+04.85, 17.00' RT. TO STA. 124+41.21, 14.24' RT.
STA. 125+56.52, 17.00' LT. TO STA. 125+92.87, 14.24' LT.

ITEM 610.181 TEMPORARY STONE CHECK DAM
STA. 124+00 RT.

ITEM 656.632 30 INCH TEMPORARY SILT FENCE	LENGTH
STA. 123+81, 19' LT. TO STA. 128+81 49' LT.	434 LF
STA. 124+02, 40' RT. TO STA. 128+34 64' RT.	505 LF



LEGEND

MILL, SHIM, & OVERLAY

98% PLANS
12/22/2021

Filename: 0XX_GeneralPlan_01.dgn

Scale: 25 0 25 50
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Steve Hodgdon, P.E.

	By	Date		By	Date
Designed	CDH	12\21	Checked	DAM	12\21
Drawn	CDH	12\21	In Charge of	TRC	12\21

HNTB CORPORATION
82 Running Hill Road, Suite 201
South Portland, ME 04106
TEL (207) 774-5155
FAX (207) 228-0909

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

SUPERSTRUCTURE REPLACEMENT ROUTE 197 UNDERPASS

GENERAL PLAN 1

SHEET NUMBER: GP-01

CONTRACT:2022.04

ITEM 201.11 CLEARING
STA. 126+29.00 LT. TO STA. 128+84.00 LT.
STA. 131+04.00 RT. TO STA. 136+00.00 RT.
STA. 132+01.00 LT. TO STA. 134+18.00 LT.

ITEM 606.1301 31" W BEAM GUARDRAIL - MIDWAY SPLICE (7' STEEL POST, 8' OFFSET BLOCKS, SINGLE FACED) — LENGTH
STA. 131+83.81, 13.33' LT. TO STA. 135+58.71, 14.24' LT. — 375 LF
STA. 131+57.15, 13.33' RT. TO STA. 135+07.21, 14.24' RT. — 350 LF

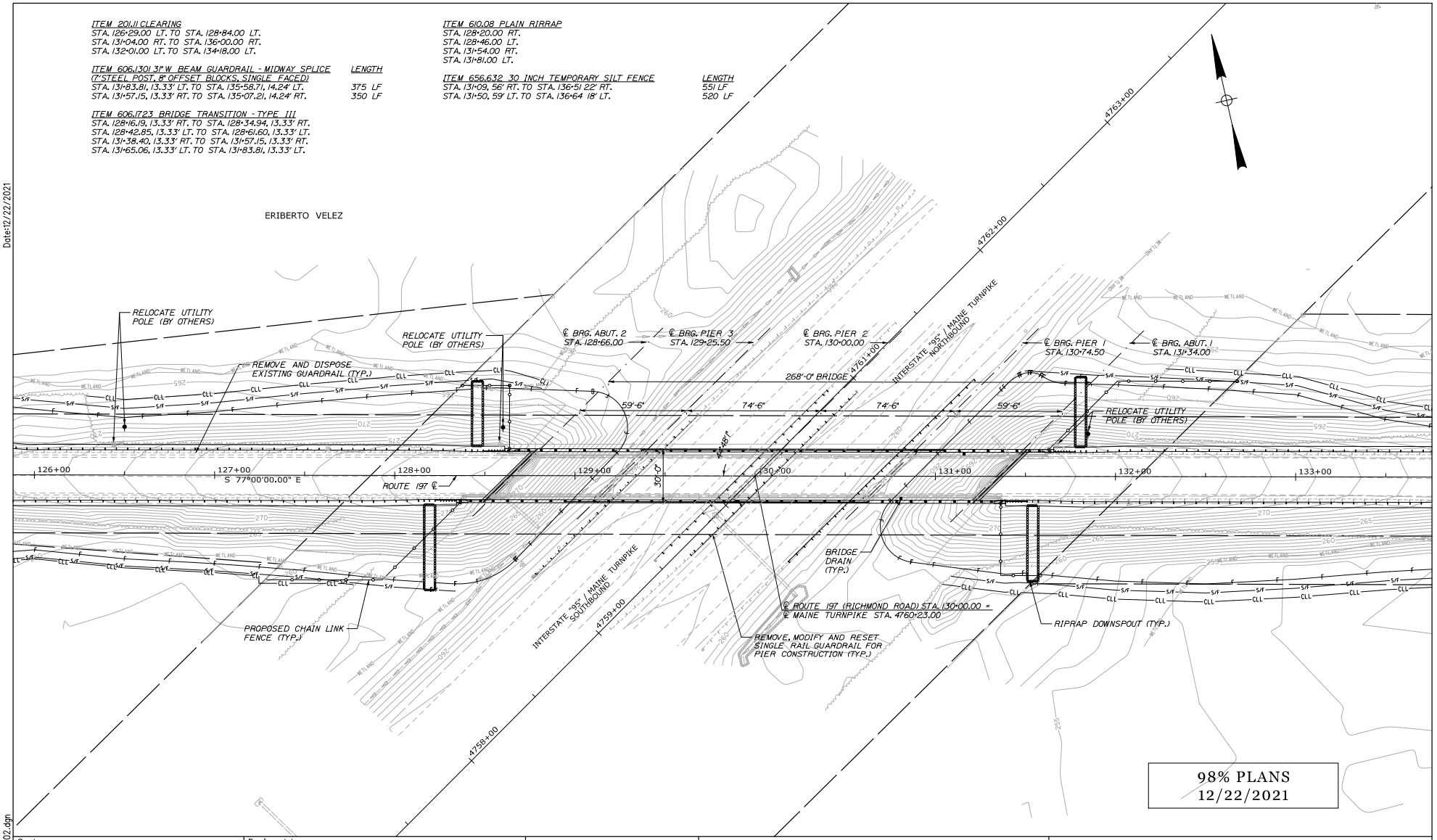
ITEM 606.1723 BRIDGE TRANSITION - TYPE III
STA. 128+16.19, 13.33' RT. TO STA. 128+34.94, 13.33' RT.
STA. 128+42.85, 13.33' LT. TO STA. 128+61.60, 13.33' LT.
STA. 131+38.40, 13.33' RT. TO STA. 131+57.15, 13.33' RT.
STA. 131+65.06, 13.33' LT. TO STA. 131+83.81, 13.33' LT.

ITEM 610.08 PLAIN RIRRAP
STA. 128+20.00 RT.
STA. 128+46.00 LT.
STA. 131+54.00 RT.
STA. 131+81.00 LT.

ITEM 656.632 30 INCH TEMPORARY SILT FENCE — LENGTH
STA. 131+09, 56' RT. TO STA. 136+61.22' RT. — 551 LF
STA. 131+50, 59' LT. TO STA. 136+64 18' LT. — 520 LF

ERIBERTO VELEZ

Date:12/22/2021



98% PLANS
12/22/2021

Filename: 0XX_GeneralPlan_02.dgn

Scale: 25 0 25 50
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Steve Hodgdon, P.E.

	By	Date		By	Date
Designed	CDH	12\21	Checked	DAM	12\21
Drawn	CDH	12\21	In Charge of	TRC	12\21

HNTB CORPORATION
82 Running Hill Road, Suite 201
South Portland, ME 04106
TEL (207) 774-5155
FAX (207) 228-0909

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

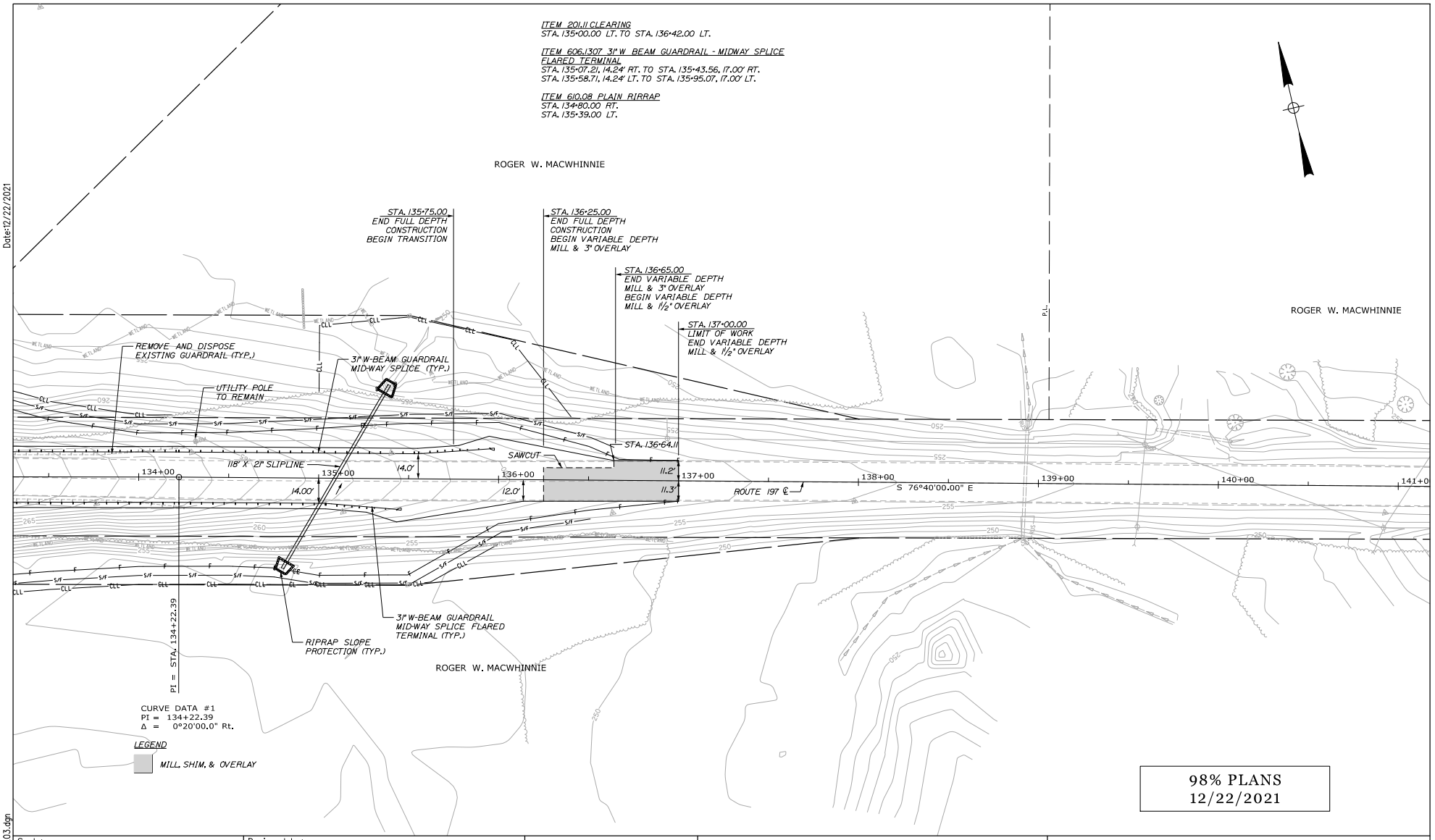
MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

SUPERSTRUCTURE REPLACEMENT ROUTE 197 UNDERPASS

GENERAL PLAN 2

SHEET NUMBER: GP-02

CONTRACT:2022.04



Date:12/22/2021

Filename: 0XX_GeneralPlan_03.dgn

Scale: 25 0 25 50
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Steve Hodgdon, P.E.

	By	Date		By	Date
Designed	CDH	12\21	Checked	DAM	12\21
Drawn	CDH	12\21	In Charge of	TRC	12\21

HNTB CORPORATION
82 Running Hill Road, Suite 201
South Portland, ME 04106
TEL (207) 774-5155
FAX (207) 228-0909

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

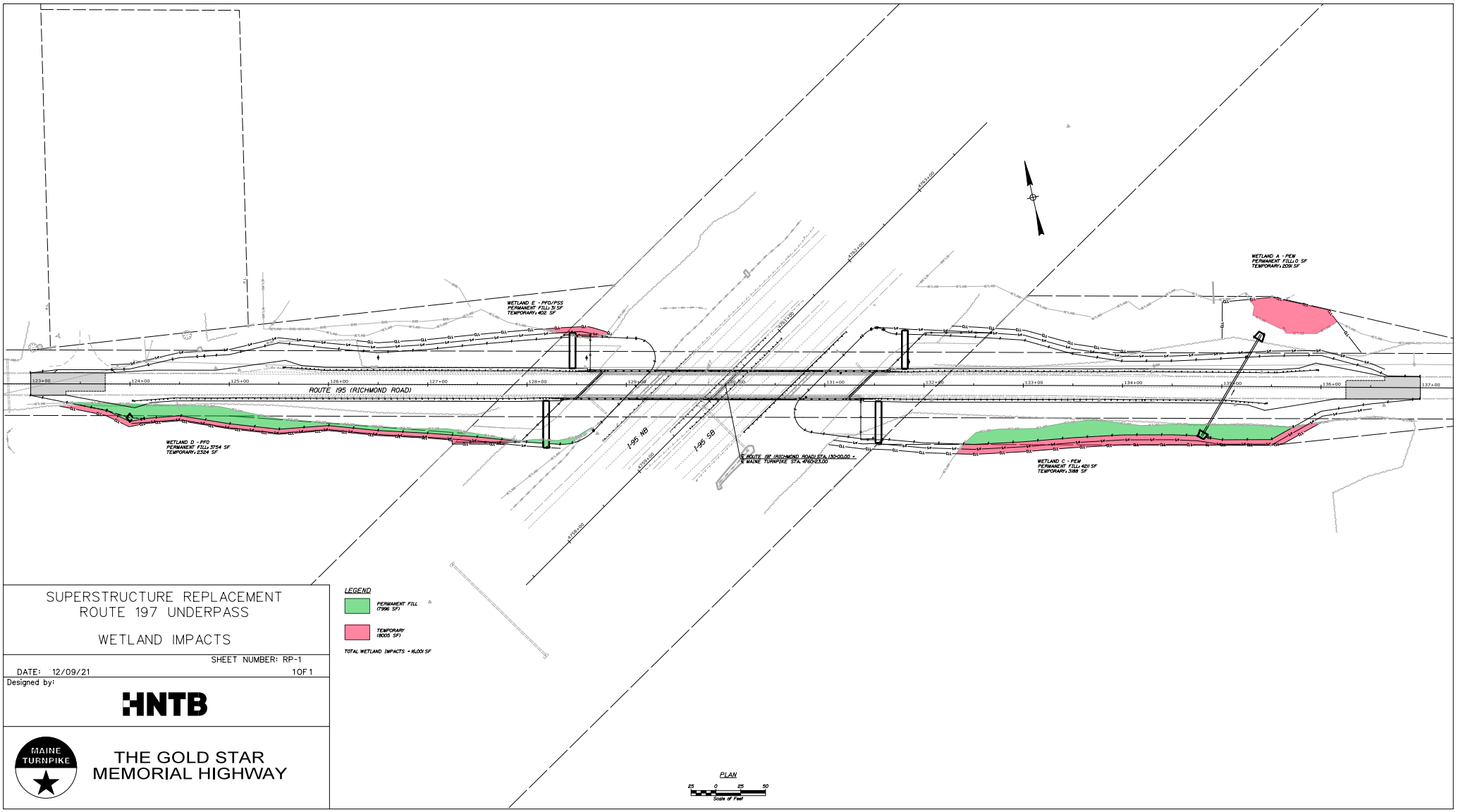
MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

SUPERSTRUCTURE REPLACEMENT ROUTE 197 UNDERPASS

GENERAL PLAN 3

SHEET NUMBER: GP-03

CONTRACT:2022.04



SUPERSTRUCTURE REPLACEMENT
ROUTE 197 UNDERPASS

WETLAND IMPACTS

SHEET NUMBER: RP-1

DATE: 12/09/21 1OF1

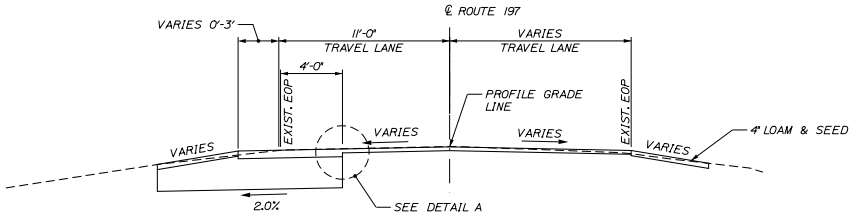
Designed by:

HNTB

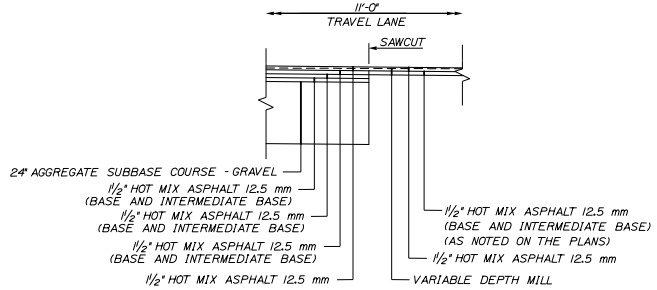
MAINE TURNPIKE

THE GOLD STAR
MEMORIAL HIGHWAY

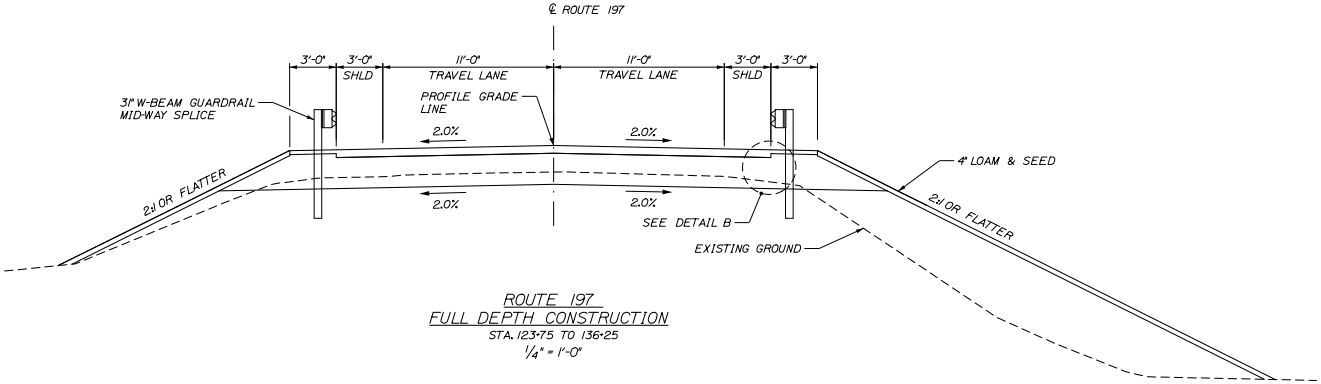
98% PLANS
12/21/2021



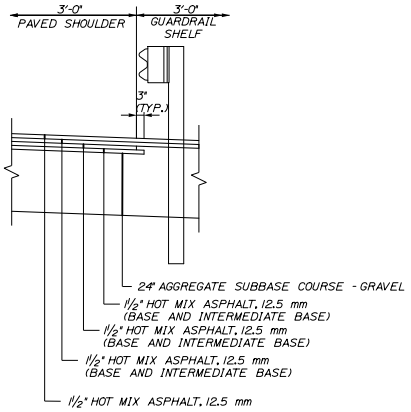
ROUTE 197
MILL & OVERLAY
STA. 123+00 TO 123+75
STA. 136+25 TO 137+00
1/4" = 1'-0"



DETAIL A
1½" = 1'-0"



ROUTE 197
FULL DEPTH CONSTRUCTION
STA. 123+75 TO 136+25
1/4" = 1'-0"



DETAIL B
1½" = 1'-0"

NOTES:

1. THE PAVEMENT, BASE, AND SUBBASE DEPTHS AS SHOWN ON THE PLANS ARE INTENDED TO BE NOMINAL.
2. CROWNS FOR NORMAL SECTIONS FOR ALL COURSES OF SUBBASE AND PAVEMENT SHALL BE STRAIGHT.
3. ALL NECESSARY PAVEMENT CUTTING SHALL BE SAWCUT AND DONE IN SUCH A MANNER AS TO LEAVE A CLEAN, VERTICAL FACE.
4. THE STATIONING SHOWN UNDER EACH TYPICAL SECTION IS APPROXIMATE.

