

MAINE TURNPIKE AUTHORITY

MAINE TURNPIKE

CONTRACT DOCUMENTS

**CONTRACT 2018.05**

EXIT 103 I-295 SOUTHBOUND UNDERPASS  
BRIDGE REHABILITATION  
MILE 103.0

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.  
The Supplemental Specifications are available at  
[MaineTurnpike.com](http://MaineTurnpike.com) for download.

TABLE OF CONTENTS

	<u>PAGE</u>
NOTICE TO CONTRACTORS	N-1
PROPOSAL	P-1
CONTRACT AGREEMENT	C-1
CONTRACT BOND	CB-1
FINAL LIEN AND CLAIM WAIVER AND AFFIDAVIT	F-1
 <u>ARRANGEMENT OF SPECIFICATIONS</u>	
PART I – SUPPLEMENTAL SPECIFICATIONS	SS-1
PART II – SPECIAL PROVISIONS	SP-1
PART III – APPENDICES	AP-1

MAINE TURNPIKE AUTHORITY

NOTICE TO CONTRACTORS

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

CONTRACT 2018.05

EXIT 103 I-295 SOUTHBOUND UNDERPASS

BRIDGE REHABILITATION

MILE 103.0

at the office of the Maine Turnpike Authority, 2360 Congress Street, Portland, ME, until 11:00 a.m., prevailing time as determined by the Authority on March 15, 2018 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 rehabilitating the Exit 103 Southbound Underpass Bridge over the Maine Turnpike in the Town of West Gardiner, Maine. The work includes bridge, abutment and pier widening, concrete deck replacement, 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.

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 Seventy Five (\$75.00) Dollars for each set, which payment will not be returned. Checks shall be made payable to: Maine Turnpike Authority. The Plans, Contract Documents and Geotechnical Report may also be downloaded from a link on our website at <http://www.maineturnpike.com/project-and-planning/Construction-Contracts.aspx>.

For general information regarding Bidding and Contracting procedures, contact Nate Carll, Purchasing Manager, at (207) 482-8115. For information regarding Schedule of Items, Plan Holders List and Bid Results, visit our website at <http://www.maineturnpike.com/project-and-planning/Construction-Contracts.aspx>. For Project specific information, fax all questions to Nate Carll, Purchasing Manager, at (207) 871-7739 or email [ncarll@maineturnpike.com](mailto: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 27, 2018 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 2018.05

EXIT 103 I-295 SOUTHBOUND UNDERPASS  
BRIDGE REHABILITATION  
MILE 103.0

MAINE TURNPIKE AUTHORITY

PROPOSAL

CONTRACT 2018.05

EXIT 103 I-295 SOUTHBOUND UNDERPASS  
BRIDGE REHABILITATION  
MILE 103.0

TO MAINE TURNPIKE AUTHORITY:

The work consists of rehabilitating the Exit 103 Southbound Underpass Bridge over the Maine Turnpike in the Town of West Gardiner, Maine. The work includes bridge, abutment and pier widening, concrete deck replacement, 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.

This Work will be done under a Contract known as Contract 2018.05 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. 2018.05**  
**Exit 103 I-295 Southbound Underpass**  
**Bridge Rehabilitation**  
**Mile 103.0**

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
202.10	REMOVE EXISTING SUPERSTRUCTURE PROPERTY OF CONTRACTOR	Lump Sum	1				
202.12	REMOVING EXISTING STRUCTURAL CONCRETE	Cubic Yard	190				
202.202	REMOVING PAVEMENT SURFACE	Square Yard	22,200				
202.206	REMOVING PAVEMENT SURFACE - DRAINAGE PATHS	Square Foot	680				
202.206	REMOVING RUMBLE STRIPS	Linear Foot	7,000				
203.20	COMMON EXCAVATION	Cubic Yard	5,222				
203.21	ROCK EXCAVATION	Cubic Yard	58				
203.24	COMMON BORROW	Cubic Yard	8,600				
203.25	GRANULAR BORROW	Cubic Yard	3,950				
203.26	GRAVEL BORROW	Cubic Yard	720				
206.082	STRUCTURAL EARTH EXCAVATION-MAJOR STRUCTURES	Cubic Yard	520				

**CARRIED FORWARD:**

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
<b>BROUGHT FORWARD:</b>							
304.10	AGGREGATE SUBBASE COURSE - GRAVEL	Cubic Yard	1,200				
304.14	AGGREGATE BASE COURSE - TYPE A	Cubic Yard	1,300				
403.207	HOT MIX ASPHALT-19 MM	Ton	1,850				
403.2081	HOT MIX ASPHALT, 12.5 MM (POLYMER MODIFIED)	Ton	2,595				
403.209	HOT MIX ASPHALT -9.5 MM MAXIMUM SIZE (SIDEWALKS, DRIVES, & INCIDENTALS)	Ton	55				
403.211	HOT MIX ASPHALT - SHIM	Ton	1,770				
403.213	HOT MIX ASPHALT - 12.5 MM (BASE AND INTERMEDIATE COURSE)	Ton	970				
409.15	BITUMINOUS TACK COAT, APPLIED	Gallon	2,080				
419.30	SAWING BITUMINOUS PAVEMENT	Linear Foot	4,465				
470.08	BERM DROP OFF CORRECTION - GRINDINGS	Ton	70				
470.081	BERM CORRECTION	Linear Foot	4,800				
502.219	STRUCTURAL CONCRETE ABUTMENTS & RETAINING WALLS (360 CY)	Lump Sum	1				

**CARRIED FORWARD:**

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
<b>BROUGHT FORWARD:</b>							
502.239	STRUCTURAL CONCRETE PIERS (97 CY)	Lump Sum	1				
502.26	STRUCTURAL CONCRETE ROADWAY & SIDEWALK SLAB ON STEEL BRIDGES (640 CY)	Lump Sum	1				
502.264	STRUCTURAL CONCRETE PARAPETS (97 CY)	Lump Sum	1				
502.31	STRUCTURAL CONCRETE APPROACH SLAB (83 CY)	Lump Sum	1				
503.14	EPOXY-COATED REINFORCING STEEL, FABRICATED & DELIVERED	Pound	296,000				
503.15	EPOXY-COATED REINFORCING STEEL, PLACING	Pound	296,000				
503.17	MECHANICAL/WELDED SPLICE	Each	1,426				
504.701	STRUCTURAL STEEL FABRICATED & DELIVERED, ROLLED (30150 LB)	Lump Sum	1				
504.702	STRUCTURAL STEEL FABRICATED & DELIVERED, WELDED (184650 LB)	Lump Sum	1				
504.71	STRUCTURAL STEEL ERECTION (214800 LB)	Lump Sum	1				
505.08	SHEAR CONNECTORS (12714 EA)	Lump Sum	1				
507.0849	BARRIER - MOUNTED ALUMINUM BRIDGE RAIL, 1 BAR	Linear Foot	870				

**CARRIED FORWARD:**

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
<b>BROUGHT FORWARD:</b>							
508.14	HIGH PERFORMANCE WATERPROOFING MEMBRANE (2600 SY)	Lump Sum	1				
511.091	TEMPORARY EARTH SUPPORT SYSTEMS	Lump Sum	1				
512.081	FRENCH DRAINS (127 LF)	Lump Sum	1				
513.09	SLOPE PROTECTION - PORTLAND CEMENT CONCRETE	Square Yard	669				
514.06	CURING BOX FOR CONCRETE CYLINDERS	Each	1				
515.201	PIGMENTED PROTECTIVE COATING FOR CONCRETE SURFACES	Square Yard	870				
515.202	CLEAR PROTECTIVE COATING FOR CONCRETE SURFACES	Square Yard	1,350				
518.10	ABUTMENT REPAIRS	Square Foot	115				
518.20	PIER REPAIRS	Square Foot	600				
518.40	EPOXY INJECTION CRACK REPAIR	Linear Foot	27				
521.23	EXPANSION DEVICE-FINGER JOINT	Each	2				
523.33	REMOVE AND RESET BEARINGS	Each	30				

**CARRIED FORWARD:**

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
<b>BROUGHT FORWARD:</b>							
523.52	BEARING INSTALLATION	Each	10				
523.5405	SEISMIC ISOLATION BEARINGS - FABRICATED & DELIVERED	Each	10				
524.301	TEMPORARY JACKING AND STRUCTURAL SUPPORT	Lump Sum	1				
524.303	TEMPORARY DECK SUPPORT	Lump Sum	1				
524.40	PROTECTIVE SHIELDING - STEEL GIRDERS	Square Yard	2,400				
526.304	TEMPORARY CONCRETE BARRIER, ANCHORED	Lump Sum	1				
526.306	TEMPORARY CONCRETE BARRIER TYPE 1 - SUPPLIED BY AUTHORITY (5,000 LF)	Lump Sum	1				
526.35	PIER PROTECTION CONCRETE BARRIER	Linear Foot	600				
527.343	WORK ZONE CRASH CUSHIONS - TL-3	Unit	3				
603.225	42 INCH REINFORCED CONCRETE PIPE - CLASS III	Linear Foot	8				
603.55	CONCRETE PIPE TIES	Group	2				
606.13	31" W-BEAM GUARDRAIL - MID-WAY SPLICE (7' STEEL POSTS, 8" OFFSET BLOCKS, SINGLE FACED)	Linear Foot	2,625				

**CARRIED FORWARD:**

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
<b>BROUGHT FORWARD:</b>							
606.132	31" W-BEAM GUARDRAIL - MID-WAY SPLICE (7' STEEL POSTS, 8" OFFSET BLOCKS, DOUBLE FACED)	Linear Foot	87.5				
606.1351	TERMINAL END - ANCHORED END - 31" W-BEAM GUARDRAIL	Each	2				
606.1723	BRIDGE TRANSITION - TYPE III	Each	6				
606.1724	BRIDGE TRANSITION - TYPE III - MODIFIED	Each	2				
606.352	REFLECTORIZED BEAM GUARDRAIL DELINEATOR	Each	70				
606.356	UNDERDRAIN DELINEATOR POST	Each	5				
606.3561	DELINEATOR POST - REMOVE AND RESET	Each	14				
606.791	GUARDRAIL - FLARED TERMINAL - 31" W-BEAM	Each	2				
606.82	GUARDRAIL - REMOVE AND STACK EXISTING CRASH END	Each	2				
609.15	SLOPED CURB TYPE 1	Linear Foot	820				
609.191	CONCRETE CURB TYPE 2	Linear Foot	96				
610.08	PLAIN RIPRAP	Cubic Yard	15.1				

**CARRIED FORWARD:**

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
<b>BROUGHT FORWARD:</b>							
610.18	STONE DITCH PROTECTION	Cubic Yard	6				
610.181	TEMPORARY STONE CHECK DAM	Cubic Yard	50				
613.319	EROSION CONTROL BLANKET	Square Yard	6,500				
615.07	LOAM	Cubic Yard	1,150				
618.14	SEEDING METHOD NUMBER 2	Unit	27				
618.141	SEEDING METHOD NUMBER 3	Unit	62				
619.1201	MULCH - PLAN QUANTITY	Unit	89				
619.1202	TEMPORARY MULCH	Lump Sum	1				
620.58	EROSION CONTROL GEOTEXTILE	Square Yard	36				
620.6012	HDPE GEOMEMBRANE	Square Yard	52				
627.681	TEMPORARY 6 INCH PAINTED PAVEMENT MARKING LINE - YELLOW OR WHITE	Linear Foot	47,500				
627.73	TEMPORARY 6 INCH PAVEMENT MARKING TAPE	Linear Foot	3,000				

**CARRIED FORWARD:**

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
<b>BROUGHT FORWARD:</b>							
627.744	6" WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE	Linear Foot	26,800				
627.77	REMOVING EXISTING PAVEMENT MARKING	Square Foot	30,000				
627.812	TEMPORARY RAISED PAVEMENT MARKERS	Each	1,850				
627.94	PAVEMENT MARKING TAPE	Linear Foot	200				
629.05	HAND LABOR, STRAIGHT TIME	Hour	200				
631.10	AIR COMPRESSOR (INCLUDING OPERATOR)	Hour	40				
631.11	AIR TOOL (INCLUDING OPERATOR)	Hour	80				
631.12	ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR)	Hour	100				
631.171	TRUCK-SMALL (INCLUDING OPERATOR)	Hour	60				
631.172	TRUCK - LARGE (INCLUDING OPERATOR)	Hour	80				
631.36	FOREMAN	Hour	100				
639.18	FIELD OFFICE, TYPE A	Each	1				

**CARRIED FORWARD:**

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
<b>BROUGHT FORWARD:</b>							
645.105	REMOVE AND STACK SIGN	Each	4				
645.109	REMOVE AND RESET SIGN	Each	2				
645.271	REGULATORY, WARNING, CONFIRMATION AND ROUTE ASSEMBLY SIGN, TYPE 1	Square Foot	40				
652.30	FLASHING ARROW	Each	5				
652.33	DRUM	Each	300				
652.34	CONE	Each	100				
652.35	CONSTRUCTION SIGNS	Square Foot	1,710				
652.361	MAINTENANCE OF TRAFFIC CONTROL DEVICES	Lump Sum	1				
652.41	PORTABLE-CHANGEABLE MESSAGE SIGN	Each	4				
652.45	TRUCK MOUNTED ATTENUATOR	Cal. Day	100				
652.452	AUTOMATED TRAILER MOUNTED SPEED LIMIT SIGN	Each	1				
652.46	TEMPORARY PORTABLE RUMBLE STRIP	Unit	100	\$150	00	\$15,000	00

**CARRIED FORWARD:**

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
<b>BROUGHT FORWARD:</b>							
656.60	TEMPORARY BERMS	Linear Foot	1,900				
656.62	TEMPORARY SLOPE DRAINS	Linear Foot	400				
656.632	30" TEMPORARY SILT FENCE	Linear Foot	4,600				
659.10	MOBILIZATION	Lump Sum	1				
<b>TOTAL:</b>							

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

CONTRACT AGREEMENT

CONTRACT 2018.05

EXIT 103 I-295 SOUTHBOUND UNDERPASS

BRIDGE REHABILITATION

MILE 103.0

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., 201\_\_\_\_

Witnesses:

CONTRACTOR

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ (SEAL)

SURETY

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ (SEAL)

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

FINAL LIEN AND CLAIM WAIVER AND AFFIDAVIT

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

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

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

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

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

\_\_\_\_\_  
(Contractor)

By: \_\_\_\_\_

Title: \_\_\_\_\_

State of MAINE  
County of \_\_\_\_\_

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

\_\_\_\_\_  
*(Company Name)*

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

*(SEAL)*

\_\_\_\_\_  
Notary Public  
My Commission Expires: \_\_\_\_\_

MAINE TURNPIKE AUTHORITY

SPECIFICATIONS

PART I – SUPPLEMENTAL SPECIFICATIONS

*(Rev. November 10, 2016)*

**CONTRACT 2018.05**

EXIT 103 I-295 SOUTHBOUND UNDERPASS  
BRIDGE REHABILITATION  
MILE 103.0

The Supplemental Specifications are not included  
in these contract documents but are available at  
[MaineTurnpike.com](http://MaineTurnpike.com) for download.

MAINE TURNPIKE AUTHORITY

SPECIFICATIONS

PART II – SPECIAL PROVISIONS

PART II - SPECIAL PROVISIONS

<u>SECTION</u>	<u>TITLE</u>	<u>PAGE</u>
—	GENERAL DESCRIPTION OF WORK	SP-1
—	PLANS	SP-1
101.2	DEFINITION	SP-1
103.4	NOTICE OF AWARD	SP-2
104.3.8	WAGE RATES AND LABOR LAWS	SP-2
104.4.6	UTILITY COORDINATION	SP-5
104.4.7	COOPERATION WITH OTHER CONTRACTORS	SP-5
105.2.4.2	LEAD PAINT	SP-6
105.2.4.3	ASBESTOS	SP-6
105.8.2	PERMIT REQUIREMENTS	SP-6
107.1	CONTRACT TIME AND CONTRACT COMPLETION DATE	SP-7
107.1.1	SUBSTANTIAL COMPLETION	SP-7
107.4.6	PROSECUTION OF WORK	SP-8
107.8	SUPPLEMENTAL LIQUIDATED DAMAGES	SP-8
202.	REMOVING STRUCTURES AND OBSTRUCTIONS (Removing Pavement Surface)	SP-9
202.	REMOVING STRUCTURES AND OBSTRUCTIONS (Removing Pavement Surface – Drainage Paths)	SP-11
202.	REMOVING STRUCTURES AND OBSTRUCTIONS (Rumble Strips)	SP-13
202.	REMOVING STRUCTURES AND OBSTRUCTIONS (Removing Existing Superstructure) (Removing Existing Structural Concrete)	SP-15
203.	EXCAVATION AND EMBANKMENT	SP-17
206.	STRUCTURAL EXCAVATION	SP-19

<u>SECTION</u>	<u>TITLE</u>	<u>PAGE</u>
401.	HOT MIX ASPHALT PAVEMENT	SP-20
401.	HOT MIX ASPHALT PAVEMENTS (HMA using Hydrated Lime)	SP-26
403.	HOT MIX ASPHALT PAVEMENT	SP-28
409.	BITUMINOUS TACK COAT	SP-32
419.	SAWING AND SEALING JOINTS IN BITUMINOUS PAVEMENT (Sawing Bituminous Pavement)	SP-34
470.	BERM DROP OFF CORRECTION (Berm Drop off Correction – Grindings) (Berm Correction)	SP-35
504.	STRUCTURAL STEEL	SP-37
506.	SHOP APPLIED PROTECTIVE COATING – STEEL (Zinc Rich Coating System – Shop Applied)	SP-38
507.	RAILINGS	SP-40
511.	COFFERDAMS (Temporary Earth Support Systems)	SP-41
513.	SLOPE PROTECTION	SP-45
515.	PROTECTIVE COATING FOR CONCRETE SURFACES (Pigmented Concrete Protective Coating)	SP-46
515.	PROTECTIVE COATING FOR CONCRETE SURFACES (Clear Concrete Protective Coating)	SP-50
518.	STRUCTURAL CONCRETE REPAIR (Epoxy Injection Crack Repair)	SP-53
523.	BEARINGS (Remove & Reset Bearings)	SP-55
523.	BEARINGS (Seismic Isolation Bearings)	SP-57
524.	TEMPORARY STRUCTURAL SUPPORTS (Temporary Jacking and Structural Support)	SP-65

<u>SECTION</u>	<u>TITLE</u>	<u>PAGE</u>
524.	TEMPORARY STRUCTURAL SUPPORTS (Temporary Deck Support)	SP-69
524.	TEMPORARY STRUCTURAL SUPPORTS (Protective Shielding – Steel Girders) (Protective Shielding – Prestressed Concrete I-Girders) (Protective Shielding – Prestressed Structural Concrete Slabs)	SP-71
526.	CONCRETE BARRIER (Temporary Concrete Barrier, Anchored)	SP-74
526.	CONCRETE BARRIER (Temporary Concrete Barrier Type I – Supplied by Authority)	SP-77
526.	CONCRETE BARRIER (Pier Protection Concrete Barrier)	SP-80
527.	ENERGY ABSORBING UNIT (Work Zone Crash Cushion)	SP-82
603.	PIPE CULVERTS AND STORM DRAINS (Reinforced Concrete Pipe) (Concrete Collar) (Corrugated Polyethylene Pipe)	SP-84
606.	GUARDRAIL (31” W-Beam Guardrail – Mid-way Splice (7’ Steel Posts, 8” Offset Blocks, Single Faced) (31” W-Beam Guardrail – Mid-way Splice (8’ Steel Posts, 8” Offset Blocks, Single Faced) (31” W-Beam Guardrail – Mid-way Splice (7’ Steel Posts, 8” Offset Blocks, Double Faced)	SP-86
606.	GUARDRAIL (Terminal End – Anchored End – 31” W-Beam Guardrail)	SP-88
606.	GUARDRAIL (Bridge Transition – Type III) (Bridge Transition – Type III, Modified)	SP-90
606.	GUARDRAIL (Reflectorized Beam Guardrail Delineator)	SP-92
606.	GUARDRAIL (Underdrain Delineator Post) (Delineator Post – Remove and Reset) (Delineator Post - Remove and Stack)	SP-94
606.	GUARDRAIL (Guardrail – Flared Terminal – 31” W-Beam Guardrail)	SP-97

<u>SECTION</u>	<u>TITLE</u>	<u>PAGE</u>
606.	GUARDRAIL (Guardrail – Remove and Stack Existing Crash End) (Guardrail – Remove and Reset Existing Crash End)	SP-98
609.	CURBING (Concrete Curb Type 2)	SP-101
610.	STONE FILL, RIPRAP, STONE BLANKET, AND STONE DITCH PROTECTION (Temporary Stone Check Dams)	SP-102
613.	EROSION CONTROL BLANKET	SP-104
619.	MULCH (Mulch – Plan Quantity) (Temporary Mulch)	SP-105
620.	GEOTEXTILES (HDPE Geomembrane)	SP-107
627.	PAVEMENT MARKINGS (Temporary Painted Pavement Markings)	SP-109
627.	PAVEMENT MARKINGS (Temporary 6 Inch Pavement Marking Tape) (Temporary 6 Inch Black Pavement Marking Tape)	SP-111
627.	PAVEMENT MARKINGS (Temporary Raised Pavement Markers)	SP-114
627.	PAVEMENT MARKINGS (Pavement Marking Tape) (Pavement Marking Tape Dotted White Lane Line, 6-Inch Width)	SP-116
631.	EQUIPMENT RENTAL	SP-118
645.	HIGHWAY SIGNING (Remove and Stack Sign) (Remove and Reset Sign)	SP-120
652.	MAINTENANCE OF TRAFFIC (Specific Project Maintenance of Traffic Requirements)	SP-122
652.	MAINTENANCE OF TRAFFIC (Automated Trailer Mounted Speed Limit Sign)	SP-125

<u>SECTION</u>	<u>TITLE</u>	<u>PAGE</u>
652.	MAINTENANCE OF TRAFFIC (Temporary Portable Rumble Strips)	SP-128
719.	SIGNING MATERIAL	SP-130

MAINE TURNPIKE AUTHORITYSPECIFICATIONSPART 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 rehabilitating the Exit 103 Southbound Underpass Bridge over the Maine Turnpike in the Town of West Gardiner, Maine. The work includes widening the bridge, abutments and piers, concrete deck replacement, 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.

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 2018.05 – Exit 103 I-295 Southbound Underpass Bridge Rehabilitation Mile 103.0. The right is reserved by the Resident to make such minor corrections or alterations in the Plans as he deems necessary without change in the unit prices on the Schedule of Prices of the Proposal.

101.2 DefinitionHolidays

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

Independence Day 2018 (Fourth of July)	12:01 p.m. (Noon) preceding Tuesday to 6:00 a.m. the following Thursday.
Christmas Day 2018	12:01 p.m. (Noon) preceding Friday to 6:00 a.m. the following Wednesday.
New Year's Day 2019	12:01 p.m. (Noon) preceding Friday to 6:00 a.m. the following Wednesday.
Independence Day 2019 (Fourth of July)	12:01 p.m.(Noon) preceding Wednesday to 6:00 a.m. the following Friday.
Christmas Day 2019	12:01 p.m. (Noon) preceding Friday to 6:00 a.m. the following Thursday.

New Year's Day 2020

12:01 p.m. (Noon) preceding Friday to  
6:00 a.m. the following Thursday.

103.4 Notice of Award

The following sentence is added:

The Maine Turnpike Authority Board is scheduled to consider the Contract Award on March 22, 2018.