Date:12/21/2021

Filename: 0XX_TypicalSections.dgn

Scale:

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Steve Hodgdon, P.E.

	By	Date		By	Date
Designed	CDH	12\21	Checked	DAM	12\21
Drawn	CDH	12\21	In Charge of	TRC	12\21

HNTB CORPORATION
82 Running Hill Road, Suite 201
South Portland, ME 04106
TEL (207) 774-5155
FAX (207) 228-0909

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

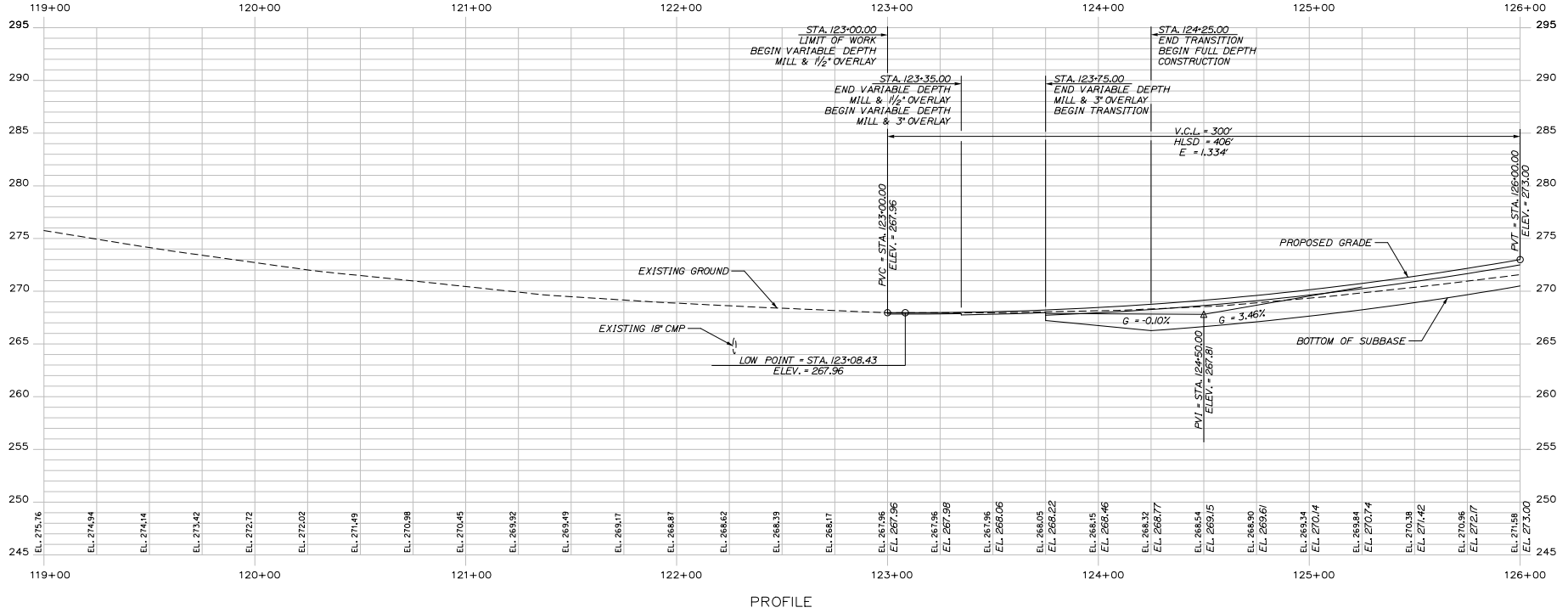
MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

SUPERSTRUCTURE REPLACEMENT
ROUTE 197 UNDERPASS

TYPICAL SECTIONS

SHEET NUMBER: TYP-1

CONTRACT:2022.04



PROFILE

98% PLANS
12/21/2021

Date:12/21/2021

Filename: 0XX_Profile_01.dgn

Scale: Horiz. 25 0 25 50
Vert. 5 0 5 10

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Steve Hodgdon, P.E.

	By	Date		By	Date
Designed	CDH	12\21	Checked	DAM	12\21
Drawn	CDH	12\21	In Charge of	TRC	12\21

HNTB CORPORATION
82 Running Hill Road, Suite 201
South Portland, ME 04106
TEL (207) 774-5155
FAX (207) 228-0909

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

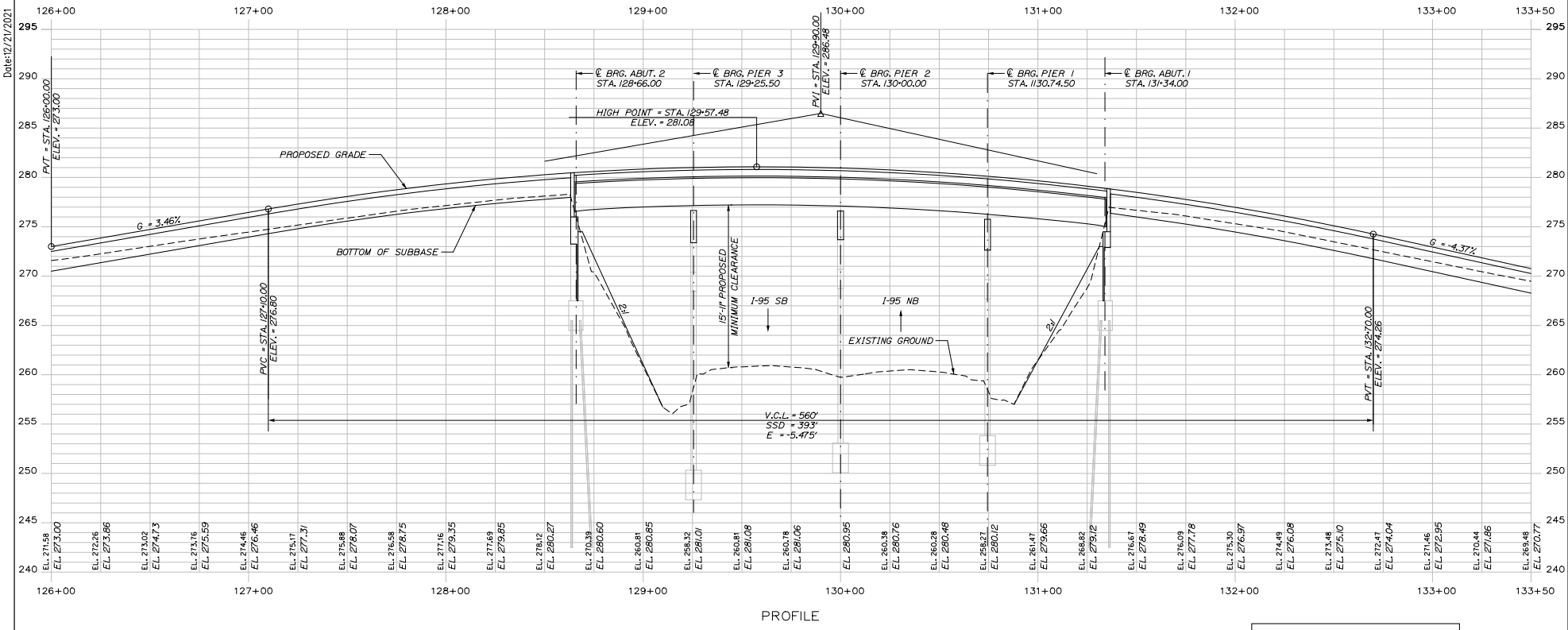
SUPERSTRUCTURE REPLACEMENT
ROUTE 197 UNDERPASS

PROFILE 1

SHEET NUMBER: PRO-01

CONTRACT:2022.04

Date:12/21/2021



PROFILE

98% PLANS
12/21/2021

Filename: 0XX_Profile_02.dgn

Scale: Horiz. 25 0 25 50
Vert. 5 0 5 10

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Steve Hodgdon, P.E.

	By	Date		By	Date
Designed	CDH	12\21	Checked	DAM	12\21
Drawn	CDH	12\21	In Charge of	TRC	12\21

HNTB CORPORATION
82 Running Hill Road, Suite 201
South Portland, ME 04106
TEL (207) 774-5155
FAX (207) 228-0909

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

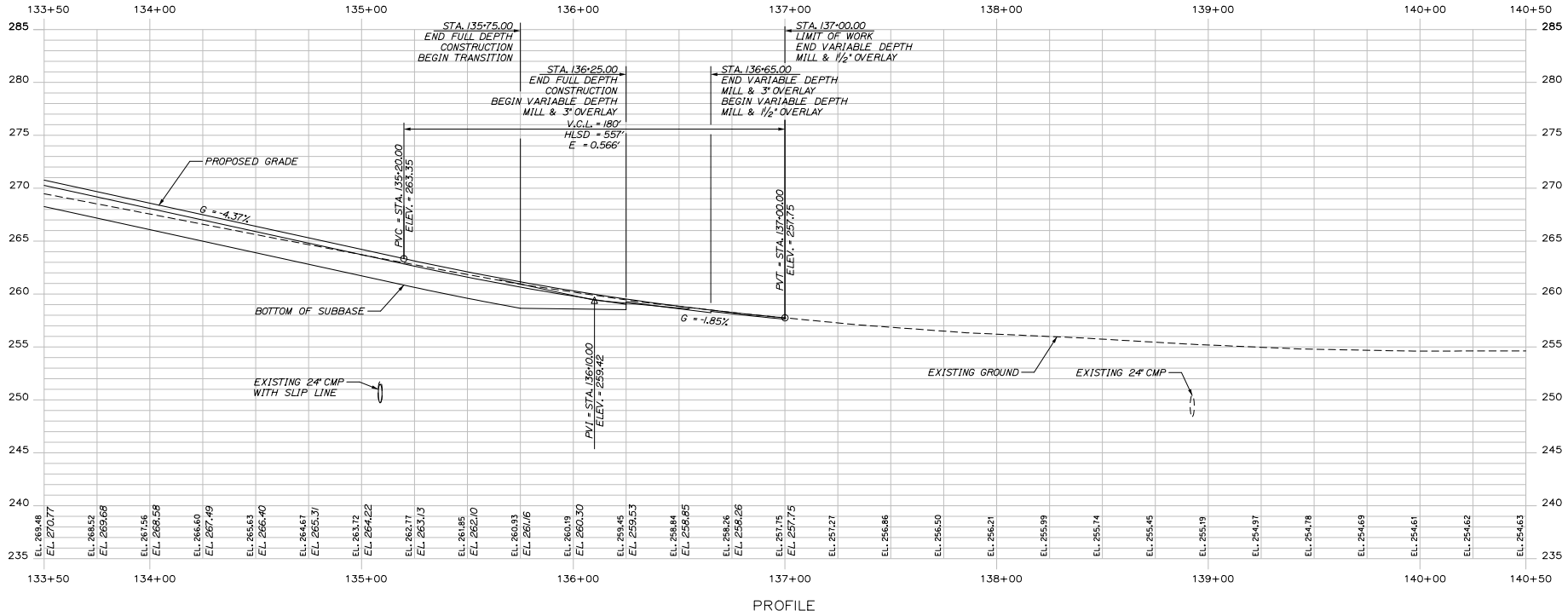
MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

SUPERSTRUCTURE REPLACEMENT
ROUTE 197 UNDERPASS

PROFILE 2

SHEET NUMBER: PRO-02

CONTRACT:2022.04



PROFILE

98% PLANS
12/21/2021

Date:12/21/2021

Filename: 0XX_Profile_03.dgn

Scale: Horiz. 25 0 25 50
Vert. 5 0 5 10

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Steve Hodgdon, P.E.

	By	Date		By	Date
Designed	CDH	12\21	Checked	DAM	12\21
Drawn	CDH	12\21	In Charge of	TRC	12\21

HNTB CORPORATION
82 Running Hill Road, Suite 201
South Portland, ME 04106
TEL (207) 774-5155
FAX (207) 228-0909

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

SUPERSTRUCTURE REPLACEMENT
ROUTE 197 UNDERPASS

PROFILE 3

SHEET NUMBER: PRO-03

CONTRACT:2022.04

GENERAL

1. ALL DETAILS SHALL BE IN CONFORMANCE WITH MAINE DEPARTMENT OF TRANSPORTATION (MAINEDOT) STANDARD DETAILS HIGHWAYS AND BRIDGES, 2014, AND MAINEDEP BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROL, LATEST REVISION, UNLESS OTHERWISE INCLUDED IN THESE PLANS.
2. CHAIN LINK FENCE GATES SHALL BE 4' WIDE SINGLE GATES. A GATE SHALL BE LOCATED ON EACH SIDE OF THE TURNPIKE ROADWAY. EXACT LOCATION OF THE GATE SHALL BE DETERMINED IN THE FIELD BY THE RESIDENT.
3. CONNECTIONS FOR EXISTING FENCE TO PROPOSED FENCE SHALL BE INCIDENTAL TO THE PROPOSED FENCE ITEMS.
4. THE CONTRACTOR SHALL SUBMIT HIS PROPOSED STAGING AREA(S) AND FIELD TRAILER LOCATION TO THE RESIDENT FOR APPROVAL PRIOR TO STARTING WORK.
5. RIGHT OF WAY AND PROPERTY LINES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY.
6. PAVED APRONS FOR DRIVEWAYS SHALL BE PAVED WITH A DEPTH OF 2".
7. DURING CONSTRUCTION ROUTE 197 WILL BE CLOSED FOR A TIME PERIOD SPECIFIED IN THE SPECIAL PROVISIONS.
8. EXISTING BEAMS WERE REPAINTED IN 2007 AND DO NOT CONTAIN LEAD BASED PAINT.

EROSION CONTROL

1. THE ANTICIPATED EROSION CONTROL DEVICES ARE SHOWN ON THE PLANS. THE CONTRACTOR SHALL PROPOSE ACTUAL TYPE AND LOCATION OF DEVICES FOR APPROVAL BY THE RESIDENT. ADDITIONAL MEASURES MAY BE PROPOSED BY THE CONTRACTOR DUE TO SITE OR WEATHER CONDITIONS. THE RESIDENT MAY DIRECT THE CONTRACTOR TO IMPLEMENT ADDITIONAL MEASURES. ANY ADDITIONAL MEASURES APPROVED BY THE RESIDENT WILL BE MEASURED FOR PAYMENT.
2. 4" LOAM HAS BEEN ESTIMATED FOR 100% OF THE DISTURBED SLOPE AREA UNLESS OTHERWISE SPECIFIED ON THE PLANS. ACTUAL PLACEMENT OF THE LOAM SHALL BE AS DESIGNATED BY THE RESIDENT.
3. TEMPORARY STABILIZATION WITH MULCH OR OTHER NON-ERODABLE COVER IS REQUIRED ON ALL EXPOSED SOILS THAT WILL NOT BE WORKED FOR MORE THAN 7 DAYS. AREAS WITHIN 75 FEET OF A WETLAND OR WATERBODY SHALL BE STABILIZED WITHIN 48 HOURS OF THE INITIAL DISTURBANCE OF THE SOIL OR PRIOR TO ANY STORM EVENT, WHICHEVER COMES FIRST. THE CONTRACTOR IS RESPONSIBLE FOR APPLYING TEMPORARY MULCH AS NECESSARY, IN ACCORDANCE WITH THE LATEST EDITION OF THE BMP'S TO MINIMIZE SOIL EROSION PRIOR TO THE APPLICATION OF THE FINAL SLOPE TREATMENT.
4. TEMPORARY SEED SHALL BE APPLIED TO ALL DISTURBED AREAS THAT WILL NOT BE COMPLETED WITHIN 30 DAYS.
5. ALL TEMPORARY AND PERMANENT EROSION CONTROL DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE MAINEDEP BEST MANAGEMENT PRACTICES.
6. TEMPORARY BERMS AND TEMPORARY SLOPE DRAINS ARE ANTICIPATED AT ALL STONE DOWNSPOUT LOCATIONS WHILE GROWTH IS BEING ESTABLISHED ON SIDE SLOPES.
7. TEMPORARY EROSION CONTROL BLANKET, ITEM 613.319 SHALL BE INSTALLED IN ALL DITCHES AND 2:1 OR STEEPER SLOPES FROM TOP TO TOE OF SLOPE. LOAM AND SEED SHALL BE PLACED PRIOR TO THE INSTALLATION OF THE EROSION CONTROL BLANKET. LIMITS OF THE EROSION CONTROL BLANKET IN DITCHES SHALL BE 6' WIDE OR AS DESIGNATED BY THE RESIDENT.
8. UNLESS OTHERWISE NOTED; SEEDING METHOD NO. 2 SHALL BE UTILIZED ON ALL AREAS.
9. A DOUBLE ROW OF SILT FENCE PROTECTION SHALL BE INSTALLED AT ALL STREAM LOCATIONS AND OPEN WATER WETLANDS AS SHOWN ON THE PLANS.
10. TEMPORARY STONE CHECK DAMS SHALL BE PLACED IN EXISTING DITCHES AS SHOWN ON THE PLANS OR AS DIRECTED BY THE RESIDENT.
11. STABILIZED CONSTRUCTION ENTRANCES MUST BE USED AND MAINTAINED. NO TRACKING OF SOIL ON THE MAINE TURNPIKE OR LOCAL ROADS WILL BE ALLOWED.