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:

**THIS DOCUMENT MUST BE CLEARLY POSTED AT THE PERTAINING STATE FUNDED PREVAILING WAGE CONSTRUCTION SITE**

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

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

**Title of Project** -----2018.05-Exit I-295 SB Underpass Rehabilitation

**Location of Project** --West Gardiner, Kennebec County

**2018 Fair Minimum Wage Rates  
Heavy & Bridge Kennebec County**

<u>Occupation Title</u>	<u>Minimum Wage</u>	<u>Minimum Benefit</u>	<u>Total</u>	<u>Occupation Title</u>	<u>Minimum Wage</u>	<u>Minimum Benefit</u>	<u>Total</u>
Backhoe Loader Operator	\$20.00	\$2.16	\$22.16	Laborer (Includes Helper-Tender)	\$16.50	\$0.94	\$17.44
Boom Truck (Truck Crane)Operator	\$21.66	\$6.86	\$28.52	Laborer - Skilled	\$18.25	\$3.84	\$22.09
Bricklayer	\$24.00	\$3.99	\$27.99	Line Erector-Power/Cable Splicer	\$27.50	\$6.29	\$33.79
Bulldozer Operator	\$20.00	\$4.06	\$24.06	Loader Operator - Front-End	\$19.00	\$2.03	\$21.03
Carpenter	\$21.35	\$7.96	\$29.31	Mechanic- Maintenance	\$21.25	\$7.11	\$28.36
Carpenter - Rough	\$20.13	\$6.29	\$26.42	Mechanic- Refrigeration	\$24.88	\$4.76	\$29.64
Cement Mason/Finisher	\$17.00	\$0.56	\$17.56	Millwright	\$24.66	\$9.63	\$34.29
Communication Equipment Installer	\$20.00	\$0.00	\$20.00	Painter	\$22.00	\$3.14	\$25.14
Comm Transmission Erector Microwave & Cell	\$19.00	\$3.57	\$22.57	Paver Operator	\$20.00	\$3.78	\$23.78
Crane Operator =>15 Tons)	\$25.00	\$9.00	\$34.00	Pile Driver Operator	\$25.00	\$11.13	\$36.13
Crusher Plant Operator	\$17.75	\$2.48	\$20.23	Pipe/Steam/Sprinkler Fitter	\$26.00	\$7.95	\$33.95
Diver	\$32.00	\$0.00	\$32.00	Pipe Layer	\$28.00	\$12.54	\$40.54
Driller -Rock	\$18.38	\$2.60	\$20.98	Pump Installer	\$21.00	\$3.73	\$24.73
Earth Auger Operator	\$23.76	\$6.31	\$30.07	Reclaimer Operator	\$18.50	\$2.85	\$21.35
Electrician - Licensed	\$26.50	\$10.03	\$36.53	Rigger	\$20.00	\$6.12	\$26.12
Electrician Helper/Cable Puller (Licensed)	\$19.30	\$4.39	\$23.69	Roller Operator - Earth	\$15.88	\$1.76	\$17.64
Excavator Operator	\$19.82	\$2.53	\$22.35	Roller Operator - Pavement	\$18.30	\$1.64	\$19.94
Fence Setter	\$16.00	\$1.17	\$17.17	Truck Driver - Light	\$18.15	\$2.88	\$21.03
Flagger	\$12.00	\$0.00	\$12.00	Truck Driver - Medium	\$17.75	\$1.82	\$19.57
Grader/Scraper Operator	\$21.33	\$5.13	\$26.46	Truck Driver - Heavy	\$16.75	\$2.10	\$18.85
HVAC (Heat-Vent-Air Conditioning)	\$23.00	\$3.05	\$26.05	Truck Driver - Tractor Trailer	\$20.50	\$5.46	\$25.96
Ironworker – Ornamental	\$22.85	\$4.85	\$27.70				
Ironworker - Reinforcing	\$26.48	\$11.83	\$38.31				
Ironworker - Structural	\$22.25	\$8.73	\$30.98				

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

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

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

**Posting of Schedule - Posting of this schedule is required in accordance with 26 MRSA §1301 et. seq., by any contractor holding a State contract for construction valued at \$50,000 or more and any subcontractors to such a contractor.**

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

**Determination No:** HB-013-2018

**A true copy**

**Filing Date:** January 10, 2018

**Attest:** Scott A. Cotnoir

**Expiration Date:** 12-31-2018

**Scott A. Cotnoir  
Wage & Hour Director**

**BLS(Heavy & Bridge Kennebec)**

**THIS DOCUMENT MUST BE CLEARLY POSTED AT THE PERTAINING STATE FUNDED PREVAILING WAGE CONSTRUCTION SITE**

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

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

**Title of Project -----2018.05-Exit I-295 SB Underpass Rehabilitation-HI**

**Location of Project --West Gardiner, Kennebec County**

**2018 Fair Minimum Wage Rates  
Highway & Earth Kennebec County**

<u>Occupation Title</u>	<u>Minimum Wage</u>	<u>Minimum Benefit</u>	<u>Total</u>	<u>Occupation Title</u>	<u>Minimum Wage</u>	<u>Minimum Benefit</u>	<u>Total</u>
Asphalt Raker	\$17.63	\$0.56	\$18.19	Ironworker – Ornamental	\$23.13	\$4.80	\$27.93
Backhoe Loader Operator	\$20.00	\$2.23	\$22.23	Ironworker - Reinforcing	\$24.79	\$10.60	\$35.39
Boom Truck (Truck Crane) Operator	\$21.66	\$6.86	\$28.52	Ironworker - Structural	\$21.80	\$4.88	\$26.68
Bulldozer Operator	\$21.50	\$4.38	\$25.88	Laborer (Includes Helper-Tender)	\$14.50	\$0.95	\$15.45
Carpenter	\$21.00	\$2.36	\$23.36	Laborer - Skilled	\$17.00	\$2.48	\$19.48
Cement Mason/Finisher	\$17.00	\$0.56	\$17.56	Line Erector-Power/Cable Splicer	\$26.00	\$7.59	\$33.59
Crane Operator =>15 Tons)	\$26.00	\$5.97	\$31.97	Loader Operator - Front-End	\$19.00	\$2.88	\$21.88
Crusher Plant Operator	\$18.00	\$3.46	\$21.46	Mechanic- Maintenance	\$20.85	\$3.02	\$23.87
Diver	\$28.50	\$1.48	\$29.98	Painter	\$17.00	\$0.00	\$17.00
Driller -Rock	\$18.38	\$2.60	\$20.98	Paver Operator	\$19.13	\$4.42	\$23.55
Earth Auger Operator	\$22.97	\$6.17	\$29.14	Pipelayer	\$18.00	\$3.16	\$21.16
Electrician - Licensed	\$26.00	\$4.67	\$30.67	Pump Installer	\$21.00	\$3.73	\$24.73
Electrician Helper/Cable Puller (Licensed)	\$17.00	\$2.84	\$19.84	Reclaimer Operator	\$19.13	\$2.98	\$22.11
Elevator Constructor/Installer	\$19.25	\$1.62	\$20.87	Roller Operator - Earth	\$16.00	\$1.89	\$17.89
Excavator Operator	\$21.05	\$2.94	\$23.99	Roller Operator - Pavement	\$18.15	\$2.19	\$20.34
Fence Setter	\$17.25	\$1.72	\$18.97	Screed/Wheelman	\$18.60	\$3.68	\$22.28
Flagger	\$12.00	\$0.00	\$12.00	Truck Driver - Light	\$16.75	\$1.71	\$18.46
Grader/Scraper Operator	\$21.33	\$5.65	\$26.98	Truck Driver - Medium	\$17.75	\$1.99	\$19.74
Highway Worker/Guardrail Installer	\$16.50	\$0.79	\$17.29	Truck Driver - Heavy	\$16.00	\$1.71	\$17.71
Hot Top Plant Operator	\$23.88	\$5.62	\$29.50	Truck Driver - Tractor Trailer	\$18.50	\$2.60	\$21.10

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

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

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

**Posting of Schedule - Posting of this schedule is required in accordance with 26 MRSA §1301 et. seq., by any contractor holding a State contract for construction valued at \$50,000 or more and any subcontractors to such a contractor.**

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

**Determination No: HI-025-2018**

**A true copy**

**Filing Date: January 10, 2018**

**Attest: Scott A. Cotnoir**

**Expiration Date: 12-31-2018**

**Scott A. Cotnoir  
Wage & Hour Director**

**BLS(Highway & Earth Kennebec)**

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.

There are no known utilities 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:

No utility coordination is needed for this project.

104.4.7 Cooperation With Other Contractors

This Subsection is amended by the addition of the following:

Adjacent contracts currently scheduled for the 2018 construction season include:

MTA Contract 2018.01 – Mainline Pavement Rehabilitation, MM 98 to 102.6

MTA Contract 2018.04 – 2018 Bridge Painting: Route 126 Underpass (MM 101.7) and High Street Underpass (MM 103.6)

Currently scheduled for the 2019 construction season is the construction of the Exit 103 Open Road Tolling (ORT) Facility (MM103.0). The ORT construction will overlap with this contract and the Contractor's Superintendent or Project Manager shall attend coordination meetings with the Resident and the adjacent Contractors at least once every two weeks.

The following Subsection is added:

#### 105.2.4.2 Lead Paint

The Contractor shall note that the existing bridge structure does not contain lead based paint, but the paint does contain traces of lead. A copy of the Lead Testing results is attached as **Appendix A**.

#### 105.2.4.3 Asbestos

The Contractor shall note that no Asbestos Containing Materials are known to be on site. However, demolition activities shall be accomplished under the supervision of a "competent person", as defined by OSHA, to evaluate whether materials uncovered/exposed are asbestos containing materials. If the "competent person" observes, or believes he has observed, asbestos containing materials while demolition is underway, the "competent person" shall immediately stop the demolition, secure the site and notify the Project Resident/Inspector.

The Owner shall have the area sampled and analyzed for asbestos containing materials. No work will be permitted in the area until samples show that no asbestos containing materials exists, or if asbestos containing materials are present, the conditions are abated. Compensation for delays resulting from stopping the demolition, testing for asbestos containing materials, and abating asbestos containing materials, if they exist, shall be limited to a time extension.

#### 105.8.2 Permit Requirements

The Project is being constructed under the Maine Department of Environmental Protection (DEP). Natural Resources Protection Act Permit by Rule regulations Section 11 – State Transportation Facilities, updated June 8, 2012. A copy of the Section 11 – State Transportation Facilities Permit by Rule regulations are attached in **Appendix B**.

The Project is being permitted under Section 404 of the Clean Water Act, through the US Army Corps of Engineers General Permit, Category 1. The Project is subject to the General Conditions of the Category 1 Authorization dated October 13, 2015 through October 13, 2020. A copy of the General Permit is attached in **Appendix C**. A signed copy of the Category 1 Notification Form was sent to the Army Corps Maine Project Office on December 22, 2018.

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

A Notice of Intent (NOI), accompanied by a preliminary Limit of Disturbance (LOD) plan 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, which were submitted as part of the NOI, has been estimated to be **3.76 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:

- If the cumulative area of disturbance exceeds the estimated LOD noted above, by less than one acre, the Resident shall have a minimum of five (5) working days to approve the revised LOD plan.
- If the cumulative area of disturbance exceeds the estimated LOD noted above, by over one acre, the Resident shall first approve of the plan and then possibly resubmit the NOI for MaineDEP approval. The approval may take a minimum of 21 working days.

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

The Contractor shall comply with the conditions outlined in the Army Corps General Permit, Maine Department of Environmental Protection NRPA Permit by Rule, the US Army Corps of Engineers General Permit, and the Maine Pollutant Discharge Elimination System General Permit for stormwater discharge associated with construction activity. 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 May 15, 2020. The construction of 2018.05 shall be substantially complete by November 18, 2019.

##### 107.1.1 Substantial Completion

This Subsection is amended by the addition of the following:

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

- All bridge deck work, including curbing, steel bridge rail, snow fence, surface pavement and guardrail installation including attachments complete and available for traffic.
- 2018.05 fully opened to 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.

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 activities shall not begin until the date specified:

The long-term lane closure that creates a single lane on I-295 Southbound ramp can only be in place for 8 continuous weeks (56 calendar days) for Phase 1A and 10 calendar days for Phase 2A, shall not be in place during the following:

- From Friday, June 15, 2018, noon, to Monday, September 3, 2018, 7 pm.
- From Friday, September 21, 2018, noon, to Monday, October 8, 2018, 6 pm.
- From Friday, June 14, 2019, noon, to Monday, September 2, 2019, 7 pm.
- From Friday, September 20, 2019, noon, to Sunday, September 29, 2019, 7 pm.
- From Friday, October 11, 2019, noon, to Monday October 14, 2019, 6pm.

#### 107.8 Supplemental Liquidated Damages

Supplemental liquidated damages of Two Thousand Five Hundred (\$2,500.00) Dollars per calendar day per shall be assessed for each calendar day when long-term lane closures, that create a long-term lane closure on the I-295 Southbound ramp, occur during the dates listed in section 107.4.6.

Supplemental liquidated damages of Two Thousand Five Hundred (\$2,500.00) Dollars per calendar day per shall be assessed for each calendar day when Phase 1A exceeds 56 calendar days and/or when Phase 2A exceeds 10 consecutive calendar days.

Supplemental liquidated damages for each calendar day that substantial completion is not achieved shall be at the per diem rates indicated in Section 107.7.2 Schedule of Liquidated Damages.

SPECIAL PROVISIONSECTION 202REMOVING STRUCTURES AND OBSTRUCTIONS

(Removing Pavement Surface)

202.01 Description

The following sentences are added:

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

Removal of approach pavement shall be completed through the use of a milling machine. The milling machine(s) shall be capable of accurately establishing profile grades by referencing from a floating straight edge, a minimum of 30 feet.

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

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

202.061 Removing Pavement Surface

This Subsection is deleted and replaced with the following:

The equipment for removing the bituminous surface, excluding bridge decks, shall be a power-operated milling machine or planer capable of removing the bituminous concrete pavement to the required depth, transverse cross slope, and profile grade by use of an automated grade and slope control system. The controls shall automatically increase or decrease the pavement removal depth as required, and readily maintain desired cross slope to compensate for surface irregularities in the existing pavement course. The mill head on the machine shall have a maximum 8mm tooth spacing pattern and a minimum triple wrap configuration. The milling machine shall be capable of accurately establishing profile grades by referencing from a floating straight edge, minimum of 30± feet. The equipment shall also have an effective means for removing excess material from the surface and preventing flying material in compliance with Subsections 105.2.5 Compliance with Health and Safety Laws and 105.2.6 Convenience of the Public, of the Specification.

The contractor shall operate the milling machine such that the forward operating speed of the machine in feet per minute (fpm) does not exceed 65% of the mill head in revolutions per minute (rpm). i.e. 100 rpm head speed equals maximum forward operating speed of 65 fpm. The contractor shall avoid stopping the milling operation during truck exchanges by staging the haul units accordingly.

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

The Contractor shall be responsible for the layout of the longitudinal centerline between the travel lane and passing lane.

The finished milled surface will be inspected before being accepted, and any deviations in the profile exceeding 3/8 inch under a 16 foot string line or straightedge placed parallel to the centerline will be corrected. Any deviations in the cross slope that exceed 3/8 inch under a 10 foot string line or straightedge placed transversely to the centerline will be corrected. In no case shall the cross slope in a single lane width be inverted resulting in a depression as measured transverse to the direction of travel. Any cross-slope inversions or depressions shall be corrected by spot shimming the area with HMA as directed by the resident prior to installing any leveling or wearing course. These corrections shall be done with no additional expense to the Authority.

All pavement grindings shall be disposed of by the Contractor off the turnpike right-of-way. All grindings shall be disposed of in accordance with the Maine Department of Environmental Protection Solid Waste Management Requirements.

202.07 Method of Measurement

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

The following sentences are added:

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

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

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

202.08 Basis of Payment

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

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
202.202      Removing Pavement Surface	Square Yard

SPECIAL PROVISION

SECTION 202

REMOVING STRUCTURES AND OBSTRUCTIONS

(Removing Pavement Surface – Drainage Paths)

202.01 Description

The following paragraphs are added:

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

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

The following Subsection is added:

202.011 Materials

Grinding shall be done in accordance with Section 202.

Bituminous pavement shall conform to Section 401, Hot Mix Asphalt, 12.5 mm.

Bituminous tack coat shall conform to Section 409.

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

202.06 Removing Bituminous Concrete Pavement

This Subsection is deleted and replaced with the following:

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

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

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

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

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

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

Vehicles will be permitted to traverse unfilled drainage paths.

202.07 Method of Measurement

The second paragraph is deleted and replaced with the following:

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

202.08 Basis of Payment

The following is added after the last paragraph:

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

Payment will be made under:

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

SPECIAL PROVISION

SECTION 202

REMOVING STRUCTURES AND OBSTRUCTIONS

(Removing Rumble Strips)

202.01 Description

The following paragraph is added:

This work shall consist of grinding existing rumble strip locations to a depth of 1-1/2 inches, coating vertical and horizontal surfaces with bituminous tack coat, and installing 1-1/2 inches of hot mix asphalt, 9.5 mm over the entire milled area. Locations and lengths of removal shall be as shown on the Plans or as approved by the Resident.

The following Subsections are added:

202.011 Materials

Grinding shall be done in accordance with Section 202. Bituminous tack coat shall conform to Section 409.

Hot mix asphalt, 9.5 mm shall conform to Section 401.

202.025 General

Existing rumble strips are approximately 16 inches long, seven inches wide, 1/2 inch deep, and spaced approximately every five inches.

202.07 Method of Measurement

The following paragraph is added:

Removing Rumble Strips shall be measured by the linear foot removed and accepted. Measurement shall be parallel to the baseline.

202.08 Basis of Payment

The following sentences are added:

Removing Rumble Strips shall be paid for at the Contract unit price per linear foot which includes all grinding, bituminous tack coat, pavement, equipment and labor necessary to satisfactorily complete the work.

Payment will be made under:

Pay Item

Pay Unit

202.206      Removing Rumble Strips

Linear Foot

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.

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 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.

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.

The following paragraph is added:

Subsequent to concrete removal at the existing abutments and wingwalls, the existing concrete surfaces which are to receive new material and all existing reinforcing steel designated on the Plans as to remain in the structure, shall be thoroughly cleaned and prepared in accordance with the requirements of Section 518 of the Supplemental Specifications.

202.08 Basis of Payment

The last sentence in the first paragraph is deleted and replaced with the following:

Removing and stacking the existing bridge railing system will not be measured separately for payment, but shall be incidental to the removal pay item.

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 at the approaches to the bridge structures 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 paragraphs are added:

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

SPECIAL PROVISION

SECTION 206

STRUCTURAL EXCAVATION

206.02 Construction Methods

The following paragraphs are added:

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

SPECIAL PROVISIONSECTION 401HOT 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 16.0 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 13 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 [140°F]	3.0mm [1/8 in] max
Bond, non-immersed	Three 12.7mm [1/2 in] specimens pass 3 cycles @ 200% extension @ -29°C [-20°F]
Resilience, %	60 min
Asphalt Compatibility, ASTM D5329	pass*

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

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

#### Section 401.03 Composition of Mixtures

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

HMA pavement mixtures for local road and bridge projects shall be a currently approved MDOT design.

HMA pavement mixtures for Mainline 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, and a maximum of 20 percent RAP in any base, intermediate, or shim course. Current MaineDOT approved designs with up to 20 percent RAP will be allowed on local roads.

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

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

PGAB submitted for approval, the type of PGAB modification if applicable, and the location of the terminal if applicable.

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

- Properly completed JMF indicating all mix properties (Gmm, VMA, VFB, etc.).
- Stockpile Gradation Summary.
- Test reports for individual aggregate consensus properties
- Design Aggregate Structure Consensus Property Summary.
- Design Aggregate Structure Trial Blend Gradation Plots (0.45 power chart).
- Trial Blend Test Results for at least three different aggregate blends.
- Selected design aggregate blend.
- Test results for the selected design aggregate blend at a minimum of three binder contents.
- Test results for final selected blend compacted to  $N_{max}$ .
- Specific Gravity for the PGAB to be used.
- Recommended mixing and compaction temperatures from the PGAB supplier.
- Material Safety Data Sheets (MSDS) 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 stone stockpiles, 75 ton for sand stockpiles, and 50 ton of blend sand before the Authority will sample. 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 sufficient 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 shall split a production sample for evaluation. The Contractor shall test its split of the sample and determine if the results meet the requirements. If the results are found to be acceptable, the Contractor will forward their results to the Authority's Lab, which will test the Authority's split of the sample. The results of the two split samples will be compared and shared between the Authority and the Contractor. 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.

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 13% 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 <sub>mm</sub> )			Voids in the Mineral Aggregate (VMA)(Minimum Percent)				Voids Filled with Binder (VFB) (Minimum %)	Fines/Eff. Binder Ratio
				Nominal Maximum Aggregate Size (mm)					
	N <sub>initial</sub>	N <sub>design</sub>	N <sub>max</sub>	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

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

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

\* For 4.75mm nominal maximum aggregate size mixtures, the Fines/Effective Binder Ratio is 0.6-1.4

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 shall meet the requirements of Table 1A

**TABLE 1A**  
**HAMBURG WHEEL TRACKER REQUIREMENTS**

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

\* As calculated by the most recently published version of the Maine DOT HWT worksheet, which is available online at <http://www.maine.gov/mdot/contractors/publications/>

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 401.091 Material Transfer Vehicle (MTV)

The fourth paragraph shall be deleted and replaced with:

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

Section 401.165 Longitudinal Joint Density

The first paragraph shall be deleted and replaced with:

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

The eighth paragraph shall be deleted and replaced with:

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

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

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

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

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 or laborers.

Section 401.191 Inspection/Testing

In paragraph nine delete and replace Item #8 with:

8. Secure High Speed Internet Access

SPECIAL PROVISIONSECTION 401HOT MIX ASPHALT PAVEMENTS

(HMA using Hydrated Lime)

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

401.01 Description

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

401.02 Materials

Materials shall meet the requirements specified.

Hydrated Lime

AASHTO 216

401.03 Composition of Mixtures

The Contractor shall compose the Hot Mix Asphalt Pavement with aggregate, Performance Graded Asphalt Binder (PGAB), hydrated lime and mineral filler if required. HMA shall be designed and tested according to AASHTO R35 and the volumetric criteria in Table 1. The Contractor shall size, uniformly grade, and combine the aggregate fractions in proportions that provide a mixture meeting the grading requirements of the Job Mix Formula (JMF).

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

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

Material Safety Data Sheets (MSDS) for hydrated lime

Supplier and source for Hydrated Lime

401.13 Preparation of Aggregates

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

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

- A. The Contractor shall add lime to the combined cold feed aggregate using an enclosed in-line cold feed mechanical pugmill mixer. The Contractor shall use a twin-shaft, continuous mixing pugmill with mixing paddles to thoroughly blend the lime with the aggregate. The Contractor shall adjust the retention time of the mixture in the pugmill so no unmixed lime is visible after the lime and aggregate exit the pugmill.
- B. The Contractor shall add lime to the produced aggregates during stockpiling using a pugmill. The Contractor shall distribute the lime per the stockpile ratios stated in the asphalt concrete mix design. A minimum moisture content of 2 percent by dry weight for coarse aggregate and 4 percent by dry weight for fine aggregate is required at the time the aggregates and lime are mixed. The Contractor shall marinate treated aggregate in stockpiles from 24 hours to 60 days before using in asphalt concrete mix. Do not use aggregate marinated longer than 60 days.
- C. The Contractor shall add lime to the combined cold feed aggregate by introducing the lime between aggregate layers as the aggregate flows from the cold feed bins. The Contractor shall thoroughly mix the lime and aggregate on the conveyor belt. The Contractor shall provide a lime introduction system so that no unmixed lime is visible before the lime and combined aggregate enter the drum.
- D. Other methods of hydrated lime introduction as approved by the Authority.

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

#### 401.14 Mixing

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

#### 401.18 Quality Control

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

SPECIAL PROVISIONSECTION 403HOT MIX ASPHALT PAVEMENT403.01 Description

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

403.02 General

The Contractor shall compose the Hot Mix Asphalt Pavement with aggregate, Performance Graded Asphalt Binder (PGAB), and mineral filler if required. The Performance Graded Asphalt Binder (PGAB) shall be polymer modified as detailed in this special provision and shall conform to the requirements of AASHTO M 320. The PG64E-28 Binder shall contain a minimum of 2.5% Styrene-Butadiene-Styrene (SBS) polymer {BWT} in a homogeneous blend. The stability of the modified binder shall be verified in accordance with ATSM D7173 using the Dynamic Shear Rheometer (DSR). The DSR  $G^*/\sin(\delta)$  results from the top and bottom sections of the ATSM D7173 test shall not differ by more than 10%. The results of ASTM D7173 shall be included on the Certified Test Report. The binder shall meet the requirements of AASHTO M 332 (including Appendix X1).

403.03 Construction

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

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

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

The forty-five degree pavement safety edge needed between lanes 1 and 2 shall be incidental to the 202 pay items.

A minimum test strip of 100 tons placed at a nominal depth of 1 ½ inches, full lane width, shall be required. It shall be evaluated under testing requirements for mix volumetric and density. The exact location will be identified by the Authority. Prior to placement of the test strip, a leveling course (Item 403.211) shall be placed at the chosen location. A fog coat of Item 409.15, Bituminous Tack Coat, shall be applied to the level course prior to the placement of the HMA surface course, payment to be made under the 409.15 pay item. The test strip will be excluded from the remainder of the projects' QA analysis. The Contractor shall notify the Authority at least 48 hours in advance of placing the test strip. The test strip is intended to allow

the Contractor to establish a method of compaction and adjust plant settings prior to mainline plant production.

403.04 Method of Measurement

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

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

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

403.05 Basis of Payment

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

The following pay items are added:

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

SPECIAL PROVISIONSECTION 403HOT MIX ASPHALT PAVEMENT

Course	HMA Grading	Item Number	Total Thickness	No. of Layers	Complimentary Notes
--------	-------------	-------------	-----------------	---------------	---------------------

I-295 Southbound Ramp Bridge

Wearing	12.5mm	403.2081	1.5"	1	A,C,F,G,H,J,K,L,M,N
Base	12.5mm	403.213	1.5"	1	B,C,F,J,L,N

I-295 Southbound Ramp Approaches

Wearing	12.5mm	403.2081	1.5"	1	A,C,F,G,H,I,J,K,L,M,N
Intermediate	12.5mm	403.213	1.5"	0-1	B,C,F,J,L,N
Base	19.0mm	403.207	7"	0-3	B,C,F,J,L,N
Shim	4.75mm 19.0mm	403.211	Varies	Varies	B,C,E,J,L,N

I-95 Mainline

Wearing	12.5mm	403.2081	1.5"	1	A,C,F,G,H,J,K,L,M,N
Intermediate	12.5mm	403.213	1.5"	1	B,C,F,J,L,N
Base	19.0mm	403.207	7"	3	B,C,F,J,L,N
Shim	4.75mm	403.211	Varies	Varies	B,C,E,J,L,N

I-295 Temporary Western Shoulder Shim

Shim	9.5mm	403.211	Varies	Varies	B,C,E,J,L,N
------	-------	---------	--------	--------	-------------

I-95 Hot Mix Slope Paving

Wearing	9.5mm	403.209	2"	1	B,C,O,P,J
---------	-------	---------	----	---	-----------

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 15 percent RAP may be used.
- D. RAP may not be used.
- E. The Maine DOT will conduct the job mix verification. The aggregate qualities shall meet the design traffic level of 3 to <10 million ESALS for mix placed under this contract. The design verification, Quality Control, and Acceptance tests for this mix will be performed at **XX 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. A material transfer vehicle (MTV) shall be used for the placement of Hot Mix Asphalt wearing surface on all roadways including acceleration and deceleration lanes and all ramps.
- H. Joints shall be constructed as the “notched wedge” type in accordance with Subsection 401.17.
- I. Joint density will be measured in accordance with Subsection 401.165.
- J. Tack coat shall be applied between all layers of pavement at a rate of 0.04 G/SY.
- K. PGAB shall conform to the provisions of 403.02 – Polymer Modified PGAB for HMA
- L. The contractor shall furnish a quality control technician equipped with an approved densometer to ensure density requirements are met.
- M. Hydrated Lime shall be incorporated into the mixture.
- N. 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.
- O. The design traffic level for mix placed shall be <0.3 million ESALS. The design, verification, Quality Control, and Acceptance tests for this mix will be performed at **50 gyrations**.
- P. The combined aggregate gradation required for this item shall be classified as a 9.5mm “fine graded” mixture, (using the Primary Control Sieve control point) as defined in 703.09.

SPECIAL PROVISIONSECTION 409BITUMINOUS TACK COAT409.02 Bituminous Material

This Subsection is deleted and replaced with the following:

Bituminous material shall conform to the Specifications for Emulsified Asphalt RS-1h, of the AASHTO Designation M-140.

409.05 Equipment

Add “or as determined by the Resident”, after the words “gal/yd<sup>2</sup>” 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:

<u>Pay Item</u>		<u>Pay Unit</u>
409.15	Bituminous Tack Coat – 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:

<u>Pay Item</u>	<u>Pay Unit</u>
419.30 Sawing Bituminous Pavement	Linear Foot

SPECIAL PROVISIONSECTION 470BERM DROP OFF CORRECTION

(Berm Drop Off Correction – Grindings)  
(Berm Correction)

470.01 Description

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

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

470.02 Bituminous Materials

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

<u>Sieve Designation</u>	<u>Percentage by Weight Passing Square Mesh Sieve</u>
3/4"	100
1/2"	95-100
No. 4	50-80
No. 50	18-28
No. 200	3-10

470.03 Method of Construction

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

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

470.04 Method of Measurement

Berm Drop Off Correction – Grindings will be measured by the ton of pavement grindings delivered and installed.

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

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

470.05 Basis of Payment

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

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

Payment will be made under:

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

SPECIAL PROVISION

SECTION 504

STRUCTURAL STEEL

504.03 Drawings

This Subsection is amended by the addition of the following:

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 licensed in the State of Maine. 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 needed to demonstrate the structural steel can be safely erected and assembled.

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.

504.641 Method of Measurement

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

SPECIAL PROVISIONSECTION 506SHOP APPLIED PROTECTIVE COATING - STEEL(Zinc Rich Coating System – Shop Applied)506.05 Inspection

This section is amended by the addition of the following:

The QAI shall be given ample notice in order 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 primed or surfaces that are recoated without notification of the QAI will be rejected and no further coating shall be done on the piece. Coating applied without notification of the QAI will be investigated by destructive and non-destructive testing as approved by the Resident 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 Resident. The cost of additional testing and repairs shall be borne by the Contractor.

At the completion of the shop coating the completion date (month and year), NTPEP System No. (provided on the NEPCOAT Qualified Products List), the type of coating system used (Inorganic Zinc = IOZ, Organic Zinc = OZ), and top coat federal color number shall be stenciled on the inside of the fascia beams, at the locations designated by the Resident, in four inch letters and numbers (for example: 6/05, SSC(09)-01, IOZ, Fed Color #30045). The paint used for this marking shall be white or black (whichever provides greater contrast) polyurethane or such other paint as may be approved by the Resident.

506.11 Materials

This first paragraph is deleted and replaced with the following:

Coatings systems shall be from the Northeast Protective Coating Committee (NEPCOAT) Qualified Products List (QPL), list A. The list may be found through NEPCOAT’s web page: <http://www.nepcoat.org>.

506.17 Handling and Storage

This section is amended by the addition of the following:

The coating 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 shop coating 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 Resident.

SPECIAL PROVISION

SECTION 507

RAILINGS

507.07 Basis of Payment

Payment will be made under:

Pay Item

Pay Unit

507.0849 Barrier-Mounted Aluminum Bridge Rail, 1 Bar

Linear Foot

SPECIAL PROVISIONSECTION 511COFFERDAMS

(Temporary Earth Support Systems)

Section 511, Cofferdams, is deleted in its entirety and replaced with the following:

511.01 Description

This work shall consist of the complete design, construction, maintenance and removal of temporary earth support systems and other related work, including dewatering and inspection, required to allow for the excavation of foundation units, to permit and protect the construction of bridge or other structural units, and to protect adjacent roadways, adjacent public or private rights-of-way, embankments, or other structural units, in accordance with the Contract.

Temporary earth support structures may require pumping or dewatering to complete the Project work. The locations of temporary earth support structures may, or may not, be shown on the Plans whether required for the completion of the Contract or not. Temporary earth support structures do not require seal concrete.

511.02 Materials

The Contractor shall submit Working Drawings for the proposed temporary earth support systems for review and acceptance. The submission shall include plans, details and calculations designed and sealed by a Professional Engineer licensed in the State of Maine. This Professional Engineer may be directly employed by, or otherwise retained by, the Contractor. Working drawings shall consist of plan views and cross sections to illustrate clearances, limits, and retainment heights as applicable at roadway cuts, cofferdams, abutment footings, and phased construction areas. Construction shall not be started on temporary earth support systems until such submittals are accepted. Any review of or comment on, or any lack of review of or comment on, these Working Drawings by the Department shall not result in any liability upon the Department and it shall not relieve the Contractor of the responsibility for the satisfactory functioning of the cofferdam.

Temporary earth retaining structures shall be designed to support all appropriate combinations of earth, hydrostatic, and surcharge loads (from traffic, construction equipment, material stockpiles, and other sources) imposed on the system during all phases of construction. Temporary earth support systems adjacent to traveled ways, shall additionally be designed to resist any vibration or impact forces due to traffic and shall incorporate sufficient protection against impact by errant vehicles. Sufficient redundancy shall be designed into the support system so that failure of one member will not cause the collapse of the entire system. The Contractor's design shall consider the means and methods and construction sequencing proposed by the Contractor.

The Working Drawings shall also show the Contractor's proposed method of excavation, water diversion and dewatering methods (sumps, wells, seal concrete, or well points) to minimize

the flow of groundwater into the excavation. Such methods should preserve the undisturbed condition of the subgrade and permit foundation construction in-the-dry.

Design computation shall be in accordance with the AASHTO LRFD Bridge Design Specifications, Latest Edition.

Following construction of each temporary earth support system the Professional Engineer responsible for the design of the system shall inspect the installation and provide a certification to the Resident stating that construction was completed in conformance with the accepted working drawings. The certification shall be signed and sealed by the Professional Engineer responsible for the design of the system.

### 511.03 Temporary Earth Support System Construction

Temporary earth support systems shall, in general, be carried well below the elevation of the bottom of footings or approach slabs, and shall be well braced and watertight. In cases where pile foundations contain batter piles, the temporary earth support system shall be installed to accommodate, without obstruction, the proper placement and alignment of the batter piles, either by staggering the depth of the support system or by increasing the annulus between the foundation and the support system. The interior dimensions of temporary earth support systems shall provide sufficient clearance for the construction and inspection of forms and to permit pumping outside of forms. Exterior dimensions of the temporary earth support system shall be limited to the size shown on the Plans or those illustrated in the Project permits, whichever is more stringent.

Temporary earth support systems shall be constructed such that water will not come in contact with concrete as required in Section 502, Structural Concrete.

Temporary earth support systems, including all sheeting and bracing involved, shall be completely removed after the completion of the work unless otherwise noted on the Contract Drawings. Care shall be taken not to disturb or otherwise injure the finished masonry or foundation elements.

No timber or other bracing shall be used in temporary earth support systems in such a way as to remain in the substructure masonry.

### 511.04 Pumping

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

Pumping to dewater a sealed temporary earth support system shall not commence until the seal concrete has set sufficiently to withstand the hydrostatic pressure. In no case will pumping be permitted until a minimum of five (5) days has elapsed since the completion of the installation of the seal concrete, when the temperature of the water body outside the temporary earth support system is greater than 4°C [40°F], or a minimum of seven (7) days has elapsed since the completion of the installation of the seal concrete, when the temperature of the water body outside the temporary earth support systems is less than 4°C [40°F].

Sediment laden water will not be allowed to leave the Project area. The Contractor shall be required to install appropriate erosion and sedimentation control devices as approved by the Resident. Erosion and sedimentation control devices may include plain riprap, haybales, silt fence and sedimentation basins.

All water and materials pumped from excavation shall be pumped into a sedimentation basin which is of sufficient volume to detain the pumped water and materials. The water and materials removed from the excavation shall be pumped at a rate that permits infiltration of the water into the earth, preventing any overland flow or direct discharge into a stream or other waterbody.

#### 511.05 Method of Measurement

Temporary Earth Support Systems shall be measured for payment as one lump sum per Contract, regardless of the number of Temporary Earth Support structures required at the Project site or sites, which price shall include full compensation for design, furnishing materials, excavation beyond the pay limits, installation, removal, tools, equipment and labor necessary to construct, maintain and remove the work in accordance with the Plans or as called for in the Contract.

If Temporary Earth Support Systems is not required due to the acceptance of a Value Engineering Proposal in accordance with Subsection 109.6, the cost of the deleted Temporary Earth Support Systems shall be included as part of the Value Engineering Proposal.

#### 511.06 Basis of Payment

The accepted quantity of Temporary Earth Support Systems will be paid for at the Contract lump sum price, per Contract. Such payment shall be full compensation for furnishing and installing all materials required to construct the Temporary Earth Support Systems including, but not limited to steel sheeting and shoring, timber bracing and cribbing, tiebacks, seal concrete, crushed stone. Payment will also be full compensation for excavation, dewatering, erosion control and other incidentals required to construct, maintain and remove the Temporary Earth Support Systems.

When required, the elevation of the bottom of footing of any substructure unit may be lowered, without change in the price to be paid for Temporary Earth Support Systems. However, if the average elevation of more than 25 percent of the area of the excavation is more than three feet below the elevation shown on the Plans, and if requested by the Contractor, then the entire cost of the Temporary Earth Support Systems will be paid in accordance with Subsection 109.7, Equitable Adjustments to Compensation, instead of the Contract lump sum price.

All costs of constructing, maintaining and removing sedimentation basins; water testing; and pumping or transporting water and other materials to the sedimentation basin will not be measured separately for payment, but shall be incidental to the Temporary Earth Support Systems pay item.

All costs of related temporary soil erosion and water pollution controls, including inspection and maintenance, will not be measured separately for payment, but shall be incidental to the Temporary Earth Support Systems item.

Payment will be made under:

Pay Item

Pay Unit

511.091      Temporary Earth Support Systems

Lump Sum

SPECIAL PROVISION

SECTION 513

SLOPE PROTECTION

513.02 Materials

The following sentences are added:

Unless otherwise noted epoxy coated wires and/or welded steel wire fabric shall be used and meet the requirements of ASTM A884.

SPECIAL PROVISIONSECTION 515PROTECTIVE 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 clear penetrating sealer followed by a pigmented top coat, to protect new and existing concrete and masonry structures. The coating system shall be applied to piers, wingwalls, and abutments in accordance with the Plans, Specifications and 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. Where the removal of existing pigmented coatings is required the anticipated removal limits, and the anticipated quantity of removal, will be shown on the plans. The actual removal limits may vary and will be established and marked in the field by the Resident.

515.02 Materials

The pigmented penetrating sealer system shall be a two coat system consisting of Certi-Vex Guard Clear (primer/sealer) and Certi-Vex HBC Smooth (top coat), as manufactured by Vexcon Chemicals, Inc., or an approved equal, consisting of the following two parts:

- The primer shall be a vinyl toluene 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 top coat shall be solvent borne modified acrylic resins with selected pigments and fillers.

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

The Contractor shall submit the Vexcon Chemical's product data sheets, material safety data sheets and recommended instructions for application of the Certi-Vex Guard Clear and Certi-Vex HBC Smooth.

The pigmented penetrating sealer color shall be 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

All caulking, patching, and joint sealant shall be installed prior to application of the sealer. The surface shall be prepared in strict accordance with the instructions of the approved manufacturer. Surface shall be fully cured, dry, and free from contamination such as asphalt coatings, oil, grease, loose particles, decaying matter, moss, algae growth, and curing compounds. For maximum penetration of the primer, the Contractor shall lightly sandblast the surface.

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 concrete 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 coating.

Where 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. 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

Following removal of existing coating systems all exposed surfaces of the substructure unit to be coated shall be cleaned and rinsed by pressure washing. 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. After pressure washing the concrete surfaces shall be allowed to air dry for a minimum of 48 hours prior to applying the new protective coating.

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. Spray or roll the primer at the recommended application rate. If the surface is very absorbent, the primer 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 primer shall not be applied in direct sunlight when the air or surface temperature is greater than 90°F, or when air or surface temperature is below 35°F. The top coat shall not be applied when air or surface temperature is below 45°F or as approved by the Resident.

For surfaces that have previously received pigmented coating the primer shall only be applied to areas where the existing coating was marked for removal and then removed by sandblasting. The primer application shall extend beyond the removal limits of the existing coating system by six inches on all sides.

The primer shall be allowed to dry for a minimum of two-hours before applying pigmented top coat. Under poor drying conditions this time shall be extended. The primer shall not be coated with top coat until the surface is dry. The top coat should be applied by brush, roller or suitable airless spray.

Top coat material shall be applied per the manufacturer’s recommended application rate and in strict accordance with the manufacturer’s written instructions. The top coat shall provide consistent color without light spots or shadows. The Resident reserves the right to have the Contractor recoat the top coat if the dried top coat(s) lack consistent color or show light spots or shadows.

For surfaces that have previously received pigmented coating the top coat 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 Concrete Protective Coating will be measured for payment by the square yard, satisfactorily applied and accepted.

The removal of existing pigmented protective coatings will not be measured for payment separately, but shall be incidental to the Pigmented Protective Coating for Concrete Surfaces pay item.

515.06 Basis of Payment

Pigmented Concrete 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 pigmented concrete protective 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, vegetation removal, and protection of surfaces not designated for treatment will not be paid for separately, but shall be incidental to the Pigmented Concrete Protective Coating item.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
515.201 Pigmented Protective Coating for Concrete Surfaces	Square Yard

SPECIAL PROVISIONSECTION 515PROTECTIVE 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 parapet, endposts, fascia and portions of the deck 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 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.

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:

<u>Pay Item</u>	<u>Pay Unit</u>
515.202 Clear Protective Coating for Concrete Surfaces	Square Yard

SPECIAL PROVISIONSECTION 518STRUCTURAL CONCRETE REPAIR

(Epoxy Injection Crack Repair)

518.01 Description

The following paragraphs are added:

The work includes epoxy injection crack repair as described below.

- Epoxy Injection Crack Repair includes repair of concrete cracks with widths equal to or greater than 1/16 inches as shown on the Plans or identified by the Resident.

518.02 Repair Materials

The following paragraphs are added.

Epoxy Injection Crack Repairs shall be completed using a high strength, low viscosity moisture tolerant epoxy resin as recommended by the manufacturer and approved by the Resident. The proposed repair materials shall be submitted to the Resident for approval.

The structural properties of all crack repair materials shall meet or exceed the following requirements:

Tensile Strength (@ 7 days)	5,000 psi	ASTM D638
Bond Strength (@ 14 days)	1,000 psi	ASTM D882
Compressive Strength (@ 3 days, 73°F)	5,000 psi	ASTM D695
Compressive Modulus (@ 7 days)	250 psi	ASTM D695
Flexural Strength (@ 14 days)	8,000 psi	ASTM D790

Wide cracks (1/2" +/- and greater) may be repaired with a non-shrink cementitious grout as recommended by the manufacturer. The following product shall be used:

- CONSPEC UW300 as manufactured by Dayton Superior, 7777 Washington Village Drive, Suite 130, Dayton, OH 45459

518.07 Placing Repair Materials

The following Subsection is added:

518.071 Placing Epoxy Injection Materials

- a) Mix epoxy components per manufacturer's instructions. Review pot life characteristics of combined materials and prepare quantities accordingly;

- b) Open all injection ports along the crack and ensure that all injection ports are securely fastened to the concrete substrate;
- c) Attach injection device to the lowest port on vertical cracks, or the first port in the series on horizontal cracks;
- d) Slowly and under constant pressure, inject the epoxy material into the first port until the epoxy flows out of the next port in the series. While maintaining constant pressure and flow at the first port, close the adjacent port and continue injection process until epoxy flows from the subsequent port in the series, or until no additional epoxy can be injected into the first port.
- e) Repeat the above procedure until all ports have been injected.

518.10 Method of Measurement

The following sentence is added:

The quantity of Epoxy Injection Crack Repair will be measured by the linear foot.

518.11 Basis of Payment

The following paragraphs are added:

Epoxy Injection Crack Repair will be paid at the Contract unit bid price per linear foot for each repair; which price shall include, but not necessarily be limited to, removal and disposal of materials, cleaning existing concrete, placing, curing and finishing epoxy and all materials, labor, equipment, tools and incidentals necessary to complete the work.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
518.40      Epoxy Injection Crack Repair	Linear Foot

SPECIAL PROVISIONSSECTION 523BEARINGS

(Remove &amp; Reset Bearings)

523.01 Description:

This work shall consist of all labor, equipment, and materials required to remove, and reset the existing bridge bearing systems (Sole Plate, Bearing, Masonry Plate) and furnishing and installing new Anchor Bolts to allow construction of the new beam seats.

523.041 Construction Requirements:

## Remove:

If required by the Contractor's operations, the bearing system shall be carefully detached from the girder by unbolting the sole plate from the bolster (bolster to remain in place). Bearings shall be clearly marked with their location and orientation to assure they are replaced in the same location. Any damage to the girder or the bearing shall be repaired or replaced at no additional cost to the Maine Turnpike Authority (MTA), and the repair procedures shall be approved by the MTA. The anchor bolts shall be cut flush with the concrete surface.

## Reset:

The abutment bridge seat area surrounding the existing bearing plates shall be finished to the elevation shown on the plans. The bearing system shall be reset in their original location and orientation.

The new anchor bolts shall be cast into the new concrete or drilled and grouted into place. Grout shall be from the MaineDOT pre-approved products list, in accordance with the manufacturer's installation recommendations. The bearing is to be set within the temperature setting range included in the Plans. Installation outside this range shall be accommodated by imposing the appropriate offset for the temperature at the time of installation, or by determining if excess capacity is available in the isolator to withstand the additional imposed thermal deformation

523.50 Method of Measurement:

The removal and resetting of the bearing systems, shall be measured for payment each unit, complete in place and accepted.

523.51 Basis of Payment:

Payment shall include labor, equipment, material and incidentals necessary to complete the work. Jacking and temporary Support of the existing superstructure shall be paid for under Item 524.301, Temporary Support and Jacking.

Pay Item

Pay Unit

523.33      Remove & Reset Bearings

Each

SPECIAL PROVISIONSECTION 523BEARINGS

(Seismic Isolation Bearings)

523.01 Description

The following paragraphs are added:

The work shall consist of configuring, manufacturing, testing and installation of seismic isolation bearings. (isolators) in accordance with the contract plans and specifications and the current edition of the AASHTO Guide Specifications for Seismic Isolation Design, with interims. The isolators shall consist of the isolators with top and bottom mounting plates. Additional items such as Shim plates, and anchor rods shall be considered part of the isolation bearing assembly, and may or may not be supplied by the isolation bearing supplier, at their discretion. Contractor shall note that the isolators may require significant lead-time to obtain.

The isolation bearing system is a key structural component of the bridge, and must function successfully during an earthquake at any time throughout the life of the bridge, while also performing reliably under service loads with no maintenance. To ensure these criteria are met, stringent requirements are imposed in this specification.

The isolator dimensions shown on the plans are based on one possible isolator configuration for the purpose of determining connection details. Final isolator configurations may vary from that shown, and the Contractor is responsible for making any necessary adjustments in adjacent elements to accommodate final isolator dimensions. The isolators shall meet the limiting dimensions, if any, shown on the plans.

The structure has been analyzed and designed in accordance with' the AASHTO Guide Specifications for Seismic Isolation Design using a lead core elastomeric isolation system. Suppliers of alternate isolation systems, or alternate suppliers of the lead core elastomeric isolation system, are required to perform an analysis in accordance with the AASHTO Guide Specification for Seismic Isolation Design incorporating their proposed isolation system properties.

523.04 General Requirements

The last line is deleted and replaced with the following:

Seismic Isolation Bearings Sections 523.40 thru 523.49

523.40 Supplier

The specified isolators shall be supplied by the following company or an approved alternate:

D. S. Brown  
300 East Cherry Street  
North Baltimore, Ohio  
(419) 257-3561

Contractor shall submit the following information for review and approval when considering suppliers of the required system other than those listed above, or suppliers of alternate systems:

- A. Name and address of the proposed supplier
- B. Name and professional registration of the engineer responsible for the design of the isolation system. The engineer shall be experienced in the analysis and design of seismic isolation systems.
- C. Documentation of previous applications in which the proposed system (from the proposed supplier) are currently in successful use. A minimum of 2 applications in service for a minimum of 2 years is required.
- D. Shaking table test results demonstrating the performance and efficacy of the proposed system.
- E. Published evaluation from the Highway Innovative Technology Evaluation Center for the proposed isolation bearing system by the proposed supplier.
- F. Complete analysis of the structure incorporating the proposed system and demonstrating compliance with all performance parameters contained in this specification or shown on the plans. Analyses of systems utilizing more than 30% effective damping must be in strict accordance with Section 7.4 of the AASHTO Guide Specifications for Seismic Isolation Design:
- G. Calculations showing compliance with the requirements of the AASHTO Guide Specifications for Seismic Isolation Design.
- H. Shop drawings of the proposed system including all material callouts, dimensions and changes to the structure necessary to accommodate the proposed system.
- I. Target properties for combined compression and shear tests.

523.41 Codes and Standards

The design and testing of the isolators shall conform to the applicable provisions of the current edition of the following standards. Alternate systems must conform to the following where applicable, and submit ASTM specifications for proposed materials other than those listed below.

- A. AASHTO Guide Specifications for Seismic Isolation Design
- B. ASTM A36 Specifications for Structural Steel

- C. ASTM A1011 Specifications for Structural Steel Sheet
- D. ASTM A572 Specifications for Structural Steel
- E. ASTM B29 Specifications for Lead
- F. ASTM D395 Test for Rubber Property, Compression Set
- G. ASTM D412 Test for Rubber Property, Tension
- H. ASTM D429 Determination of Rubber-to-Metal Bond Strength (Method B)
- I. ASTM D518 Test for Rubber Deterioration, Surface Cracking
- J. ASTM D573 Test for Rubber Deterioration, Heat Resistance
- K. ASTM D1149 Test for Rubber Deterioration, Ozone Resistance
- L. ASTM D1229 Test for Rubber Property, Compression Set at Low Temperature
- M. ASTM D2240 Test for Rubber Property, Durometer Hardness
- N. ASTM D4014 Test for Rubber Property, Shear Modulus

#### 523.42 Submittals

A. Prior to fabrication, Contractor shall submit for approval isolator shop drawing showing the external dimensions of the isolators and connection details for attachment to structural assemblies above and below the isolators. Any required changes to adjacent elements from that shown on the plans shall be called out, and appropriate calculations shall be submitted with the shop drawings supporting the proposed changes.

B. Upon completion of fabrication and testing, Contractor shall submit all material certifications, certificates of compliance and test results indicating conformance with the contract plans, specifications and approved shop drawings. If prototype tests are performed, Contractor shall submit both prototype test results and QC test results.

#### 523.43 Design and Performance Requirements

All isolators shall be designed for the following criteria:

- A. Acceleration Coefficient: 0.09
- B. Seismic Performance Category: B
- C. AASHTQ Guide Specifications Soil Profile Type: I
- D. Dead and live load reactions as provided in Table D.

TABLE D:  
DEAD AND LIVE LOAD (PER ISOLATOR)

(Existing Girders 1-6)

<b>Substructure</b>	<b>Dead Load (kips)</b>	<b>Live Load* (kips)</b>
Abut. No. 1	46	97
Pier No. 1	169	197
Pier No. 2	184	209
Pier No. 3	167	196
Abut. No. 2	44	96

Maximum load (Proposed Girders 7 & 8)

<b>Substructure</b>	<b>Dead Load (kips)</b>	<b>Live Load* (kips)</b>
Abut. No. 1	53	90
Pier No. 1	202	175
Pier No. 2	221	182
Pier No. 3	199	174
Abut. No. 2	50	90

\*Live load LRFD unfactored without Impact (includes lane load)

E. Service lateral loads as provided in Table E

TABLE E:  
UNFACTORED SERVICE LATERAL LOADS (PER ISOLATOR)

<b>Substructure</b>	<b>Transverse Wind* (kips)</b>	<b>Transverse Wind on Live Load (kips)</b>	<b>Braking Force (kips)</b>
Abut. No. 1	0.8	0.5	8
Pier No. 1	1.9	1.3	
Pier No. 2	2.2	1.5	
Pier No. 3	1.9	1.3	
Abut. No. 2	0.8	0.5	

\*SERVICE I transverse per AASHTO 2016 Interims

F. Expansion and contraction as shown in Table F.

TABLE F:  
R+S+T (PER ABUTMENT OR PIER ROW)

<b>Substructure</b>	<b>Expansion (Inches)</b>	<b>Contraction (Inches)</b>
Abut. No. 1	-0.99	1.98
Pier No. 1	-0.58	1.15
Pier No. 2	0	0
Pier No. 3	0.58	-1.15
Abut. No. 2	0.98	-1.95

- Based on AASHTO 3.12.2.2 Temperature Procedure B;
- Figure 3.12.2.2-3 & 3.12.2.2-4 (125° Temperature Range/movement)

G. Service Load Rotations as shown in Table G.

TABLE G:  
SERVICE LOAD ROTATIONS (PER ABUTMENT OR PIER ROW)

<b>Substructure</b>	<b>Live Load</b>	<b>Camber (rad)</b>
	<b>Maximum (rad)</b>	
Abut. No. 1	0.0024	0.00792
Pier No. 1	0.0019	0.00520
Pier No. 2	0.0019	0.000142
Pier No. 3	0.0019	-0.00236
Abut. No. 2	0.0022	-0.00498

H. Seismic force provided in Table H.

TABLE H:  
MAXIMUM ALLOWABLE SEISMIC FORCE (PER ISOLATOR)

<b>Substructure</b>	<b>Max Force (kip)</b>	
	<b>Longitudinal</b>	<b>Transverse</b>
Pier No. 1	34	21
Pier No. 2	38	38
Pier No. 3	30	24.5

523.44 Materials

- A. Steel reinforcing plates shall, as a minimum, conform to ASTM A1011 Grade 40
- B. Internal or external load plates shall, as a minimum, conform to ASTM A36 or ASTM A709, Grade 36.
- C. Exposed steel surfaces, if any, shall be galvanized.
- D. The purity of lead shall be established from a sample of lead used in the isolators and shall demonstrate a minimum of 99% purity.
- E. The elastomer shall be Grade 3 Natural Rubber.
- F. Results showing performance within the stated parameters shall be provided for each elastomer formulation used in the isolators. Tests performed within the previous 12 months are acceptable for the following tests:
  - 1) Compression Set (ASTM D395) at 158°F for 22 hours:  
Maximum permissible set = 25%
  - 2) Bond Strength (ASTM D429, Method B):  
Minimum bond strength = 40lb/in, 100% rubber tear
  - 3) Heat Resistance (ASTM D573) at 158°F for 7 days:  
Maximum permissible change in tensile strength = -25%  
Maximum permissible change in ultimate elongation = -25%  
Maximum permissible change in durometer hardness = +10%
  - 4) Low Temperature Properties  
Low Temperature Brittleness (ASTM D2137, Procedure A) at -40°F: No failure  
Instantaneous Thermal Stiffening (ASTM D1043}: Stiffness at -40°F  $\leq$  4x stiffness at 73°F  
Low Temperature Crystallization (ASTM D4014 Annex A) at -15°F for 14 days:  
Stiffness at -15°F  $\leq$  4x stiffness at 73°F
  - 5) Ozone Resistance (ASTM D1.149)  
Representative strips of material shall be prepared in accordance with ASTM D518, Method A. The tests shall be performed at a concentration of 50±5 parts per hundred million, at 20% strain after conditioning at 100°F±2 for 100 hours. No cracks shall be visible using 7X magnification.
- G. Results from tests performed on each batch of elastomer used in the isolators shall demonstrate compliance with the following requirements:
  - 1) Tensile Strength (ASTM D412)  
Minimum permissible tensile strength = 2500 psi
  - 2) Elongation at break (ASTM D412)  
Minimum permissible elongation at break = 500%

## 3) Shear Modulus at 50% Shear Strain (ASTM D4014)

523.45 Fabrication

- A. The tolerances on isolator dimensions prior to testing shall be as follows:

External Plan Dimensions	$\pm \frac{1}{4}$ inch
Overall height	$\pm \frac{1}{4}$ inch
Variation between top and bottom surface	$\leq 0.005$ radian
Variation of sides from theoretical	$\pm \frac{1}{4}$ inch
Flatness of external plates	$\pm \frac{1}{16}$ inch per 36 inches

- B. Exposed steel surfaces, if any, shall be galvanized. Further coating by the Contractor may be required by the contract documents.
- C. Each isolator shall be marked with the isolator serial number specified by the manufacturer.