EARTHWORK

1. CLEARING LIMITS SHALL BE AS SHOWN ON THE PLANS UNLESS OTHERWISE AUTHORIZED BY THE RESIDENT. THE ACTUAL CLEARING LINES SHALL BE ESTABLISHED IN THE FIELD BY THE CONTRACTOR AND SHALL BE APPROVED BY THE RESIDENT PRIOR TO ANY CLEARING TAKING PLACE.
2. EXISTING INSLOPES STEEPER THAN 2:1 IN PROPOSED FILL AREAS SHALL BE BENCHED AS SHOWN IN THE DETAILS OR AS DIRECTED BY THE RESIDENT.
3. GRUBBING IN FILL HAS BEEN SHOWN ON THE CROSS SECTIONS. THESE LIMITS ARE APPROXIMATE AND HAVE BEEN USED FOR QUANTITY ESTIMATION PURPOSES ONLY. ACTUAL LIMITS MAY VARY BASED ON FIELD CONDITIONS AND AS DIRECTED BY THE RESIDENT. GRUBBING DEPTH HAS BEEN ESTIMATED AS 6 INCHES IN FIELD AREAS AND 12 INCHES IN WOODED AREAS.
4. WASTE MATERIALS SHALL BE DISPOSED OF OFF THE PROJECT SITE, IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL ENVIRONMENTAL REGULATIONS.
6. ALL EXCAVATIONS ACCOMPLISHED AS PART OF THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH OSHA SUBPART P, EXCAVATIONS, OF 29 CFR PART 1926.650-652 AND APPENDICES. THE CONTRACTOR IS RESPONSIBLE FOR THE SAFETY, STABILITY AND MAINTENANCE OF ALL TEMPORARY SLOPES.
7. REMOVAL OF EXISTING PAVEMENT SHALL BE PAID FOR AS COMMON EXCAVATION. EXISTING PAVEMENT THICKNESS HAS BEEN ESTIMATED TO BE 6 INCHES.
8. PLACEMENT OF TEMPORARY FILLS OUTSIDE THE EMBANKMENT FOOTPRINT FOR PURPOSES SUCH AS MATERIAL STOCKPILES, ACCESS ROADS, ETC. WILL REQUIRE ADVANCE APPROVAL OF THE RESIDENT. THE CONTRACTOR SHALL SUBMIT PLAN DETAILS IN ADVANCE SHOWING PROPOSED LOCATION AND HEIGHTS OF TEMPORARY FILLS. TEMPORARY FILLS SHALL HAVE SUFFICIENT LATERAL CLEARANCE FROM EXISTING UTILITIES, ROADWAYS, AND STRUCTURES TO PREVENT DAMAGE.
9. EXCAVATED SOIL MEETING THE MATERIAL AND GRADATION REQUIREMENTS OF COMMON BORROW MAY BE REPURPOSED FOR EMBANKMENT CONSTRUCTION. ALL OTHER SOILS AND WASTE MATERIALS, INCLUDING ORGANIC PEAT/MUCK, ROOTS, AND STUMPS, SHALL BE DISPOSED OF OFF THE PROJECT SITE IN ACCORDANCE WITH ENVIRONMENTAL REGULATIONS.

UTILITY

1. EXISTING UTILITIES ON THESE PLANS WERE COMPILED FROM FIELD SURVEY AND VARIOUS OTHER SOURCES. LOCATIONS ARE NOT GUARANTEED TO BE ACCURATE NOR IS IT GUARANTEED THAT ALL UTILITIES ARE SHOWN. NO SEPARATE OR ADDITIONAL COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR DUE TO ANY VARIANCE BETWEEN THE DATA SHOWN ON THE PLANS AND THE ACTUAL FIELD CONDITIONS ENCOUNTERED. NO WORK SHALL BE STARTED UNTIL THE OWNERS OF THE VARIOUS UTILITIES ARE NOTIFIED BY THE CONTRACTOR OF THE PROPOSED CONSTRUCTION. THE CONTRACTOR IS ALSO REQUIRED TO CALL DIG SAFE AT 1-888-344-7233 AT LEAST 72 HOURS PRIOR TO THE START OF THE WORK.
2. ALL UTILITY FACILITIES SHALL BE ADJUSTED BY THE RESPECTIVE UTILITIES UNLESS NOTED.
3. THE UTILITIES INVOLVED IN THIS CONTRACT ARE:

   CONSOLIDATED COMMUNICATIONS

GUARDRAIL

1. AT THE END OF EACH WORK DAY, THE CONTRACTOR IS REQUIRED TO HAVE AN APPROVED CRASHWORTHY END TREATMENT ON ALL GUARDRAIL OR CONCRETE BARRIER WITHIN ALL WORK AREAS THAT ARE ACCESSIBLE TO TRAFFIC.
2. GUARDRAIL REMOVED AND NOT RESET OR STACKED SHALL BE INCIDENTAL TO CONTRACT ITEMS AND INCLUDE ALL REMOVAL, DISPOSAL, EQUIPMENT, AND LABOR NECESSARY TO SATISFACTORILY COMPLETE THE WORK.
3. W-BEAM GUARDRAIL EXISTS ON THE PROJECT SITE. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING W-BEAM GUARDRAIL NOT RESET.
4. THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING ALL EXISTING MAILBOXES TO ENSURE THAT MAIL WILL BE DELIVERABLE. THIS WORK SHALL BE INCIDENTAL TO THE CONTRACT.
5. OFFSET BLOCKS FOR GUARDRAIL SHALL BE COMPOSITE.

DRAINAGE

1. NO EXISTING DRAINAGE SHALL BE ABANDONED, REMOVED OR PLUGGED WITHOUT PRIOR APPROVAL OF THE RESIDENT. ABANDONED STRUCTURES TO REMAIN SHALL BE PLUGGED WITH BRICK AND MORTAR (INCIDENTAL TO 604 ITEMS) AND FILLED WITH FLOWABLE FILL (ITEM 602.30).
2. INLETS AND OUTLETS OF ALL CULVERTS SHALL BE RIPRAPPED UNLESS OTHERWISE NOTED ON THE PLANS OR DIRECTED BY THE RESIDENT.
3. EXISTING CULVERTS TO REMAIN SHALL BE CLEANED AS DIRECTED BY THE RESIDENT UNDER ITEM 631.32 CULVERT CLEANER (INCLUDING OPERATORS). POST CONSTRUCTION, ALL EXISTING DRAINAGE TO REMAIN AND NEW DRAINAGE SHALL BE CLEANED AS DIRECTED BY THE RESIDENT UNDER ITEM 631.32 CULVERT CLEANER (INCLUDING OPERATORS).
4. ALL DITCH ELEVATIONS AND OFFSETS SHOWN ON THE CROSS SECTIONS ARE FOR THE FINISHED DITCH FLOW LINE.
5. SEE SPECIAL PROVISIONS FOR CULVERT SLIP LINE AT STATION 135+09.

Date:12/21/2021

Filename: 0XX_GeneralNotes.dgn

Scale: NOT TO SCALE

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Steve Hodgdon, P.E.

	By	Date		By	Date
Designed	CDH	12\21	Checked	DAM	12\21
Drawn	CDH	12\21	In Charge of	TRC	12\21

HNTB CORPORATION
82 Running Hill Road, Suite 201
South Portland, ME 04106
TEL (207) 774-5155
FAX (207) 228-0909

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

SUPERSTRUCTURE REPLACEMENT ROUTE 197 UNDERPASS

GENERAL NOTES

SHEET NUMBER: GN-01

CONTRACT:2022.04

DIMENSIONS FOR SLOPE OF 2:1

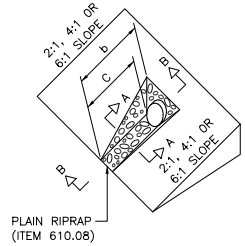
D	a (FT)	b (FT)	c (FT)	e (FT)	f (FT)	g (FT)	STONE DEPTH (FT)	STONE (CY)
12"	1.00	4.00	3.00	2.00	6.00	1.00	1.50	1.30
15"	1.00	4.50	3.37	2.25	6.75	1.63	1.50	1.70
18"	1.00	5.00	3.75	2.50	7.50	2.25	1.50	2.09
21"	1.00	5.50	4.13	2.75	8.25	2.88	1.50	2.58
24"	1.00	6.00	4.50	3.00	9.00	3.50	1.50	3.12
30"	1.00	7.00	5.25	3.50	10.50	4.75	1.50	4.33
36"	1.00	8.00	6.00	4.00	12.00	6.00	1.50	5.75
42"	1.00	9.00	6.75	4.50	13.50	7.25	1.50	7.37
48"	1.00	10.00	7.50	5.00	15.00	8.50	1.50	9.18
54"	1.00	11.00	8.25	5.50	16.50	9.75	1.50	11.19
60"	1.00	12.00	9.00	6.00	18.00	11.00	1.50	13.40
66"	1.00	13.00	9.75	6.50	19.50	12.25	1.50	15.81
72"	1.00	14.00	10.50	7.00	21.00	13.50	1.50	18.41
84"	1.00	16.00	12.00	8.00	24.00	16.00	1.50	24.22

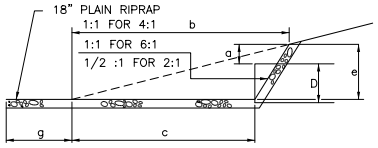
DIMENSIONS FOR SLOPE OF 4:1

D	a (FT)	b (FT)	c (FT)	e (FT)	f (FT)	g (FT)	STONE DEPTH (FT)	STONE (CY)
12"	1.00	8.00	6.00	2.00	6.00	0.00	1.50	2.20
15"	1.00	9.00	6.75	2.25	6.75	0.00	1.50	2.80
18"	1.00	10.00	7.50	2.50	7.50	0.00	1.50	3.40
21"	1.00	11.00	8.25	2.75	8.25	0.00	1.50	4.10
24"	1.00	12.00	9.00	3.00	9.00	0.00	1.50	4.86
30"	1.00	14.00	10.50	3.50	10.50	0.00	1.50	6.58
36"	1.00	16.00	12.00	4.00	12.00	0.00	1.50	8.56
42"	1.00	18.00	13.50	4.50	13.50	0.50	1.50	10.92
48"	1.00	20.00	15.00	5.00	15.00	1.00	1.50	13.57
54"	1.00	22.00	16.50	5.50	16.50	1.50	1.50	16.50
60"	1.00	24.00	18.00	6.00	18.00	2.00	1.50	19.72
66"	1.00	26.00	19.50	6.50	19.50	2.50	1.50	23.22
72"	1.00	28.00	21.00	7.00	21.00	3.00	1.50	27.01
84"	1.00	32.00	24.00	8.00	24.00	4.00	1.50	35.45

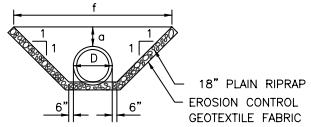
DIMENSIONS FOR SLOPE OF 6:1

D	a (FT)	b (FT)	c (FT)	e (FT)	f (FT)	g (FT)	STONE DEPTH (FT)	STONE (CY)
12"	0.50	9.00	7.50	1.50	4.50	0.00	1.50	2.30
15"	0.50	10.50	8.75	1.75	5.50	0.00	1.50	2.93
18"	0.50	12.00	10.00	2.00	6.50	0.00	1.50	3.57
21"	0.50	13.50	11.25	2.25	7.25	0.00	1.50	4.46
24"	0.50	15.00	12.50	2.50	8.00	0.00	1.50	5.44
30"	0.50	18.00	15.00	3.00	9.50	0.00	1.50	7.71
36"	0.50	21.00	17.50	3.50	11.00	0.00	1.50	10.37
42"	0.50	24.00	20.00	4.00	12.50	0.00	1.50	13.42
48"	0.50	27.00	22.50	4.50	14.00	0.00	1.50	16.87
54"	0.50	30.00	25.00	5.00	15.50	0.00	1.50	20.70
60"	0.50	33.00	27.50	5.50	17.00	0.00	1.50	24.93
66"	0.50	36.00	30.00	6.00	18.50	0.00	1.50	29.55
72"	0.50	39.00	32.50	6.50	20.00	0.00	1.50	34.56
84"	0.50	45.00	37.50	7.50	23.00	0.00	1.50	45.76





SECTION B-B

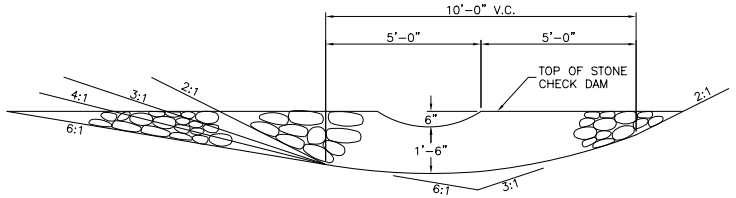


SECTION A-A

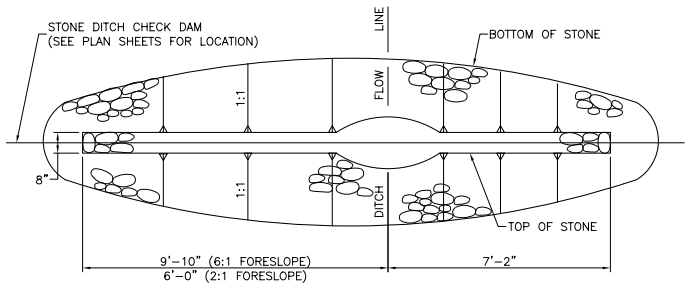
ROADWAY CULVERT END SLOPE TREATMENT

NOTES:

1. THE DIMENSIONS SHOWN ARE APPROXIMATE AND MAY BE MODIFIED BY THE RESIDENT.
2. STONE QUANTITIES ARE FOR ONE END OF THE PIPE.



SECTION



PLAN

STONE CHECK DAM

1" = 2'-0"

FORESLOPE	BACKSLOPE	QUANTITY C.Y. STONE
6:1	3:1	2.5
4:1	3:1	2.5
3:1	3:1	2.0
2:1	3:1	2.0

NOTES:

1. STONE FOR TEMPORARY AND PERMANENT STONE CHECK DAMS SHALL MEET THE REQUIREMENTS OF MDOT SPECIFICATION 703.29, STONE DITCH PROTECTION.
2. TEMPORARY STONE CHECK DAMS WILL BE PAID FOR UNDER ITEM 610.181.

98% PLANS
12/21/2021

Date:12/21/2021

Filename: 0XX_ErosionControlDetails_1.dgn

Scale: NOT TO SCALE

Designed by: HNTB

No.	Revision	By	Date

CONSULTANT PROJECT MANAGER: Steve Hodgdon, P.E.

	By	Date		By	Date
Designed	CDH	12\21	Checked	DAM	12\21
Drawn	CDH	12\21	In Charge of	TRC	12\21

HNTB CORPORATION
82 Running Hill Road, Suite 201
South Portland, ME 04106
TEL (207) 774-5155
FAX (207) 228-0909

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

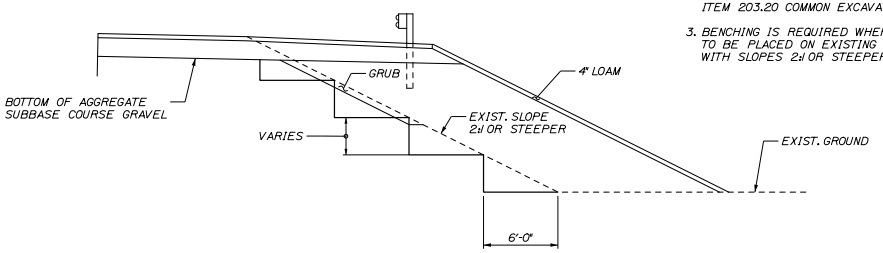
SUPERSTRUCTURE REPLACEMENT
ROUTE 197 UNDERPASS

EROSION CONTROL DETAILS I

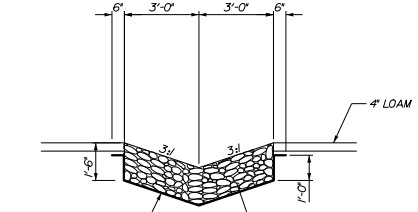
SHEET NUMBER: CD-01

CONTRACT:2022.04

NOTES:
1. GRUBBING WILL BE PAID FOR UNDER ITEM 203.20 COMMON EXCAVATION. SEE CROSS SECTIONS FOR ACTUAL LIMITS.
2. EXCAVATION FOR BENCHING TO RECEIVE EMBANKMENTS IS INCIDENTAL TO ITEM 203.20 COMMON EXCAVATION.
3. BENCHING IS REQUIRED WHERE FILL IS TO BE PLACED ON EXISTING EMBANKMENTS WITH SLOPES 2:1 OR STEEPER.