523.46 TestingPrototype Tests

- A. Isolation system suppliers who have submitted characterization test results by means of the evaluation findings of the Highway Innovative Technology Evaluation Center shall submit prototype test results in accordance with Section 13.2 and 13.3 of the AASHTO Guide Specification for Seismic Isolation Design.
- B. Prototype test results from similar isolators may be provided in lieu of tests performed on the isolators for the subject project.

Quality Control Tests

- A. Each isolator shall be tested and evaluated in accordance with the requirements of the AASHTO Guide Specifications for Seismic Isolation Design, Section 15.2. Any bearing that fails to satisfy the requirements shall be rejected. Alternate supplier of lead core elastomeric isolators, if approved, must satisfy these testing requirements.
- B. Alternate systems, if approved, shall perform and evaluate all tests in accordance with the AASHTO Guide Specification for Seismic Isolation Design, Section 15.2 or 17.2. Substitution of other standards or requirements, including the use of sampling methods rather than testing each isolator, is not permitted.

523.47 Product Delivery, Storage and Handling

The manufacturer shall deliver the isolators to the jobsite in protective packaging suitable for freight and handling purposes. The isolators shall be covered during transportation and

storage. The Contractor shall store the isolators under cover and above ground in the original packaging until installation.

523.48 Installation

Care shall be taken during storage and installation of the isolators to prevent damage to the isolator or coating materials on the steel.

The isolators shall be installed level and normal to gravity loads. Installation shall take place within the ambient temperature range specified in the plans. Installation outside this range shall be accommodated by imposing the appropriate offset for the temperature at the time of installation, or by determining if excess capacity is available in the isolator to withstand the additional imposed thermal deformation.

Contractor shall provide a complete record of the location of each installed isolator, by serial number, to both the Engineer and the manufacturer.

There shall be no obstructions, including bolt extensions, which prevent the isolators from deforming horizontally in any direction. The area around each isolator shall be cleaned of all debris and construction material at the completion of the contract.

523.51 Basis of Payment

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
523.5405	Seismic Isolation Bearings - Fabricated & Delivered	Each

SPECIAL PROVISIONSECTION 524TEMPORARY STRUCTURAL SUPPORTS

(Temporary Jacking and Structural Support)

524.01 Description

The following paragraphs are added:

This work shall also consist of furnishing all labor, equipment and materials required for the jacking and temporary structural support of the existing I-295 Bridge at all abutment and pier locations to raise the bridge to provide additional vertical clearance over I-95. This work shall also consist of designing, fabricating, erecting, operating, maintaining, and dismantling the jacking system and temporary structural supports required to perform the work. This work shall be in accordance with the Contract Plans, Standard Specifications, and as specified herein.

The I-295 Bridge consists of a four-span continuous steel structure. All girders in each phase of construction shall be jacked and temporarily supported simultaneously at each support. No traffic will be allowed on the bridge during jacking, and temporary support operations.

524.02 Materials

This subsection is replaced in its entirety with the following:

Materials used as temporary structural supports shall be structural grade sawn timber, structural steel, or a combination of both, at the Contractor's option. All temporary structural support materials, whether new or used, shall be sound and of adequate strength and cross section for the intended loads. All structural steel shall have a minimum yield strength of 36,000 psi.

524.03 Design

This subsection is replaced in its entirety with the following:

The jacking system and temporary structural supports shall be designed to support all applicable loads including, but not limited to, all vertical loading, transverse and longitudinal horizontal loads due to wind, differential settlement induced loads, and shall account for any temporary unbalanced loading due to jacking forces and other loading during load transfer. The temporary structural supports shall be designed with sufficient redundancy such that failure of one member will not cause the collapse of the entire system or the supported structure. Temporary structural supports which are adjacent to traveled ways shall be designed to resist any vibration or impact forces due to traffic and shall incorporate sufficient protection against impact by errant vehicles. Temporary structural supports which are founded on, or are in close proximity to, existing structures to be rehabilitated shall be designed to resist any vibration induced by other work to be completed on the project.

The jacking system and temporary structural support shall be designed and sealed by a Professional Engineer licensed in the State of Maine. Design computations, plans, details, working drawings, and other documentation necessary to complete the work and certify conformance with these provisions shall be approved by the Resident prior to beginning this work.

The Contractor shall provide bracing or other means of restraint to prevent longitudinal and transverse movement of the superstructure and twisting of the girders or during the jacking operations, and while the superstructure is temporarily supported. These lateral restraints shall include steel sliding plates, or alternative low friction rigid material to facilitate vertical movement of the superstructure during jacking operations.

All design, detail and load requirements shall conform to the most current edition of the AASHTO LRFD Bridge Design Specifications with applicable Interim Specifications, the Contract Plans, the Standard Specifications, and as specified herein. The design computations shall verify the proposed jacking scheme does not introduce unacceptable stresses in the existing bridge components including steel girders, diaphragms, connections and piers. All design computations submitted for approval shall be reviewed, checked, and initialed accordingly. Any support systems requiring attachment to existing concrete shall be approved by the Resident. Systems requiring extensive drilling and anchoring into existing concrete will not be accepted.

The calculated unfactored jacking and temporary structural support loads per girder are:

SUBSTRUCTURE LOCATION	GIRDER REACTION	
	DEAD LOAD	LIVE LOAD
Abutment No. 1	10	0
Pier No. 1	30	0
Pier No. 2	33	0
Pier No. 3	30	0
Abutment No. 2	10	0

All loads provided above are in kips and assume jacking operations occur after removal of the existing deck but include 10 psf for weight of protective shielding.

The Contractor shall provide a jacking system and a temporary support system with a capacity of at least 150% of the loads stated above.

The jacking force applied at each jack location shall not exceed of 125% of the loads identified to avoid overstressing, or otherwise damaging, the superstructure. If loads in excess of these limits are required the jacking operations shall cease and the Resident shall be notified. Jacking operations shall not resume until guidance is provided by the Resident.

The Contractor shall submit sketches illustrating the proposed jacking arrangement prior to commencing the work.

Erection and Removal The following paragraphs are added:

The existing superstructure shall be raised by jacking at each substructure unit. The jacking shall be synchronized so that all portions of the girders are raised by approximately equal amounts simultaneously. A maximum of 1/8inch differential movement between adjacent girders, and a maximum of 1 inch of differential movement will be permitted between adjacent substructure locations (e.g. between Pier No. 1 and Abutment No. 1) during jacking operations. The process of temporary structural supports removal and the jacking operation to lower the bridge back onto the existing bearings shall be completed in a manner similar to that of the erection process.

The temporary structural supports shall securely maintain the displacements at each bearing area, without measurable or noticeable changes under all dead load, and construction loads, until the superstructure loads are transferred back to the existing bearings. It shall be the Contractor's responsibility to prevent any damage to the structure from the support system. Should any damage occur as a result of this work, the Contractor shall make repairs at no cost to the Department. Any such repair work is subject to the approval of the Resident.

The Contractor may support the jacking systems and temporary structural support systems on the top of abutment seats, or Contractor-furnished blocking systems in front of the abutments on the slope paving shelf. The proposed anchorage system shall not be supported primarily from the face of abutment or pier columns. Bracing shall be provided to maintain the superstructure in a stable condition during the jacking operations and while temporarily supported. Removal or damage to the existing concrete slope paving in front of the abutments caused by the Contractor's operations shall be replaced at the Contractor's expense.

All structural steel fabrication shall be in accordance with the Standard Specifications.

All surfaces of existing steel members where paint is removed for any reason shall be recoated using a cold galvanizing compound with a dried film containing a minimum of 90% metallic zinc. Application of the cold galvanizing compound shall be in accordance with the manufacturer's published recommendations.

524.28 Method of Measurement The following paragraph is added:

Temporary Structural Support will be measured by the lump sum and will include the design, fabrication, erection, operation, maintenance, and removal of all required temporary jacking and structural support systems to the extent specified herein. It shall also include the removal or modification, and reinstallation of existing bridge elements to prevent damage during the jacking operation and the repair of damaged or removed protective coatings as specified herein. Temporary works used by the Contractor for their convenience will not be measured for payment. The work associated with removal and reinstallation of existing highway appurtenances (e.g. guardrails, sign supports, etc.) to facilitate the erection of temporary structural supports will not be measured for payment, but will be considered incidental to the Temporary Structural Support Pay Item.

524.1Basis of Payment: The following paragraph and item number is added:

Temporary Structural Support will be paid for at the Contract lump sum price, which shall be full compensation for all materials, equipment, labor and incidentals necessary for the work as specified herein.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
524.301                      Temporary Jacking and Structural Support	Lump Sum

SPECIAL PROVISION

SECTION 524

TEMPORARY STRUCTURAL SUPPORTS

(Temporary Deck Support)

524.01 Description

The following paragraphs are added:

This work shall consist of fabricating, erecting, maintaining and dismantling a temporary deck support system as shown on the Plans to support the existing concrete deck slab along Girder 4 during Phase I construction.

524.02 Materials

This Subsection is deleted and replaced with the following:

All materials used for construction of the temporary deck support shall be the type and grade shown on the Plans. Alternate materials may be substituted with prior approval of the Resident. All timber shall be new and free from large knots, cracks, and other significant structural defects.

Steel channel shall conform to ASTM A36 and may be coated or uncoated. Holes in channel to receive anchor rods shall be drilled a maximum of 1/8 inch oversize.

524.03 Design

This Subsection is deleted and not replaced.

524.05 Method of Measurement

This Subsection is deleted and replaced with the following:

Temporary Deck Supports satisfactorily fabricated, erected, maintained and dismantled will be measured as one lump sum. The removal and reinstallation of existing highway or bridge appurtenances to facilitate the erection of the Temporary Deck Support will not be measured for payment, but will be considered incidental to the work under this Specification.

524.06 Basis of Payment

This Subsection is deleted and replaced with the following:

Temporary Deck Support will be paid for at the Contract lump sum price which price shall be full compensation for all materials, equipment, labor and incidentals necessary for the

erection, maintenance, and dismantling of the deck supports in accordance with the Plans and these Specifications.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
524.303	Temporary Deck Support	Each

SPECIAL PROVISIONSECTION 524TEMPORARY STRUCTURAL SUPPORTS

(Protective Shielding – Steel Girders)  
(Protective Shielding - Prestressed Concrete I-Girders)  
(Protective Shielding - Prestressed Structural Concrete Slabs)

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.

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.

Special hangers may be required to support shielding on prestressed structural concrete I-girders or prestressed structural concrete slabs. The Contractor will not be permitted to install inserts, shoot fasteners, or drill holes in the concrete I-girders or concrete slabs to support the shielding. The Contractor may propose 3/4 inch or one inch diameter sleeves be installed in the webs of the girders during fabrication for temporary fasteners to pass through. The proposed and approved sleeves shall be coordinated with the girder manufacturer; and shall be filled, and stuck flush, with an epoxy grout after the protective shielding is removed.

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 sawcutting 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. The measurement shall include one sequence of placement, removal, and on-site storage (if applicable for intended reuse) of Protective Shielding. Where bridge and girder construction dictates that Protective Shielding is to be installed in the same location at a later date, then the quantity of Protective Shielding shall be increased accordingly to reflect the total work, and shall be tabulated on the drawings. Therefore, the calculated quantity of Protective Shielding will be the summation of each sequence noted above (placement, removal, and on-site storage). The Contractor shall note that additional timber material may be required to accommodate differing girder spacing or differing overhang dimensions.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
524.40	Protective Shielding - Steel Girders	Square Yard
524.41	Protective Shielding - Prestressed Concrete I-Girders	Square Yard

524.42 Protective Shielding - Prestressed Structural Concrete Slabs

Square Yard

SPECIAL PROVISION

SECTION 526

CONCRETE BARRIER

(Temporary Concrete Barrier, Anchored)

526.01 Description

The following paragraphs are added:

This work shall consist of furnishing, setting and removing Temporary Concrete Barrier, anchored to the existing and new bridge decks during staged construction to the limits on the Plans. The barrier shall have attachments allowing individual sections to be connected into a continuous barrier and provisions shall be made in the casting of the barrier for anchoring the barrier to the bridge deck.

The work also includes supplying and needed connections and furnishing and mounting retro-reflective delineators, per Subsection 526.02 and 526.03.

The following concrete barrier designation is added:

Temporary Concrete Barrier, Anchored Removable concrete barrier of the shape shown on the plans that is capable of being anchored to the bridge deck.

526.02 Materials

The following paragraphs are 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.

f. Adhesive anchoring material for holding deck anchors shall be selected from the Qualified Products List of Concrete Adhesive Anchor Systems for Type I Reinforcing Steel (> #9) and Anchors (> 1") and shall be approved by MaineDOT's Transportation Research Division and the Bridge Program.

g. Material for filling inserts or sleeves in precast deck panels shall be a non-shrink grout selected from the Qualified Products List of Grout Materials and approved by the Resident.

The following Subsection is added:

526.021 Acceptance

The Resident shall have the authority to accept or reject all Temporary Concrete Barrier, Anchored used on the Project.

### 526.03 Construction Requirements

The following paragraphs are added:

Temporary Concrete Barrier, Anchored shall meet NCHRP 350 Test Level III (TL-3) crash test requirements. Prior to fabrication and installation of the barrier the Contractor shall submit the proposed barrier and anchorage design for approval. The proposed design shall be designed to in accordance with AASHTO LRFD Bridge Design Specifications, latest edition with all interims thereto (see Table A13.2-1 and related Provisions). The proposed barrier and anchorage design shall be prepared and stamped by a Professional Engineer licensed in the State of Maine.

Thru-bolting of the barrier as a form of attachment will only be allowed in locations where the proposed anchor will not conflict with proposed or existing structural steel to remain. Where thru-bolting of the existing deck is not permitted, anchorage shall be achieved through chemical adhesives or mechanical anchors. Where thru-bolting of the new deck is not permitted, anchorage shall be achieved through the use of mechanical anchors. Where mechanical anchors are used, any metallic components of the anchor to be left in the bridge deck shall have a minimum clear cover of 2" or shall be stainless steel. In all cases, the barrier anchors shall be securely fastened and tightened prior to beginning any bridge demolition work.

Once the Temporary Concrete Barrier, Anchored has been removed, and prior to placing the second lift of pavement, all holes in the new bridge decks shall be repaired as follows: 1.) Using a three-inch diameter core bit, remove the area of pavement surrounding the anchor rod hole. Care shall be exercised to avoid removing or damaging the underlying high performance membrane; 2.) Thoroughly clean the area to receive the repair and pack the void in the concrete deck with an approved repair mortar; 3.) Once cured, coat the mortar surface and surrounding membrane with hot rubber sealant; 4.) Fill the hole left by the three-inch diameter pavement core with Hot Mix Asphalt, 12.5 mm Nominal Maximum Size, and thoroughly compact the repair using a hand tamp or other appropriate tools.

Retro-Reflective Delineators shall be mounted as follows:

1. One on top of each individual barrier section.
2. One on the traffic side of every individual barrier used in a taper.
3. One on the traffic side of every other individual barrier at regularly spaced intervals and locations.
4. Delineators shall be installed on both sides of the barrier if barrier is used to separate opposing traffic.
5. Delineators shall be physically adhered so as to withstand the force of throw from a snow plow.
6. 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.
7. Contractor is required to submit the installation method for review and approval to the Resident.

### 526.05 Method of Measurement

The following paragraph is added:

Temporary Concrete Barrier, Anchored shall be measured for payment by the lump sum.

The setting, resetting, and 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. The anchoring of bridge barrier, removal of anchors, the filling of voids and the furnishing, installation and maintenance of the barrier delineators will not be measured separately for payment, but shall be incidental to the cost of the barrier.

526.06 Basis of Payment

The following paragraph is added:

Temporary Concrete Barrier – Anchored will be paid for at the Contract lump sum price, complete in place. Payment shall be full compensation for furnishing, setting, anchoring, assembling, and resetting the barrier, barrier removal, temporary bi-directional delineators, and all other incidentals, tools, material and labor necessary to complete the work.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
526.304                      Temporary Concrete Barrier, Anchored	Lump Sum

SPECIAL PROVISIONSECTION 526CONCRETE 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. The barrier shall have attachments allowing individual sections to be connected into a continuous barrier.

The work also includes supplying connecting 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):

<u>Maintenance Area</u>	<u>Linear Feet of Barrier</u>
Crosby Maintenance Area Mile 45.8 Southbound	2,500
Auburn Maintenance Area Mile 76.9 Northbound	2,500

Upon substantial completion of work, the Contractor shall remove and transport the barrier back to its maintenance area of origin. All barrier 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 paragraphs are 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.

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:

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.

Barrier shall be dragged away from the travel lane to at least a 30-degree angle by the use of a cable.

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:

8. One on top of each barrier.
9. One on the traffic side of every barrier used in a taper.
10. One on the traffic side of every other barrier at regularly spaced intervals and locations.
11. Delineators shall be installed on both sides of the barrier if barrier is used to separate opposing traffic.
12. Delineators shall be physically adhered so as to withstand the force of throw from a snow plow.
13. 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.
14. 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 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.

Once Phase 2 construction is complete, the contractor shall reset the concrete barrier in a quantity and at a location and configuration as determined by the engineer. This is to account for the 2019 Exit 103 ORT construction. This quantity of concrete barrier shall remain in place and shall not be transported back to its maintenance area of origin.

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 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:

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

SPECIAL PROVISION

SECTION 526

CONCRETE BARRIER

(Pier Protection Concrete Barrier)

526.01 Description

The following paragraph is added after the last paragraph:

Pier Protection Concrete Barrier (4 locations) is for protection of Piers 1, 2, and 3 at Exit 103 I-295 Southbound Underpass Bridge. The work includes excavation; furnishing and placement of: crushed stone below the barrier footing, reinforcing steel and concrete for barrier and barrier footing, reinforcing steel and backfill as shown in the plans.

526.02 Materials

The first two paragraphs are deleted and replaced with the following:

a. Concrete Portland Cement Concrete shall meet the provisions of Special Provisions Section 502 – Structural Concrete, and Portland cement shall conform to the requirements of AASHTO M85, Type I, II, or III.

Cast-in-Place concrete for permanent pier protection concrete barrier shall be Class AAA (without synthetic reinforcement) in accordance with Special Provisions, Section 502.05 – Composition and Proportioning, with a minimum compressive strength of 4,500 psi.

The following paragraph is added:

f. Crushed Stone The crushed stone placed below the pier protection barrier footing shall be Underdrain Backfill Material – Type C meeting the requirements of Section 703.22.

526.04 Method of Measurement

The following paragraph is added:

Pier Protection Concrete Barrier will be measured for payment by Lump Sum complete in place.

526.05 Basis of Payment

The following paragraphs are added:

The accepted quantities of Pier Protection Concrete Barrier will be paid for at the Contract lump sum price, complete in place at 4 locations. Such payment shall be full compensation for: excavation; furnishing and placement of: crushed stone below the barrier footing reinforcing steel

and concrete for barrier and barrier footing, including all materials, labor, tools, equipment and incidentals necessary to complete the work in accordance with the Plans and Specifications.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
526.35	Pier Protection Concrete Barrier	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:

Only work zone crash cushions meeting the NCHRP Report 350 TL-3 crash test requirements may be used on the turnpike and local roadways with posted speeds of 45 MPH or greater. Work zone crash cushions meeting the NCHRP Report 350 TL-2 crash test requirements may be used 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 NCHRP Report 350 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

Work Zone Crash Cushions used to protect exposed ends of guardrail for steel girder erection will not be measured separately for payment, but shall be included under the Maintenance of Traffic for Steel Girder Erection item.

527.05 Basis of Payment

Payment will be made under:

Pay Item

Pay Unit

527.343      Work Zone Crash Cushions – TL-3

Unit

SPECIAL PROVISION

SECTION 603

PIPE CULVERTS AND STORM DRAINS

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

603.01 Description

The following paragraphs are added:

This work shall also consist of furnishing and installing Class III or Class V reinforced concrete pipe at the locations as shown on the Plans or as approved by the Resident.

This work also consists of furnishing and installing a concrete collar to join existing concrete pipe to the proposed concrete or Corrugated High Density Polyethylene (HDPE) pipe in accordance with the details as shown on the Plans. The Contractor shall note that the concrete pipe ends may be of different sizes and may not fit snugly together.

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

603.02 Materials

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

603.11 Method of Measurement

The following paragraph is added:

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

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

603.12 Basis of Payment

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

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

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
603.155	12 inch Reinforced Concrete Pipe - Class III	Linear Foot
603.165	15 inch Reinforced Concrete Pipe - Class III	Linear Foot
603.1653	15 inch Reinforced Concrete Pipe - Class V	Linear Foot
603.175	18 inch Reinforced Concrete Pipe - Class III	Linear Foot
603.1753	18 inch Reinforced Concrete Pipe - Class V	Linear Foot
603.195	24 inch Reinforced Concrete Pipe - Class III	Linear Foot
603.1953	24 inch Reinforced Concrete Pipe - Class V	Linear Foot
603.205	30 inch Reinforced Concrete Pipe - Class III	Linear Foot
603.2053	30 inch Reinforced Concrete Pipe - Class V	Linear Foot
603.215	36 inch Reinforced Concrete Pipe - Class III	Linear Foot
603.2153	36 inch Reinforced Concrete Pipe - Class V	Linear Foot
603.225	42 inch Reinforced Concrete Pipe - Class III	Linear Foot
603.2253	42 inch Reinforced Concrete Pipe - Class V	Linear Foot
603.235	48 inch Reinforced Concrete Pipe - Class III	Linear Foot
603.2353	48 inch Reinforced Concrete Pipe - Class V	Linear Foot
603.245	54 inch Reinforced Concrete Pipe - Class III	Linear Foot
603.2453	54 inch Reinforced Concrete Pipe - Class V	Linear Foot
603.255	60 inch Reinforced Concrete Pipe - Class III	Linear Foot
603.2553	60 inch Reinforced Concrete Pipe - Class V	Linear Foot
603.265	66 inch Reinforced Concrete Pipe - Class III	Linear Foot
603.2653	66 inch Reinforced Concrete Pipe - Class V	Linear Foot
603.275	72 inch Reinforced Concrete Pipe - Class III	Linear Foot
603.2753	72 inch Reinforced Concrete Pipe - Class V	Linear Foot
603.155	12 Inch Reinforced Concrete Pipe – Class III	Linear Foot
603.28	Concrete Collar	Each

SPECIAL PROVISION

SECTION 606

GUARDRAIL

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

<u>Pay Item</u>		<u>Pay Unit</u>
606.13	31” W-Beam Guardrail – Mid-way Splice (7’ Steel Posts, 8” Offset Blocks, Single Faced)	Linear Foot
606.131	31” W-Beam Guardrail – Mid-way Splice (8’ Steel Posts, 8” Offset Blocks, Single Faced)	Linear Foot
606.132	31” W-Beam Guardrail – Mid-way Splice (7’ Steel Posts, 8” Offset Blocks, Double Faced)	Linear Foot

SPECIAL PROVISIONSECTION 606GUARDRAIL

(Terminal End - Anchored End – 31” W-Beam Guardrail)

606.01 Description

The section is amended by the addition of the following:

This work shall consist of furnishing and installing Terminal End – Anchored End – 31” W-Beam Guardrail end treatment in accordance with these Specifications, the AASHTO-AGC-ARBTA Joint Committee Task Force 13 Report: A Guide to Standardized Highway Barrier Hardware, Drawing SEW31 in AASHTO Manual for Assessing Safety Hardware (MASH) approval letter B-256; 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:

The guardrail elements shall be per the Components’ List found on Sheet No. 2 & 3 of 3 of Drawing SEW31 – Trailing-end Anchorage System in the Task Force 13 Report noted above and/or as noted in the Contract Documents. The component RWM14a shall be modified to a length of 9’-4½” measured from the center of the Midway Splice to the center of the last guardrail post.

606.042 Terminal End - Anchored End

The following sentences are added:

Installation of the Terminal End – Anchored End - 31” W-Beam Guardrail end treatment shall be in strict accordance with these plans and specifications, the AASHTO-AGC-ARBTA Joint Committee Task Force 13 Report and the Details on Sheet No. 1 of 3 of Drawing SEW31 – Trailing-End Anchorage System.

606.08 Method of Measurement

The second paragraph is amended by the addition of: “, Terminal End - Anchored End – 31” W-Beam Guardrail,” after the words “Terminal section,”.

606.09 Basis of Payment

The first paragraph is amended by the addition of: “, Terminal End - Anchored End – 31” W-Beam Guardrail,” after the words “Terminal section,”.

The second paragraph is amended by the addition of: “, Terminal End - Anchored End – 31” W-Beam Guardrail, and” after the words “NCHRP 350 end treatments”.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
606.1351	Terminal End - Anchored End – 31” W-Beam Guardrail	Each

SPECIAL PROVISION

SECTION 606

GUARDRAIL

(Bridge Transition – Type III)  
(Bridge Transition – Type III, Modified)

606.01 Description

The following sentence is 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 and at the ends of the pier protection concrete barriers as shown in the Contract Documents.

The following Subsection is added:

606.071 Guardrail Attachments at Bridges

Bridge transition - Type III, and Bridge Transition - Type III, Modified 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.

Bridge Transition- Type III, Modified 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, and Type III, Modified, 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:

<u>Pay Item</u>		<u>Pay Unit</u>
606.1723	Bridge Transition - Type III	Each
606.1724	Bridge Transition - Type III, Modified	Each

SPECIAL PROVISIONSECTION 606GUARDRAIL

(Reflectorized Beam Guardrail Delineator)

606.01 Description

The following paragraphs are added:

Reflectorized beam guardrail delineators shall be installed on existing guardrail to remain in place, guardrail noted to be removed, modified and reset (single and/or double rail) or new guardrail, at the locations noted on Maintenance of Traffic plans or as approved by the Resident. The delineators shall be installed prior to traffic being shifted closer to the identified guardrail run. The color for the reflective sheeting shall be silver (white) when installed on the outside shoulder and yellow when installed on the inside shoulder.

Reflectorized beam guardrail delineators shall be mounted as follows:

1. Delineators on guardrail adjacent to a shifted detour should be spaced every other guardrail post and located at the bolt in the valley of the guardrail beam.
2. On existing steel bridge rail, the delineators shall be mechanically attached towards the top, every 10 feet, and bottom, every 20 feet. Delineators shall also be mechanically attached in a similar pattern to concrete endposts that are 10 feet or longer.
3. If more than 25% of delineators in any 50 feet of guardrail, bridge rail, or endposts fall off for any reason, the Contractor will be responsible for reinstalling all delineators in that run at their own cost.
4. In no instance shall delineators be installed on guardrail which deviates substantially from the alignment (horizontal or vertical) of the roadway or which is located more than eight feet from the edge of pavement.
5. On Tangents, mount delineators every 62.5-feet or every 10<sup>th</sup> post.
6. On Curves, mount delineators every 31.25-feet or every 5<sup>th</sup> post.

Exceptions and/or modifications will only be made with the approval of the Resident.

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

606.02 Materials

The fourth paragraph is deleted and replaced with the following:

The reflectorized beam guardrail delineators shall be fabricated from galvanized steel.

Reflective sheeting shall meet the requirements of Subsection 719.01, Reflective Sheeting – minimum ASTM Type XI; 3M™ Diamond Grade™ DG<sup>3</sup> Reflective Sheeting Series 4000 or approved equal.

606.08 Method of Measurement

The following paragraph is added:

Reflectorized Beam Guardrail Delineators will be measured by each unit of the kind specified and installed. Maintenance and replacement of delineators will not be measured separately for payment unless otherwise approved by the Resident.

606.09 Basis of Payment

The second and third sentences in the first paragraph are deleted and replaced with the following:

Reflectorized Beam Guardrail Delineators will be paid for at the Contract unit price each when installed on existing guardrail, complete in place, which price shall be full payment for furnishing and installing all components and for all incidentals necessary to complete the installation. Reflectorized Beam Guardrail Delineators will not be paid for on new guardrail.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
606.352      Reflectorized Beam Guardrail Delineator	Each

SPECIAL PROVISIONSECTION 606GUARDRAIL

(Underdrain Delineator Post)  
 (Delineator Post – Remove and Reset)  
 (Delineator Post - Remove and Stack)

606.01 Description

The following paragraphs are added:

This work shall also consist of furnishing and installing new delineator posts and/or removing and resetting and/or removing and stacking existing delineator posts within the Contract limits at the Crosby Maintenance Area Mile 45.8 Southbound . The existing reflectorized delineator panels shall be removed and replaced with new reflectorized delineator panels as required by the Resident.

Existing and new delineator posts shall be located as follows, with the indicated panel:

Outside Shoulder:

- One at guardrail trailing ends (green delineator).
- Two at guardrail approach ends (one red delineator on first post and one red delineator on angle points).

Median:

- One at guardrail trailing ends (green delineator, facing traffic).
- Two at guardrail approach ends (one red delineator on first post of CAT units, green on guard rail side, red on median opening side; and one red (both sides) delineator at angle point).
- One at all other median guardrail angle points (red on both sides).

Other Locations:

- One at culvert outlets (green delineator).
- Twenty per mile evenly spaced at the edge of outside shoulder (white delineator).
- One at electrical junction boxes not associated with another item (red delineator).
- One at communication only junction boxes not associates with another item (orange delineator).

Delineator posts that do not exist in the locations described above, shall be supplied and installed by the Contractor. The installation of the delineator post shall include the demountable reflectorized delineator panel.

White edge delineators shall not be installed on any portion of the widened shoulder for Guardrail 350 Flared Terminal installations, and shall not be installed behind the Guardrail 350 Flared Terminal rail segments.

#### 606.02 Materials

The following paragraphs are added:

Non-guardrail Delineator Posts shall conform to Subsection 606.02 paragraph 3.

The seventh through ninth sentences of the fourth paragraph are deleted and replaced with the following:

Reflectorized flexible guardrail markers shall be a minimum of 2-inches in diameter, a maximum of 36" in length, ovalized at the top of the post to allow application of 3 inch by 9 inch high intensity reflective sheeting, and shall be capable of recovering from repeated impacts. The flexible guardrail delineator markers shall be grey and capped at the top with a flexible rubber cap; Safe-Hit Flexible Guardrail Delineator or approved equal. Reflective material shall meet the requirements of ASTM Type IX Diamond Grade VIP (Visual Impact Performance).

The demountable reflectorized delineator panels shall meet the material requirements of Subsection 719.06. The delineator panel shall be rectangles measuring 9" x 3".

#### 606.03 Posts

The following paragraphs are added:

The top of delineator posts shall be installed 4' - 6" (54") above edge of pavement elevation. Delineators shall be installed four feet from edge of pavement except those delineating end treatments, culverts and electrical items.

Mile marker posts shall be mounted on breakaway supports. The bottom of the sign shall be 5' - 0" (60") above the pavement at the solid white line and shall be offset five feet from the edge of pavement.

A mock-up of the guardrail delineator posts shall be submitted to the Resident for approval prior to installation.

Any materials damaged by the Contractor's operations shall be replaced at no additional cost to the Authority.

Top of the delineator panel shall be flush with the top of post.

#### 606.08 Method of Measurement

The following paragraphs are added:

Delineator Posts shall be measured by each unit satisfactorily installed. Delineator Post-Removed and Reset will be measured by each unit satisfactorily removed and reset. Delineator Posts Removed and Stacked will be measured by each unit satisfactorily removed and stacked.

Mile Marker post shall be measured for payment as Delineator Post. The breakaway supports shall be incidental to the Underdrain Delineator Post pay item.

606.09 Basis of Payment

The following sentences are added:

The accepted quantity of Delineator Posts will be paid for under the Underdrain Delineator Post item, at the Contract unit price per each which price shall be full compensation for the post and specified delineator or mile marker panel, complete in place.

The accepted quantity of Delineator Post - Removed and Reset will be paid for at the Contract unit price each, which price shall be full compensation for removing and resetting the delineator panel or mile marker panel and post and all incidentals necessary to complete the work.

The accepted quantity of Delineator Posts Removed and Stacked will be paid for at the Contract unit price each, which price shall be full compensation for removing and stacking delineator panel or mile marker panel and posts and all incidentals necessary to complete the work.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
606.3561	Delineator Post – Remove and Reset	Each
606.3562	Delineator Post - Remove and Stack	Each

SPECIAL PROVISION

SECTION 606

GUARDRAIL

(Guardrail – Flared Terminal – 31” W-Beam Guardrail)

606.01 Description

The following sentences are added:

This work shall consist of furnishing and installing a FLEAT (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., 1507 East 4<sup>th</sup> Street, Big Spring, Texas 79720, (915) 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 sentence is added:

Guardrail – Flared Terminal – 31” W-Beam Guardrail 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™ DG<sup>3</sup> Reflective Sheeting Series 4000 or approved equal, color WHITE.

The contractor shall request for the impact face object marker, black chevron on yellow background, to be included in the shipped materials when installation is on the left side of roadway.

The following Subsections are added:

606.03 Posts

Wood offset blocks shall be toe-nailed in two locations to the wood post to prevent the blocks from moving.

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 FLEAT System after installation. The existing sheeting shall be replaced on FLEAT systems to be removed, modified, and reset. Color – WHITE.

606.041 Reflective Sheeting

The color for the reflective sheeting shall be silver (WHITE) when installed on the outside shoulder and shall be black chevron on yellow background only when installed on the inside shoulder.

606.08 Method of Measurement

The second paragraph is amended by the addition of: “Guardrail – Flared Terminal – 31” W-Beam Guardrail, ” after the words “Terminal section, ”.

Guardrail – Flared Terminal – 31” W-Beam Guardrail will be measured by each unit satisfactorily complete in place and accepted.

606.09 Basis of Payment

The first paragraph is amended by the addition of: “Guardrail – Flared Terminal – 31” W-Beam Guardrail, ” after the words “Terminal section, ”.

The second paragraph is amended by the addition of: “, Guardrail – Flared Terminal – 31” W-Beam Guardrail, and ” after the words “NCHRP 350 end treatments ”.

The retroreflective sheeting will not be measured separately for payment, but shall be incidental to the Guardrail – Flared Terminal – 31” W-Beam Guardrail item.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
606.791      Guardrail – Flared Terminal – 31” W-Beam Guardrail	Each

SPECIAL PROVISION

SECTION 606

GUARDRAIL

(Guardrail – Remove and Stack Existing Crash End)  
(Guardrail - Remove and Reset Existing Crash End)

606.01 Description

The following paragraph is added:

This work shall consist of removing and stacking existing crash ends (MELT units), component parts and hardware, and removing, modifying and resetting existing crash ends at locations shown on the plans. Existing crash end components and materials shall be stockpiled at the Crosby Maintenance Area Mile 45.8 Southbound.

This work consists of removing and resetting existing FLEAT 350 Terminals System as shown on the plans, backfilling post holes, and repairing pavements as required.

606.035 Construction Requirements

Existing post holes shall be backfilled with compacted gravel and finished with 3-inches of asphalt grindings. Post holes located in paved sections shall be backfilled with Hot Bituminous Pavement to a thickness matching the surrounding pavement thickness.

Any parts and/or components of existing FLEAT 350 Terminal that are found to be deficient, damaged, or otherwise in unsatisfactory condition prior to removal shall be replaced by the contractor with parts and components furnished by the Authority.

Any parts and/or components of existing FLEAT 350 Terminal that are damaged by the contractor during removal and resetting of the units shall be replaced with new parts and/or components at no cost to the Authority.

606.08 Method of Measurement

The following paragraph is added:

Guardrail Remove and Stack Existing Crash End will be measured on a per each basis of crash end satisfactorily removed and stacked.

Guardrail Remove and Reset Existing Crash End will be measured on a per each basis of crash end satisfactorily removed and reset.

606.09 Basis of Payment

The following paragraphs are added:

The accepted quantity of Guardrail Remove and Stack Existing Crash End will be paid for at the Contract unit price bid, which price shall be full compensation for removing, transporting and disposing all guardrail elements, component parts and hardware, backfilling post holes, equipment, labor and all incidentals necessary to complete the work.

Guardrail – Remove and Reset Existing Crash End will be paid for at the Contract unit price, complete in place and accepted. Payment shall be full compensation for furnishing all labor, equipment, materials and incidentals necessary to complete the work.

Connection of FLEAT 350 Systems to the existing median guardrail will not be paid for separately, but shall be incidental to Item 606.83.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
606.82	Guardrail - Remove and Stack Existing Crash End	Each
606.83	Guardrail - Remove and Reset Existing Crash End	Each

SPECIAL PROVISION

SECTION 609

CURBING

(Concrete Curb Type 2)

609.01 Description

The following sentences are added:

The work shall consist of furnishing and installing Concrete Curb Type 2 in accordance with these Specifications and in reasonably close conformity with the lines, grades and locations shown on the Plans or as approved by the Resident.

This work shall also consist of all excavation and backfill necessary to install the proposed curb as shown on the Plans.

609.02 Materials

The following sentence is added:

Backfill shall be Aggregate Subbase Course Gravel Type D in conformance with Subsection 304.02.

609.19 Method of Measurement

The following sentences are added:

Concrete Curb Type 2 shall be measured by the linear foot along the front face of the curb at the elevation of the finished grade, complete in place and accepted.

Excavation and backfill associated with curb installation shall be incidental to Item 609.191, Concrete Curb Type 2.

609.10 Basis of Payment

Payment will be under:

<u>Pay Item</u>	<u>Pay Unit</u>
609.191 Concrete Curb Type 2	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 Subsection is 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 his 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.

The following Subsection is added:

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:

<u>Pay Item</u>		<u>Pay Unit</u>
610.181	Temporary Stone Check Dam	Cubic Yard

SPECIAL PROVISION

SECTION 613

EROSION CONTROL BLANKET

613.01 Description

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

613.02 Materials

The following sentences are added:

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

Mulch shall meet the requirements of Section 619.

The following Subsection is added:

613.041 Maintenance and Acceptance

See Section 618.10 for maintenance and acceptance of seeding.

613.042 Mulch

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

613.09 Basis of Payment

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

SPECIAL PROVISION

SECTION 619

MULCH

(Mulch – Plan Quantity)  
(Temporary Mulch)

619.01 Description

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

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

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

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

619.03 General

The first paragraph is deleted and replaced with the following:

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

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

610.06 Method of Measurement

The following sentence is added:

Temporary Mulch will be paid for by the lump sum.

656.10 Basis of Payment

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

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
619.1201	Mulch – Plan Quantity	Unit
619.1202	Temporary Mulch	Lump Sum

SPECIAL PROVISIONSECTION 620GEOTEXTILES

(HDPE Geomembrane)

620.01 Description

The following sentence is added:

This work shall include installation of sections of HDPE Geomembrane below the locations of the two new finger joints at the abutments as shown on the Contract Drawings, or as directed by the Resident. The work also includes the preparation of concrete surfaces and furnishing, placing, and shaping of grout bedding where required.

620.02 Materials

The following two paragraphs are added:

HDPE Geomembrane shall be HDPE Sure Grip Liner (High Density Polyethylene) as manufactured by Argu America, Inc., 500 Garrison Road, Georgetown, SC 29440, (843) 546-0600, Fax (843) 527-2738, or an approved equal.

Grout is required for the installation of the HDPE Geomembrane over existing concrete surfaces as shown in the Plans. The required grout shall be either a Cementitious Concrete or a Polymer-Modified Concrete on the Maine Department of Transportation Qualified Products List – Rapid Setting Concrete Patching Material for Portland Cement Concrete.

620.03 Placement

The following paragraphs are added:

The Contractor shall take care not to damage the extruded anchors and place sheets such that the anchors are completely embedded in new concrete or grouts. All installation of HDPE Geomembrane will be in strict conformity with the manufacturer's recommendations. For vertical installations of HDPE Geomembrane, the anchors must face the inside of the formed volume.

For placement at existing surfaces, the surface must be cleaned in accordance with the Standard Specifications, Subsection 518.05, Surface Preparation, and roughened to the criteria described on the Plans. Each piece of HDPE Geomembrane must be trimmed and ready for placement before the grout bedding is placed. Each individual HDPE Geomembrane piece must be installed as soon as the bedding is shaped and while the grout is still plastic. The edges of HDPE Geomembrane pieces placed on sloped sections shall project over vertical faces as shown on the plans.

HDPE Geomembrane deployment shall proceed only when ambient temperatures are between 32°F to 102°F. Geomembrane shall not be placed during precipitation or moisture of any

type (e.g., fog, rain, dew), or in the presence of excessive winds, as determined by the Resident. Observations of temperature, humidity, precipitation, and wind should be noted to ensure that the weather conditions are acceptable prior to HDPE Geomembrane placement.

620.04 Overlap and Seams

The following paragraphs are added:

Geomembrane panels must have finished minimum overlap of four inches for hot shoe fusion welding and three inches for extrusion welding.

Cleaning solvents may not be used unless the product is approved by the liner manufacturer.

Field test seams may be conducted on the liner in accordance with the manufacturer’s recommendations to verify that seaming conditions are satisfactory.

620.08 Method of Measurement

The words “and/or HDPE Geomembrane” shall be added after the word “Geotextiles” in the first sentence of the paragraph.

620.09 Basis of Payment

The words “and/or HDPE Geomembrane” shall be added after the word “Geotextiles” in the first sentence of the paragraph.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
620.6012      HDPE Geomembrane	Square Yard

SPECIAL PROVISION

SECTION 627

PAVEMENT MARKINGS

(Temporary Painted Pavement Markings)

627.01 Description

The following paragraphs are added:

This work shall consist of furnishing and placing temporary painted pavement markings at locations shown on the Plans or as approved by the Resident.

Lines on the turnpike and ramps shall be six inches wide. Lines on local roads shall be four inches wide.

Temporary raised pavement markers will not be allowed as a substitute for temporary painted pavement marking lines unless approved by the Resident for use as a transition between the existing pavement markings and the temporary painted pavement marking lines. Temporary raised pavement markings may be used as a substitute for temporary painted pavement markings when the markings are immediately adjacent to a concrete barrier or guardrail such that the markings will not be subject to traffic. The temporary raised pavement markers will be measured for payment as temporary painted pavement markings when their use has been approved by the Resident.

627.02 Materials

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

Pavement marking paint shall be 100 percent acrylic, low VOC, fast drying, white and yellow waterborne traffic paint.

The paint shall be formulated and processed specifically for service as a binder for beads, in such a manner as to produce maximum adhesion, refraction, and reflection. Any capillary action of the paint shall not be such as to cause complete coverage of the beads. The binder shall be 100 percent acrylic, as determined by infrared analysis according to ASTM D2621. VOC levels shall comply with ASTM D3960. Lead percentage shall comply with ASTM D3335. The paint shall be rated as non-combustible.

627.04 General

The third paragraph is deleted and replaced with the following:

Broken lines shall consist of alternate 10 foot painted line segments and 30 foot gaps.

Dotted white lines (DWL) shall consist of alternate three foot painted line segments and nine foot gaps.

627.09 Method of Measurement

Painted pavement marking lines will be measured by the linear foot.

The second and third sentences in the second paragraph are deleted and replaced with the following:

The measurement of broken white lines, both permanent and temporary, will include the gaps when painted. Temporary Painted Pavement Marking lines will be measured for payment by the linear foot.

Removal of the Temporary Painted Pavement Marking lines will be measured for payment as Removing Existing Pavement Markings.

627.10 Basis of Payment

The following paragraphs are added:

The accepted quantity of Painted Pavement Marking lines will be paid at the Contract price per linear foot. This price shall include all labor and materials to furnish, install and maintain the paint markings.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
627.681      Temporary 6 Inch Painted Pavement Marking Line— Yellow or White	Linear Foot

SPECIAL PROVISION

SECTION 627

PAVEMENT MARKINGS

(Temporary 6 Inch Pavement Marking Tape)  
(Temporary 6 Inch Black Pavement Marking Tape)

627.01 Description

The following sentence is added:

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

This work shall also consist of furnishing, placing, maintaining and removing temporary black pavement marking tape at locations shown on the Plans or as directed by the Resident. Temporary 6 Inch Black Pavement Marking Tape shall be used to cover conflicting existing pavement marking paint.

627.02 Materials

The following paragraph is added:

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

Temporary pavement marking tape shall be Stamark Removable Black Line Mask Tape Series 715 as manufactured by 3M of St. Paul, Minnesota or an approved equal.

627.04 General

The following paragraphs are added:

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

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

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

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

#### 627.06 Application

The following paragraphs are added:

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

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

#### 627.08 Removing Lines and Markings

The following sentence is added:

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

#### 627.09 Method of Measurement

The following paragraph is added:

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

#### 627.10 Basis of Payment

The following paragraphs are added:

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

Payment for the Temporary 6 Inch Black Pavement Marking Tape will be made at the Contract bid price per linear foot installed, which price shall include furnishing, installing, maintaining and removing the temporary tape and all materials, labor, equipment and incidentals necessary to accomplish the work. Replacement of 6 Inch Black Temporary Pavement Marking Tape, as described above, will be incidental and no separate payment will be made.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
627.73	Temporary 6 Inch Pavement Marking Tape	Linear Foot
627.731	Temporary 6 Inch Black Pavement Marking Tape	Linear Foot

SPECIAL PROVISION

SECTION 627

PAVEMENT MARKINGS

(Temporary Raised Pavement Markers)

627.01 Description

The following sentence is added:

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

627.02 Materials

The second paragraph is deleted and replaced with the following:

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

627.04 General

The following sentences are added:

Temporary raised pavement markers shall be used to delineate travel lanes (BWLL) after placement of the surface course (HMA 12.5 mm).

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

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

627.09 Method of Measurement

The following sentence is added:

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

627.10 Basis of Payment

The following paragraphs are added:

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

Payment will be made under:

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

SPECIAL PROVISION

SECTION 627

PAVEMENT MARKINGS

(Pavement Marking Tape)

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

627.01 Description

The following sentence is added:

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

The pavement marking tape shall be installed at all locations.

627.02 Materials

The following sentence is added:

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

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

3M Traffic Safety Systems Division  
Mr. Michael D. Allen  
Tel: (401) 368-0438  
Email: [mdallen@mmm.com](mailto:mdallen@mmm.com)

627.04 General

The following paragraphs are added:

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

The tape shall also be used to mark a Dotted White Lane Line (DWLL) and shall be installed on parallel deceleration and acceleration lanes at locations as noted in the Plans. On deceleration lanes, the tape shall be installed from the beginning of the full width deceleration lane and shall extend to the theoretical gore markings. On acceleration lanes, the DWLL shall extend from the theoretical gore markings to a point one-half of the total length of the acceleration lane (including the lane taper length). Layout data is noted on the Plans. Dotted White Lane Line tape

shall be three (3) foot in length and shall be spaced nine (9) feet apart. Spacing from the Solid White Lane Line (SWLL) or the Theoretical Gore Markings shall be nine (9) feet.

627.05 Preparation of Surface

The following paragraph is added:

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

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

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

627.09 Method of Measurements

The following paragraph is added:

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

627.10 Basis of Payment

The following paragraphs are added:

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

Payment will be made under:

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

SPECIAL PROVISION

SECTION 631

EQUIPMENT RENTAL

631.02 General

The following sentences are added:

Jackhammer - To be included under category of air tool.

Bucket truck - Approved one man, able to reach 30 feet high bucket truck with 10 feet lateral extension.

Scissor Lift - Hydraulic scissors lift with a minimum capacity of three workers.

631.08 Basis of Payment

The following paragraphs are added:

Such related costs such as use of hand tools, meal and room expenses, benefits, insurance, retirement, travel time, overtime, overhead and profit will not be measured separately for payment, but shall be incidental to the unit price for the bid item.

Note: For extra materials required for miscellaneous work the General Contractor shall be allowed 15 percent overhead and profit on the cost of materials and rental equipment (not covered by miscellaneous unit items). Rates for Subcontractor owned equipment required to perform miscellaneous work, not otherwise provided for in the Contract, shall be negotiated.

The General Contractor will be allowed 10 percent overhead and profit on the subcontractor's cost of materials, and subcontractors rented equipment (not covered by miscellaneous unit items). The General Contractor shall include his markup on the Subcontractor's labor in the pay items.

The labor hour bid items shall include labor and labor burdens, benefits, supervision, transportation, travel time and allowances, overnights, small tools and equipment, subcontractor overhead and profit, and General Contractor overhead and profit. Time will be measured from the start of work to the stoppage of work at the project site; less the time taken for lunch. No deduction of time will be taken for the standard morning "coffee break".

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
631.50	Jackhammer (air tool including operator)	Hour
631.51	Bucket truck	Hour
631.52	Scissor Lift	Hour
631.55	Plumber	Hour

SPECIAL PROVISION

SECTION 645

HIGHWAY SIGNING

(Remove and Stack Sign)

(Remove and Reset Sign)

645.07 Demounting and Reinstalling Existing Signs and Poles

The following paragraphs are added:

At locations noted on the Plans, existing ground-mounted signs are designated to be removed and reset. This work shall consist of removing the sign panels, removing and resetting or disposing of the existing steel post and resetting the sign panels on a new steel post if required in the appropriate specified location. The Resident will determine if a new steel post is required.

At locations as shown on the Plans, existing ground-mounted signs are designated to be removed and stacked. This work shall consist of removing and stacking existing sign panels and posts at the West Gardiner Maintenance Facility at MM 101.8 Northbound, and the excavations shall be backfilled and ground restored to the satisfaction of the Resident.

Any existing signs not shown on the Plans are to remain in their existing condition unless directed otherwise by the Resident.

645.08 Method of Measurement

The following sentences are added:

Removing and Resetting existing ground-mounted signs shall be measured as complete units each, removed, reset and accepted.

Removing and stacking existing signs shall be measured as complete units each removed and stacked.

645.09 Basis of Payment

The following paragraphs are added:

The accepted signs removed and stacked shall be paid for at the Contract unit price each as specified. Such price shall include removing and stacking sign panels and supports at the location specified.

The accepted signs Removed and Reset will be paid for at the Contract unit price each as specified. Such price will include removing and resetting sign panels, removing and resetting or disposing existing wood post and resetting the sign panels on the existing or new wood post and new hardware as required to complete the sign installation. Any signs or supports damaged by the

Contractor shall be replaced by him with new signs or supports conforming to the applicable Specifications at no additional cost to the Authority.  
Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
645.105	Remove and Stack Sign	Each
645.109	Remove and Reset Sign	Each

SPECIAL PROVISIONSECTION 652MAINTENANCE 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.

Maine Turnpike Traffic Control Requirements

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:

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, 6 and 8 may be performed over traffic if a temporary floor is provided between the bottom flanges of the beams.

During the erection or removal of structural steel traffic shall be stopped and may be held for periods of up to 25 minutes during these operations. Traffic stoppage is allowed each night, Sunday through Saturday, between the hours of 10:00 p.m. to 5:00 am the following day. 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.

I-95 Mainline Traffic Control Requirements

Mainline temporary lane closures and temporary shoulders closures are allowed between the hours of 12:01 a.m. and midnight, Sunday through Saturday. Temporary lanes closures shall not extend north of mile marker (MM) 102.8 in the northbound lanes or north of MM 102.9 in the southbound lanes.

The contractor shall maintain a minimum 14-foot roadway width during all temporary lane and shoulder closures with the exception of November 16, 2018 through March 31, 2019 during which a minimum 20-foot roadway width must be maintained.

#### I-295 Southbound Ramp Traffic Control Requirements

Two lanes of traffic, as shown in Phase 1 and 2 of the Maintenance of traffic control plans shall be maintained on the I-295 Southbound Ramp, except when one lane of traffic is allowed by these Specifications and Plans. Temporary lane closures will only be allowed when necessitated by on-going work. See section 107.4.6 for when long term lane closures are allowed.

Construction activities will require a combination of lane closures on I-295 Southbound ramp and the mainline. Maintenance of traffic control plans have been developed for Phases 1 thru 2 to facilitate the construction. For all other operations, standard lane or shoulder closures shall be developed by the Contractor from the typical details provided and shall not conflict with traffic control setups for Phases 1 thru 2. This plan shall be approved by the Resident prior to start of work. All operations requiring lane or shoulder closures shall be approved by the Resident. Travel lanes may not be impeded by traffic control devices until the time frames are specified for each activity.

This Section outlines the minimum requirements that shall be maintained for work on, over, or adjacent to the I-295 Southbound Ramp. The contractor shall maintain a minimum 14-foot roadway width during all temporary lane and shoulder closures. Operations are allowed as outlined below:

<b><u>I-295 Southbound Ramp</u></b>			
<b>Days of Week</b>	<b>Time of Day</b>	<b>Temporary Lane Closures</b>	<b>Temporary Shoulder Closures</b>
<b>April 1, 2018 to June 14, 2018 March 9, 2019 to June 13, 2019 March 8, 2020 to June 12, 2020</b>			
Sunday night though Thursday night	8:00 p.m. Sunday through Thursday midnight.	Allowed	Allowed
Friday	12:01 a.m. to 4:00 p.m. and 6:00 p.m. to midnight	Allowed	Allowed
Saturday	12:01 a.m. to midnight	Allowed	Allowed
<b>June 15, 2018 to September 3, 2018 June 14, 2019 to September 2, 2019</b>			
Daily Monday through Thursday	12:01 a.m. to 3:00 p.m. and 5:00 p.m. to midnight	Allowed	Allowed
Friday	12:01 a.m. to 1:00 p.m. and 6:00 p.m. to midnight	Allowed	Allowed
Saturday	12:01 a.m. to 9:00 a.m. and 3:00 p.m. to midnight	Allowed	Allowed
Sunday	8:00 p.m. to midnight.	Allowed	Allowed
<b>September 4, 2018 to November 11, 2018 September 3, 2019 to November 10, 2019</b>			
Sunday night though Thursday night	8:00 p.m. Sunday through Thursday midnight	Allowed	Allowed
Friday	12:01 a.m. to 2:00 p.m. and 6:00 p.m. to midnight	Allowed	Allowed
Saturday	12:01 a.m. to midnight	Allowed	Allowed
<b>November 12, 2018 to March 8, 2019 November 11, 2019 to March 7, 2020</b>			
Sunday night though Saturday night	8:00 p.m. to midnight.	Allowed	Allowed

SPECIAL PROVISIONSECTION 652MAINTENANCE OF TRAFFIC(Automated Speed Limit Sign)652.1 Description

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

652.1.1 Instruction and maintenance manuals shall be provided.

652.2 MaterialsAutomated Trailer Mounted Speed Limit Sign

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”.