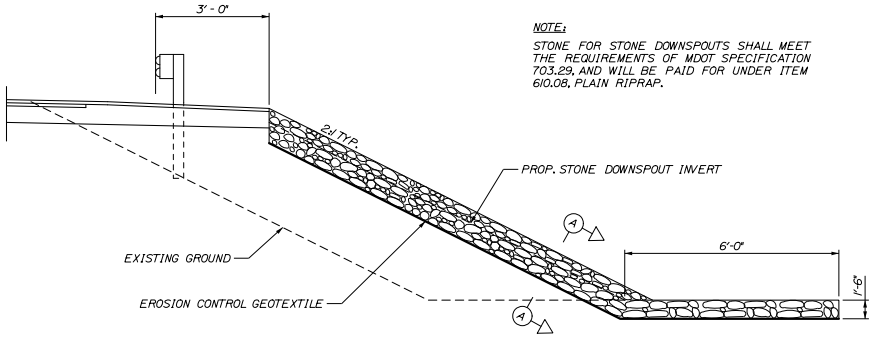


BENCH DETAIL



1 LF of Downspout = .33 CY of Plain Riprap
1 LF of Downspout = 1.04 SY of Erosion Control Geotextile Fabric

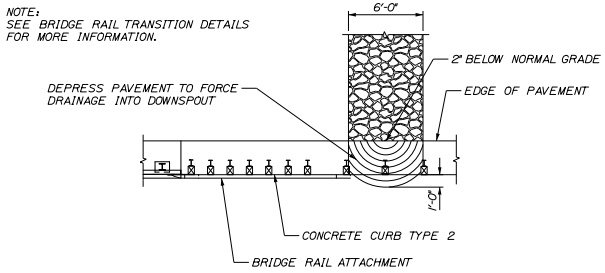
SECTION A-A



NOTE:
STONE FOR STONE DOWNSPOUTS SHALL MEET THE REQUIREMENTS OF MDOT SPECIFICATION 703.29, AND WILL BE PAID FOR UNDER ITEM 610.08, PLAIN RIPRAP.

SECTION

NOTE:
SEE BRIDGE RAIL TRANSITION DETAILS FOR MORE INFORMATION.



PLAN VIEW

DOWNSPOUT DETAILS

98% PLANS
12/21/2021

Date:12/21/2021

Filename: 0XX_ErosionControlDetails_2.dgn

Scale: NOT TO SCALE

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Steve Hodgdon, P.E.

	By	Date		By	Date
Designed	CDH	12\21	Checked	DAM	12\21
Drawn	CDH	12\21	In Charge of	TRC	12\21

HNTB CORPORATION
82 Running Hill Road, Suite 201
South Portland, ME 04106
TEL (207) 774-5155
FAX (207) 228-0909

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

SUPERSTRUCTURE REPLACEMENT
ROUTE 197 UNDERPASS

EROSION CONTROL DETAILS II

SHEET NUMBER: CD-02

CONTRACT:2022.04

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.mnrcp.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 archaeological 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 septrionalis*), 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 re-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, geotextile silt fences, erosion control mixes, hay bales or other devices) downhill of all exposed areas, retention of existing vegetated buffers, application of temporary mulching during construction, and permanent seeding and stabilization shall be installed and properly maintained to reduce erosion and retain sediment on-site during and after construction. They shall be capable of preventing erosion; of collecting sediment, suspended and floating materials; and of filtering fine sediment.

b. Temporary sediment control barriers shall be removed upon completion of work, but not until all disturbed areas are permanently stabilized. The sediment collected by these sediment barriers shall be removed and placed at an upland location and stabilized to prevent its later erosion into a waterway or wetland.

c. All exposed soil and other fills shall be permanently stabilized at the earliest practicable date.

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.

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

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 water mark (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 (MHWM), includes total for more than one bank. Vertical structures shall be ≤200 linear feet in total length as measured below the plane of the MHWM 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 ≤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 ≤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.

TURLEY.TAMMY.R.1229735124

Digitally signed by TURLEY.TAMMY.R.1229735124
Date: 2020.10.13 10:09:04 -04'00'

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 environ-mental 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 course 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 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.

Donohue, Sean W.

From:	Donohue, Sean W.
Sent:	Wednesday, December 22, 2021 5:13 PM
To:	'DEP.PBRNotification@maine.gov'
Cc:	Judy Gates (jugates@HNTB.com); 'Steven Hodgdon'; Van Ooyen, Kristi
Subject:	Augusta CMRO - Litchfield - Maine Turnpike - NRPA PBR - Part 1 of 1
Attachments:	MTA - Route 197 Bridge - Litchfield - PBR_reduced.pdf

Maine DEP Augusta Office Staff,

Attached please find a Permit by Rule #11 notification for rehabilitation of the existing Route 197 Bridge in Litchfield at Turnpike mile marker 93.3. If you have any questions or need additional information regarding this PBR notice, please let me know.

Thank you,

Sean

Sean Donohue, LSS
Permitting Coordinator
Environmental Liaison

Maine Turnpike Authority
2360 Congress Street
Portland, ME 04102
Tel: 207-482-8275
Cell: 207-232-7130
Fax: 207-878-8613
sdonohue@maineturnpike.com

DEPARTMENT OF ENVIRONMENTAL PROTECTION

PERMIT BY RULE NOTIFICATION FORM

(For use with DEP Regulation, Natural Resources Protection Act - Permit by Rule Standards, Chapter 305)

APPLICANT INFORMATION (Owner)		AGENT INFORMATION (If Applying on Behalf of Owner)	
Name:	Sean Donohue	Name:	N/A
Mailing Address:	Maine Turnpike Authority	Mailing Address:	
Mailing Address:	2360 Congress Street	Mailing Address:	
Town/State/Zip:	Portland, Maine 04102	Town/State/Zip:	
Daytime Phone #:	(207) 482-8275 Ext:	Daytime Phone #:	Ext:
Email Address:	sdonohue@maineturnpike.com	Email Address:	

PROJECT INFORMATION

Part of a larger project? (check 1):	☐ Yes ☑ No	After the Fact? (check 1):	☐ Yes ☑ No	Project involves work below mean low water? (check 1):	☐ Yes ☑ No	Name of waterbody:	None
Project Town:	Litchfield		Town Email Address:	ceo@litchfieldmaine.org		Map and Lot Number:	MTA ROW
Brief Project Description:	This project consists of complete replacement of bridge superstructure with associated substructure modifications and repairs of the Route 197 Bridge. Presently, Route 197 over the Maine Turnpike can only support one way alternating traffic due to damage from a vehicle strike in August 2021.						
Project Location & Brief Directions to Site:	Take exit 86 on the Maine Turnpike to Route 9 north. From Route 9, take Route 126 east. Two miles after joining Route 126, turn right onto Route 197 eastbound. You will cross the Route 197 Bridge over the Maine Turnpike after traveling approximately 5.7 miles on Route 197.						

PERMIT BY RULE (PBR) SECTIONS (Check at least one): I am filing notice of my intent to carry out work that meets the requirements for Permit-by-Rule (PBR) under DEP Rules, Chapter 305. I and my agent(s), if any, have read and will comply with all of the standards in the Sections checked below.

- ☐ **Sec. (2) Act. Adj. to Prot. Natural Res.**
- ☐ **Sec. (3) Intake Pipes**
- ☐ **Sec. (4) Replacement of Structures**
- ☐ **Sec. (6) Movement of Rocks or Veg.**
- ☐ **Sec. (7) Outfall Pipes**
- ☐ **Sec. (8) Shoreline Stabilization**
- ☐ **Sec. (9) Utility Crossing**
- ☐ **Sec. (10) Stream Crossing**
- ☑ **Sec. (11) State Transportation Facilities**
- ☐ **Sec. (12) Restoration of Natural Areas**
- ☐ **Sec. (13) F&W Creat./Water Qual. Improv.**
- ☐ **Sec. (15) Public Boat Ramps**
- ☐ **Sec. (16) Coastal Sand Dune Projects**
- ☐ **Sec. (17) Transfer/Permit Extension**
- ☐ **Sec. (18) Maintenance Dredging**
- ☐ **Sec. (19) Act. Near SVP Habitat**
- ☐ **Sec. (20) Act. Near Waterfowl/Bird Habitat**

NOTE: Municipal permits also *may* be required. Contact your local code enforcement office for information. Federal permits may be required for stream crossings and for projects involving wetland fill. Contact the Army Corps of Engineers at the Maine Project Office for information.

NOTIFICATION FORMS CANNOT BE ACCEPTED WITHOUT THE NECESSARY ATTACHMENTS AND FEE

- ☑ ***Attach*** **all required submissions for the PBR Section(s) checked above. The required submissions for each PBR Section are outlined in Chapter 305 and may differ depending on the Section you are submitting under.**
- ☑ ***Attach*** a location map that clearly identifies the site (U.S.G.S. topo map, Maine Atlas & Gazetteer, or similar).
- ☐ ***Attach*** *Proof of Legal Name* if applicant is a corporation, LLC, or other legal entity. Provide a copy of Secretary of State's *registration information* (available at http://icrs.informe.org/nei-sos-icrs/ICRS?MainPage=x). Individuals and municipalities are not required to provide any proof of identity.

FEE: Pay by credit card at the **Payment Portal**. The Permit-by-Rule fee may be found here https://www.maine.gov/dep/feeschedule.pdf and is currently $256.

- ☑ **Attach payment confirmation from the Payment Portal when filing this notification form.**

Signature & Certification:

- I authorize staff of the Departments of Environmental Protection, Inland Fisheries & Wildlife, and Marine Resources to access the project site for the purpose of determining compliance with the rules.
- I understand that this PBR becomes effective 14 calendar days after receipt by the Department of this completed form, the required submissions, and fee, *unless the Department approves or denies the PBR prior to that date.*

By signing this Notification Form, I represent that the project meets all applicability requirements and standards in Chapter 305 rule and that the applicant has sufficient title, right, or interest in the property where the activity takes place.

Signature of Agent or Applicant (may be typed):	Sean Donohue Digitally signed by Sean Donohue DN: cn=Sean Donohue, o=Maine Turnpike Authority, ou, email=sdonohue@maineturnpike.com, c=US Date: 2021.12.17 14:08:14 -05'00'	Date:	12/21/2021

***Keep a copy as a record of permit*.** Email this completed form with attachments to DEP at: DEP.PBRNotification@maine.gov
DEP will send a copy to the Town Office as evidence of DEP's receipt of notification. No further authorization will be issued by DEP after receipt of notice. A PBR is valid for two years, except Section 4, "Replacement of Structures," are valid for three years. **Work carried out in violation of the Natural Resources Protection Act or any provision in Chapter 305 is subject to enforcement.**

Donohue, Sean W.

From: Maine Dept. of Environmental Protection <noreply@informe.org>
Sent: Monday, December 20, 2021 11:55 AM
To: Donohue, Sean W.
Subject: Dept. of Environmental Protection Payment Portal

Thank you for submitting this payment to the Dept. of Environmental Protection. Below is a copy of the information and payment the agency will receive.

- Applicant Name: **Maine Turnpike Authority**
- Activity Location: **Route 197 Bridge Rehabilitation Mile Marker 93.3, Litchfield**
- First Name: **Sean**
- Last Name: **Donohue**
- Company Name: **Maine Turnpike Authority**
- Street Address: **2360 Congress Street**
- Town/City: **Portland**
- State or Province: **Maine**
- Country: **United States**
- Zip Code: **04102**
- Phone Number: **207-482-8275**
- Email Address: **sdonohue@maineturnpike.com**
- Fee Type: **Natural Resources Protection Act (Permit-by-Rule)**
- Customer Number:
- Invoice Number:
- Spill Number:
- Payment Amount: **266**
- Additional Comments:

Your information will be reviewed and you may be contacted if more information is needed or if there are additional questions.

11. State transportation facilities

A. Applicability

(1) This section applies to the maintenance, repair, reconstruction, rehabilitation, replacement or minor construction of a State Transportation Facility carried out by, or under the authority of, the Maine Department of Transportation (MaineDOT) or the Maine Turnpike Authority, including any testing or preconstruction engineering, and associated technical support services.

(2) This section does not apply to an activity within a coastal sand dune system.

NOTE: The construction of a transportation facility other than roads and associated facilities may be subject to the Storm Water Management Law, 38 M.R.S.A. Section 420-D.

B. Standards

(1) Photographs of the area to be altered by the activity must be taken before work on the site begins. The photographs must be kept on file and be made available at the request of the DEP.

(2) The activity must be reviewed by the Department of Inland Fisheries and Wildlife and the Department of Marine Resources, as applicable. The applicant must coordinate with the reviewing agencies and incorporate any recommendations from those agencies into the performance of the activity.

(3) All construction activities undertaken must be detailed in a site-specific Soil Erosion and Water Pollution Control Plan and conducted in accordance with MaineDOT's Best Management Practices for Erosion and Sediment Control, dated January 2000, and Standard Specifications, dated December 2002.

(4) Alignment changes may not exceed a distance of 200 feet between the old and new center lines in any natural resource.

(5) The activity may not alter more than 300 feet of shoreline (both shores added together) within a mile stretch of any river, stream or brook, including any bridge width or length of culvert.

(6) The activity may not alter more than 150 feet of shoreline (both shores added together) within a mile stretch of any outstanding river segment identified in 38 M.R.S.A. 480-P, including any bridge width or length of culvert.

(7) The activity must minimize wetland intrusion. The activity is exempt from the provisions of Chapter 310, the Wetland and Waterbodies Protection Rules, if the activity alters less than 15,000 square feet of natural resources per mile of roadway (centerline measurement) provided that the following impacts are not exceeded within the 15,000 square foot area:

(a) 1,000 square feet of coastal wetland consisting of salt tolerant vegetation or shellfish habitat; or

(b) 5,000 square feet of coastal wetland not containing salt tolerant vegetation or shellfish habitat; or

(c) 1,000 square feet of a great pond.

All other activities must be performed in compliance with all sections of Chapter 310, the Wetland Protection Rules, except 310.2(C), 5(A), 9(A), 9(B) and 9(C).

(8) The activity may not permanently block any fish passage in any watercourse containing fish. The applicant must coordinate with the reviewing agencies listed in paragraph 2 above to improve fish passage and incorporate any recommendations from those agencies into the performance of the activity.

NOTE: For guidance on meeting the design objectives for fish passage, including peak flow, maximum velocity, mining depth and gradient, see the MaineDOT Waterbody and Wildlife Crossing Policy and Design Guide (July 2008), developed in conjunction with state and federal resource and regulatory agencies.

(9) Rocks may not be removed from below the normal high water line of any coastal wetland, freshwater wetland, great pond, river, stream or brook except to the minimum extent necessary for completion of work within the limits of construction.

(10) If work is performed in a river, stream or brook that is less than three feet deep at the time and location of the activity, the applicant must isolate the work area from the resource and divert stream flows around the work area, maintaining downstream flows while work is in progress.

(11) Wheeled or tracked equipment may not operate in the water. Equipment operating on the shore may reach into the water with a bucket or similar extension. Equipment may cross streams on rock, gravel or ledge bottom. If avoiding the operation of wheeled or tracked equipment in the water is not possible, the applicant must explain the need to operate in the water. Approval from the DEP to operate in the water must be in writing, and any recommendations from the DEP must be incorporated into the performance of the activity.

(12) All wheeled or tracked equipment that must travel or work in a vegetated wetland area must travel and work on mats or platforms.

(13) Any debris or excavated material must be stockpiled either outside the wetland or on mats or platforms. Erosion and sediment control best management practices must be used, where necessary, to prevent sedimentation. Any debris generated during the activity must be prevented from washing downstream and must be removed from the wetland or water body. Disposal of debris must be in conformance with the Maine Hazardous Waste, Septage and Solid Waste Management Act, 38 M.R.S.A. Section 1301 *et seq.*

(14) Work below the normal high water line of a great pond, river, stream or brook must be done at low water except for emergency work or work agreed to by the resource agencies listed in paragraph 2 above.

(15) Perimeter controls must be installed before the work starts. Disturbance of natural resources beyond the construction limits shown on the plans is not allowed under this rule.

NOTE: Guidance on the location of construction limits can be obtained from the on site Construction Manager.

(16) The use of untreated lumber is preferred. Lumber pressure treated with chromated copper arsenate (CCA) may be used only if necessary and only if use is allowed under federal law and not prohibited from sale under 38 M.R.S.A. 1682, and provided it is cured on dry land in a manner that exposes all surfaces to the air for a period of at least 21 days prior to construction. Wood treated with creosote or pentachlorophenol may not be used where it will contact water.

(17) A temporary road for equipment access must be constructed of crushed stone, blasted ledge, or similar materials that will not cause sedimentation or restrict fish passage. Such roads must be completely removed at the completion of the activity. In addition, any such temporary roads which are in rivers, streams or brooks, must allow for a passage of stormwater flows associated with a 10-year storm.

(18) Non-native species may not be planted in restored areas.

(19) Disposal of debris must be in conformance with Maine Hazardous Waste, Septage and Solid Waste Management Act, 38 M.R.S.A. Sections 1301 *et seq*.

(20) Disturbance of vegetation must be avoided, if possible. Where vegetation is disturbed outside of the area covered by any road or structure construction, it must be reestablished immediately upon completion of the activity and must be maintained.

(21) A vegetated area at least 25 feet wide must be established and maintained between any new stormwater outfall structure and the high water line of any open water body. A velocity reducing structure must be constructed at the outlet of the stormwater outfall that will create sheet flow of stormwater, and prevent erosion of soil within the vegetated buffer. If the 25 foot vegetated buffer is not practicable, the applicant must explain the reason for a lesser setback in writing. Approval from the DEP must be in writing and any recommendations must be incorporated into the activity.

C. Definitions. The following terms, as used in this chapter, have the following meanings, unless the context indicates otherwise:

(1) **Diversion**. The rerouting of a river, stream or brook around a construction site and then back to the downstream channel.

(2) **Fill**. a. (verb) To put into or upon, supply to, or allow to enter a water body or wetland any earth, rock, gravel, sand, silt, clay, peat, or debris; b. (noun) Material, other than structures, placed in or immediately adjacent to a wetland or water body.