Signs

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

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

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

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

Power supply

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

### Flashing Lights

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, either strobe, halogen, or incandescent lamps, 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.

### Radar

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 threshold.

## CONSTRUCTION REQUIREMENTS

### 652.3.2 Responsibility of the Contractor

The Contractor shall furnish the Automated Trailer Mounted Speed Limit Sign as described in this Special Provision for this project.

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

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

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

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

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

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

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

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

652.7 Method of Measurement

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.

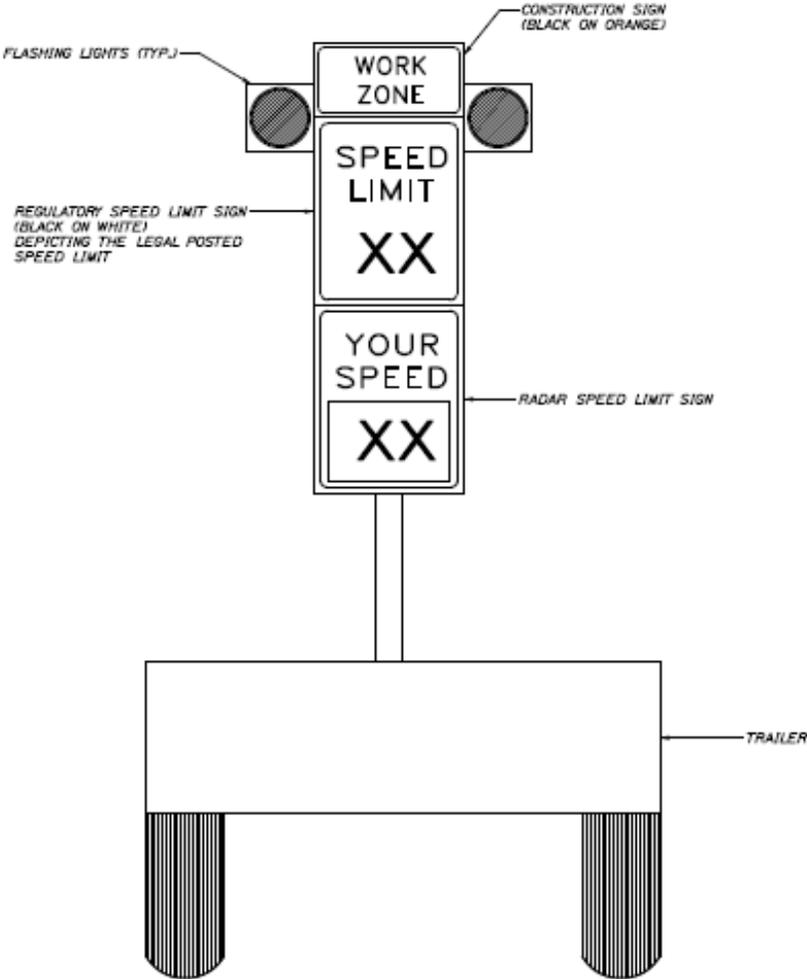
652.8 Basis of Payment

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.

<u>Pay Item</u>		<u>Pay Unit</u>
652.451	Automated Trailer Mounted Speed Limit Sign	Calendar Day
652.452	Automated Trailer Mounted Speed Limit Sign	Each

Date: 2/13/2018

Element: Trailer Mounted Speed Limit.dwg



**HNTB**  
FEBRUARY 2018

AUTOMATED TRAILER MOUNTED  
SPEED LIMIT SIGN



SPECIAL PROVISION

SECTION 652

MAINTENANCE OF TRAFFIC

(Temporary Portable Rumble Strips)

652.1 Description:

This work consists of furnishing and placing temporary portable rumble strips RoadQuake 2F TPRS or an approved equal.

652.2 Materials:

Furnish a temporary portable rumble strip system, which 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.

652.3 General:

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

Placement:

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.

Maintenance:

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.

652.4 Method of Measurement:

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.

652.5 Basis of Payment:

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.

<u>Pay Item</u>		<u>Pay Unit</u>
652.46	Temporary Portable Rumble Strip	Unit

SPECIAL PROVISIONSECTION 652MAINTENANCE OF TRAFFIC

(Truck Mounted Attenuator)

Section 652 of the Maine Turnpike Authority 2016 Supplemental Specifications is modified as follows:

652.1 Description

The following paragraph is added:

When a pay item for a Truck Mounted Attenuator (TMA) is included in the contract at least one TMA will be required on the project and its use will be required. The truck mounted attenuator should be utilized in lane closures and other construction operations where workers are exposed to traffic and not protected by other positive means. The Contractor shall manage the utilization and operation of the TMA and 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.

652.2.1 Truck Mounted Attenuator

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

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.
- A mounted revolving amber light or amber strobe light 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.

652.3.7 Operations

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

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

Installation: The chart below identifies the distance from the work zone or hazard where the TMA shall be deployed. If the work zone is within a marked lane closure, the barrier truck distances shall apply and if the work is mobile, then shadow truck distances shall apply. The TMA shall not be located in the buffer zone. When used as a barrier, the barrier

truck shall be parked in low gear with brakes applied and the front wheels turned away from the work zone and the adjacent traffic lane. 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

652.7 Method of Measurement

The last paragraph is deleted and replaced with:

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

652.8.2 Basis of Payment

The last two paragraphs are deleted and replaced with:

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.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
652.45	Truck Mounted Attenuator	Calendar Day

SPECIAL PROVISIONSECTION 719SIGNING MATERIALSection 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 VII, Type VIII or Type IX, for all signs. All Type 1 Guide Signs shall meet at a minimum the requirements for ASTM 4956 –Type XI sheeting. Use of overlay film that degrades the retroreflectivity of the sign sheeting (i.e. Avery-Dennison overlay film) will be prohibited.

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.

Signs may only be covered using materials and techniques explicitly approved by the sheeting manufacturer for that purpose and shall not alter the sign sheeting warranty.

- 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 block.

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

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

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

Direct applied letters, numerals, symbols and borders shall consist of cut out sheeting shall meet at a minimum the requirements for ASTM 4956 – Type VII, Type VIII or Type IX sheeting.

All Type 1 Guide Signs shall meet at a minimum the requirements for ASTM 4956 – Type XI sheeting.

## Appendix A

### Lead Paint Tests



March 9, 2011

Mr. John Doughty  
HNTB Corp.  
2 Thomas Dr.  
Westbrook, ME 04092

RE: Katahdin Lab Number: SE0927  
Project ID: MTA Bridges  
Project Manager: Ms. Shelly Brown  
Sample Receipt Date(s): March 01, 2011

Dear Mr. Doughty:

Please find enclosed the following information:

- \* Report of Analysis (Analytical and/or Field)
- \* Chain of Custody (COC)
- \* Login Report

A copy of the Chain of Custody is included in the paginated report. The original COC is attached as an addendum to this report.

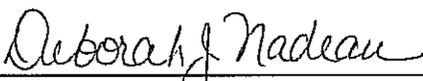
Should you have any questions or comments concerning this Report of Analysis, please do not hesitate to contact the project manager listed above. The results contained in this report relate only to the submitted samples. This cover letter is an integral part of the ROA.

We certify that the test results provided in this report meet all the requirements of the NELAC standards unless otherwise noted in an attached technical narrative or in the Report of Analysis.

We appreciate your continued use of our laboratory and look forward to working with you in the future. The following signature indicates technical review and acceptance of the data.

Please go to <http://www.katahdinlab.com/cert.html> for copies of Katahdin Analytical Services Inc. current certificates and analyte lists.

Sincerely,  
KATAHDIN ANALYTICAL SERVICES

  
\_\_\_\_\_  
Authorized Signature

03/09/2011  
\_\_\_\_\_  
Date

**KATAHDIN ANALYTICAL SERVICES – INORGANIC DATA QUALIFIERS**  
**(Refer to BOD Qualifiers Page for BOD footnotes)**

The sampled date indicated on the attached Report(s) of Analysis (ROA) is the date for which a grab sample was collected or the date for which a composite sample was completed. Beginning and start times for composite samples can be found on the Chain-of-Custody.

U Indicates the compound was analyzed for but not detected above the specified level. This level may be the Limit of Quantitation (LOQ)(previously called Practical Quantitation Level (PQL)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client.

Note: All results reported as "U" MDL have a greater rate for false negatives, i.e. greater than 1%, than those results reported as "U" PQL/LOQ or "U" LOD.

E Estimated value. This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis.

J Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Limit of Quantitation (LOQ)(previously called Practical Quantitation Limit (PQL)), but above the Method Detection Limit (MDL).

I-7 The laboratory's Practical Quantitation Level could not be achieved for this parameter due to sample composition, matrix effects, sample volume, or quantity used for analysis.

A-4 Please refer to cover letter or narrative for further information.

MCL Maximum Contaminant Level

NL No limit

NFL No Free Liquid Present

FLP Free Liquid Present

NOD No Odor Detected

TON Threshold Odor Number

H1 Please note that the regulatory holding time for pH is "analyze immediately". Ideally, this analysis must be performed in the field at the time of sample collection. pH for this sample was not performed at the time of sample collection. The analysis was performed as soon as possible after receipt by the laboratory.

H2 Please note that the regulatory holding time for DO is "analyze immediately". Ideally, this analysis must be performed in the field at the time of sample collection. DO for this sample was not performed at the time of sample collection. The analysis was performed as soon as possible after receipt by the laboratory.

H3 Please note that the regulatory holding time for sulfite is "analyze immediately". Ideally, this analysis must be performed in the field at the time of sample collection. Sulfite for this sample was not performed at the time of sample collection. The analysis was performed as soon as possible after receipt by the laboratory.

H4 Please note that the regulatory holding time for residual chlorine is "analyze immediately". Ideally, this analysis must be performed in the field at the time of sample collection. Residual chlorine for this sample was not performed at the time of sample collection. The analysis was performed as soon as possible after receipt by the laboratory.



## REPORT OF ANALYTICAL RESULTS

Client: John Doughty  
 HNTB Corp.  
 2 Thomas Dr.  
 Westbrook, ME 04092

Lab Sample ID: SE0927-019  
 Report Date: 3/9/2011  
 PO No.:  
 Project: MTA Bridges

Sample Description	Matrix	Percent Solids(%)	Date Sampled	Date Received
I-295 SOUTH BOUND	SL	100	03/01/2011	03/01/2011

Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
ARSENIC	U 8.	mg/Kgdrywt	8.	10	0.8	SW846 6010	3/3/11	DWM	SW846 3050	3/2/11	EAM	BC02ICS1	1
BARIUM	1930.	mg/Kgdrywt	5.0	10	0.5	SW846 6010	3/3/11	DWM	SW846 3050	3/2/11	EAM	BC02ICS1	
CADMIUM	U 10.0	mg/Kgdrywt	10.0	10	1	SW846 6010	3/3/11	DWM	SW846 3050	3/2/11	EAM	BC02ICS1	1
CHROMIUM	114.	mg/Kgdrywt	15.0	10	1.5	SW846 6010	3/3/11	DWM	SW846 3050	3/2/11	EAM	BC02ICS1	
LEAD	1300.	mg/Kgdrywt	5.	10	0.5	SW846 6010	3/3/11	DWM	SW846 3050	3/2/11	EAM	BC02ICS1	
SELENIUM	U 10.	mg/Kgdrywt	10.	10	1	SW846 6010	3/3/11	DWM	SW846 3050	3/2/11	EAM	BC02ICS1	1
SILVER	U 15.0	mg/Kgdrywt	15.0	10	1.5	SW846 6010	3/3/11	DWM	SW846 3050	3/2/11	EAM	BC02ICS1	1

1 The laboratory's Practical Quantitation Level could not be achieved for this parameter due to sample composition, matrix effects, sample volume, or quantity used for analysis.

## Report of Analytical Results

**Client:** John Doughty  
 HNTB Corp.  
 2 Thomas Dr.  
 Westbrook, ME 04092

**Lab Sample ID:** SE0927-19  
**Report Date:** 04-MAR-11  
**Client PO:**  
**Project:** MTA Bridges  
**SDG:** SE0927

**Sample Description**

I-295 SOUTH BOUND

<u>Matrix</u>	<u>Date Sampled</u>	<u>Date Received</u>
SL	01-MAR-11	01-MAR-11

<u>Parameter</u>	<u>Result</u>	<u>Adj PQL</u>	<u>Anal. Method</u>	<u>QC.Batch</u>	<u>Anal. Date</u>	<u>Prep. Method</u>	<u>Prep. Date</u>	<u>Analyst</u>	<u>Footnotes</u>
Total Solids	100 %	1	SM2540G	WG88617	03-MAR-11 10:10:00	ASTM D2216	02-MAR-11	AMB	



## REPORT OF ANALYTICAL RESULTS

Client: John Doughty  
 HNTB Corp.  
 2 Thomas Dr.  
 Westbrook, ME 04092

Lab Sample ID: SE0927-020  
 Report Date: 3/9/2011  
 PO No.:  
 Project: MTA Bridges

Sample Description	Matrix	Filtered	Date Sampled	Date Received
I-295 SOUTH BOUND	AQ	No(Total)	03/01/2011	03/01/2011

Parameter	Result	Units	Adjusted PQL	Dilution Factor	PQL	Analytical Method	Analysis Date	By	Prep Method	Prepped Date	By	QC	Notes
ARSENIC, TCLP	U 0.04	mg/L	0.04	1	0.008	SW846 6010	3/4/11	DWM	SW846 3010	3/3/11	EAM	BC03ICW1	1
BARIUM, TCLP	0.440	mg/L	0.025	1	0.005	SW846 6010	3/4/11	DWM	SW846 3010	3/3/11	EAM	BC03ICW1	
CADMIUM, TCLP	U 0.0500	mg/L	0.0500	1	0.01	SW846 6010	3/4/11	DWM	SW846 3010	3/3/11	EAM	BC03ICW1	1
CHROMIUM, TCLP	U 0.0750	mg/L	0.0750	1	0.015	SW846 6010	3/4/11	DWM	SW846 3010	3/3/11	EAM	BC03ICW1	1
LEAD, TCLP	0.070	mg/L	0.02	1	0.005	SW846 6010	3/4/11	DWM	SW846 3010	3/3/11	EAM	BC03ICW1	
SELENIUM, TCLP	U 0.050	mg/L	0.050	1	0.01	SW846 6010	3/4/11	DWM	SW846 3010	3/3/11	EAM	BC03ICW1	1
SILVER, TCLP	U 0.0750	mg/L	0.0750	1	0.015	SW846 6010	3/4/11	DWM	SW846 3010	3/3/11	EAM	BC03ICW1	1

1 The laboratory's Practical Quantitation Level could not be achieved for this parameter due to sample composition, matrix effects, sample volume, or quantity used for analysis.

Client: <b>HNYB</b>	KAS PM: <b>SMB</b>	Sampled By: <b>WF</b>
Project:	KIMS Entry By: <b>GW</b>	Delivered By: <b>KAS</b>
KAS Work Order#: <b>SE 0927</b>	KIMS Review By: <b>GW</b>	Received By: <b>GW</b>
SDG #:	Cooler: <b>1</b> of <b>1</b>	Date/Time Rec.: <b>3/1/11 1450</b>

Receipt Criteria	Y	N	EX*	NA	Comments and/or Resolution
1. Custody seals present / intact?		✓			
2. Chain of Custody present in cooler?	✓				
3. Chain of Custody signed by client?	✓				
4. Chain of Custody matches samples?	✓				
5. Temperature Blanks present? If not, take temperature of any sample w/ IR gun.		✓			Temp (°C): <b>3.2</b>
Samples received at <6 °C w/o freezing?	✓				Note: Not required for metals analysis.
Ice packs or ice present?	✓				The lack of ice or ice packs (i.e. no attempt to begin cooling process) may not meet certain regulatory requirements and may invalidate certain data.
If temp. out, has the cooling process begun (i.e. ice or packs present) and sample collection times <6hrs., but samples are not yet cool?				✓	Note: No cooling process required for metals analysis.
6. Volatiles free of headspace: <b>Aqueous:</b> No bubble larger than a pea <b>Soil/Sediment:</b> Received in airtight container?				✓	
Received in methanol?				✓	
Methanol covering soil?				✓	
7. Trip Blank present in cooler?				✓	
8. Proper sample containers and volume?	✓				
9. Samples within hold time upon receipt?	✓				
10. Aqueous samples properly preserved? Metals, COD, NH3, TKN, O/G, phenol, TPO4, N+N, TOC, DRO, TPH – pH <2 Sulfide - >9 Cyanide – pH >12				✓ ✓ ✓	

\* Log-In Notes to Exceptions: document any problems with samples or discrepancies or pH adjustments

AP - 7



**Login Number: SE0927**

Quote/Incoming:

Account: HNTBCO001

NoWeb

HNTB Corp.

Project:

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	Verbal PR Date	Due Date	Mailed
SE0927-19	I-295 SOUTH BOUND	01-MAR-11 03:15	01-MAR-11		09-MAR-11	
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>		<i>Bottle Count</i>	<i>Comments</i>
Solid	S SW3050-PREP	28-AUG-11				
Solid	S SW6010-ARSENIC	28-AUG-11	4oz Glass			
Solid	S SW6010-BARIUM	28-AUG-11	4oz Glass			
Solid	S SW6010-CADMIUM	28-AUG-11	4oz Glass			
Solid	S SW6010-CHROMIUM	28-AUG-11	4oz Glass			
Solid	S SW6010-LEAD	28-AUG-11	8oz Glass		1	
Solid	S SW6010-SELENIUM	28-AUG-11	4oz Glass			
Solid	S SW6010-SILVER	28-AUG-11	4oz Glass			
Solid	S TS	31-MAR-11	8oz Glass			
SE0927-20	I-295 SOUTH BOUND	01-MAR-11 03:15	01-MAR-11		09-MAR-11	
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>		<i>Bottle Count</i>	<i>Comments</i>
Aqueous	S SAMPLING					
Aqueous	S TCLP-ARSENIC	28-AUG-11	250mL Plastic+HNO3			
Aqueous	S TCLP-BARIUM	28-AUG-11	250mL Plastic+HNO3			
Aqueous	S TCLP-CADMIUM	28-AUG-11	250mL Plastic+HNO3			
Aqueous	S TCLP-CHROMIUM	28-AUG-11	250mL Plastic+HNO3			
Solid	P TCLP-METALS		8oz Glass			
	SW1311-EXT	SW3010-PREP	TCLP-LEAD			
Aqueous	S TCLP-SELENIUM	28-AUG-11	250mL Plastic+HNO3			
Aqueous	S TCLP-SILVER	28-AUG-11	250mL Plastic+HNO3			

**Total Samples: 20**

**Total Analyses: 168**

## Appendix B

Maine Department of Environmental Protection (DEP)  
Natural Resources Protection Act Permit By Rule

Sec. (11) State Transportation Facilities

04/06/2017

**DEPARTMENT OF ENVIRONMENTAL PROTECTION**  
**PERMIT BY RULE NOTIFICATION FORM**  
 (For use with DEP Regulation, Natural Resources Protection Act- Permit by Rule Standards, Chapter 305)  
 PLEASE TYPE OR PRINT IN **BLACK INK ONLY**

APPLICANT INFORMATION (Owner)		AGENT INFORMATION (If Applying on Behalf of Owner)	
Name:	Sara Zografos, Maine Turnpike Authority	Name:	Bryan Emerson, Stantec
Mailing Address:	2360 Congress Street	Mailing Address:	30 Park Drive
Town:	Portland	Town:	Topsham
State and Zip Code:	Maine, 04102	State and Zip Code:	Maine, 04086
Daytime Phone #:	207-482-8111	Daytime Phone #:	207-406-5462
Email Address:	szografos@maineturnpike.com	Email Address:	bryan.emerson@stantec.com

PROJECT INFORMATION							
Part of a larger project? (check one):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	After the Fact? (check one):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Project involves work below mean low water? (check one):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Name of waterbody:	Unnamed wetlands
Project Town:	Gardiner	Project Location (Address):	Exit 103, Maine Turnpike	Map & Lot Number:	N/A		
Brief Project Description:	Improvements to I-95 Exit 103 southbound off-ramp bridge to I-295						
Brief Directions to Site:	I-95 south to I-295. Project is the bridge over I-95 before the toll in West Gardiner, ME						

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

- |                                                                       |                                                                                   |                                                                                                                                                                      |
|-----------------------------------------------------------------------|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> Sec. (2) Act. Adj. to Protected Natural Res. | <input type="checkbox"/> Sec.(10) Stream Crossing                                 | <input type="checkbox"/> Sec. (17) Transfers/Permit Extension                                                                                                        |
| <input type="checkbox"/> Sec. (3) Intake Pipes                        | <input checked="" type="checkbox"/> Sec. (11) State Transportation Facil.         | <input type="checkbox"/> Sec. (18) Maintenance Dredging                                                                                                              |
| <input type="checkbox"/> Sec. (4) Replacement of Structures           | <input type="checkbox"/> Sec. (12) Restoration of Natural Areas                   | <input type="checkbox"/> Sec. (19) Activities in/on/over significant vernal pool habitat                                                                             |
| <input type="checkbox"/> Sec. (5) REPEALED                            | <input type="checkbox"/> Sec. (13) F&W Creation/Enhance/Water Quality Improvement | <input type="checkbox"/> Sec. (20) Activities located in/on/over high or moderate value inland waterfowl & wading bird habitat or shorebird feeding & roosting areas |
| <input type="checkbox"/> Sec. (6) Movement of Rocks or Vegetation     | <input type="checkbox"/> Sec. (14) REPEALED                                       |                                                                                                                                                                      |
| <input type="checkbox"/> Sec. (7) Outfall Pipes                       | <input type="checkbox"/> Sec. (15) Public Boat Ramps                              |                                                                                                                                                                      |
| <input type="checkbox"/> Sec. (8) Shoreline stabilization             | <input type="checkbox"/> Sec. (16) Coastal Sand Dune Projects                     |                                                                                                                                                                      |
| <input type="checkbox"/> Sec. (9) Utility Crossing                    |                                                                                   |                                                                                                                                                                      |

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

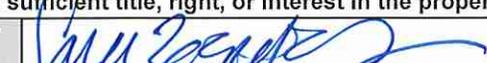
**NOTIFICATION FORMS CANNOT BE ACCEPTED WITHOUT THE NECESSARY ATTACHMENTS**

- Attach** all required submissions for the PBR Section(s) checked above. The required submissions for each PBR Section are outlined in Chapter 305 and may differ depending on the Section you are submitting under.
- Attach** a check for the correct fee made payable to: "Treasurer, State of Maine". The current fee for NRPA PBR Notifications can be found at the Department's website: <http://www.maine.gov/dep/feesched.pdf>
- Attach** a location map that clearly identifies the site (U.S.G.S. topo map, Maine Atlas & Gazetteer, or similar).
- Attach Proof of Legal Name** if applicant is a corporation, LLC, or other legal entity. Provide a copy of Secretary of State's registration information (available at <http://icrs.informe.org/nei-sos-icrs/ICRS?MainPage=x>) Individuals and municipalities are not required to provide any proof of identity.

I authorize staff of the Departments of Environmental Protection, Inland Fisheries & Wildlife, and Marine Resources to access the project site for the purpose of determining compliance with the rules.