(3) **Floodplain wetlands**. Freshwater wetlands that are inundated with flood water during a 100-year flood event based on flood insurance maps produced by the Federal Emergency Agency or other site specific information.

(4) **Riprap**. Heavy, irregularly shaped rocks that are fit into place, without mortar, on a slope as defined in the MaineDOT Standard Specifications, dated December 2002.

Date:12/22/2021

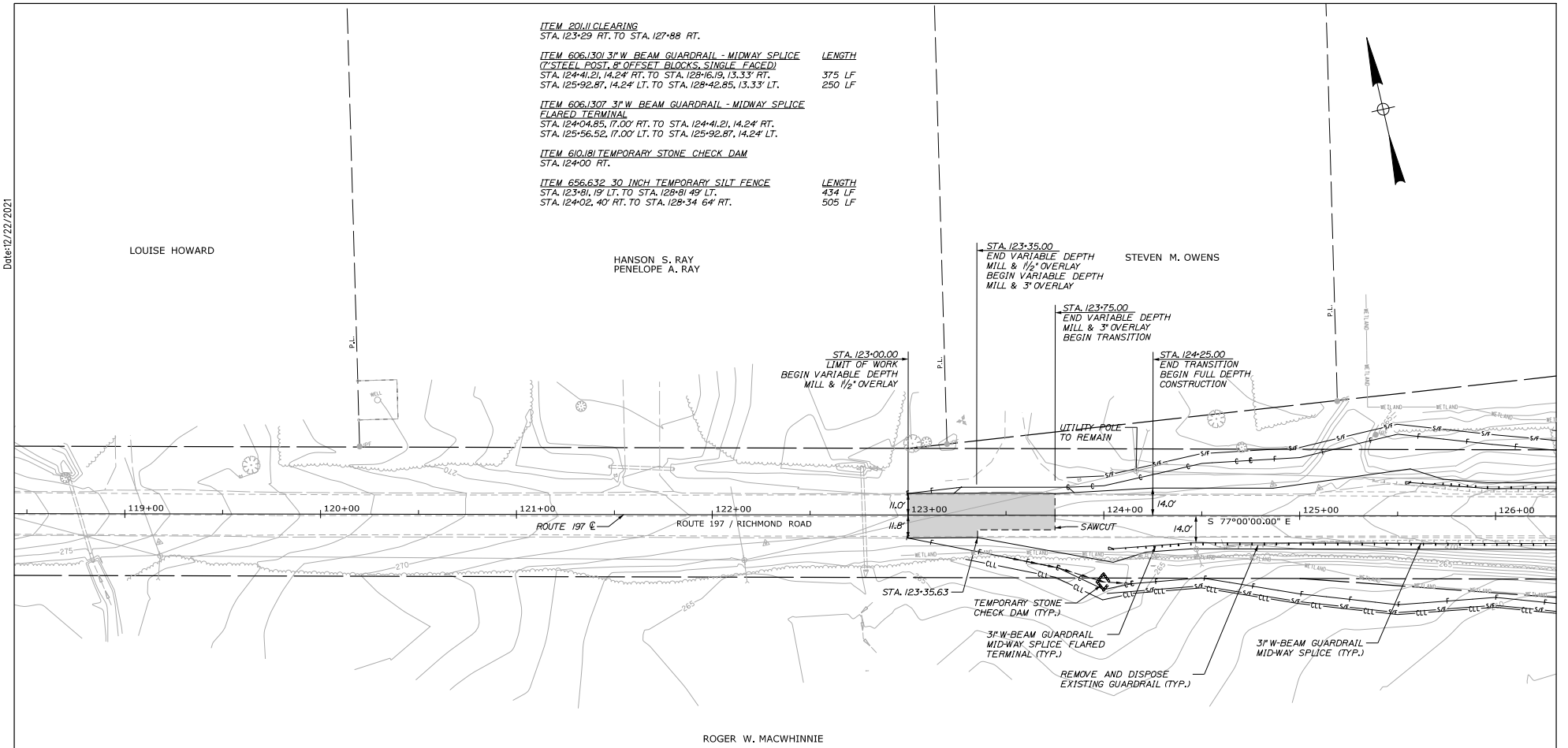
ITEM 201.11 CLEARING
STA. 123+29 RT. TO STA. 127+88 RT.

ITEM 606.1301 31" W BEAM GUARDRAIL - MIDWAY SPLICE (7' STEEL POST, 8" OFFSET BLOCKS, SINGLE FACED)	LENGTH
STA. 124+41.21, 14.24' RT. TO STA. 128+16.19, 13.33' RT.	375 LF
STA. 125+92.87, 14.24' LT. TO STA. 128+42.85, 13.33' LT.	250 LF

ITEM 606.1307 31" W BEAM GUARDRAIL - MIDWAY SPLICE FLARED TERMINAL
STA. 124+04.85, 17.00' RT. TO STA. 124+41.21, 14.24' RT.
STA. 125+56.52, 17.00' LT. TO STA. 125+92.87, 14.24' LT.

ITEM 610.181 TEMPORARY STONE CHECK DAM
STA. 124+00 RT.

ITEM 656.632 30 INCH TEMPORARY SILT FENCE	LENGTH
STA. 123+81, 19' LT. TO STA. 128+81 49' LT.	434 LF
STA. 124+02, 40' RT. TO STA. 128+34 64' RT.	505 LF



LEGEND

MILL, SHIM, & OVERLAY

98% PLANS
12/22/2021

Filename: 0XX_GeneralPlan_01.dgn

Scale: 25 0 25 50
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Steve Hodgdon, P.E.

	By	Date		By	Date
Designed	CDH	12\21	Checked	DAM	12\21
Drawn	CDH	12\21	In Charge of	TRC	12\21

HNTB CORPORATION
82 Running Hill Road, Suite 201
South Portland, ME 04106
TEL (207) 774-5155
FAX (207) 228-0909

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

SUPERSTRUCTURE REPLACEMENT ROUTE 197 UNDERPASS

GENERAL PLAN 1

SHEET NUMBER: GP-01

CONTRACT:2022.04

ITEM 201.11 CLEARING
STA. 126+29.00 LT. TO STA. 128+84.00 LT.
STA. 131+04.00 RT. TO STA. 136+00.00 RT.
STA. 132+01.00 LT. TO STA. 134+18.00 LT.

ITEM 606.1301 31" W BEAM GUARDRAIL - MIDWAY SPLICE (7' STEEL POST, 8' OFFSET BLOCKS, SINGLE FACED) — LENGTH
STA. 131+83.81, 13.33' LT. TO STA. 135+58.71, 14.24' LT. — 375 LF
STA. 131+57.15, 13.33' RT. TO STA. 135+07.21, 14.24' RT. — 350 LF

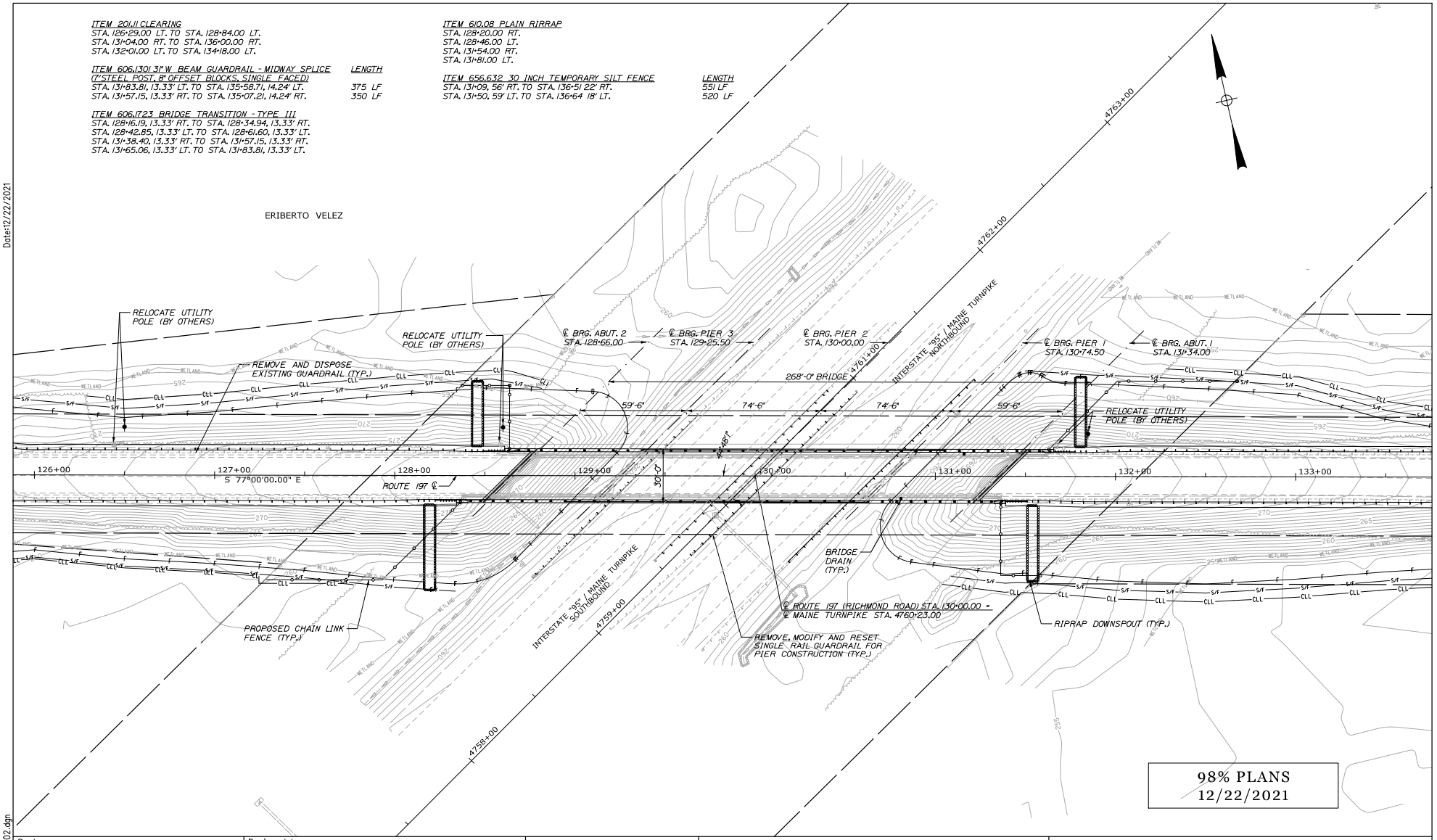
ITEM 606.1723 BRIDGE TRANSITION - TYPE III
STA. 128+16.19, 13.33' RT. TO STA. 128+34.94, 13.33' RT.
STA. 128+42.85, 13.33' LT. TO STA. 128+61.60, 13.33' LT.
STA. 131+38.40, 13.33' RT. TO STA. 131+57.15, 13.33' RT.
STA. 131+65.06, 13.33' LT. TO STA. 131+83.81, 13.33' LT.

ITEM 610.08 PLAIN RIRRAP
STA. 128+20.00 RT.
STA. 128+46.00 LT.
STA. 131+54.00 RT.
STA. 131+81.00 LT.

ITEM 656.632 30 INCH TEMPORARY SILT FENCE — LENGTH
STA. 131+09, 56' RT. TO STA. 136+61.22' RT. — 551 LF
STA. 131+50, 59' LT. TO STA. 136+64 18' LT. — 520 LF

ERIBERTO VELEZ

Date:12/22/2021



98% PLANS
12/22/2021

Filename: 0XX_GeneralPlan_02.dgn

Scale: 25 0 25 50
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Steve Hodgdon, P.E.

	By	Date		By	Date
Designed	CDH	12\21	Checked	DAM	12\21
Drawn	CDH	12\21	In Charge of	TRC	12\21

HNTB CORPORATION
82 Running Hill Road, Suite 201
South Portland, ME 04106
TEL (207) 774-5155
FAX (207) 228-0909

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

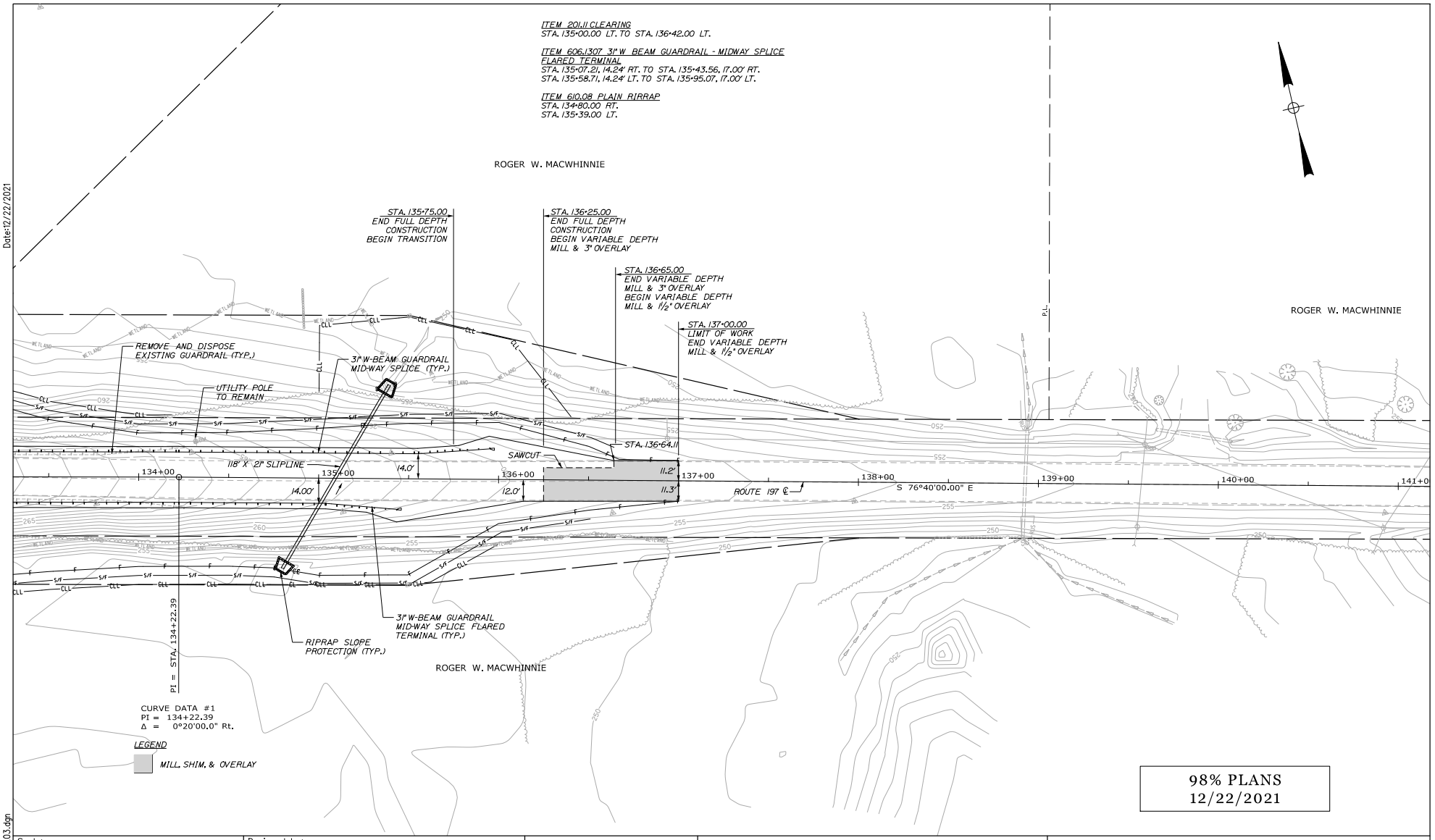
MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

SUPERSTRUCTURE REPLACEMENT ROUTE 197 UNDERPASS

GENERAL PLAN 2

SHEET NUMBER: GP-02

CONTRACT:2022.04



Date:12/22/2021

Filename: 0XX_GeneralPlan_03.dgn

Scale: 25 0 25 50
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Steve Hodgdon, P.E.

	By	Date		By	Date
Designed	CDH	12\21	Checked	DAM	12\21
Drawn	CDH	12\21	In Charge of	TRC	12\21

HNTB CORPORATION
82 Running Hill Road, Suite 201
South Portland, ME 04106
TEL (207) 774-5155
FAX (207) 228-0909

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

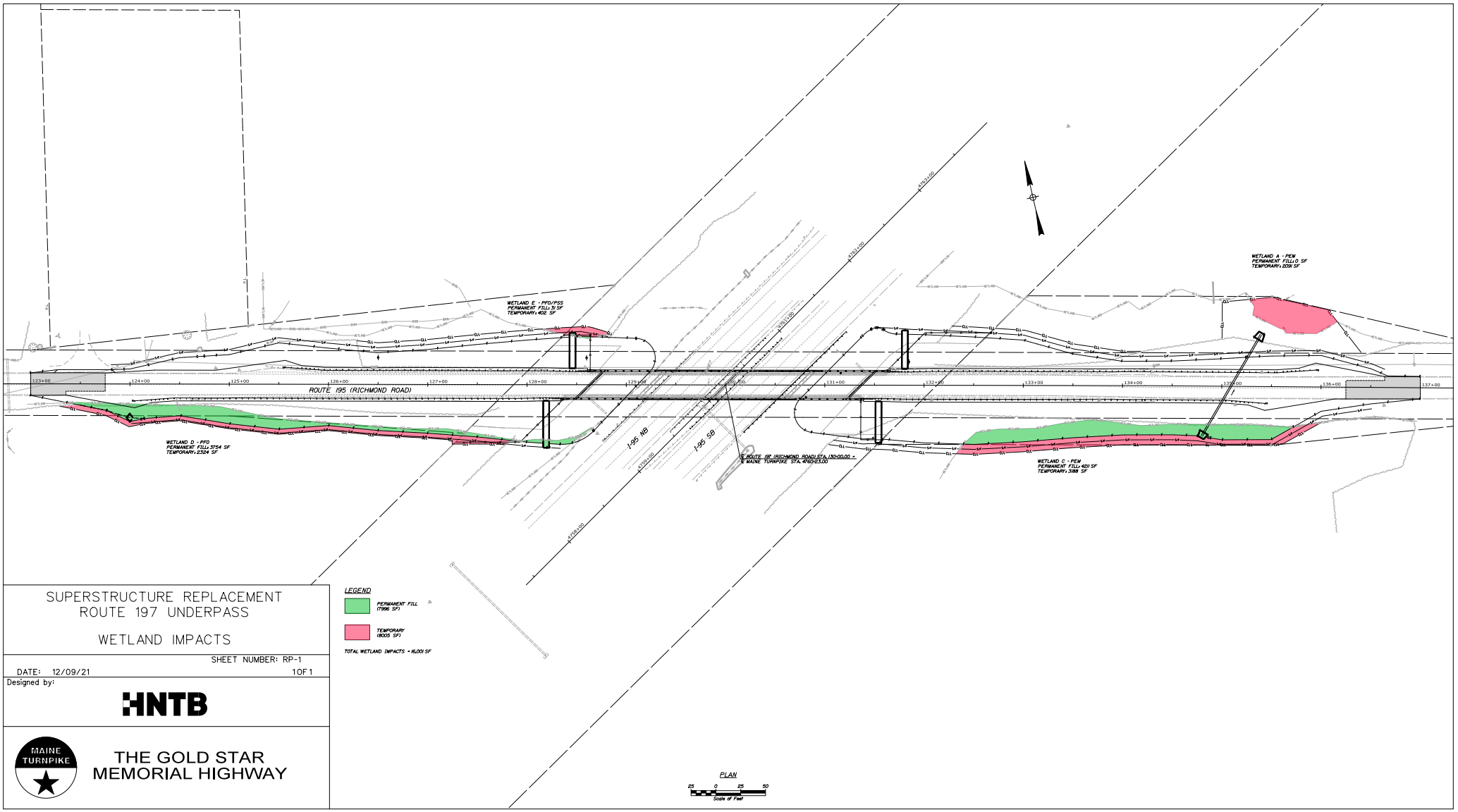
MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

SUPERSTRUCTURE REPLACEMENT ROUTE 197 UNDERPASS

GENERAL PLAN 3

SHEET NUMBER: GP-03

CONTRACT:2022.04



SUPERSTRUCTURE REPLACEMENT
ROUTE 197 UNDERPASS

WETLAND IMPACTS

SHEET NUMBER: RP-1

DATE: 12/09/21 1OF1

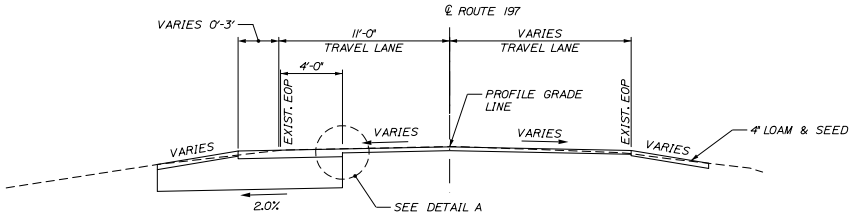
Designed by:

HNTB

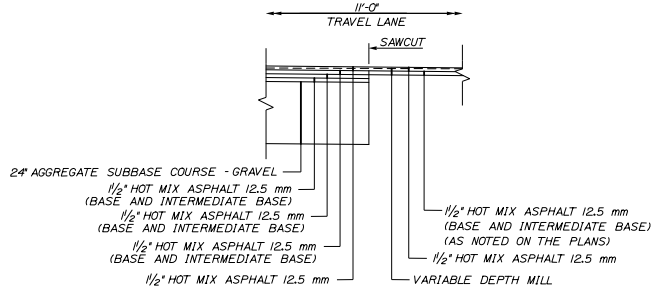
MAINE TURNPIKE

THE GOLD STAR
MEMORIAL HIGHWAY

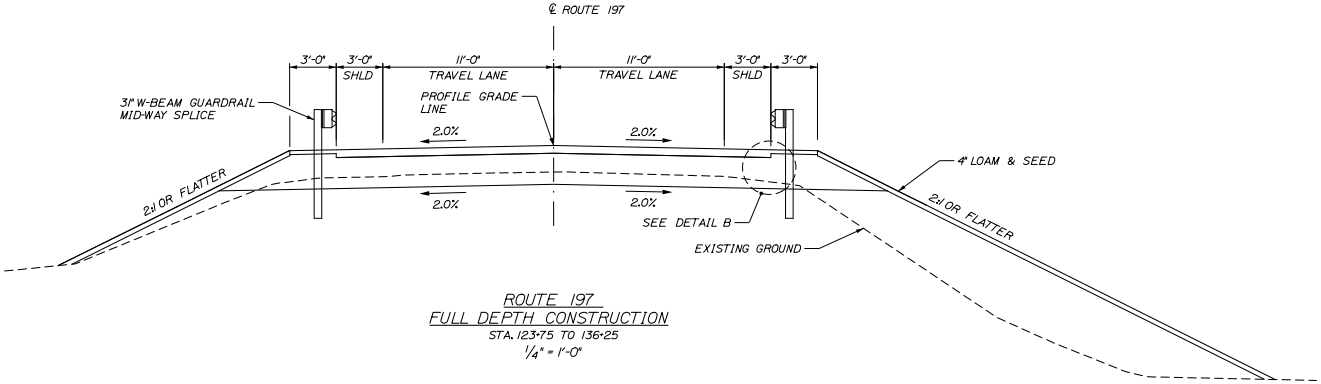
98% PLANS
12/21/2021



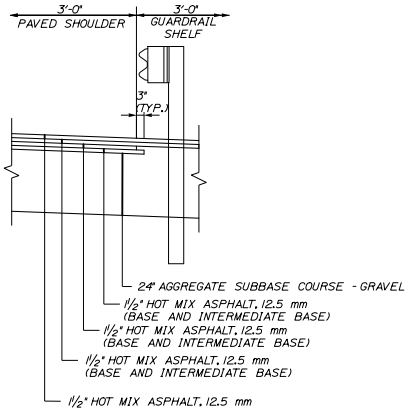
ROUTE 197
MILL & OVERLAY
STA. 123+00 TO 123+75
STA. 136+25 TO 137+00
1/4" = 1'-0"



DETAIL A
1½" = 1'-0"



ROUTE 197
FULL DEPTH CONSTRUCTION
STA. 123+75 TO 136+25
1/4" = 1'-0"



DETAIL B
1½" = 1'-0"

NOTES:

1. THE PAVEMENT, BASE, AND SUBBASE DEPTHS AS SHOWN ON THE PLANS ARE INTENDED TO BE NOMINAL.
2. CROWNS FOR NORMAL SECTIONS FOR ALL COURSES OF SUBBASE AND PAVEMENT SHALL BE STRAIGHT.
3. ALL NECESSARY PAVEMENT CUTTING SHALL BE SAWCUT AND DONE IN SUCH A MANNER AS TO LEAVE A CLEAN, VERTICAL FACE.
4. THE STATIONING SHOWN UNDER EACH TYPICAL SECTION IS APPROXIMATE.

Date:12/21/2021

Filename: 0XX_TypicalSections.dgn

Scale:

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Steve Hodgdon, P.E.

	By	Date		By	Date
Designed	CDH	12\21	Checked	DAM	12\21
Drawn	CDH	12\21	In Charge of	TRC	12\21

HNTB CORPORATION
82 Running Hill Road, Suite 201
South Portland, ME 04106
TEL (207) 774-5155
FAX (207) 228-0909

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

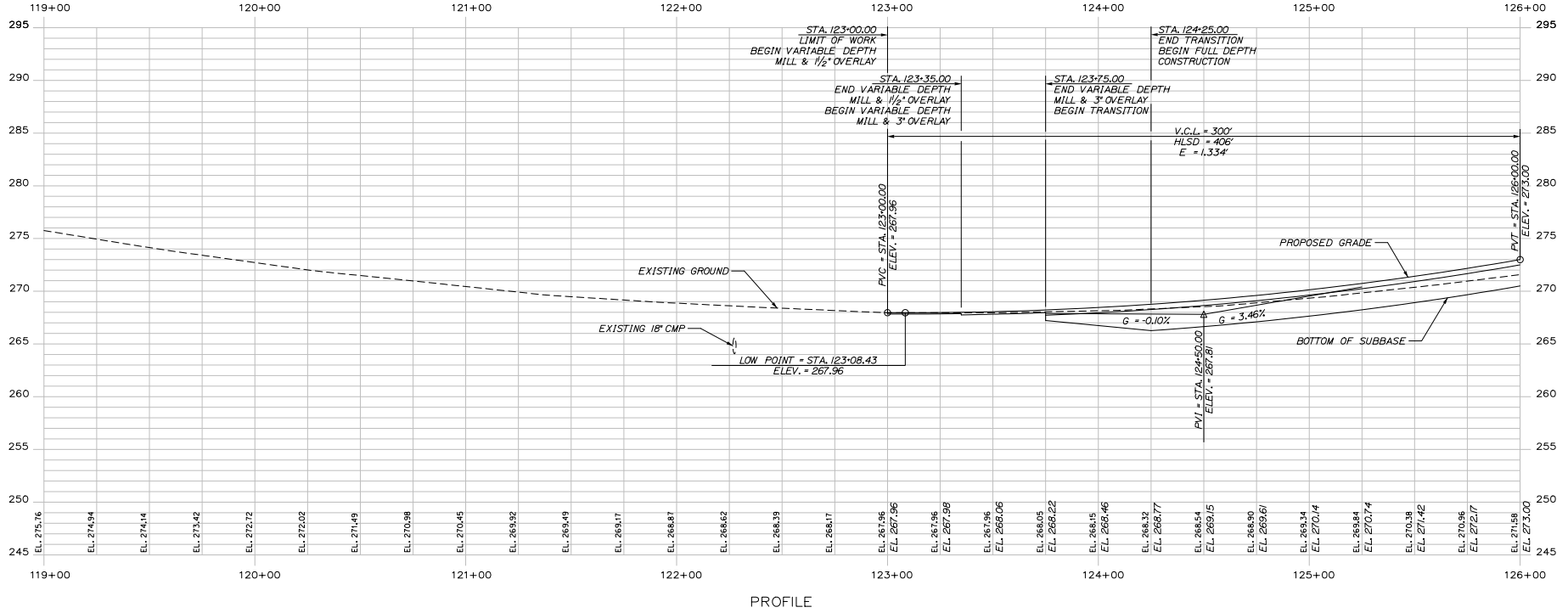
MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

SUPERSTRUCTURE REPLACEMENT
ROUTE 197 UNDERPASS

TYPICAL SECTIONS

SHEET NUMBER: TYP-1

CONTRACT:2022.04



PROFILE

98% PLANS
12/21/2021

Date:12/21/2021

Filename: 0XX_Profile_01.dgn

Scale: Horiz. 25 0 25 50
Vert. 5 0 5 10

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Steve Hodgdon, P.E.

	By	Date		By	Date
Designed	CDH	12\21	Checked	DAM	12\21
Drawn	CDH	12\21	In Charge of	TRC	12\21

HNTB CORPORATION
82 Running Hill Road, Suite 201
South Portland, ME 04106
TEL (207) 774-5155
FAX (207) 228-0909

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

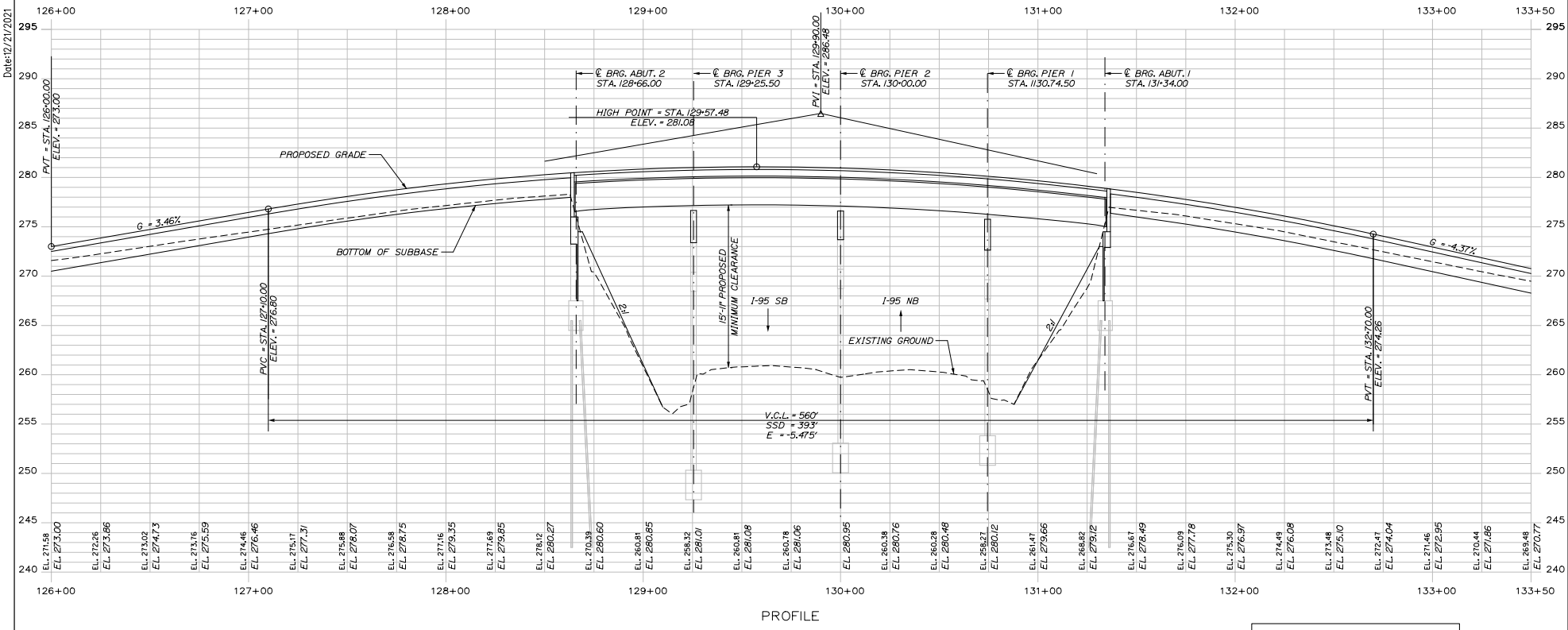
SUPERSTRUCTURE REPLACEMENT
ROUTE 197 UNDERPASS

PROFILE 1

SHEET NUMBER: PRO-01

CONTRACT:2022.04

Date:12/21/2021



PROFILE

98% PLANS
12/21/2021

Filename: 0XX_Profile_02.dgn

Scale: Horiz. 25 0 25 50
Vert. 5 0 5 10

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Steve Hodgdon, P.E.

	By	Date		By	Date
Designed	CDH	12\21	Checked	DAM	12\21
Drawn	CDH	12\21	In Charge of	TRC	12\21

HNTB CORPORATION
82 Running Hill Road, Suite 201
South Portland, ME 04106
TEL (207) 774-5155
FAX (207) 228-0909

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

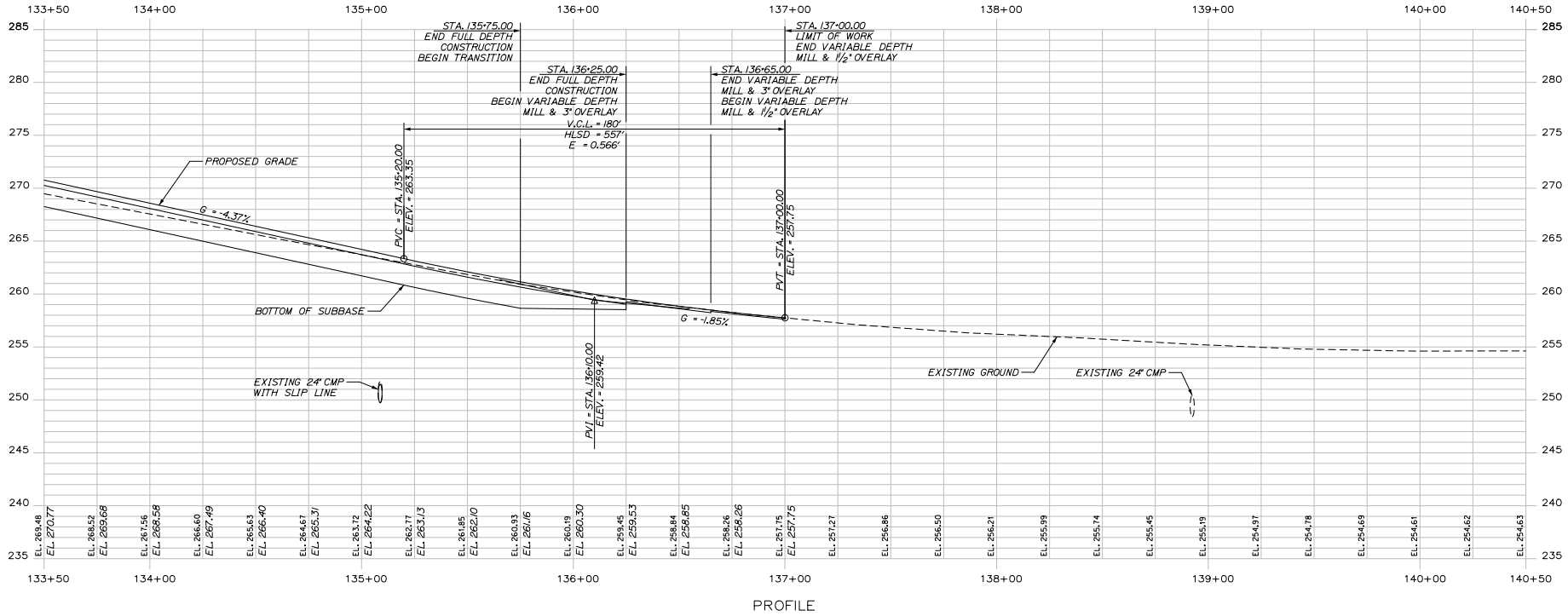
MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

SUPERSTRUCTURE REPLACEMENT
ROUTE 197 UNDERPASS

PROFILE 2

SHEET NUMBER: PRO-02

CONTRACT:2022.04



PROFILE

98% PLANS
12/21/2021

Date:12/21/2021

Filename: 0XX_Profile_03.dgn

Scale: Horiz. 25 0 25 50
Vert. 5 0 5 10

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Steve Hodgdon, P.E.