I also understand that this PBR becomes effective 14 calendar days after receipt by the Department *unless the Department approves or denies the PBR prior to that date.*

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

Signature of Agent or Applicant:		Date:	1.9.18
----------------------------------	-------------------------------------------------------------------------------------	-------	--------

*Keep a copy as a record of permit.* Send the form with attachments via certified mail or hand deliver to the Maine Dept. of Environmental Protection at the appropriate regional office listed below. The DEP will send a copy to the Town Office as evidence of the DEP's receipt of notification. No further authorization by DEP will be issued after receipt of notice. Permits are valid for two years. **Work carried out in violation of any standard is subject to enforcement action.**

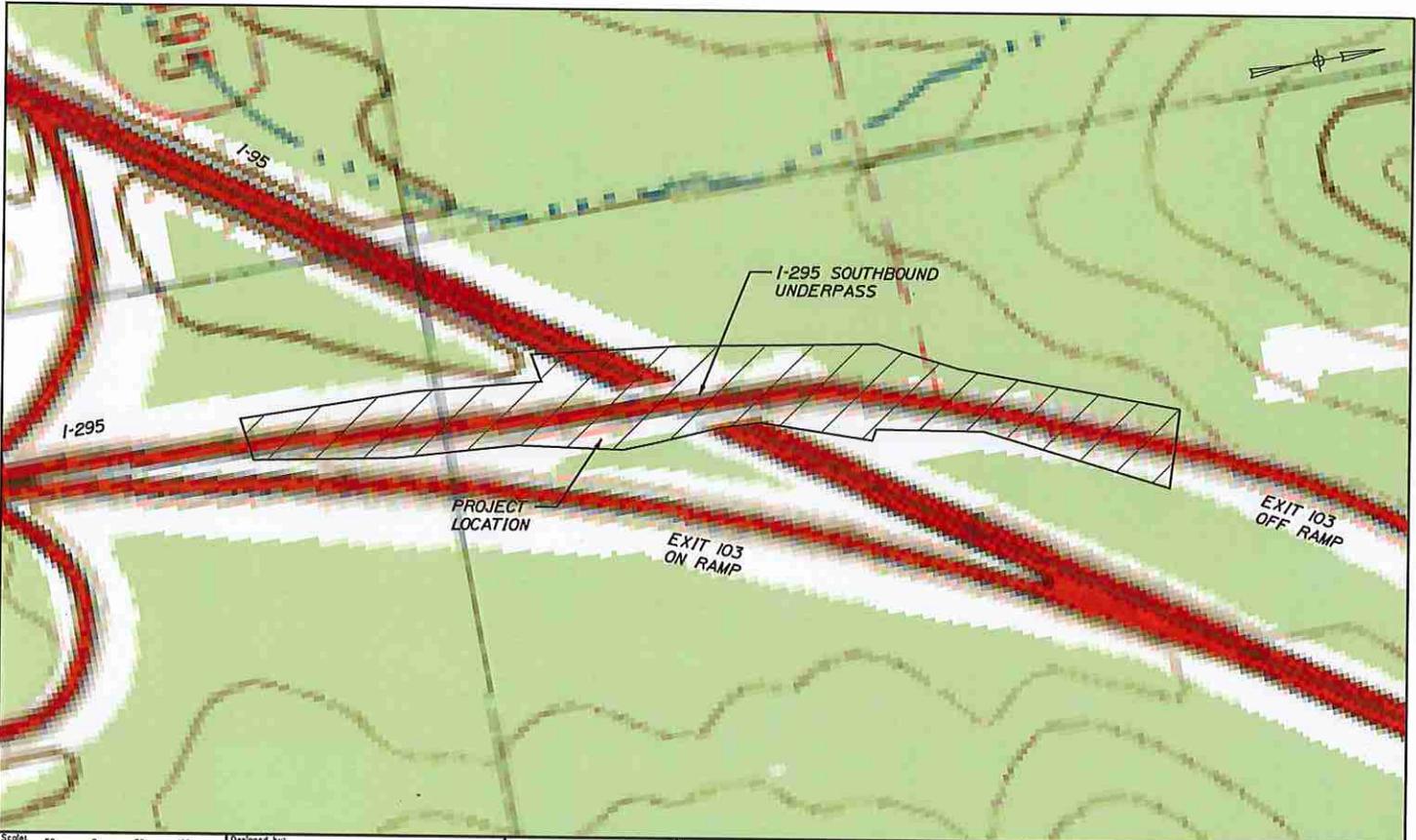
AUGUSTA DEP  
 17 STATE HOUSE STATION  
 AUGUSTA, ME 04333-0017  
 (207)287-7688

PORTLAND DEP  
 312 CANCO ROAD  
 PORTLAND, ME 04103  
 (207)822-6300

BANGOR DEP  
 106 HOGAN ROAD  
 BANGOR, ME 04401  
 (207)941-4570

PRESQUE ISLE DEP  
 1235 CENTRAL DRIVE  
 PRESQUE ISLE, ME 04769  
 (207)764-0477

OFFICE USE ONLY	Ck.#	Date	Staff	Staff	
PBR #	FP		Acc. Date	Def. Date	After Photos



Scale: 1" = 100'

Scale of Feet

No.	Revision	By	Date

Designed by:

**Stantec**

CONSULTANT PROJECT MANAGER: GEORGE BOGLE, PE

By	Date	By	Date
Designed	SJW 09/28/17	Checked	TWM 09/28/17
Drawn	JTB 09/28/17	In Charge of	GB 09/28/17

STANTEC CONSULTING SERVICES INC.  
 482 PAYNE ROAD  
 SCARBOROUGH, ME 04074  
 TEL (207) 887-3448  
 FAX (207) 883-3376

**MAINE TURMPIRE**

**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: RALPH C. SORWOOD, IV, PE

**EXIT 103 I-295 SOUTHBOUND UNDERPASS  
 BRIDGE REHABILITATION**

**PROJECT LOCATION**

CONTRACT: 2018.05

SHEET NUMBER: PL-1

1 OF 111

## Appendix C

US Army Corps of Engineers Maine

General Permit



**Appendix B: Self-Verification Notification Form**  
(for all tidal and non-tidal projects in Maine subject to Corps jurisdiction)

**US Army Corps  
of Engineers**<sup>®</sup>  
New England District

At least two weeks before work commences, complete **all** fields (write "none" if applicable) below or use the fillable form at [www.nae.usace.army.mil/missions/regulatory.aspx](http://www.nae.usace.army.mil/missions/regulatory.aspx). Send this form, a location map, any project plans, and an Official Species List (See GC 8) to the address noted below; fax to (207) 623-8206; or email to [jay.l.clement@usace.army.mil](mailto:jay.l.clement@usace.army.mil). The two-week lead time is not required for emergency situations (see page 4 for definition). Please call (207) 623-8367 with questions.

Maine Project Office  
U.S. Army Corps of Engineers  
New England District  
675 Western Avenue #3  
Manchester, Maine 04351

State Permit Number: \_\_\_\_\_  
Date of State Permit: \_\_\_\_\_  
State Project Manager: \_\_\_\_\_

Permittee: Sara Zografos, Maine Turnpike Authority  
Address, City, State & Zip: 2360 Congress Street, Portland, Maine 04102  
Phone(s) and Email: 207-482-8111, szografos@maineturnpike.com

Contractor: \_\_\_\_\_  
Address, City, State & Zip: \_\_\_\_\_  
Phone(s) and Email: \_\_\_\_\_

Consultant/Engineer/Designer: Greg Edwards, Stantec  
Address, City, State & Zip: 55 Green Mountain Drive, South Burlington, VT 05403  
Phone(s) and Email: 802-497-6398, greg.edwards@stantec.com

Wetland/Vernal Pool Consultant: Bryan Emerson, Stantec  
Address, City, State & Zip: 30 Park Drive, Topsham, ME 04086  
Phone(s) and Email: 207-406-5462, bryan.emerson@stantec.com

Project Location/Description: Improvements to bridge over I-95 at Exit 103 southbound off-ramp to I-295  
Address, City, State & Zip: I-95 Exit 103 Southbound off ramp, West Gardiner, ME  
Latitude/Longitude Coordinates: 44.217775, -69.823978 Tax Map/Lot: N/A  
Waterway Name: Unnamed wetlands associated with Cold Stream  
Work Description: Improvements to Exit 103 southbound off-ramp and bridge, including road widening and bridge replacement.

Provide any prior Corps permit numbers: N/A  
Proposed Work Dates: Start: Spring 2018 Finish: Fall 2018

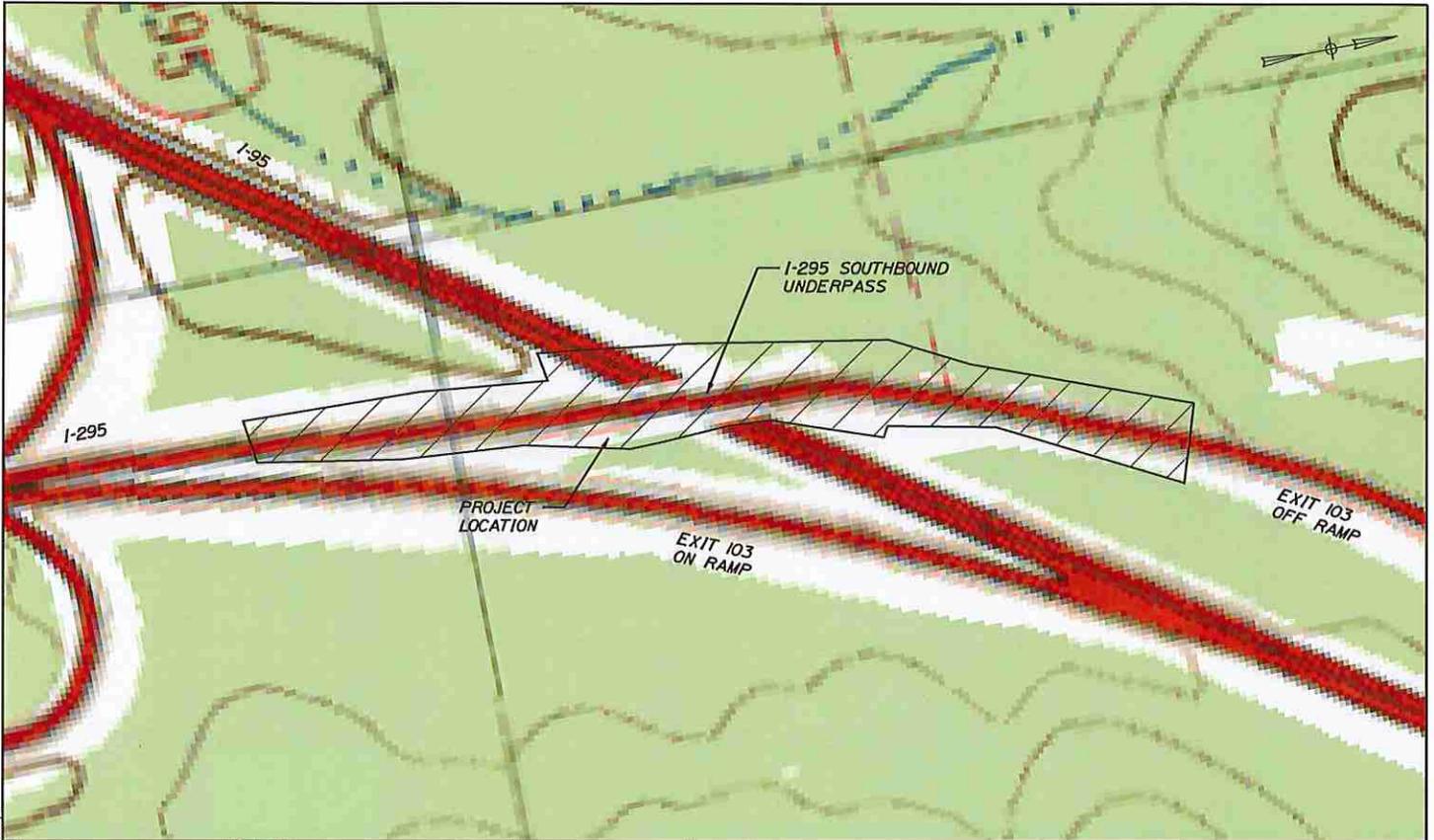
Area of wetland impact: 5,933 SF (leave blank if work involves structures & no fill in Navigable Waters)  
Area of waterway impact: \_\_\_\_\_ SF (leave blank if work involves structures & no fill in Navigable Waters)  
Area of compensatory mitigation provided: 0 SF

Work will be done under the following Appendix A categories (circle all that apply):

- I. Inland Waters and wetlands: 1 2 3 4 5 6 7 8 9 **10** 11 12 13 14 15 16 17 18 19 20 21 22 23 24  
II. Navigable Waters: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

Your name/signature below, as permittee, indicates that you accept and agree to comply with the terms, eligibility criteria, and general conditions of Category 1 of the Maine General Permit.

Permittee Printed Name: Sara Zografos  
Permittee Signature: *Sara Zografos* Date: 1-9-18



Scale: 50 0 50 100  
Scale of Feet

No.	Revision	By	Date

Designed by:  
**Stantec**

CONSULTANT PROJECT MANAGER: GEORGE BOGUE, PE

By	Date	By	Date
Designed	S.W.B. 2/28/17	Checked	T.W.B. 2/28/17
Drawn	L.H.B. 2/28/17	In Charge of	L.G.B. 2/28/17

STANTEC CONSULTING SERVICES INC.  
482 PAYNE ROAD  
SCARBOROUGH, ME 04074  
TEL (207) 887-3448  
FAX (207) 883-3376

**MAINE TURNPIKE**

**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: RALPH C. NORWOOD, IV, PE

**EXIT 103 I-295 SOUTHBOUND UNDERPASS  
BRIDGE REHABILITATION**

**PROJECT LOCATION**

CONTRACT: 2018.05

SHEET NUMBER: PL-1  
1 OF 111



## United States Department of the Interior

### FISH AND WILDLIFE SERVICE

Maine Ecological Services Field Office

P. O. Box A

East Orland, ME 04431

Phone: (207) 469-7300 Fax: (207) 902-1588

<http://www.fws.gov/mainefieldoffice/index.html>



In Reply Refer To:

December 20, 2017

Consultation Code: 05E1ME00-2018-SLI-0232

Event Code: 05E1ME00-2018-E-00490

Project Name: Exit 103 Southbound Ramp Bridge Rehabilitation

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies the threatened, endangered, candidate, and proposed species and designated or proposed critical habitat that may occur within the boundary of your proposed project or may be affected by your proposed project. This species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC Web site at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having

similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the Endangered Species Consultation Handbook at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

This species list also identifies candidate species under review for listing and those species that the Service considers species of concern. Candidate species have no protection under the Act but are included for consideration because they could be listed prior to completion of your project. Species of concern are those taxa whose conservation status is of concern to the Service (i.e., species previously known as Category 2 candidates), but for which further information is needed.

If a proposed project may affect only candidate species or species of concern, you are not required to prepare a Biological Assessment or biological evaluation or to consult with the Service. However, the Service recommends minimizing effects to these species to prevent future conflicts. Therefore, if early evaluation indicates that a project will affect a candidate species or species of concern, you may wish to request technical assistance from this office to identify appropriate minimization measures.

Please be aware that bald and golden eagles are not protected under the Endangered Species Act but are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.). Projects affecting these species may require development of an eagle conservation plan:

[http://www.fws.gov/windenergy/eagle\\_guidance.html](http://www.fws.gov/windenergy/eagle_guidance.html) Information on the location of bald eagle nests in Maine can be found on the Maine Field Office Web site:

<http://www.fws.gov/mainefieldoffice/Project%20review4.html>

Additionally, wind energy projects should follow the wind energy guidelines:

<http://www.fws.gov/windenergy/> for minimizing impacts to migratory birds and bats. Projects may require development of an avian and bat protection plan.

Migratory birds are also a Service trust resource. Under the Migratory Bird Treaty Act, construction activities in grassland, wetland, stream, woodland, and other habitats that would result in the take of migratory birds, eggs, young, or active nests should be avoided. Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at:

<http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm> and at:  
<http://www.towerkill.com>; and at:  
<http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

## Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**Maine Ecological Services Field Office**

P. O. Box A

East Orland, ME 04431

(207) 469-7300

---

## Project Summary

Consultation Code: 05E1ME00-2018-SLI-0232  
Event Code: 05E1ME00-2018-E-00490  
Project Name: Exit 103 Southbound Ramp Bridge Rehabilitation  
Project Type: TRANSPORTATION  
Project Description: Upgrade to existing bridge over I-95  
Project Location:

Approximate location of the project can be viewed in Google Maps:

<https://www.google.com/maps/place/44.21874648264247N69.82393578316126W>



Counties: Kennebec, ME

## Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

### Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/9045">https://ecos.fws.gov/ecp/species/9045</a>	Threatened

### Fishes

NAME	STATUS
Atlantic Salmon <i>Salmo salar</i> Population: Gulf of Maine DPS There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/2097">https://ecos.fws.gov/ecp/species/2097</a>	Endangered

### Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

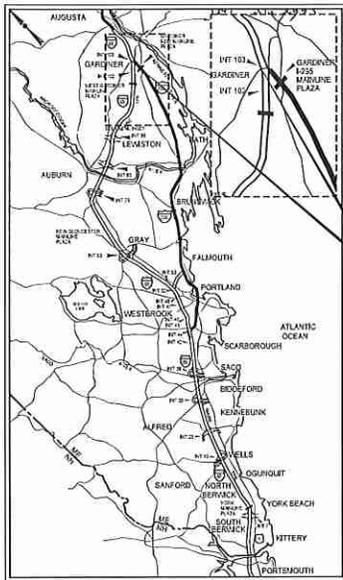


THE GOLD STAR  
MEMORIAL HIGHWAY

# MAINE TURNPIKE AUTHORITY

DANIEL E. WATHEN, CHAIR  
ROBERT D. STONE, VICE CHAIR  
MICHAEL J. GIANCHETTE, MEMBER  
JOHN E. DORITY, MEMBER  
ANN R. ROBINSON, MEMBER  
THOMAS J. ZUKE, MEMBER  
KAREN S. DOYLE, MEMBER EX-OFFICIO

S. PETER MILLS, EXECUTIVE DIRECTOR



LOCATION MAP

EXIT 103 I-295 SOUTHBOUND UNDERPASS  
BRIDGE REHABILITATION  
MM 103.0

## CONTRACT 2018.05 EXIT 103 I-295 SOUTHBOUND UNDERPASS BRIDGE REHABILITATION MM 103.0

98% SUBMISSION  
12/1/2017

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	ESTIMATE QUANTITIES & EARTHWORK SUMMARY
3	GENERAL NOTES
4 - 7	TYPICAL SECTIONS
8 - 29	MAINTENANCE OF TRAFFIC
30	MAINTENANCE OF TRAFFIC DETAILS
31	MAINTENANCE OF TRAFFIC SIGN SUMMARY
32	TYPICAL DETAILS
33	EROSION CONTROL DETAILS
34 - 35	GUARD RAIL DETAIL
39	RUMBLE STRIP & STRIPING DETAIL
37 - 39	PAVEMENT PLAN
40 - 43	GENERAL PLANS
44 - 46	PROFILE
47	LIMIT OF DISTURBANCE
48 - 52	SIGNING AND STRIPING
53	SIGN SUMMARY
54 - 59	CROSS SECTIONS
100 - 145	STRUCTURAL PLANS
146 - 161	AS-BUILT PLANS

APPROVED: MAINE TURNPIKE AUTHORITY

PETER S. MCAFEE, P.E. - CHIEF OPERATIONS OFFICER \_\_\_\_\_ DATE \_\_\_\_\_

STEPHEN R. TARTRE, P.E. - DIRECTOR OF ENGINEERING AND BUILDING MAINTENANCE \_\_\_\_\_ DATE \_\_\_\_\_



GREGORY EDWARDS, P.E. - SENIOR PRINCIPAL \_\_\_\_\_ DATE \_\_\_\_\_

CONTRACT 2018.05

Date: 12/1/2017

Filename: \\BRIDGE\STAND\JTA\_TITLE.dgn

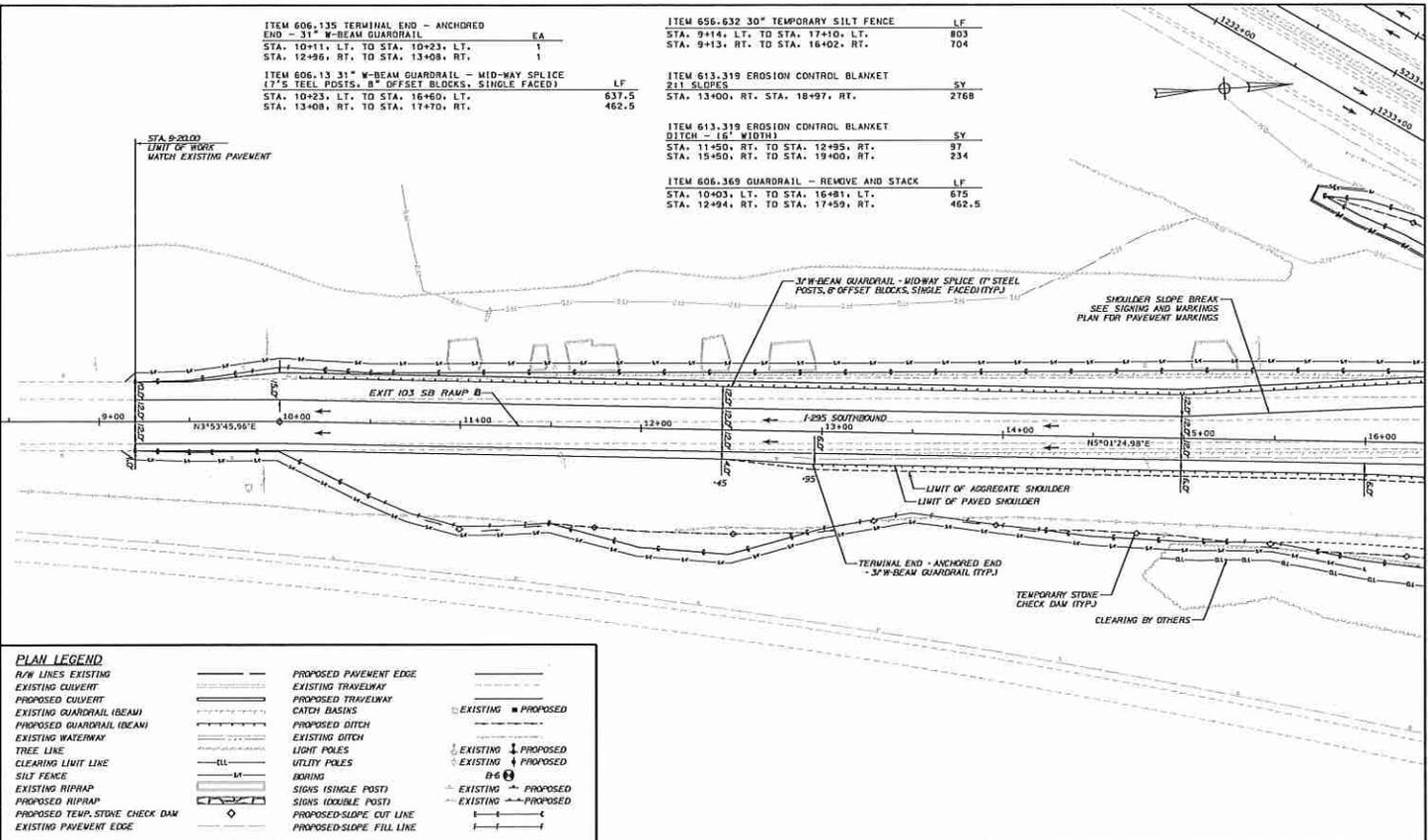
ITEM 606.135 TERMINAL END - ANCHORED END - 31" W-BEAM GUARDRAIL	EA
STA. 10+11, LT. TO STA. 10+23, LT.	1
STA. 12+86, RT. TO STA. 13+00, RT.	1
ITEM 606.13 31" W-BEAM GUARDRAIL - MID-WAY SPLICE (7'5" TEE POSTS, B" OFFSET BLOCKS, SINGLE FACED)	LF
STA. 10+23, LT. TO STA. 16+80, LT.	637.5
STA. 13+08, RT. TO STA. 17+70, RT.	462.5

ITEM 656.632 30" TEMPORARY SILT FENCE	LF
STA. 9+14, LT. TO STA. 17+10, LT.	803
STA. 9+13, RT. TO STA. 16+02, RT.	704

ITEM 613.319 EROSION CONTROL BLANKET 211 SLOPES	SY
STA. 13+00, RT. TO STA. 18+97, RT.	2768

ITEM 613.319 EROSION CONTROL BLANKET 211 SLOPES	SY
STA. 11+50, RT. TO STA. 12+95, RT.	97
STA. 15+50, RT. TO STA. 19+00, RT.	234

ITEM 606.369 GUARDRAIL - REMOVE AND STACK	LF
STA. 10+03, LT. TO STA. 16+81, LT.	678
STA. 12+94, RT. TO STA. 17+59, RT.	462.5



**PLAN LEGEND**

— R/W LINES EXISTING	— PROPOSED PAVEMENT EDGE	— EXISTING PROPOSED
— EXISTING CULVERT	— EXISTING TRAVELWAY	— EXISTING PROPOSED
— PROPOSED CULVERT	— PROPOSED TRAVELWAY	— EXISTING PROPOSED
— EXISTING GUARDRAIL (BEAM)	— PROPOSED BASINS	— EXISTING PROPOSED
— PROPOSED GUARDRAIL (BEAM)	— EXISTING DITCH	— EXISTING PROPOSED
— EXISTING WATERWAY	— EXISTING DITCH	— EXISTING PROPOSED
— TREE LINE	— LIGHT POLES	— EXISTING PROPOSED
— CLEARING LIMIT LINE	— UTILITY POLES	— EXISTING PROPOSED
— SILT FENCE	— BORING	— EXISTING PROPOSED
— EXISTING RIPRAP	— SIGNS (SINGLE POST)	— EXISTING PROPOSED
— PROPOSED RIPRAP	— SIGNS (DOUBLE POST)	— EXISTING PROPOSED
— PROPOSED TEMP. STONE CHECK DAM	— PROPOSED-SURF CUT LINE	— EXISTING PROPOSED
— EXISTING PAVEMENT EDGE	— PROPOSED-SLOPE FILL LINE	— EXISTING PROPOSED

Scale: 25 0 25 50  
Scale of Feet

No.	Revision	By	Date

Designed by: **Stantec**

CONSULTANT PROJECT MANAGER: GREG EDWARDS, PE

By	Date	By	Date
DESIGNED	12/19/17	CHECKED	12/19/17
DRAWN	12/19/17	IN CHARGE OF	12/19/17

STANTEC CONSULTING SERVICES INC.  
482 PAYNE ROAD  
SCARBOROUGH, ME 04074  
TEL (207) 887-3448  
FAX (207) 883-3376

**MAINE TURNPIKE**

**THE GOLD STAR MEMORIAL HIGHWAY**

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

**EXIT 103 I-295 SOUTHBOUND UNDERPASS BRIDGE REHABILITATION**

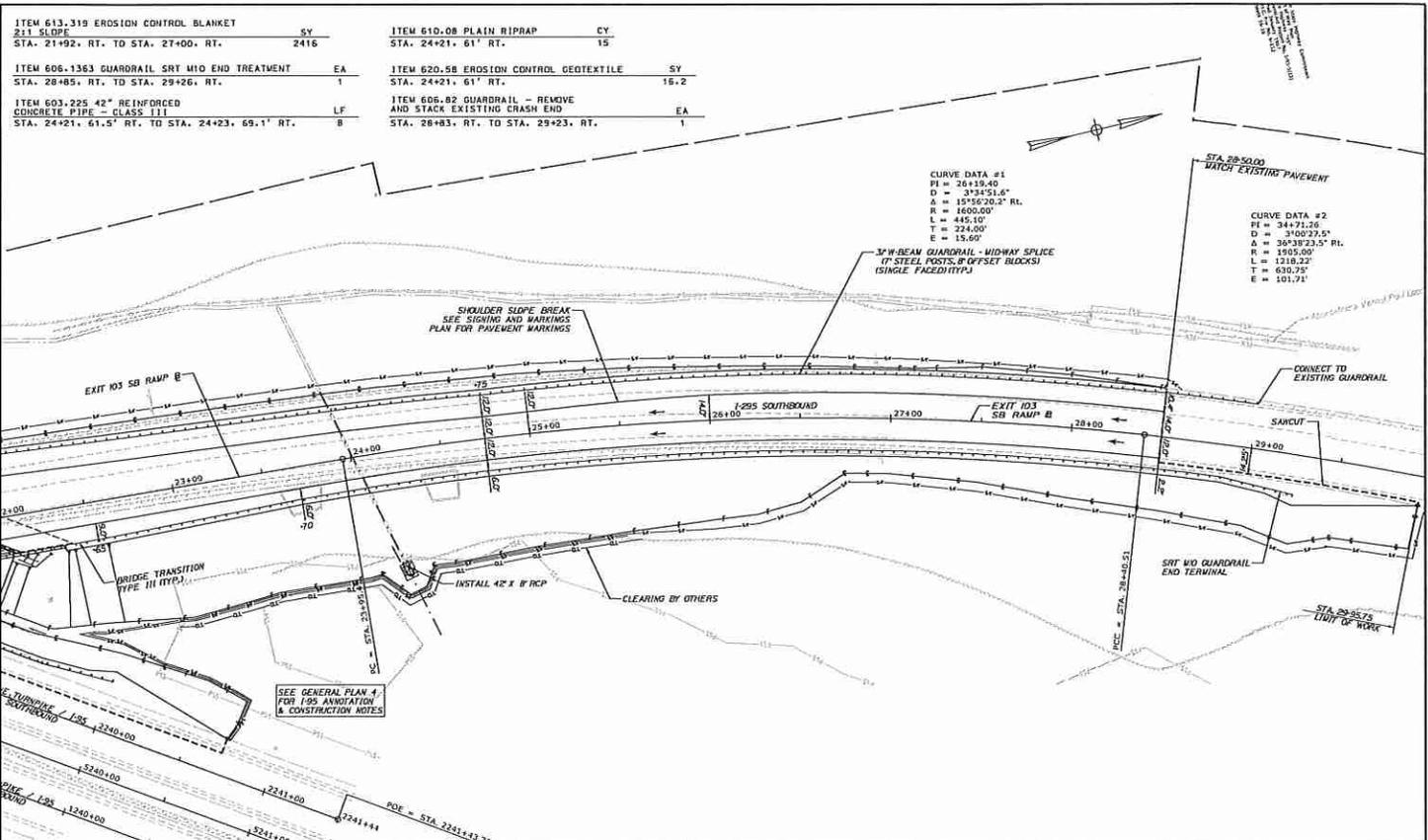
**GENERAL PLAN 1**

CONTRACT: 2018.05

SHEET NUMBER: 40 OF 161

Filename: \\S00001\PROJECTS\2018\201805\20180501\20180501.dwg, Date: 12/19/17





ITEM 613.319 EROSION CONTROL BLANKET 2:1 SLOPE STA. 21+92. RT. TO STA. 27+00. RT.	SY 2416
ITEM 606.1363 GUARDRAIL SRT MID END TREATMENT STA. 28+85. RT. TO STA. 29+26. RT.	EA 1
ITEM 603.225 42" REINFORCED CONCRETE PIPE - CLASS III STA. 24+21. 61.5" RT. TO STA. 24+23. 69.1" RT.	LF 8