	By	Date		By	Date
Designed	CDH	12\21	Checked	DAM	12\21
Drawn	CDH	12\21	In Charge of	TRC	12\21

HNTB CORPORATION
82 Running Hill Road, Suite 201
South Portland, ME 04106
TEL (207) 774-5155
FAX (207) 228-0909

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

SUPERSTRUCTURE REPLACEMENT
ROUTE 197 UNDERPASS

PROFILE 3

SHEET NUMBER: PRO-03

CONTRACT:2022.04

GENERAL

1. ALL DETAILS SHALL BE IN CONFORMANCE WITH MAINE DEPARTMENT OF TRANSPORTATION (MAINEDOT) STANDARD DETAILS HIGHWAYS AND BRIDGES, 2014, AND MAINEDEP BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROL, LATEST REVISION, UNLESS OTHERWISE INCLUDED IN THESE PLANS.
2. CHAIN LINK FENCE GATES SHALL BE 4' WIDE SINGLE GATES. A GATE SHALL BE LOCATED ON EACH SIDE OF THE TURNPIKE ROADWAY. EXACT LOCATION OF THE GATE SHALL BE DETERMINED IN THE FIELD BY THE RESIDENT.
3. CONNECTIONS FOR EXISTING FENCE TO PROPOSED FENCE SHALL BE INCIDENTAL TO THE PROPOSED FENCE ITEMS.
4. THE CONTRACTOR SHALL SUBMIT HIS PROPOSED STAGING AREA(S) AND FIELD TRAILER LOCATION TO THE RESIDENT FOR APPROVAL PRIOR TO STARTING WORK.
5. RIGHT OF WAY AND PROPERTY LINES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY.
6. PAVED APRONS FOR DRIVEWAYS SHALL BE PAVED WITH A DEPTH OF 2".
7. DURING CONSTRUCTION ROUTE 197 WILL BE CLOSED FOR A TIME PERIOD SPECIFIED IN THE SPECIAL PROVISIONS.
8. EXISTING BEAMS WERE REPAINTED IN 2007 AND DO NOT CONTAIN LEAD BASED PAINT.

EROSION CONTROL

1. THE ANTICIPATED EROSION CONTROL DEVICES ARE SHOWN ON THE PLANS. THE CONTRACTOR SHALL PROPOSE ACTUAL TYPE AND LOCATION OF DEVICES FOR APPROVAL BY THE RESIDENT. ADDITIONAL MEASURES MAY BE PROPOSED BY THE CONTRACTOR DUE TO SITE OR WEATHER CONDITIONS. THE RESIDENT MAY DIRECT THE CONTRACTOR TO IMPLEMENT ADDITIONAL MEASURES. ANY ADDITIONAL MEASURES APPROVED BY THE RESIDENT WILL BE MEASURED FOR PAYMENT.
2. 4" LOAM HAS BEEN ESTIMATED FOR 100% OF THE DISTURBED SLOPE AREA UNLESS OTHERWISE SPECIFIED ON THE PLANS. ACTUAL PLACEMENT OF THE LOAM SHALL BE AS DESIGNATED BY THE RESIDENT.
3. TEMPORARY STABILIZATION WITH MULCH OR OTHER NON-ERODABLE COVER IS REQUIRED ON ALL EXPOSED SOILS THAT WILL NOT BE WORKED FOR MORE THAN 7 DAYS. AREAS WITHIN 75 FEET OF A WETLAND OR WATERBODY SHALL BE STABILIZED WITHIN 48 HOURS OF THE INITIAL DISTURBANCE OF THE SOIL OR PRIOR TO ANY STORM EVENT, WHICHEVER COMES FIRST. THE CONTRACTOR IS RESPONSIBLE FOR APPLYING TEMPORARY MULCH AS NECESSARY, IN ACCORDANCE WITH THE LATEST EDITION OF THE BMP'S TO MINIMIZE SOIL EROSION PRIOR TO THE APPLICATION OF THE FINAL SLOPE TREATMENT.
4. TEMPORARY SEED SHALL BE APPLIED TO ALL DISTURBED AREAS THAT WILL NOT BE COMPLETED WITHIN 30 DAYS.
5. ALL TEMPORARY AND PERMANENT EROSION CONTROL DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE MAINEDEP BEST MANAGEMENT PRACTICES.
6. TEMPORARY BERMS AND TEMPORARY SLOPE DRAINS ARE ANTICIPATED AT ALL STONE DOWNSPOUT LOCATIONS WHILE GROWTH IS BEING ESTABLISHED ON SIDE SLOPES.
7. TEMPORARY EROSION CONTROL BLANKET, ITEM 613.319 SHALL BE INSTALLED IN ALL DITCHES AND 2:1 OR STEEPER SLOPES FROM TOP TO TOE OF SLOPE. LOAM AND SEED SHALL BE PLACED PRIOR TO THE INSTALLATION OF THE EROSION CONTROL BLANKET. LIMITS OF THE EROSION CONTROL BLANKET IN DITCHES SHALL BE 6' WIDE OR AS DESIGNATED BY THE RESIDENT.
8. UNLESS OTHERWISE NOTED; SEEDING METHOD NO. 2 SHALL BE UTILIZED ON ALL AREAS.
9. A DOUBLE ROW OF SILT FENCE PROTECTION SHALL BE INSTALLED AT ALL STREAM LOCATIONS AND OPEN WATER WETLANDS AS SHOWN ON THE PLANS.
10. TEMPORARY STONE CHECK DAMS SHALL BE PLACED IN EXISTING DITCHES AS SHOWN ON THE PLANS OR AS DIRECTED BY THE RESIDENT.
11. STABILIZED CONSTRUCTION ENTRANCES MUST BE USED AND MAINTAINED. NO TRACKING OF SOIL ON THE MAINE TURNPIKE OR LOCAL ROADS WILL BE ALLOWED.

EARTHWORK

1. CLEARING LIMITS SHALL BE AS SHOWN ON THE PLANS UNLESS OTHERWISE AUTHORIZED BY THE RESIDENT. THE ACTUAL CLEARING LINES SHALL BE ESTABLISHED IN THE FIELD BY THE CONTRACTOR AND SHALL BE APPROVED BY THE RESIDENT PRIOR TO ANY CLEARING TAKING PLACE.
2. EXISTING INSLOPES STEEPER THAN 2:1 IN PROPOSED FILL AREAS SHALL BE BENCHED AS SHOWN IN THE DETAILS OR AS DIRECTED BY THE RESIDENT.
3. GRUBBING IN FILL HAS BEEN SHOWN ON THE CROSS SECTIONS. THESE LIMITS ARE APPROXIMATE AND HAVE BEEN USED FOR QUANTITY ESTIMATION PURPOSES ONLY. ACTUAL LIMITS MAY VARY BASED ON FIELD CONDITIONS AND AS DIRECTED BY THE RESIDENT. GRUBBING DEPTH HAS BEEN ESTIMATED AS 6 INCHES IN FIELD AREAS AND 12 INCHES IN WOODED AREAS.
4. WASTE MATERIALS SHALL BE DISPOSED OF OFF THE PROJECT SITE, IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL ENVIRONMENTAL REGULATIONS.
6. ALL EXCAVATIONS ACCOMPLISHED AS PART OF THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH OSHA SUBPART P, EXCAVATIONS, OF 29 CFR PART 1926.650-652 AND APPENDICES. THE CONTRACTOR IS RESPONSIBLE FOR THE SAFETY, STABILITY AND MAINTENANCE OF ALL TEMPORARY SLOPES.
7. REMOVAL OF EXISTING PAVEMENT SHALL BE PAID FOR AS COMMON EXCAVATION. EXISTING PAVEMENT THICKNESS HAS BEEN ESTIMATED TO BE 6 INCHES.
8. PLACEMENT OF TEMPORARY FILLS OUTSIDE THE EMBANKMENT FOOTPRINT FOR PURPOSES SUCH AS MATERIAL STOCKPILES, ACCESS ROADS, ETC. WILL REQUIRE ADVANCE APPROVAL OF THE RESIDENT. THE CONTRACTOR SHALL SUBMIT PLAN DETAILS IN ADVANCE SHOWING PROPOSED LOCATION AND HEIGHTS OF TEMPORARY FILLS. TEMPORARY FILLS SHALL HAVE SUFFICIENT LATERAL CLEARANCE FROM EXISTING UTILITIES, ROADWAYS, AND STRUCTURES TO PREVENT DAMAGE.
9. EXCAVATED SOIL MEETING THE MATERIAL AND GRADATION REQUIREMENTS OF COMMON BORROW MAY BE REPURPOSED FOR EMBANKMENT CONSTRUCTION. ALL OTHER SOILS AND WASTE MATERIALS, INCLUDING ORGANIC PEAT/MUCK, ROOTS, AND STUMPS, SHALL BE DISPOSED OF OFF THE PROJECT SITE IN ACCORDANCE WITH ENVIRONMENTAL REGULATIONS.

UTILITY

1. EXISTING UTILITIES ON THESE PLANS WERE COMPILED FROM FIELD SURVEY AND VARIOUS OTHER SOURCES. LOCATIONS ARE NOT GUARANTEED TO BE ACCURATE NOR IS IT GUARANTEED THAT ALL UTILITIES ARE SHOWN. NO SEPARATE OR ADDITIONAL COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR DUE TO ANY VARIANCE BETWEEN THE DATA SHOWN ON THE PLANS AND THE ACTUAL FIELD CONDITIONS ENCOUNTERED. NO WORK SHALL BE STARTED UNTIL THE OWNERS OF THE VARIOUS UTILITIES ARE NOTIFIED BY THE CONTRACTOR OF THE PROPOSED CONSTRUCTION. THE CONTRACTOR IS ALSO REQUIRED TO CALL DIG SAFE AT 1-888-344-7233 AT LEAST 72 HOURS PRIOR TO THE START OF THE WORK.
2. ALL UTILITY FACILITIES SHALL BE ADJUSTED BY THE RESPECTIVE UTILITIES UNLESS NOTED.
3. THE UTILITIES INVOLVED IN THIS CONTRACT ARE:

   CONSOLIDATED COMMUNICATIONS

GUARDRAIL

1. AT THE END OF EACH WORK DAY, THE CONTRACTOR IS REQUIRED TO HAVE AN APPROVED CRASHWORTHY END TREATMENT ON ALL GUARDRAIL OR CONCRETE BARRIER WITHIN ALL WORK AREAS THAT ARE ACCESSIBLE TO TRAFFIC.
2. GUARDRAIL REMOVED AND NOT RESET OR STACKED SHALL BE INCIDENTAL TO CONTRACT ITEMS AND INCLUDE ALL REMOVAL, DISPOSAL, EQUIPMENT, AND LABOR NECESSARY TO SATISFACTORILY COMPLETE THE WORK.
3. W-BEAM GUARDRAIL EXISTS ON THE PROJECT SITE. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING W-BEAM GUARDRAIL NOT RESET.
4. THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING ALL EXISTING MAILBOXES TO ENSURE THAT MAIL WILL BE DELIVERABLE. THIS WORK SHALL BE INCIDENTAL TO THE CONTRACT.
5. OFFSET BLOCKS FOR GUARDRAIL SHALL BE COMPOSITE.

DRAINAGE

1. NO EXISTING DRAINAGE SHALL BE ABANDONED, REMOVED OR PLUGGED WITHOUT PRIOR APPROVAL OF THE RESIDENT. ABANDONED STRUCTURES TO REMAIN SHALL BE PLUGGED WITH BRICK AND MORTAR (INCIDENTAL TO 604 ITEMS) AND FILLED WITH FLOWABLE FILL (ITEM 602.30).
2. INLETS AND OUTLETS OF ALL CULVERTS SHALL BE RIPRAPPED UNLESS OTHERWISE NOTED ON THE PLANS OR DIRECTED BY THE RESIDENT.
3. EXISTING CULVERTS TO REMAIN SHALL BE CLEANED AS DIRECTED BY THE RESIDENT UNDER ITEM 631.32 CULVERT CLEANER (INCLUDING OPERATORS). POST CONSTRUCTION, ALL EXISTING DRAINAGE TO REMAIN AND NEW DRAINAGE SHALL BE CLEANED AS DIRECTED BY THE RESIDENT UNDER ITEM 631.32 CULVERT CLEANER (INCLUDING OPERATORS).
4. ALL DITCH ELEVATIONS AND OFFSETS SHOWN ON THE CROSS SECTIONS ARE FOR THE FINISHED DITCH FLOW LINE.
5. SEE SPECIAL PROVISIONS FOR CULVERT SLIP LINE AT STATION 135+09.

Date:12/21/2021

Filename: 0XX_GeneralNotes.dgn

Scale: NOT TO SCALE

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Steve Hodgdon, P.E.

	By	Date		By	Date
Designed	CDH	12\21	Checked	DAM	12\21
Drawn	CDH	12\21	In Charge of	TRC	12\21

HNTB CORPORATION
82 Running Hill Road, Suite 201
South Portland, ME 04106
TEL (207) 774-5155
FAX (207) 228-0909

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

SUPERSTRUCTURE REPLACEMENT ROUTE 197 UNDERPASS

GENERAL NOTES

SHEET NUMBER: GN-01

CONTRACT:2022.04

DIMENSIONS FOR SLOPE OF 2:1

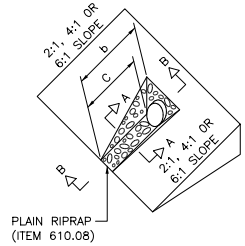
D	a (FT)	b (FT)	c (FT)	e (FT)	f (FT)	g (FT)	STONE DEPTH (FT)	STONE (CY)
12"	1.00	4.00	3.00	2.00	6.00	1.00	1.50	1.30
15"	1.00	4.50	3.37	2.25	6.75	1.63	1.50	1.70
18"	1.00	5.00	3.75	2.50	7.50	2.25	1.50	2.09
21"	1.00	5.50	4.13	2.75	8.25	2.88	1.50	2.58
24"	1.00	6.00	4.50	3.00	9.00	3.50	1.50	3.12
30"	1.00	7.00	5.25	3.50	10.50	4.75	1.50	4.33
36"	1.00	8.00	6.00	4.00	12.00	6.00	1.50	5.75
42"	1.00	9.00	6.75	4.50	13.50	7.25	1.50	7.37
48"	1.00	10.00	7.50	5.00	15.00	8.50	1.50	9.18
54"	1.00	11.00	8.25	5.50	16.50	9.75	1.50	11.19
60"	1.00	12.00	9.00	6.00	18.00	11.00	1.50	13.40
66"	1.00	13.00	9.75	6.50	19.50	12.25	1.50	15.81
72"	1.00	14.00	10.50	7.00	21.00	13.50	1.50	18.41
84"	1.00	16.00	12.00	8.00	24.00	16.00	1.50	24.22

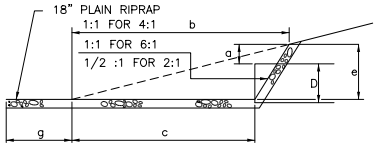
DIMENSIONS FOR SLOPE OF 4:1

D	a (FT)	b (FT)	c (FT)	e (FT)	f (FT)	g (FT)	STONE DEPTH (FT)	STONE (CY)
12"	1.00	8.00	6.00	2.00	6.00	0.00	1.50	2.20
15"	1.00	9.00	6.75	2.25	6.75	0.00	1.50	2.80
18"	1.00	10.00	7.50	2.50	7.50	0.00	1.50	3.40
21"	1.00	11.00	8.25	2.75	8.25	0.00	1.50	4.10
24"	1.00	12.00	9.00	3.00	9.00	0.00	1.50	4.86
30"	1.00	14.00	10.50	3.50	10.50	0.00	1.50	6.58
36"	1.00	16.00	12.00	4.00	12.00	0.00	1.50	8.56
42"	1.00	18.00	13.50	4.50	13.50	0.50	1.50	10.92
48"	1.00	20.00	15.00	5.00	15.00	1.00	1.50	13.57
54"	1.00	22.00	16.50	5.50	16.50	1.50	1.50	16.50
60"	1.00	24.00	18.00	6.00	18.00	2.00	1.50	19.72
66"	1.00	26.00	19.50	6.50	19.50	2.50	1.50	23.22
72"	1.00	28.00	21.00	7.00	21.00	3.00	1.50	27.01
84"	1.00	32.00	24.00	8.00	24.00	4.00	1.50	35.45

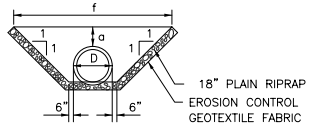
DIMENSIONS FOR SLOPE OF 6:1

D	a (FT)	b (FT)	c (FT)	e (FT)	f (FT)	g (FT)	STONE DEPTH (FT)	STONE (CY)
12"	0.50	9.00	7.50	1.50	4.50	0.00	1.50	2.30
15"	0.50	10.50	8.75	1.75	5.50	0.00	1.50	2.93
18"	0.50	12.00	10.00	2.00	6.50	0.00	1.50	3.57
21"	0.50	13.50	11.25	2.25	7.25	0.00	1.50	4.46
24"	0.50	15.00	12.50	2.50	8.00	0.00	1.50	5.44
30"	0.50	18.00	15.00	3.00	9.50	0.00	1.50	7.71
36"	0.50	21.00	17.50	3.50	11.00	0.00	1.50	10.37
42"	0.50	24.00	20.00	4.00	12.50	0.00	1.50	13.42
48"	0.50	27.00	22.50	4.50	14.00	0.00	1.50	16.87
54"	0.50	30.00	25.00	5.00	15.50	0.00	1.50	20.70
60"	0.50	33.00	27.50	5.50	17.00	0.00	1.50	24.93
66"	0.50	36.00	30.00	6.00	18.50	0.00	1.50	29.55
72"	0.50	39.00	32.50	6.50	20.00	0.00	1.50	34.56
84"	0.50	45.00	37.50	7.50	23.00	0.00	1.50	45.76





SECTION B-B

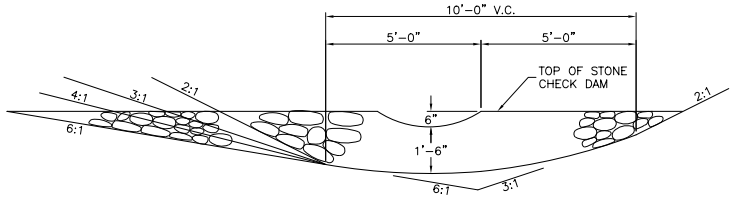


SECTION A-A

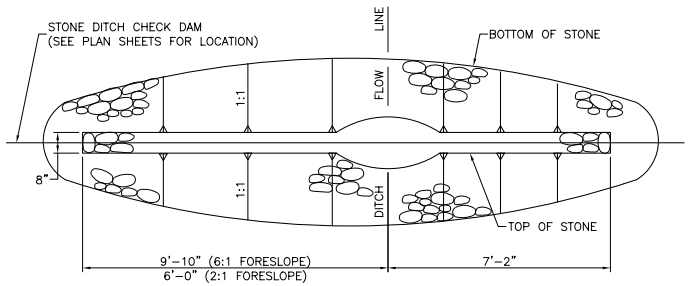
ROADWAY CULVERT END SLOPE TREATMENT

NOTES:

1. THE DIMENSIONS SHOWN ARE APPROXIMATE AND MAY BE MODIFIED BY THE RESIDENT.
2. STONE QUANTITIES ARE FOR ONE END OF THE PIPE.



SECTION



PLAN

STONE CHECK DAM

1" = 2'-0"

FORESLOPE	BACKSLOPE	QUANTITY C.Y. STONE
6:1	3:1	2.5
4:1	3:1	2.5
3:1	3:1	2.0
2:1	3:1	2.0

NOTES:

1. STONE FOR TEMPORARY AND PERMANENT STONE CHECK DAMS SHALL MEET THE REQUIREMENTS OF MDOT SPECIFICATION 703.29, STONE DITCH PROTECTION.
2. TEMPORARY STONE CHECK DAMS WILL BE PAID FOR UNDER ITEM 610.181.

98% PLANS
12/21/2021

Date:12/21/2021

Filename: 0XX_ErosionControlDetails_1.dgn

Scale: NOT TO SCALE

Designed by: HNTB

No.	Revision	By	Date

CONSULTANT PROJECT MANAGER: Steve Hodgdon, P.E.

	By	Date		By	Date
Designed	CDH	12\21	Checked	DAM	12\21
Drawn	CDH	12\21	In Charge of	TRC	12\21

HNTB CORPORATION
82 Running Hill Road, Suite 201
South Portland, ME 04106
TEL (207) 774-5155
FAX (207) 228-0909

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

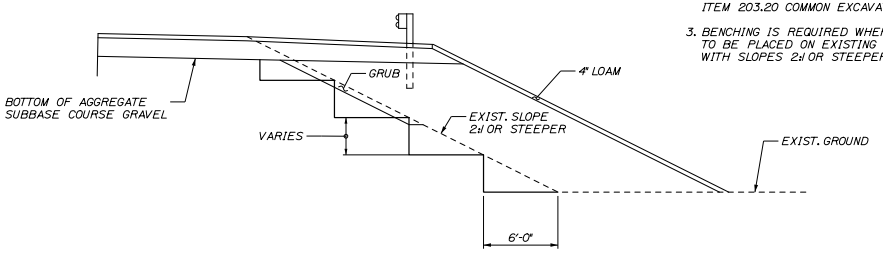
SUPERSTRUCTURE REPLACEMENT
ROUTE 197 UNDERPASS

EROSION CONTROL DETAILS I

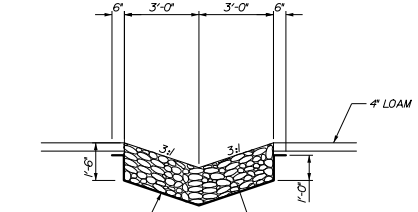
SHEET NUMBER: CD-01

CONTRACT:2022.04

NOTES:
1. GRUBBING WILL BE PAID FOR UNDER ITEM 203.20 COMMON EXCAVATION. SEE CROSS SECTIONS FOR ACTUAL LIMITS.
2. EXCAVATION FOR BENCHING TO RECEIVE EMBANKMENTS IS INCIDENTAL TO ITEM 203.20 COMMON EXCAVATION.
3. BENCHING IS REQUIRED WHERE FILL IS TO BE PLACED ON EXISTING EMBANKMENTS WITH SLOPES 2:1 OR STEEPER.

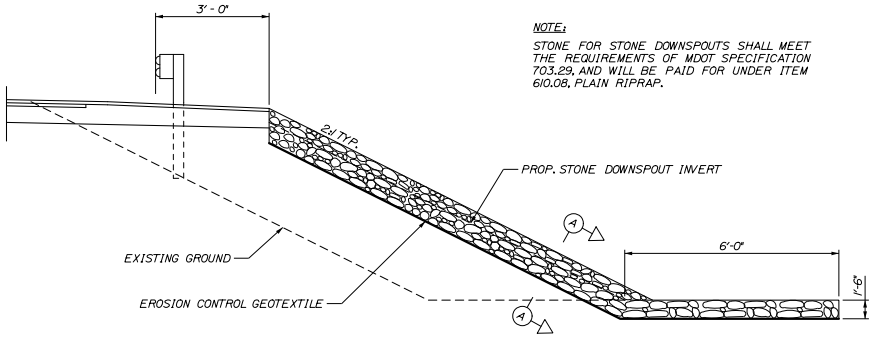


BENCH DETAIL



1 LF of Downspout = .33 CY of Plain Riprap
1 LF of Downspout = 1.04 SY of Erosion Control Geotextile Fabric

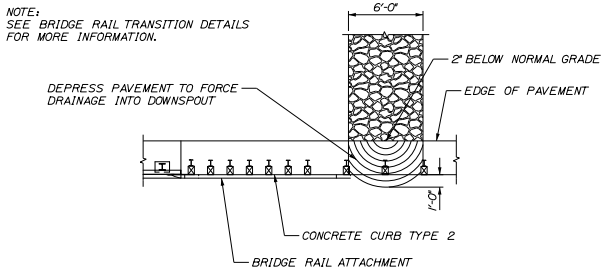
SECTION A-A



NOTE:
STONE FOR STONE DOWNSPOUTS SHALL MEET THE REQUIREMENTS OF MDOT SPECIFICATION 703.29, AND WILL BE PAID FOR UNDER ITEM 610.08, PLAIN RIPRAP.

SECTION

NOTE:
SEE BRIDGE RAIL TRANSITION DETAILS FOR MORE INFORMATION.



PLAN VIEW

DOWNSPOUT DETAILS

98% PLANS
12/21/2021

Date:12/21/2021

Filename: 0XX_ErosionControlDetails_2.dgn

Scale: NOT TO SCALE

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Steve Hodgdon, P.E.

	By	Date		By	Date
Designed	CDH	12\21	Checked	DAM	12\21
Drawn	CDH	12\21	In Charge of	TRC	12\21

HNTB CORPORATION
82 Running Hill Road, Suite 201
South Portland, ME 04106
TEL (207) 774-5155
FAX (207) 228-0909

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Kristi Van Ooyen, P.E.

SUPERSTRUCTURE REPLACEMENT
ROUTE 197 UNDERPASS

EROSION CONTROL DETAILS II

SHEET NUMBER: CD-02

CONTRACT:2022.04

APPENDIX E

EXISTING GIRDER DAMAGE ASSESSMENT

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

82 Running Hill Road, Suite 201
South Portland, Maine 04106

Telephone (207) 774-5155
Facsimile (207) 228-0909
www.hntb.com

October 27, 2021

Mr. Peter Merfeld, P.E.
Chief Operations Officer
Maine Turnpike Authority
2360 Congress Street
Portland, Maine 04102

Re: Route 197 over the Maine Turnpike – Mile 93.3
Overheight Vehicle Strike – August 10, 2021
Initial Damage Assessment and Repair Recommendations

Dear Peter:

The Route 197 Underpass at Mile 93.3 was struck by an over height vehicle driving Southbound on August 10, 2021. At the request of the Maine Turnpike Authority (MTA), HNTB completed a field visit on August 10, 2021 and completed a hands-on inspection to assess the magnitude of the resulting damage. The following is a summary of our initial findings and recommendations.

Bridge Background

The Route 197 Underpass Bridge is a four girder, four-span, 268'-0" long bridge. The structure was originally constructed in 1956, was redecked in 1975, and repaired in 2008. The bridge vertical clearance over southbound is approximately 14.2 feet. The last condition inspection of the Route 197 bridge was completed on May 10, 2021. Minor collision scrapes on the bottom flange were noted in the inspection report.

Initial Damage Assessment

Bret Grenier, P.E. of HNTB completed a field visit on August 10th. A truck mounted basket lift was used to complete a hands-on inspection of the damage. One area of severe damage to the south fascia girder over the southbound travel lane, and one area of moderate damage to the north fascia girder over the southbound travel lane, were observed.

An inspection of the existing splice plates, diaphragms and diaphragm connections, and the bridge deck in the vicinity of the impact locations did not identify collision damage at those components.

The observed damage locations are illustrated on the attached framing plan and shown in the attached photos. A detailed summary of the observed damage is provided on the following page.

North Fascia Girder (G1)

- The bottom flange exhibits 1½" of sweep / lateral deformation. The area of sweep occurs between the diaphragms located on either side of the point of impact and measures approximately 24'-10" length.
- The bottom flange exhibits twist, local deformation, and heavy gouging at the point of impact. The gouge is approximately 3/16" deep and extends half the width of the flange. The north flange tip is deformed upward 2½" at the point of impact.

Interior Girder (G2)

- No observed damage.

Interior Girder (G3)

- No observed damage.

South Fascia Girder (G4)

- The bottom flange exhibits 2½" of sweep / lateral deformation. The area of sweep occurs between the diaphragms located on either side of the point of impact and measures approximately 24'-10" length.
- The bottom flange is severely damaged at the point of impact, including:
    - A fracture on the north side of the flange extending approximately half the flange width (5 3/4")
    - Twist and local deformation. The north flange tip is deformed upward 1½" at the point of impact.

Conclusions and Recommendations

After review and evaluation of the damaged structure, reducing the bridge to a single lane of alternating traffic controlled by temporary traffic signals is required to reduce load on the damaged fascia girders while safely maintaining traffic on the bridge. Temporary construction barrels shall be installed along both shoulder lines of the bridge to channelize vehicles in the center of the bridge.

Based on our initial assessment, and experience addressing similar bridge hits, the following repairs are recommended:

- Install one-way alternating traffic pattern on Route 197 controlled by temporary signals.
- Remove existing paint system from the two fascia girders. Paint removal shall extend to the limits of proposed repair. The existing paint system is likely lead-based paint.
- South Fascia Girder:
    - Complete heat straightening to remove girder sweep and flange deformation.
    - Relieve load from the fascia girder using a strongback system to lift the bridge deck from the roadway above.

  - Cut out the damaged portion the bottom flange and web at the point of impact and install a welded insert.
  - Remove the strongback system and patch the resulting holes in the bridge deck and repair pavement as required.
- North Fascia Girder:
  - Complete heat straightening to remove girder sweep and flange deformation.
  - Perform a welded repair of the 3/16" deep gouge at the north fascia girder, grind smooth after welding.
- Sandblast areas of paint removal and apply new paint using a coating system selected from NEPCOAT's pre-approved list of two-coat zinc-rich coating systems.

Estimated Project Costs

Several projects have been completed by the MTA over the last several years to repair similar types of bridge damage. In 2021, similar repairs were completed at Grove Street and involved heat straightening, the installation of a strongback to unload a damaged girder, the installation of a welded insert, and paint system replacement. The Grove Street project is directly comparable and, therefore, has been used as the basis for the cost to repair the Route 197 Bridge.

The estimated cost to restore the bridge to its pre-collision condition is $475,000. This cost includes construction, design engineering and construction inspection.

As always please do not hesitate to contact us with any questions or comments.

Best regards,

Timothy R. Cote, P.E.
Vice President

cc: Steve Tartre, P.E., MTA
Kristi Van Ooyen, P.E., MTA
John Sirois, MTA
Bret Grenier, P.E., HNTB
Paul Godfrey, P.E., HNTB
HNTB File: 60498-DS-901-003

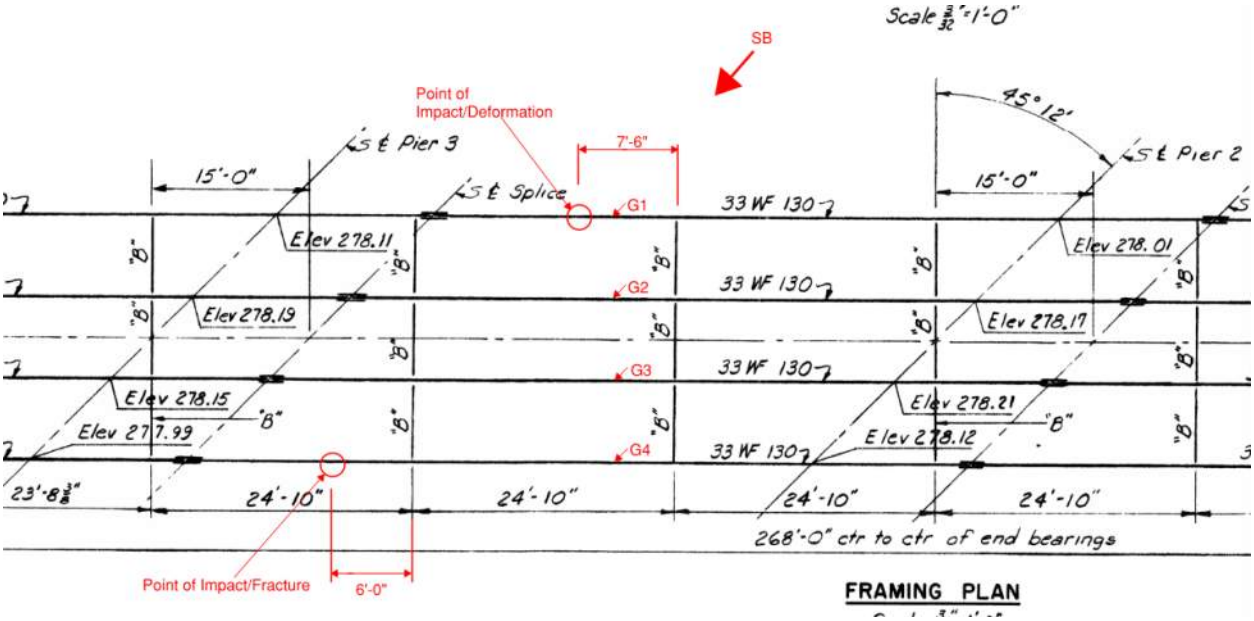


Figure 1 - Framing Plan

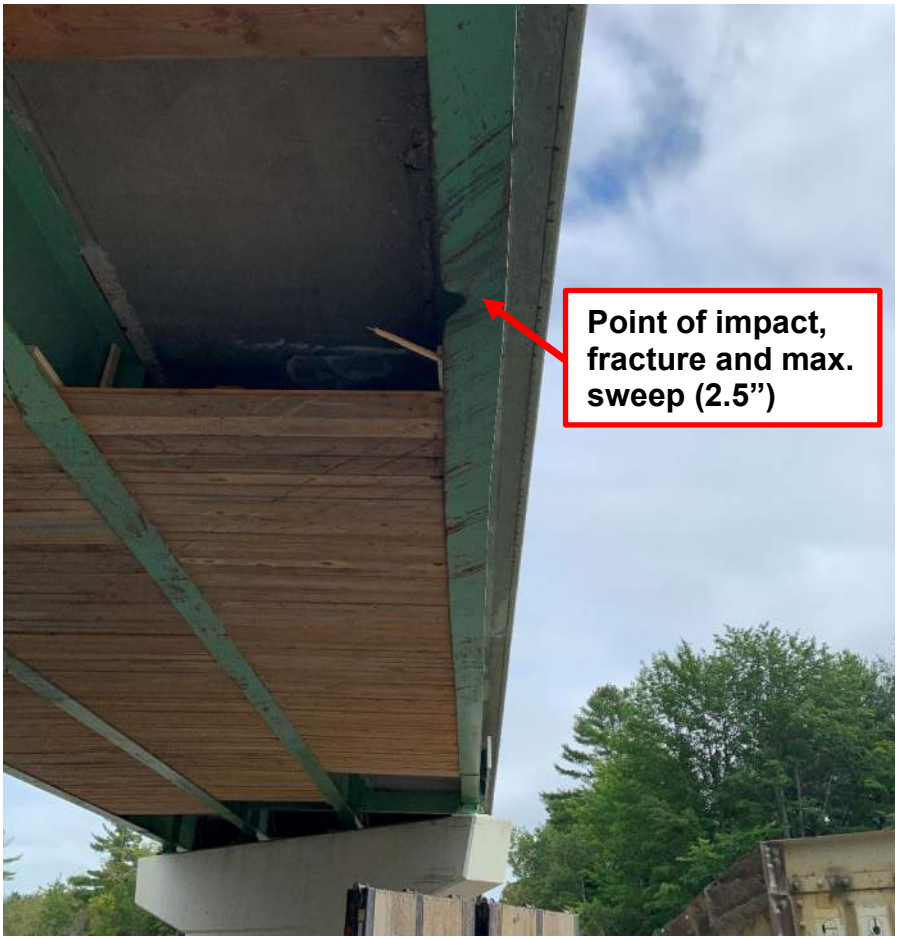


Photo 1 – Girder G4 Collision Damage (Looking East)

Photo 2 – Girder G4 Bottom Flange Tear (Looking South)

Photo 3 – Girder G4 Bottom Flange Deformation (Looking Northwest)

Photo 4 – Girder G1 Collision Damage (Looking East)

Photo 5 – Girder G1 Collision Damage (Looking North)

Photo 6 – Girder G4 Gouge and Deformation (Looking Northwest)