ITEM 610.08 PLAIN RIPRAP STA. 24+21. 61" RT.	CY 15
ITEM 620.58 EROSION CONTROL GEOTEXTILE STA. 24+21. 61" RT.	SY 16.2
ITEM 606.02 GUARDRAIL - REMOVE AND STACK EXISTING CRASH END STA. 28+83. RT. TO STA. 29+23. RT.	EA 1

CURVE DATA #1  
 PI = 26119.40  
 D = 3154.51.6"  
 A = 15156.70.2" RL  
 R = 1600.00'  
 L = 445.10'  
 T = 224.00'  
 E = 15.60'

CURVE DATA #2  
 PI = 34471.26  
 D = 3100.27.5"  
 A = 38319.23.5" RL  
 R = 1505.00'  
 L = 1318.22'  
 T = 630.75'  
 E = 101.71'

Scale: 25 0 25 50  
Scale of Feet

No.	Revision	By	Date

Designed by:

CONSULTANT PROJECT MANAGER: GREG EDWARDS, PE

By	Date	By	Date
Designed	SJB 12/01/17	Checked	LEM 12/01/17
Drawn	SJB 12/01/17	In Charge of	GAE 12/01/17

STANTEC CONSULTING SERVICES INC.  
 482 PAYNE ROAD  
 SCARBOROUGH, ME 04074  
 TEL (207) 887-3448  
 FAX (207) 883-3376

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: RALPH C. JORWOOD, IV, PE, PTGE

EXIT 103 I-295 SOUTHBOUND UNDERPASS BRIDGE REHABILITATION  
 GENERAL PLAN 3

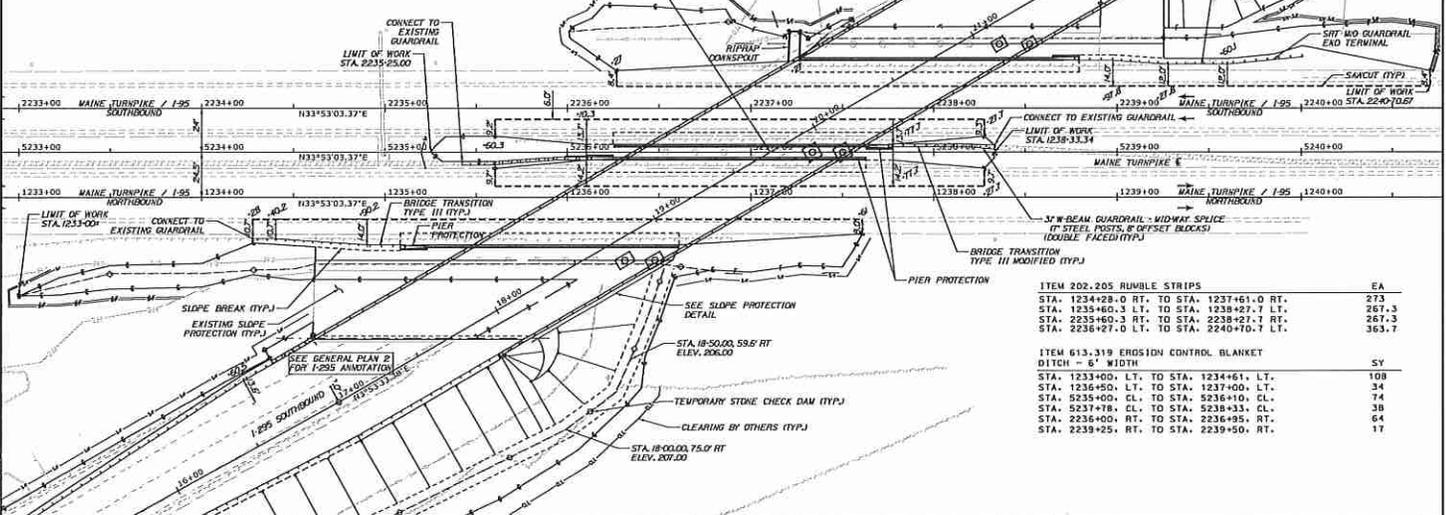
CONTRACT: 2018.05 SHEET NUMBER: 42 OF 161

Date: 07/27/2017

ITEM 656.632 30" TEMPORARY SILT FENCE	LF	129
STA. 1232+84, RT. TO STA. 1233+89, RT.		134
STA. 1232+85, RT. TO STA. 1233+91, RT.		102
STA. 1236+55, RT. TO STA. 1237+55, RT.		18
STA. 2235+20, RT. TO STA. 2235+22, RT.		64
STA. 2235+89, LT. TO STA. 2238+19, LT.		60
STA. 2236+88, LT. TO STA. 2237+42, LT.		126
STA. 2239+74, LT. TO STA. 2240+75, LT.		123
STA. 2239+75, LT. TO STA. 2240+75, LT.		
ITEM 606.359 GUARDRAIL - REMOVE AND STACK	LF	261
STA. 1234+28, RT. TO STA. 1236+89, RT.		249
STA. 1235+42, LT. TO STA. 1237+91, LT.		263
STA. 2235+72, RT. TO STA. 2238+33, RT.		265
STA. 2236+71, LT. TO STA. 2239+36, LT.		
ITEM 606.62 GUARDRAIL - REMOVE AND STACK EXISTING CRASH END	EA	1
STA. 2239+36, LT. TO STA. 2239+62, LT.		
ITEM 610.18 STONE DITCH PROTECTION	CY	6
STA. 2237+24, LT.		
ITEM 620.58 EROSION CONTROL GEOTEXTILE	SY	18
STA. 2237+24, LT.		

ITEM 606.1723 BRIDGE TRANSITION - TYPE III	EA	1
STA. 1235+92, RT. TO STA. 1236+13, RT.		1
STA. 2238+77, LT. TO STA. 2238+98, LT.		
ITEM 606.1724 BRIDGE TRANSITION - TYPE III - MODIFIED	EA	1
STA. 1234+90, LT. TO STA. 1235+11, LT.		1
STA. 2237+75, RT. TO STA. 2237+96, RT.		
ITEM 606.13 31" W-BEAM GUARDRAIL - MID-WAY SPLICE	LF	62.5
17'5" TEEL POSTS, 8" OFFSET BLOCKS, SINGLE FACED		62.5
STA. 1235+42, RT. TO STA. 1235+92, RT.		
STA. 2238+98, LT. TO STA. 2239+60, LT.		
ITEM 606.132 31" W-BEAM GUARDRAIL - MID-WAY SPLICE	LF	50
17'5" TEEL POSTS, 8" OFFSET BLOCKS, DOUBLE FACED		37.5
STA. 1234+28, LT. TO STA. 1234+90, LT.		
STA. 2237+96, RT. TO STA. 2238+33, RT.		

ITEM 606.1363 GUARDRAIL SRT MID END TREATMENT	EA	1
STA. 2239+60, LT. TO STA. 2240+01, LT.		



ITEM 202.205 RUMBLE STRIPS	EA	273
STA. 1234+28.0 RT. TO STA. 1237+61.0 RT.		267.3
STA. 1235+60.3 RT. TO STA. 1238+27.7 LT.		267.3
STA. 2235+60.3 RT. TO STA. 2238+27.7 RT.		363.7
STA. 2236+27.0 LT. TO STA. 2240+70.7 LT.		
ITEM 613.319 EROSION CONTROL BLANKET DITCH - 6' WIDTH	SY	108
STA. 1233+00, LT. TO STA. 1234+61, LT.		34
STA. 1236+50, LT. TO STA. 1237+00, LT.		74
STA. 5235+00, CL. TO STA. 5236+10, CL.		38
STA. 5237+78, CL. TO STA. 5238+33, CL.		64
STA. 2236+00, RT. TO STA. 2236+85, RT.		17
STA. 2239+25, RT. TO STA. 2239+50, RT.		

No.	Revision	By	Date

Designed by: **Stantec**

CONSULTANT PROJECT MANAGER: GREG EDWARDS, PE

By	Date	By	Date
TDJ	01/17	LEM	01/17
Checked	in Charge of	GAE	12/01/17

STANTEC CONSULTING SERVICES INC.  
482 PAYNE ROAD  
SCARBOROUGH, ME 04074  
TEL (207) 887-3448  
FAX (207) 883-3376

**MAINE TURNPIKE**

**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: RALPH C. NORWOOD, IV, PE, PICE

**EXIT 103 I-295 SOUTHBOUND UNDERPASS BRIDGE REHABILITATION**

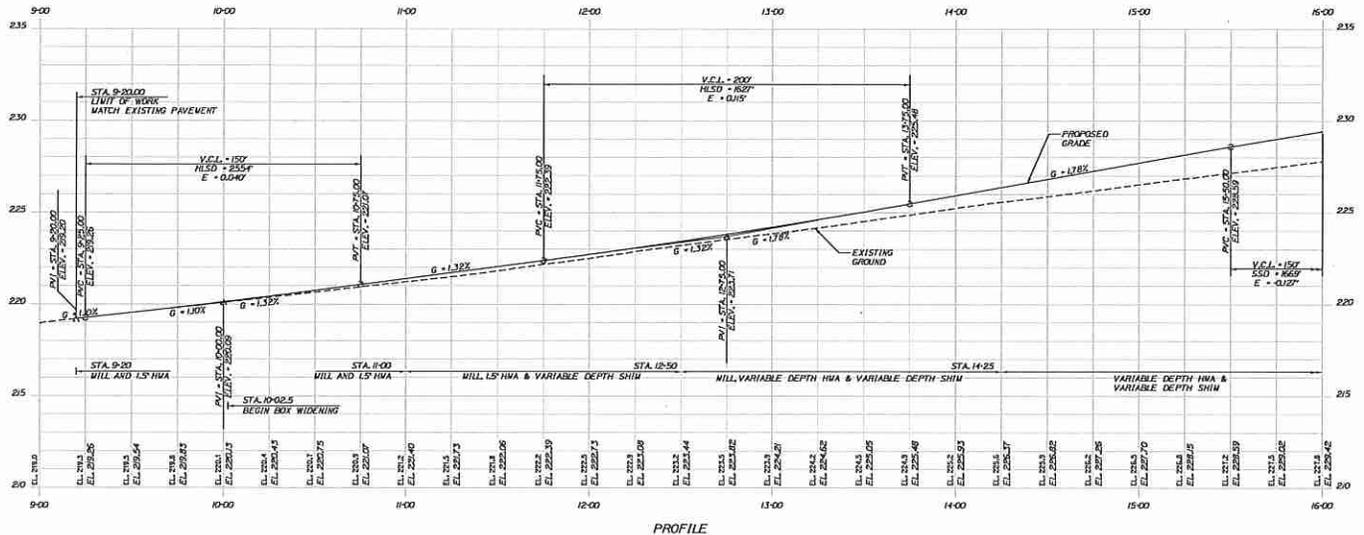
**GENERAL PLAN 4**

CONTRACT: 2016B.05

SHEET NUMBER: 43 OF 161

Date: 7/1/2017

Filename: \\MST\A\044-044-1\p04.dwg



Scale: 1" = 25'

No.	Revision	By	Date

Designed by: **Stantec**

CONSULTANT PROJECT MANAGER: GREG EDWARDS, PE

By	Date	By	Date
TRD	12/10/17	Checked	LEM 12/10/17
PLP	12/10/17	In Charge of	GAE 12/10/17

STANTEC CONSULTING SERVICES INC.  
 482 PAYNE ROAD  
 SCARBOROUGH, ME 04074  
 TEL (207) 887-3448  
 FAX (207) 883-3376

**MAINE TURNPIKE**

**THE GOLD STAR MEMORIAL HIGHWAY**

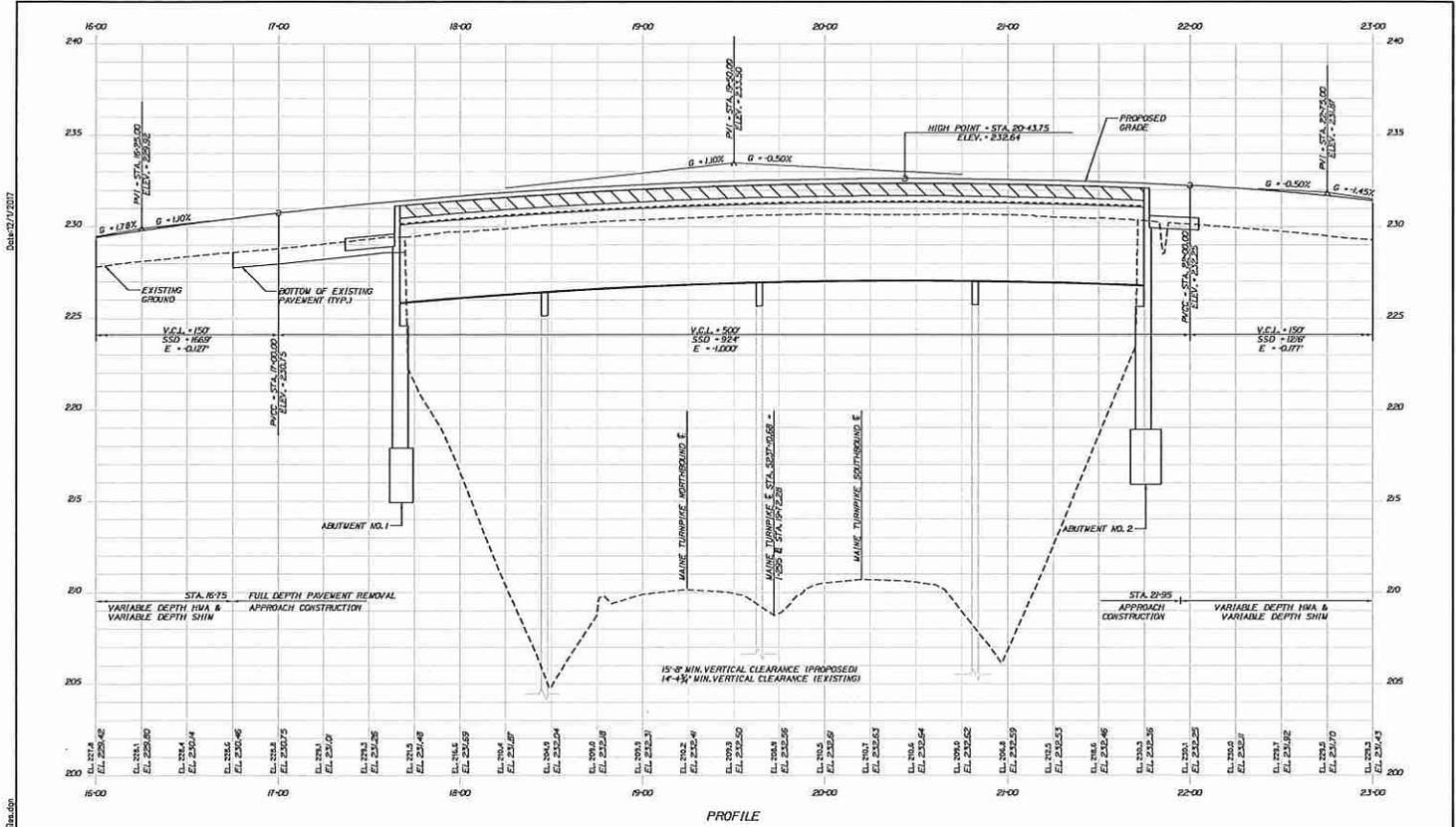
MTA PROJECT MANAGER: RALPH C. NORWOOD, IV, PE, PTOE

EXIT 103 I-295 SOUTHBOUND UNDERPASS BRIDGE REHABILITATION

PROFILE 1

SHEET NUMBER: 44 OF 161

CONTRACT: 2018.05



Scale: 1" = 25'

No.	Revision	By	Date

Designed by: **Stantec**

CONSULTANT PROJECT MANAGER: GREG EDWARDS, PE

By	Date	By	Date
TEG	12/01/17	CEM	12/01/17
Checked		In Charge of	
PLP	12/01/17	GAE	12/01/17

STANTEC CONSULTING SERVICES INC.  
 482 PAYNE ROAD  
 SCARBOROUGH, ME 04074  
 TEL (207) 897-3448  
 FAX (207) 893-3376

**MAINE TURNPIKE**

**THE GOLD STAR MEMORIAL HIGHWAY**

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

EXIT 103 I-295 SOUTHBOUND UNDERPASS  
 BRIDGE REHABILITATION

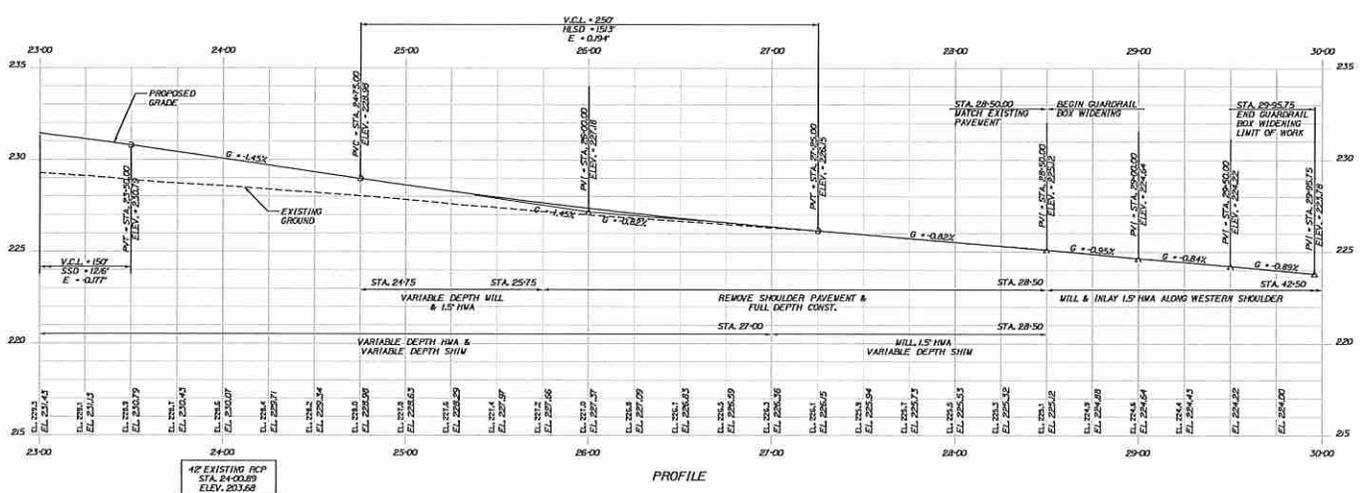
PROFILE 2

CONTRACT: 2018.05

SHEET NUMBER: 45 OF 161

Date: 07/20/07

Filename: \\MFR\A044.dwg: Profile.dwg



Scale: 1" = 25' (Scale of Feet)

No.	Revision	By	Date

Designed by: **Stantec**

CONSULTANT PROJECT MANAGER: GREG EDWARDS, PE			
By	Date	By	Date
Designed	12/01/17	Checked	12/01/17
Drawn	12/01/17	In Charge of	12/01/17

STANTEC CONSULTING SERVICES INC.  
 482 PAYKE ROAD  
 SCARBOROUGH, ME 04074  
 TEL (207) 857-3448  
 FAX (207) 853-3376

**MAINE TURNPIKE**

**THE GOLD STAR MEMORIAL HIGHWAY**

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

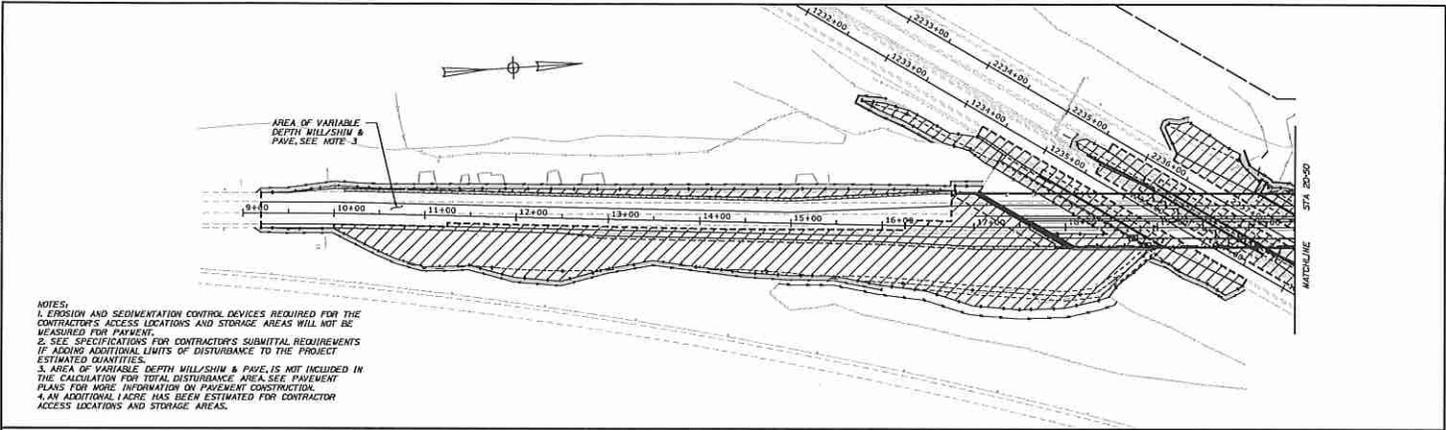
EXIT 103 I-295 SOUTHBOUND UNDERPASS  
 BRIDGE REHABILITATION

**PROFILE 3**

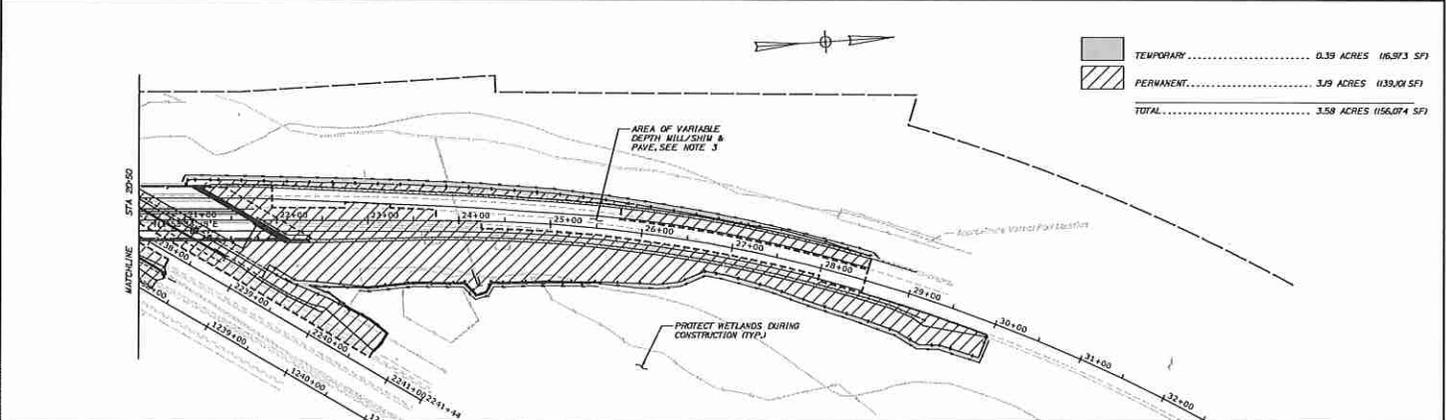
SHEET NUMBER: 46 OF 161

CONTRACT: 2018.05

Date: 07/27/07



NOTES:  
 1. EROSION AND SEDIMENTATION CONTROL DEVICES REQUIRED FOR THE CONTRACTOR'S ACCESS LOCATIONS AND STORAGE AREAS WILL NOT BE MEASURED FOR PAYMENT.  
 2. SEE SPECIFICATIONS FOR CONTRACTOR'S SUBMITTAL REQUIREMENTS IF ADDING ADDITIONAL LIMITS OF DISTURBANCE TO THE PROJECT ESTIMATED QUANTITIES.  
 3. AREA OF VARIABLE DEPTH MILL/SHIM & PAVE IS NOT INCLUDED IN THE CALCULATION FOR TOTAL DISTURBANCE AREA. SEE PAVEMENT PLANS FOR MORE INFORMATION ON PAVEMENT CONSTRUCTION.  
 4. AN ADDITIONAL LACRE HAS BEEN ESTIMATED FOR CONTRACTOR ACCESS LOCATIONS AND STORAGE AREAS.



Scale: 50 0 100  
 Scale of Feet

No.	Revision	By	Date

Designed by: **Stantec**

CONSULTANT PROJECT MANAGER: GREG EDWARDS, PE

By	Date	By	Date
Designed	12/10/17	Checked	12/10/17
Drawn	12/10/17	In Charge of	12/10/17

STANTEC CONSULTING SERVICES INC.  
 482 PAYNE ROAD  
 SCARBOROUGH, ME 04074  
 TEL (207) 887-3448  
 FAX (207) 883-3376

**MAINE TURNPIKE**

**THE GOLD STAR MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: RALPH C. MORWOOD, IV, PE, PTOE

EXIT 103 SOUTHBOUND RAMP  
 BRIDGE REHABILITATION UNDERPASS  
 LIMITS OF DISTURBANCE

SHEET NUMBER:  
 47 OF 161

CONTRACT: 2019.05

Filename: \\s01\projects\ME\1047\_1\00.dgn